EXCEL 2023

CRASH COURSE

EXCEL TIPS & TRICKS

EXCEL FOR BEGINNERS

EXCEL FORMULAS & FUNCTIONS

EXCEL ADVANCED FUNCTIONALITIES

CARTY BINN

EXCEL 2023

CRASH COURSE

Master Excel 2023 With This Complete Crash Course In 7 Days

CARTY BINN

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CHAPTER ONE

INTRODUCING EXCEL

Microsoft Excel 2022 is a spreadsheet app and the latest Excel software that allows individuals to arrange, manage, and add data while utilizing formulae. Additionally, the software is included in the Microsoft Office suite, but it is also linked with more office applications.

As the majority of other Microsoft apps are, Excel can be assessed as a cloud-based subscription via Office 365. With Excel, you can perform more functions than you think, as an individual or organization.

The software was specifically made for Mac OS and Windows users. Both users are capable of carrying out functions including creating pivot tables, using graph tools, and forming easy arithmetic. Furthermore, Excel enables us to use the AVERAGE and other functions that will guarantee success in our workplace.

Workers looking to arrange and organize data can use a set of cells formed into columns and rows to do so, and this can be made possible by using Microsoft Excel 2022. Excel also uses histograms, charts, and line graphs to display data.

UNDERSTANDING WHAT EXCEL IS USED FOR

Excel is a popularly used Microsoft Office application that companies and individuals usually use to analyze and save numerical data. Furthermore, it is a spreadsheet program where individuals and companies can record data to create tables. With an MS Excel spreadsheet, it is simple to analyze data. You can summarize data and save it in an orderly manner with the aid of graphs and charts so that you can readily access it whenever you need it. It becomes easy to save data, and you will save a lot of time as a result.

MS Excel also lets users arrange, format, and calculate data while using formulas with a spreadsheet system. There are numerous formulae in MS Excel. By utilizing them, you perform many operations on a huge quantity of data at once, such as computing the sum, average, and so on. As a result, MS Excel is used anytime users need to solve difficult mathematical issues or apply basic mathematical functions to tables with a lot of data.

MS Excel has a plethora of functions that make your job a lot easier and save you time. There are fantastic tools for sorting, filtering, and searching that make your job even easier. You can do your task in much less time if you combine these tools with tables, pivot tables, and other tools ***(NB: Multiple components may be readily found in vast volumes of data to assist in the resolution of a variety of issues and concerns)***.

Excel allows you to add more complexity to your data. ***(NB: This means you can enhance the data bars, highlight any particular elements for laying emphasis, and quickly make your data more attractive)***. If you have data saved in MS Excel and you want to emphasize something significant, you may do it using the numerous data presentation options provided in MS Excel. You can even make the spreadsheets on which you've placed data more appealing.

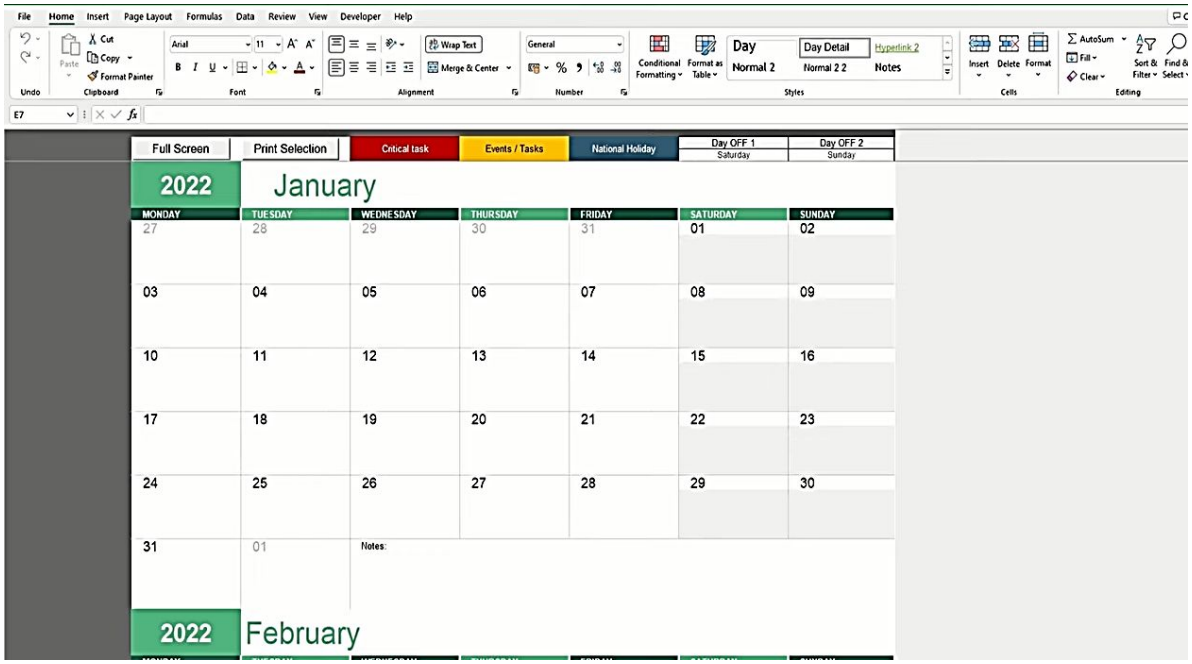
MS Excel is useful for budgeting. For example, if a doctor earns $50,000 per month, he will incur some expenses, and if he wants to know exactly how much he is spending each month, he can easily do so using MS Excel. He can enter his monthly income and expenses into excel tables, which will allow him to see how much he is spending and, as a result, control his spending.

Excel is among Microsoft Office suite, and it is compatible with additional applications in the Microsoft Office suite. Like other Microsoft Office products, users can purchase Microsoft Excel 2022 and previous models through the cloud on a subscription basis via Office 365. In addition, this software program uses a cell collection organized into columns and rows to organize and separate data. It is capable of displaying data as charts, line graphs, and histograms.

There are numerous advantages to using MS Excel, which is why it is used by people worldwide for a variety of tasks. Not only does it save time, but it also makes the job easier. It is almost capable of completing any task. For example, you can perform mathematical calculations as well as create graphs and charts to store data. It is simple for a businessperson to compute and save data in it.

LOOKING AT WHAT'S NEW IN EXCEL 2022

Excel 2022 comes in with its new calendar template. Nobody wants to start this year off with a ton of spreadsheets if we are being totally honest. Luckily, this template only has one sheet and it's the only sheet you need.



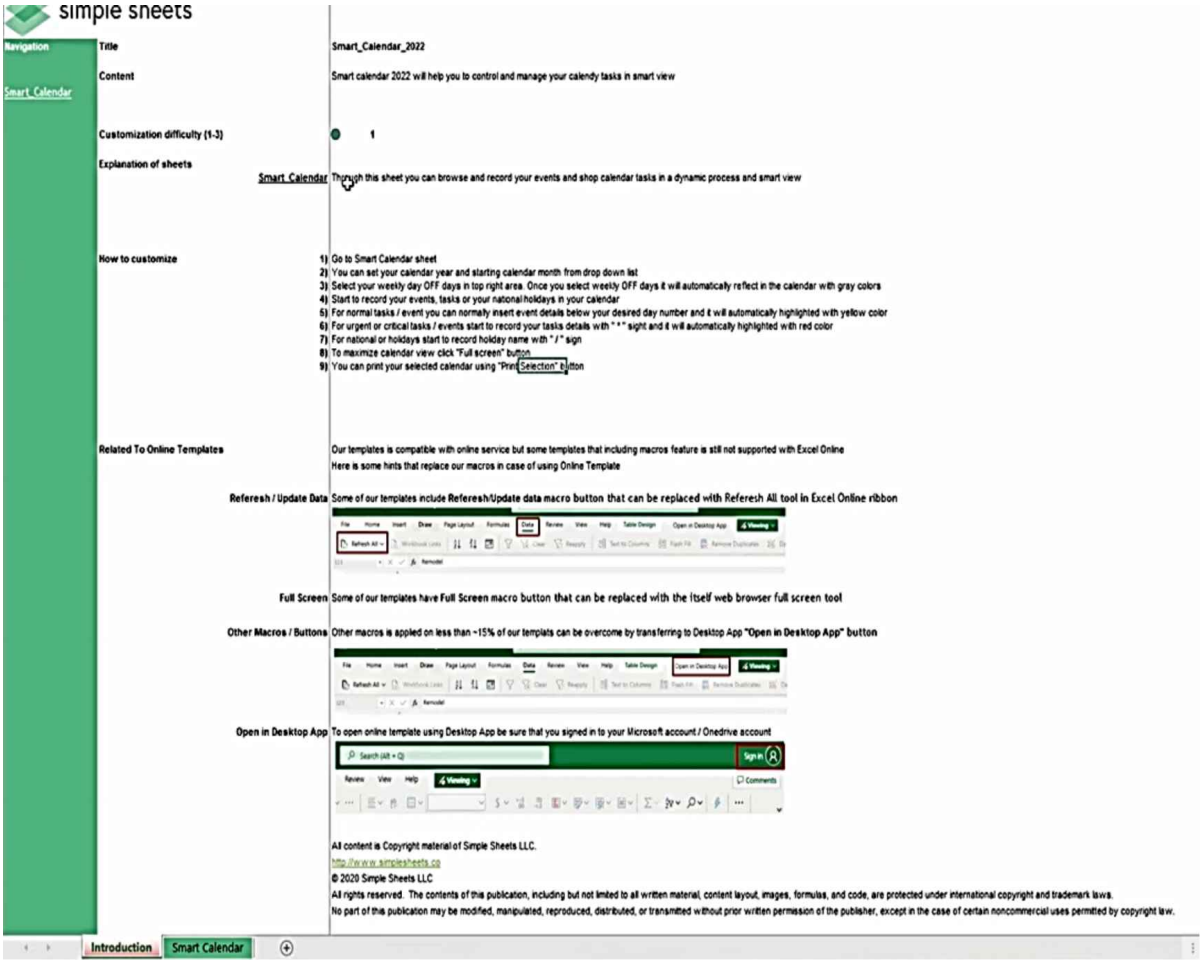
In the smart calendar sheet, you have a calendar. A cool feature of this template is that when you hover over the interactable aspects of the

template, a guide pops out with information on how the tools are used.

This template is flexible because you can adjust out the year to your liking whether you want to skip ahead to 2023 or relieve the good old days of 2019. The template adjusts the dates for you automatically. In the first day label, you can decide what day you want to start your weeks with.

If you want to mark an entry as critical, you need to put an asterisk in front of it so the data shows red. For normal events, you just input values normally and for holidays, you input a forward slash. You get the whole set from January to December and on the top left, you have a full-screen macro button that hides the ribbon for a larger work area and a print selection button that allows you to print the areas you have highlighted.

As always, in the intro sheet, you get the standard items like the content, customization difficulty, explanation of the sheets, and instructions on how to utilize this template.



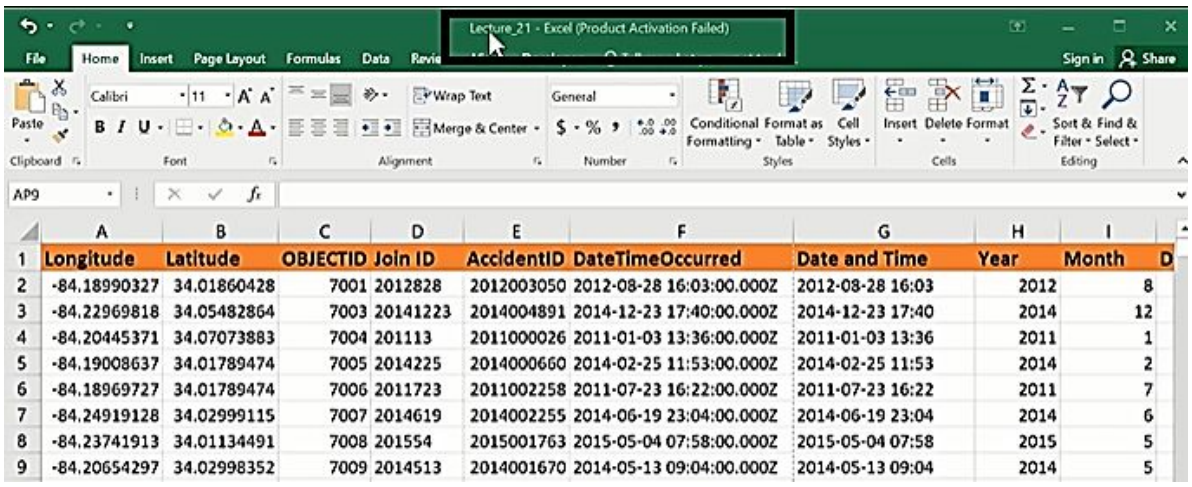
UNDERSTANDING WORKBOOKS AND WORKSHEETS

The electronic counterpart of a paper ledger is a worksheet. It's a powerful toolset for entering, analyzing, calculating, and manipulating data. A worksheet may be used for simple calculations like addition and subtraction, as well as more complex applications like statistics, audits, and mortgage tables. Worksheets also make it simple to turn your data into useful business reports.

A workbook is a file that contains a collection of worksheets. These worksheets may include a variety of data, but they are generally connected in some way. Each worksheet in a sales workbook, for instance, may include sales data for a single division.

Workbooks may have an infinite number of worksheets, depending on the size of the worksheet and the amount of memory available on your computer. A workbook may also contain chart sheets, Visual Basic modules, dialog box sheets, macro modules, and scenario report sheets in addition to worksheets.

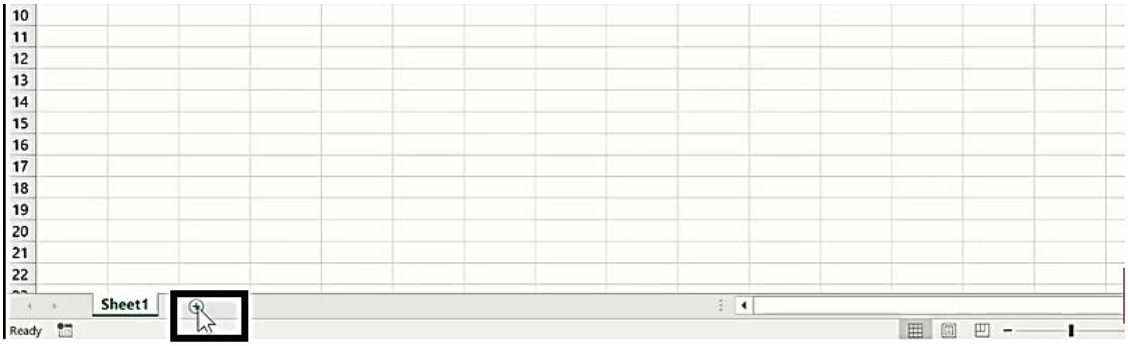
In Excel, a workbook is the same as a file, and a file is the same as a workbook. At the top of the screen, we can see the file or workbook's name.



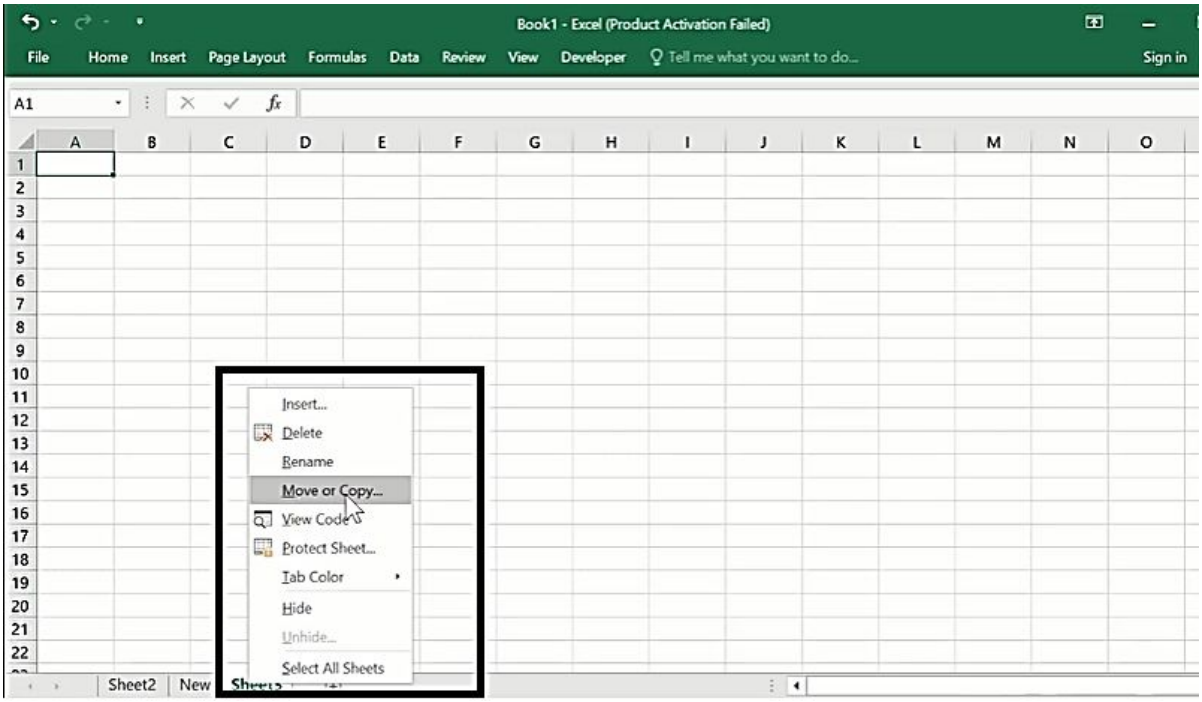
	A	B	C	D	E	F	G	H	I	D
1	Longitude	Latitude	OBJECTID	Join ID	AccidentID	DateTimeOccurred	Date and Time	Year	Month	
2	-84.18990327	34.01860428	7001	2012828	2012003050	2012-08-28 16:03:00.000Z	2012-08-28 16:03	2012	8	
3	-84.22969818	34.05482864	7003	20141223	2014004891	2014-12-23 17:40:00.000Z	2014-12-23 17:40	2014	12	
4	-84.20445371	34.07073883	7004	201113	2011000026	2011-01-03 13:36:00.000Z	2011-01-03 13:36	2011	1	
5	-84.19008637	34.01789474	7005	2014225	2014000660	2014-02-25 11:53:00.000Z	2014-02-25 11:53	2014	2	
6	-84.18969727	34.01789474	7006	2011723	2011002258	2011-07-23 16:22:00.000Z	2011-07-23 16:22	2011	7	
7	-84.24919128	34.02999115	7007	2014619	2014002255	2014-06-19 23:04:00.000Z	2014-06-19 23:04	2014	6	
8	-84.23741913	34.01134491	7008	201554	2015001763	2015-05-04 07:58:00.000Z	2015-05-04 07:58	2015	5	
9	-84.20654297	34.02998352	7009	2014513	2014001670	2014-05-13 09:04:00.000Z	2014-05-13 09:04	2014	5	

If it's a new file, it'll be called **Book 1**. To open a new workbook, go to **File** > **New** > **Blank Workbook**. At least one worksheet is included in every

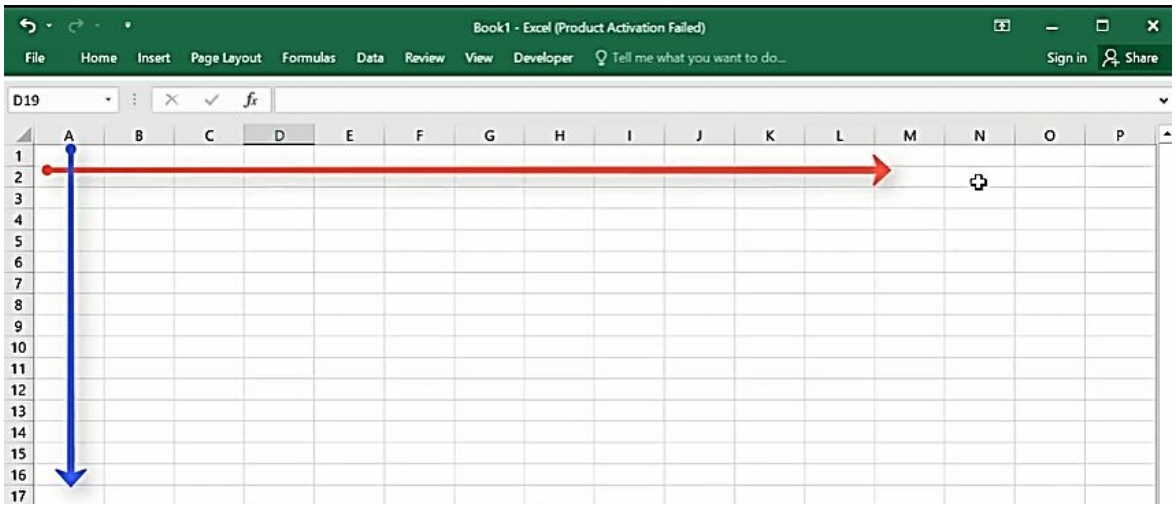
workbook. You can add more sheets if necessary by clicking on the Add Sign (+) below the window.



We can remove sheets. We can relocate them. We can copy them. Columns and rows make up every spreadsheet or simply sheet. You can get all the options by right-clicking on the worksheet you want to act on.



Vertical columns are indicated by letters. The rows are laid down horizontally. Numbers are used in identifying them.



There are about 16,384 columns and 1,048,576 rows at the bottom. There is an address in every cell in an Excel spreadsheet. To summarize, a workbook is a file, and a workbook is a file. We have a working sheet with over a million rows and over 16,000 columns on each.

MOVING AROUND A WORKSHEETS

When you open a new workbook in Excel, the worksheet's "**active cell**" is positioned in the top-left corner (**in Cell A1**). You must move about in your worksheet to build it or make changes to it. You can move around your worksheets in Excel in two ways; by using the Keyboard or the Mouse.

Navigating with your keyboard

By hitting the arrow keys and other direction keys on the keyboard, you may navigate around the worksheet. When you move around in the worksheet using the keyboard, the active cell moves with you. The contents of the active cell are then added or edited. Below are the shortcuts you can use;

Up arrow key	Move up the next row (one row)
Left arrow key	Move to the next cell on the left
Right arrow key	Move to the next cell on the right
Down arrow key	Move down the next row (one row)
Control key + End	Moves to The cell that is located at the junction of the column on the

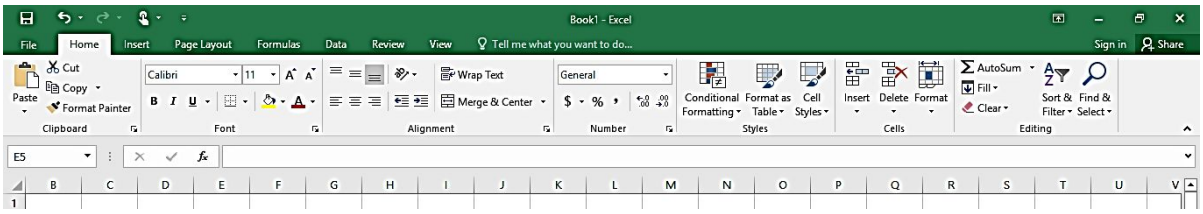
	right and the bottom-most utilized row.
Control key + arrow key	Moves to the last row or column in the worksheet
Page Up	Moves up one screen page
Page Down	Moves down one screen page
Control Key + Home	Moves to Cell A1

Navigating with your Mouse

Using the wheel on your mouse, you can move around on your worksheet. You can use it to scroll up and down to navigate through the worksheet. You can add more sheets using the mouse by clicking on the add sign below the screen. By clicking on a worksheet tab, it displays the sheet for you to work on/with it.

To navigate quickly to a cell, check the left-hand side of the formula bar and click on the Name box. Type in the cell address i.e. the column letter & the row number. For example, type in **A6**, or **B2**, then press **Enter**.

USING THE RIBBON



The toolbar has been referred to as the ribbon. It organizes commands into tabs depending on their functionality and shows them as icons in a strip. Meanwhile, before we get started, there are certain things you can't change in Excel. They include:

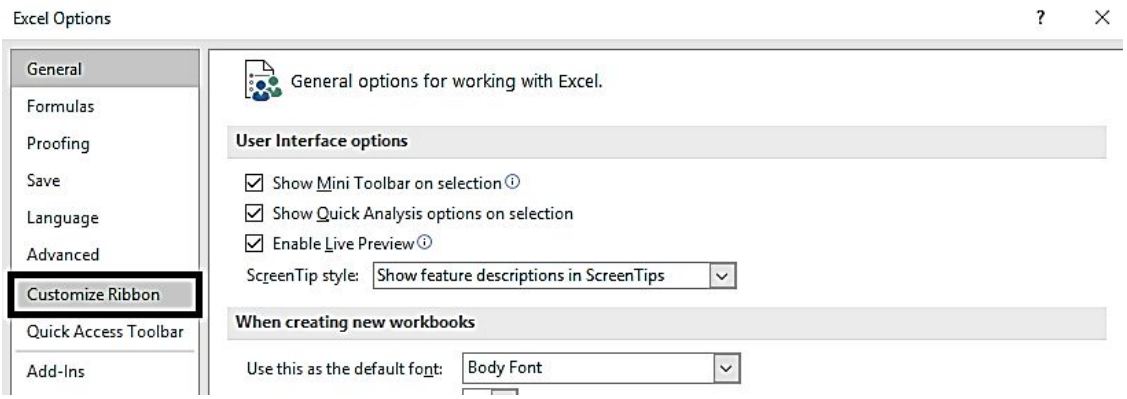
- Built-in commands cannot be changed or removed. ***(NB: You may, however, conceal a whole group)***.
- The ribbon cannot be resized. The only visual option is to conceal (collapse) it fully.

- Text size, font type, and color selections are available right away. You may also use Excel schemes to change the backdrop of the ribbon across all Office programs.

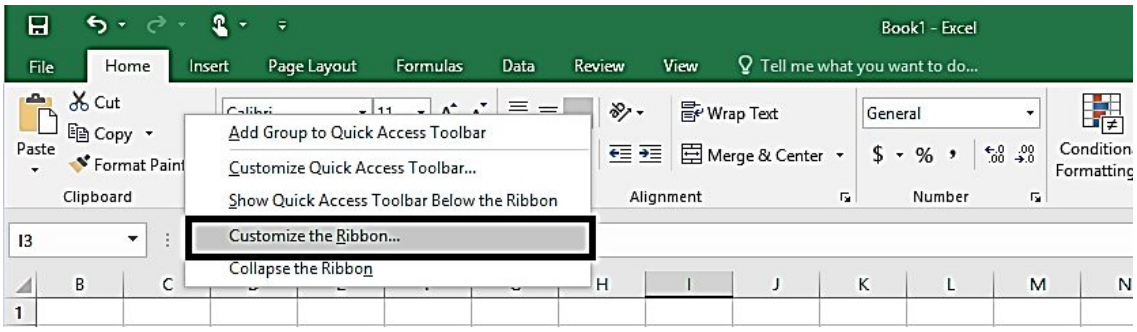
Customizing the Ribbon

You can customize the ribbon in your Excel. There are different techniques you can use to get to the customization options.

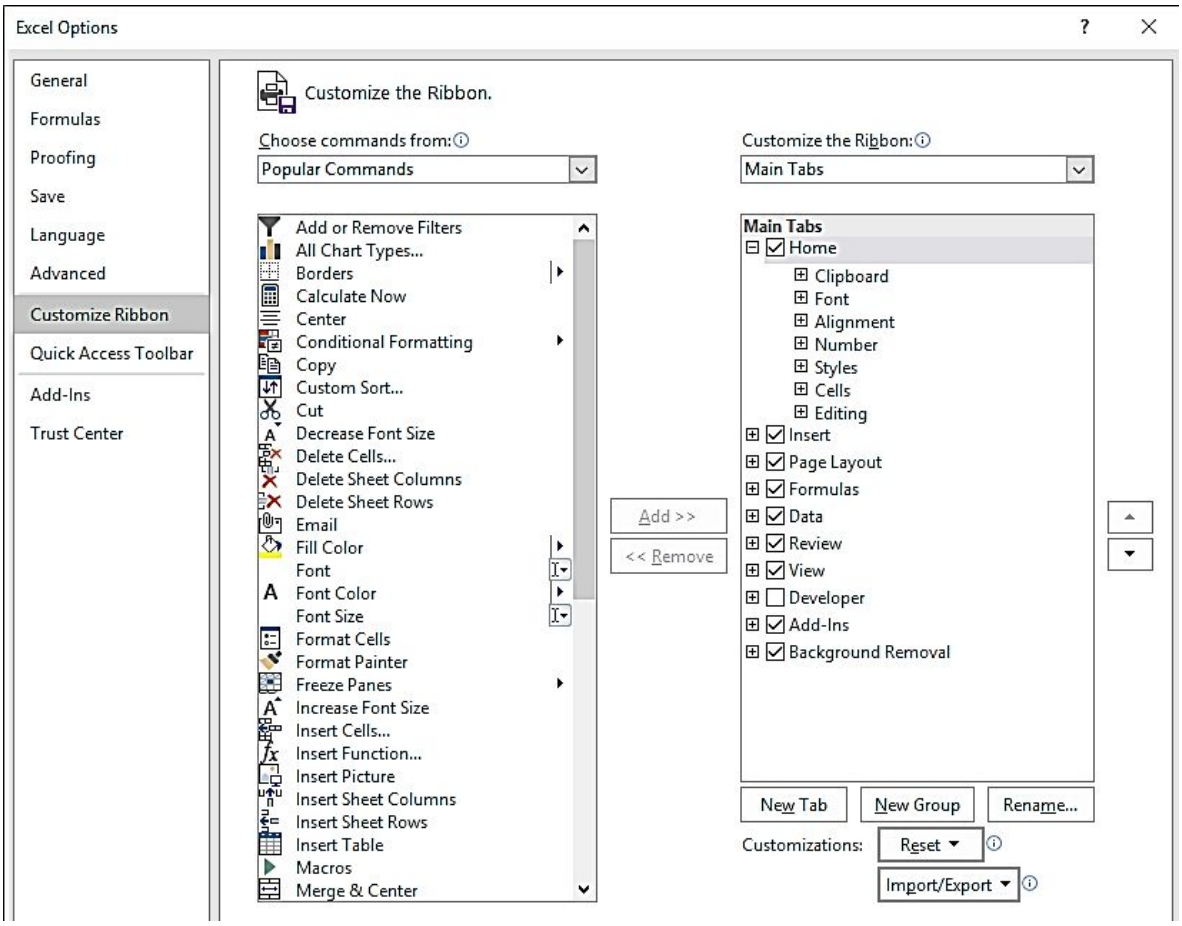
- Select **File > Options > Customize Ribbon** from the File menu.



- Right-click on the ribbon and pick **Customize the Ribbon**



The window gives you lists of instructions to choose from. In contrast, the one on the left provides all popular commands, the right side, lists the ribbon's main tabs, groups, and commands.

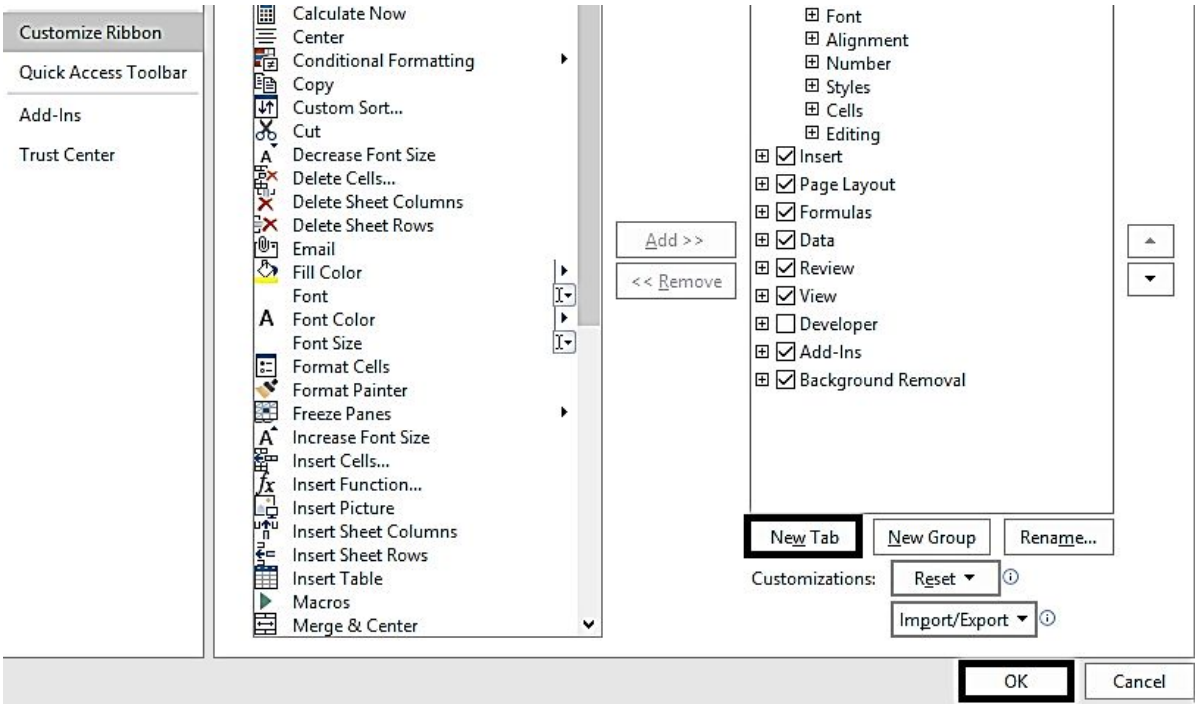


Ribbon Tabs

This is where you make some changes to your worksheets. You can insert a new tab, create a new group, add a command, changes the names and positions of tabs, groups, and instructions.

Inserting a new tab

Go to the right-hand list and choose **New Tab**. The new tab and group are created when you click the button ***(NB: A tab should always have a minimum of one group. Otherwise, you won't add commands)***. Use the Rename button to rename a tab or group.

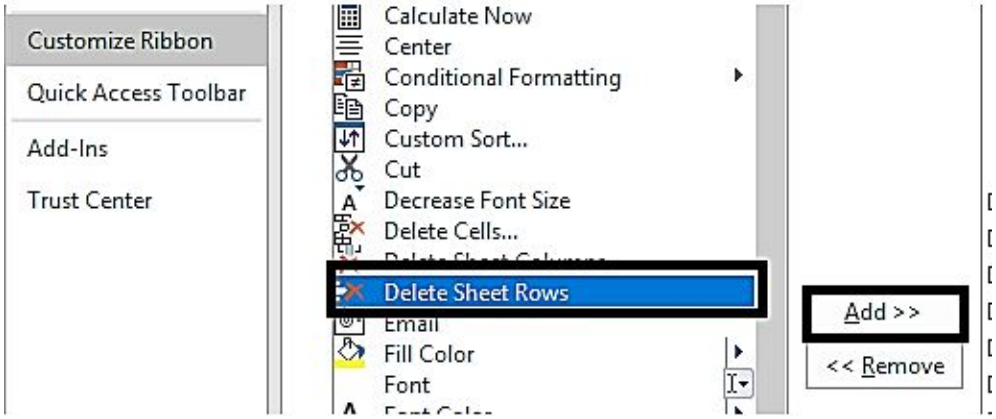


Creating a new group

Choose the tab you want to add a group, then, select **New Group**.

Adding a command

Commands can be added only to custom groups. As a result, begin by picking a custom group from the appropriate list. So, on the left side, choose the command. Choose commands from the menu above to filter the list. To add the command to the specified group, click **Add >>**. When you're finished, click **OK**.



Changing the names of ribbon tabs, groups, and commands

The Rename button, as previously indicated, may be used to rename tabs, groups, and commands. However, when it comes to built-in things, your selections are restricted. Although you may change built-in tabs and groups, none of the built-in commands can be renamed. Except for the File tab, that is. Symbol selection, on the other hand, is not possible for built-in tabs and groups.

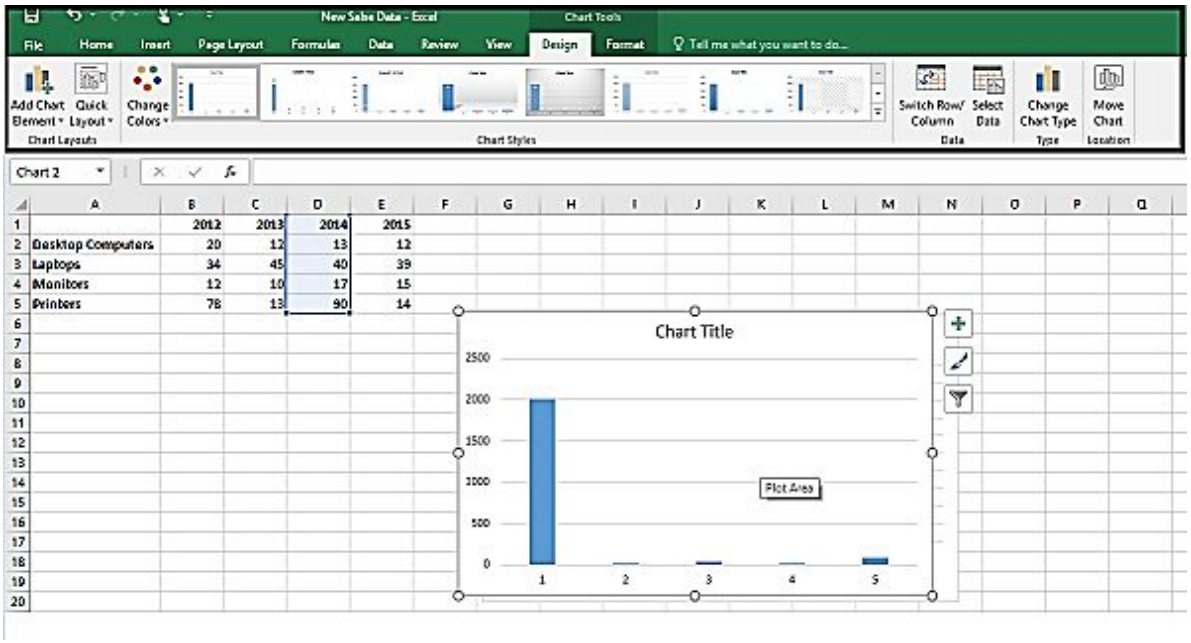
Changing the position of tabs, groups, and instructions

You can rearrange the tabs, groups, and instructions on the ribbon in Excel. You may take one of the following approaches:

- On the right side, use the arrow buttons. Select the object you want to move and then click the arrow that indicates the direction you want it to go.
- Make use of drag and drop. Move the mouse by clicking and holding the mouse button on any object.

Contextual Tabs

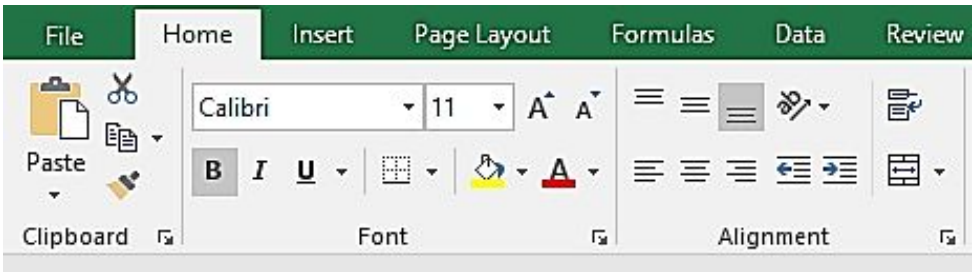
When you create or update an object in Excel, such as a chart, table, or diagram, contextual tabs appear. The contextual tabs provide you with the choices and tools you need when working with these things, and they are then cleared away when you click out of the object. To restore them, just click on the item, and the tab will appear. It keeps your workspace free of clutter.



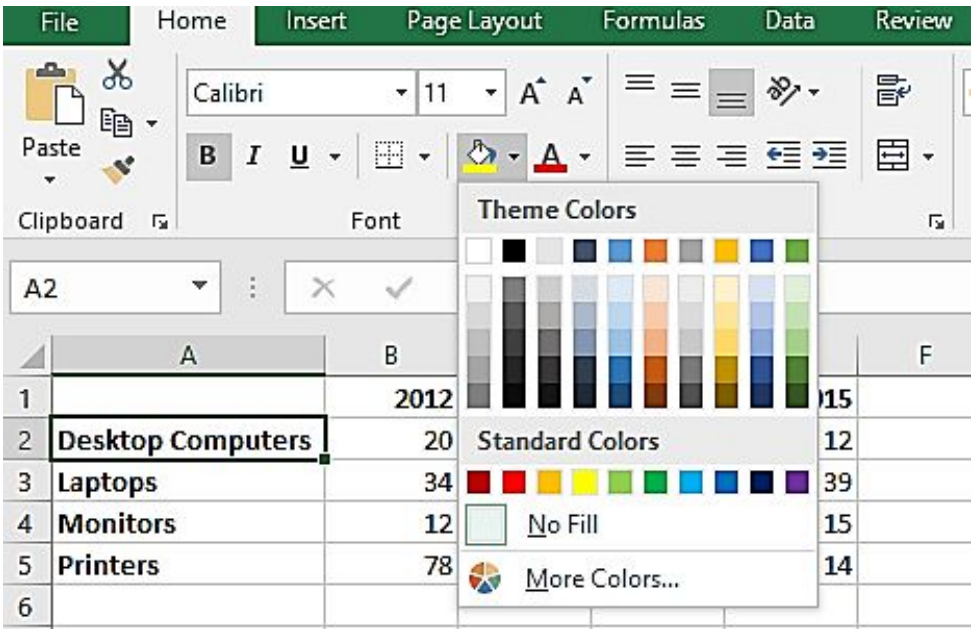
Types of Command on the Ribbon

There are 5 main types of commands on the Excel ribbon. They are; Toggle buttons, Drop-Down buttons, Tick Box, One-Click, and Split Buttons.

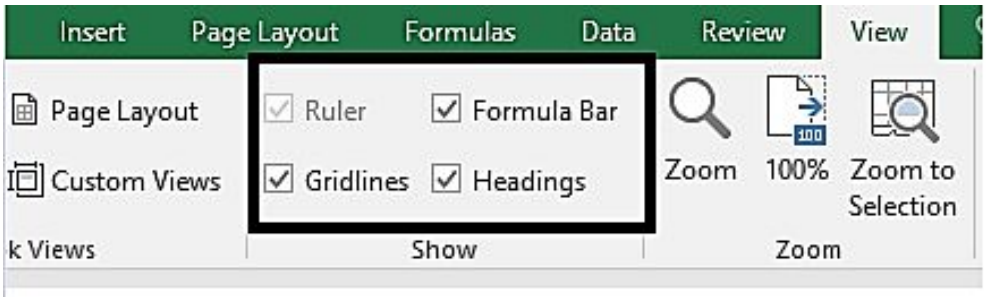
Toggle Buttons: With these buttons, you can adjust a cell. When you use this button to a cell, Excel will let you know the button you have applied (you will see the button highlighted with a particular color). Most times, when you have applied different formats to your cells, this button helps you to know the formats you have applied.



Drop-Down Buttons: These are those little arrows that are next to a particular button. When you click on the arrow, it gives you an extra list of applicable change options that you can use to make changes to a cell. For example, when you click on the arrow next to the Fill Color button, you will see a list of different colors that you can apply to the selected cell.



Tick Box: This box is more like the On/Off buttons. On these boxes, you can check and uncheck different box options. For example, when you click on the View tab, you will see some options there with the tick-box beside them. As you can see in the image below;

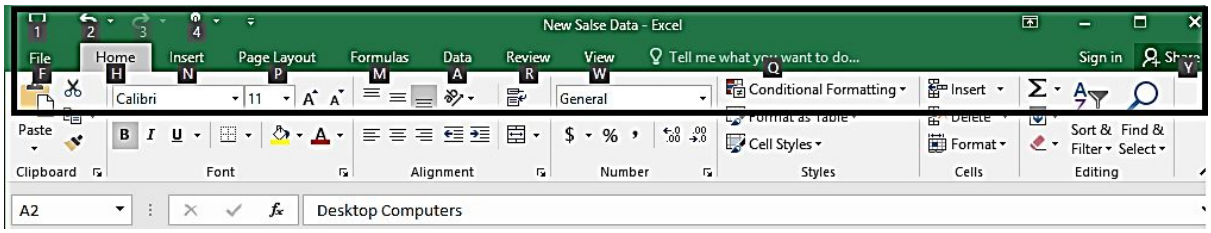


One-Click: These are those commands on the ribbon that when you click on them once, act immediately. Let's look at the **Text alignment** option for an example. Select a cell and click on it, it aligns the cell immediately. Same with the **Bold button**, **Italic button**, or the **Increase** and **Decrease** font size buttons.

Split Buttons: These are buttons that consist of the drop-down option and one-click option i.e. you can click on the button to act immediately and you can also click on the drop-down arrow next to the button to select from the list of other options.

Accessing the Ribbon by using your Keyboard

You can easily access the ribbon using your keyboard. To do this, simply press the “Alt key” on your keyboard. When you do this, you will see different letters on the ribbon. Each of these letters will be displayed on a particular tab on the ribbon. When these letters appear, press any of the letters on your keyboard and it will open up the menu of the tab you pressed.



USING SHORTCUT MENUS

Using keyboard shortcuts into your Excel routine is one method to speed things up. Excel specialists seldom use a mouse since it takes more time and is often imprecise. Many key combinations, or instructions, are already incorporated into the application, allowing you to perform actions. Depending on their function, all of the accessible shortcut keys may be grouped into numerous categories.

Shortcuts for formatting data

Combinations of the Control key + Shift key with extra characters may be differentiated as a distinct category of data formatting fast commands.

- **CONTROL KEY + W** — This command will dismiss the current worksheet immediately.
- Save the working document by pressing **CONTROL KEY + S**.
- Create a new working document by pressing **CONTROL KEY + N**.
- **CONTROL KEY + X** – copy the contents of selected cells to the clipboard.
- Open a working document by pressing **CONTROL KEY + O**.
- **CONTROL KEY + V** - this shortcut pastes data from the clipboard into the previously selected cell.
- **CONTROL KEY + P** – brings up a window with printing options.
- **CONTROL KEY + Z** is a command that can be used to undo a previous action.

- **F12 -** this key saves the current working document as a new name.
- **CONTROL KEY + T -** This key combination allows you to generate a new worksheet from a single cell and a range of cells around it.
- **CONTROL KEY + 1** – Opens the cell formatting dialog box from the table.

Data entry shortcuts

- **CONTROL KEY + D** – this command copies the contents of the first cell in the marked range and pastes it into all subsequent cells.
- **CONTROL KEY + Y** – the command will, if feasible, repeat the previous action.
- Add the current date using **CONTROL KEY + ;**
- If edit mode is open, ALT + enter inserts a new line within the cell.
- Change the indicated cell using **F2**.
- The Paste Special Docker is opened by pressing **CONTROL KEY + SHIFT + V**.

Data View and Navigation

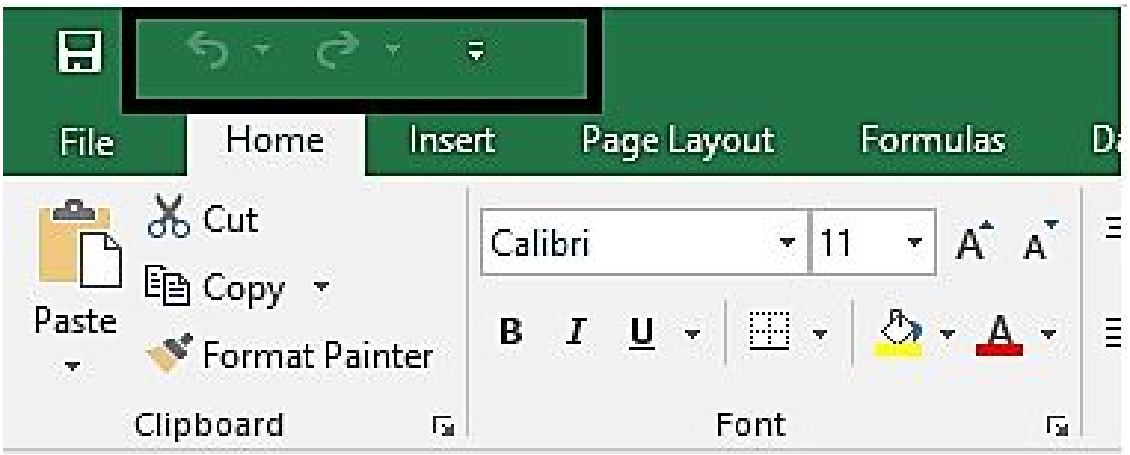
- CONTROL KEY + G (Go to) – opens the "Go" window on the screen.
- You may navigate to the next worksheet by pressing CONTROL KEY + PgDown.
- CONTROL KEY + END - Go to the end cell of the current sheet immediately.
- The Find dialog box is opened by pressing CONTROL KEY + F.
- Switch between workbooks by using CONTROL KEY + Tab.
- Hide or reveal the ribbon with tools by pressing CONTROL KEY + F1.

Data selection

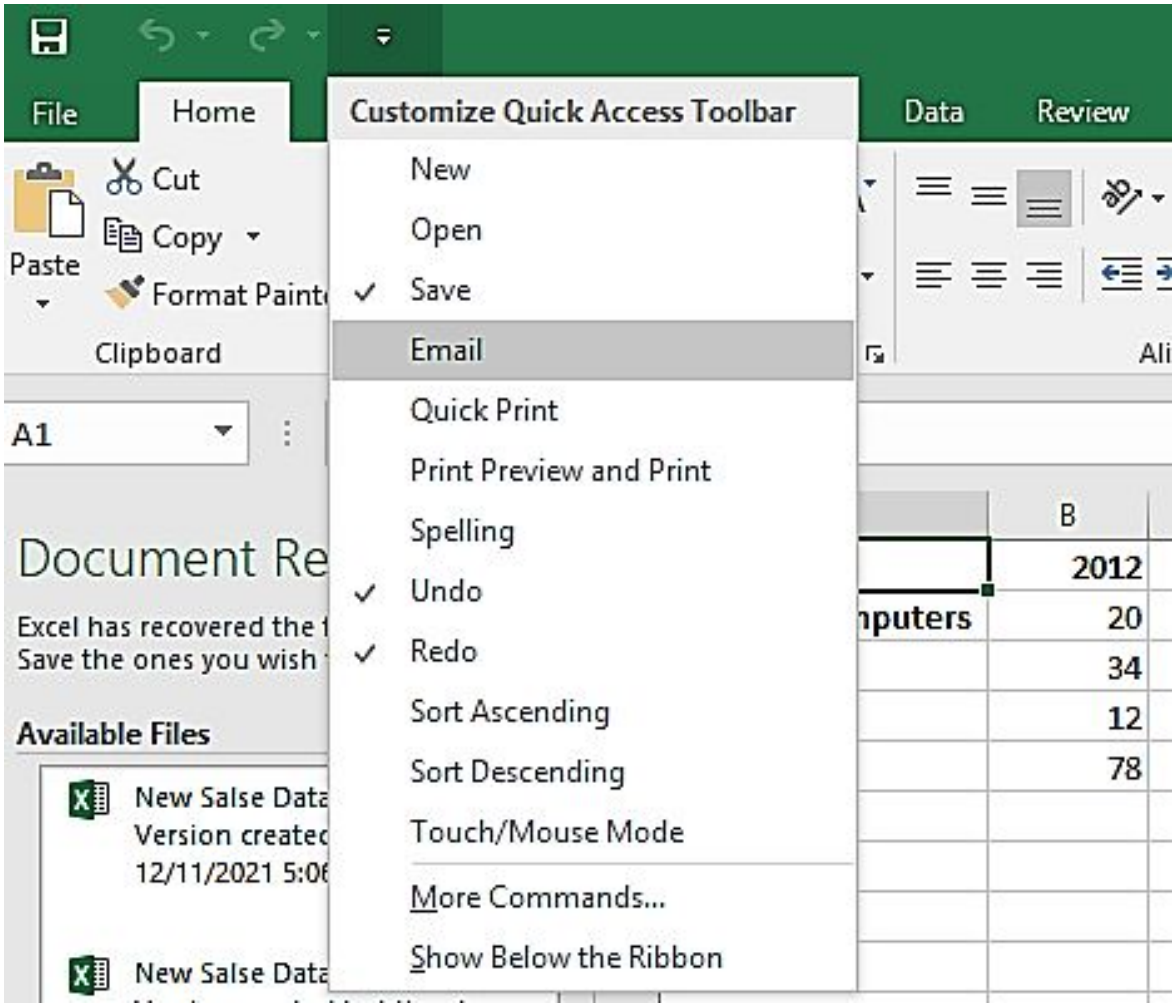
- SHIFT + Space – Selecting a whole line
- CONTROL KEY + Space – Selecting a whole column
- CONTROL KEY + A – Selecting the whole worksheet.

CUSTOMIZING YOUR QUICK ACCESS TOOLBAR

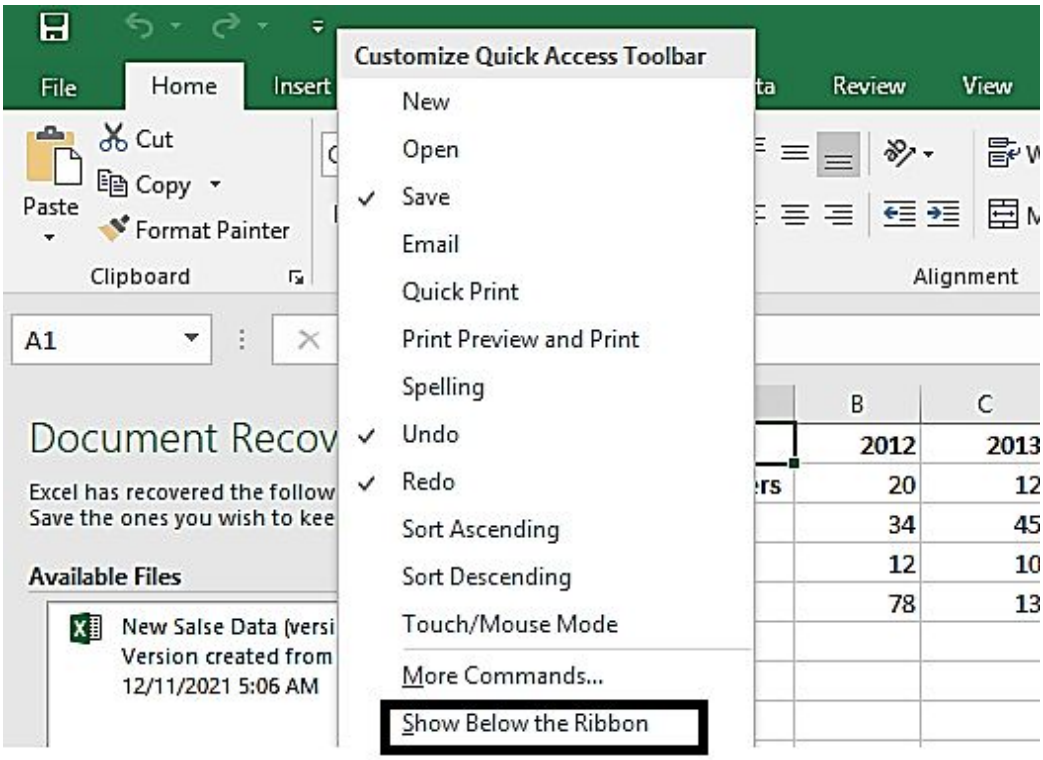
The Quick Access Toolbar is a resizable toolbar that includes a collection of instructions that are not reliant on the current ribbon tab. You may add buttons that indicate instructions to the Quick Access Toolbar.



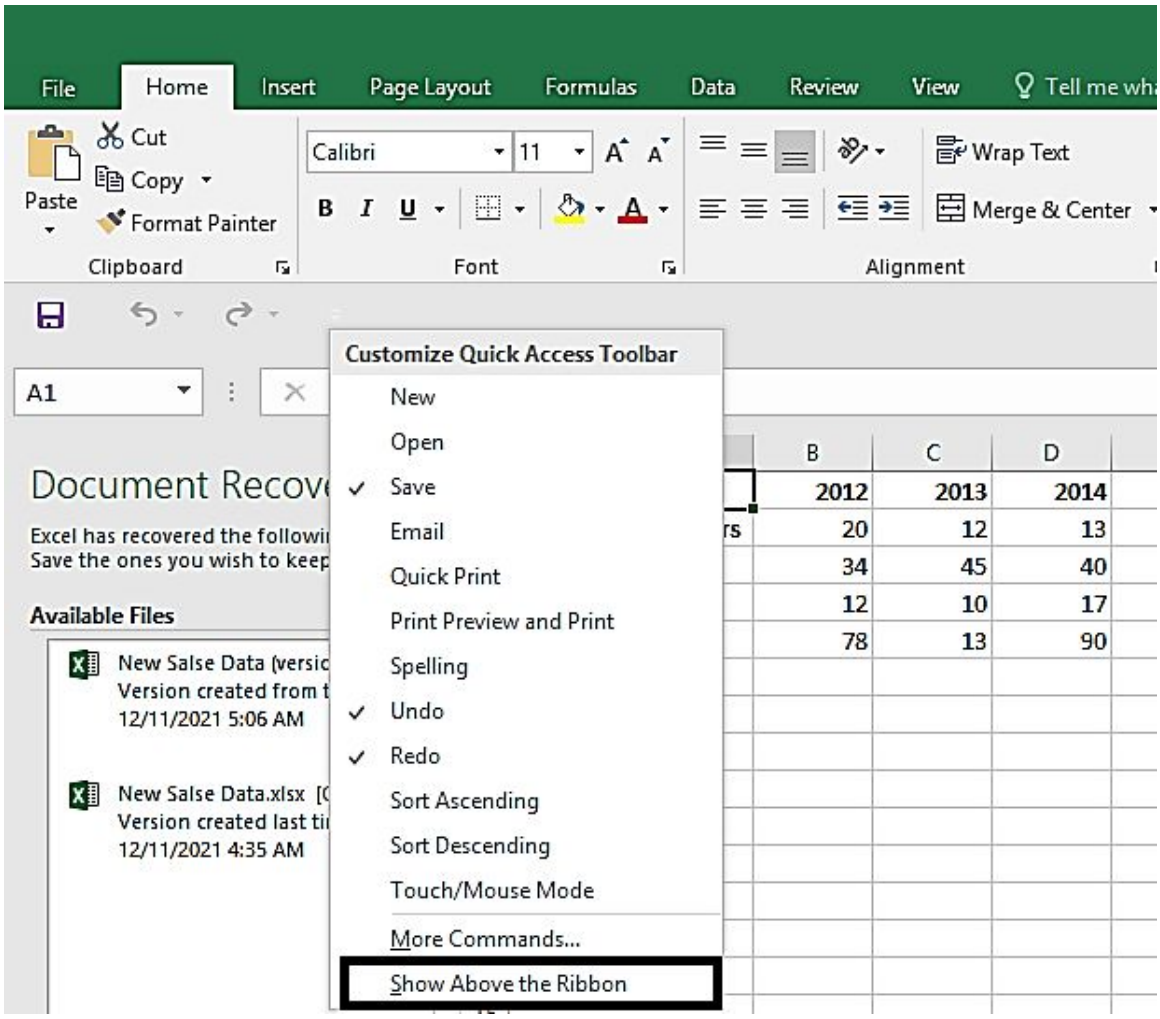
Select the drop-down arrow on the Quick Access Toolbar, it shows a list of commands that you can add to the toolbar. When you click on any of the commands, it will display in the Quick Access Toolbar.



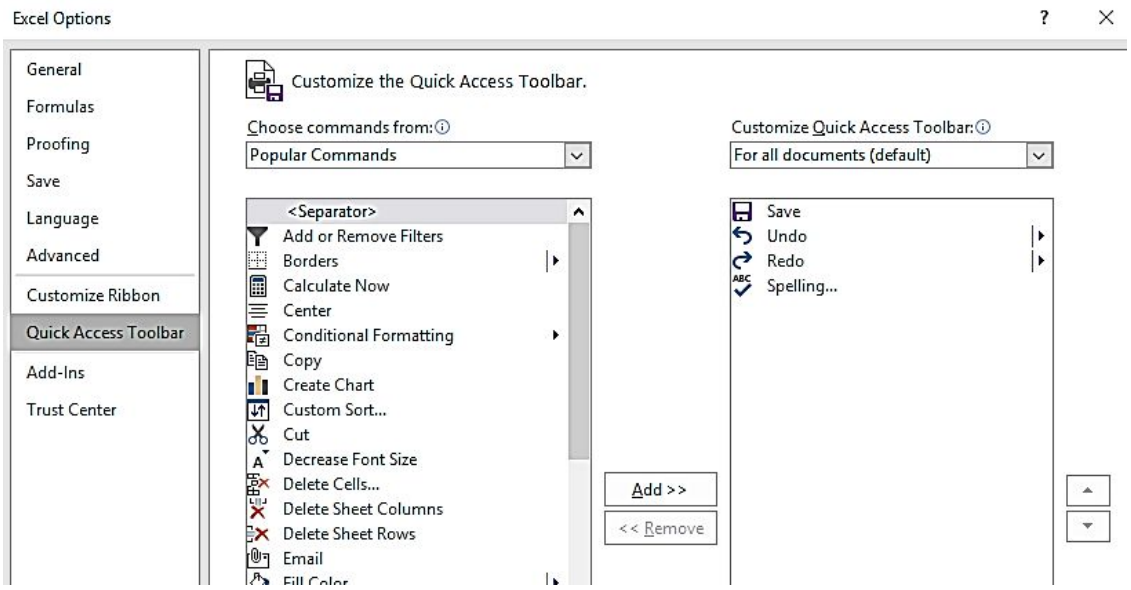
Move the Quick Access Toolbar: You can move it to two places; Below the ribbon or Above the ribbon. To change the location of your quick access toolbar (if it is currently above the ribbon), click on the drop-down arrow, then select **Show Below the Ribbon.**



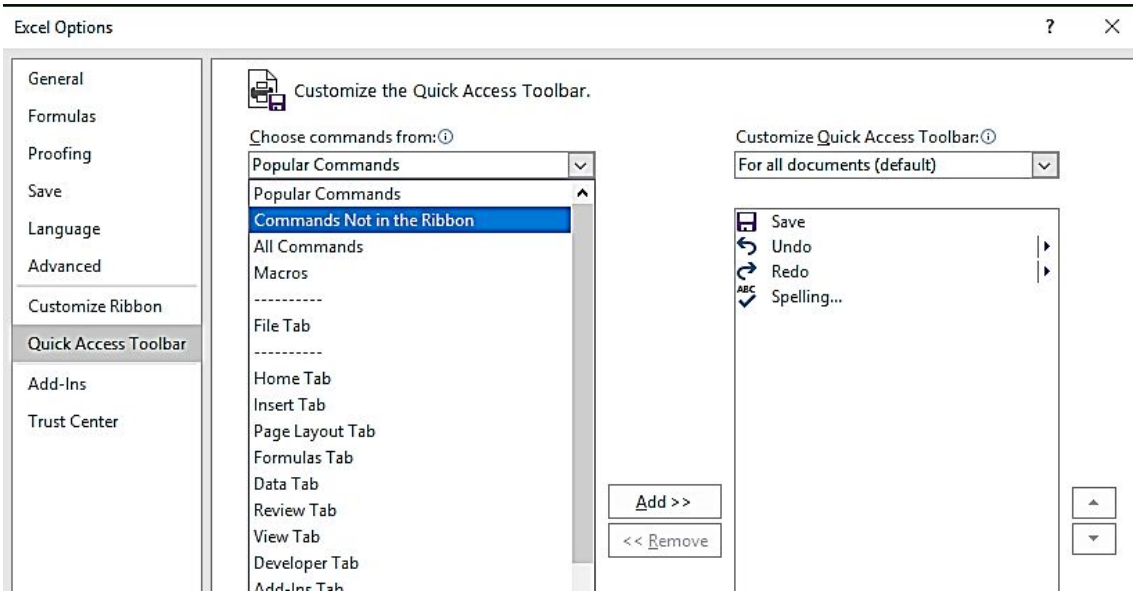
Follow the same steps above then select **Show Above the Ribbon**.



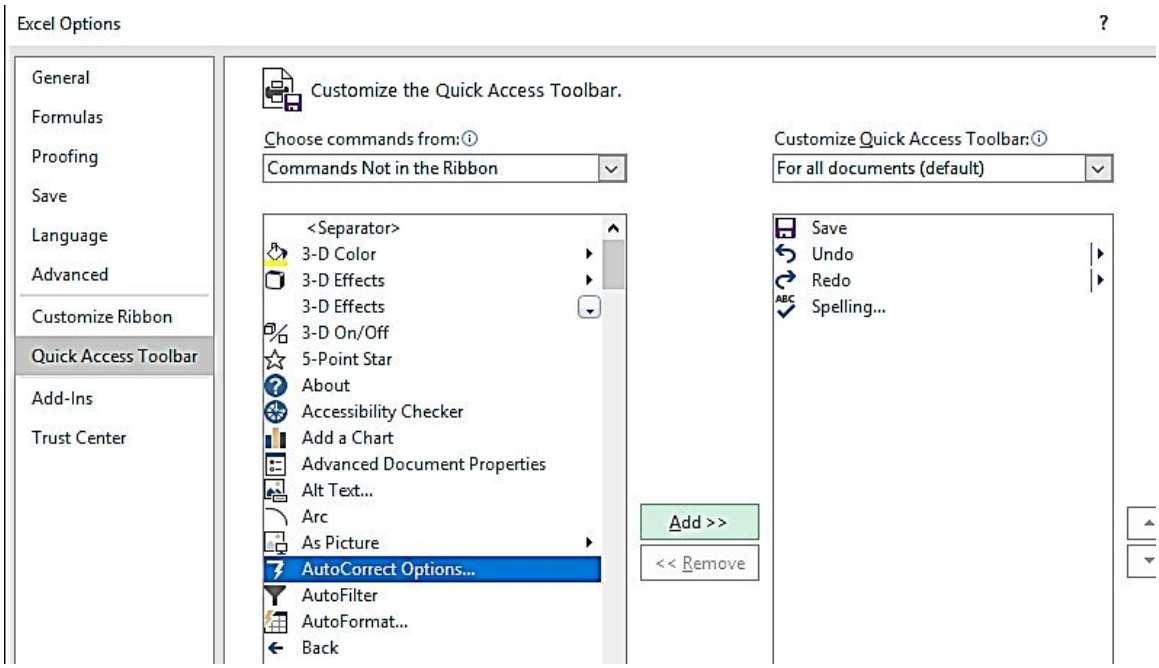
Not all commands are displayed in the lists. So, simply click on the drop-down arrow and select **More Commands** and this will display a window where you will see other commands options.



Click the arrow under the "**Choose commands from**" option. This will display different command options.



Select an option and choose a command. Then click **Add>>**. You can also remove a command by clicking on the **<< Remove button**.

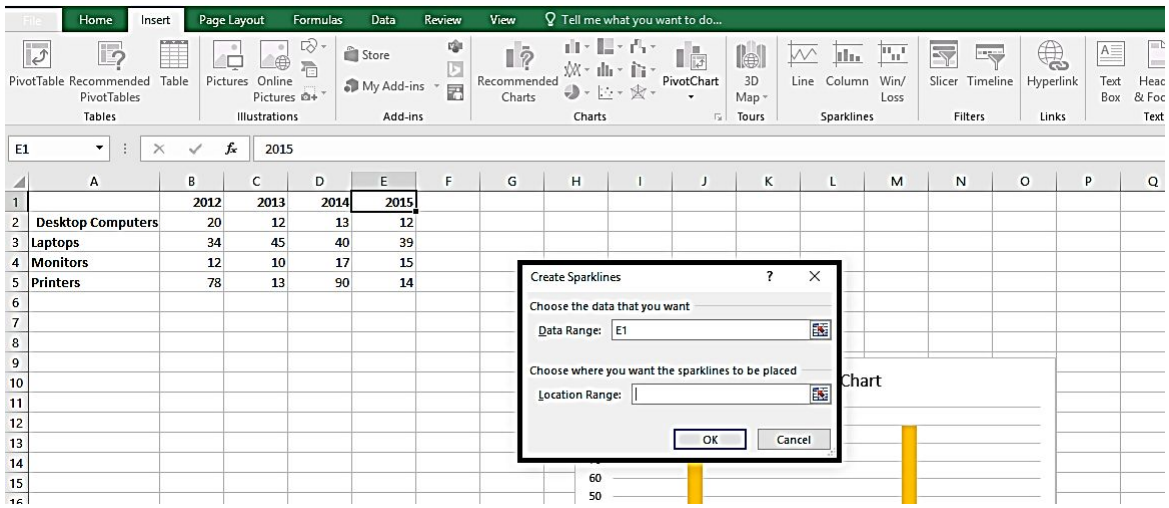


WORKING WITH DIALOG BOXES

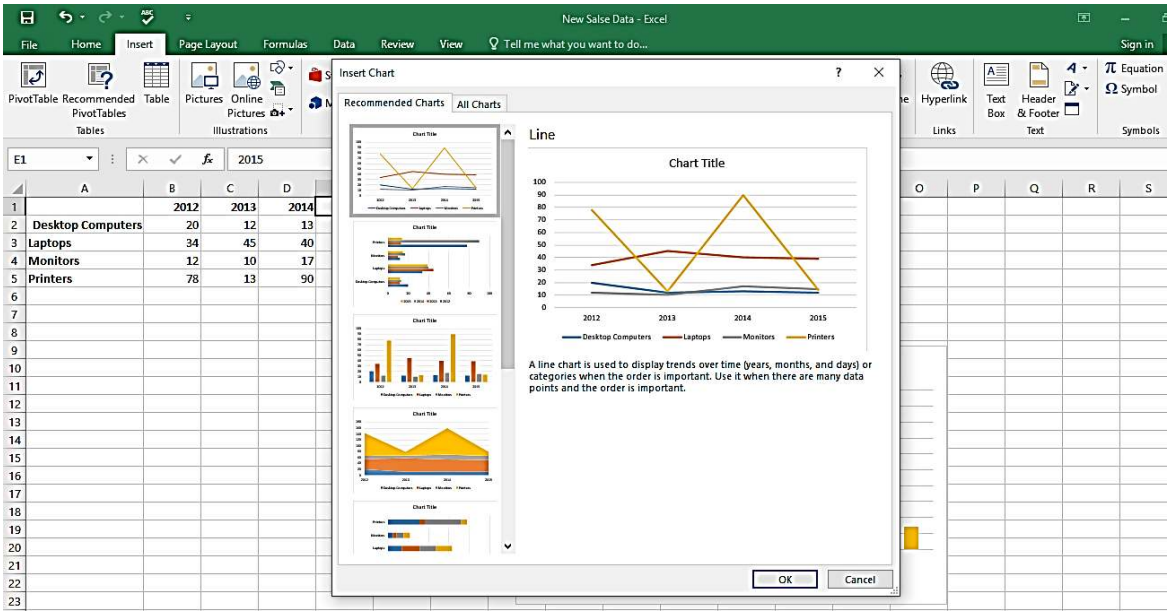
The box that appears is known as a Dialog Box. It is a transient window created by an application to collect user input. Dialog boxes are often used in applications to ask the user for further information about menu options.

In Excel, when you click or make use of some commands in the ribbon, it displays a box where you see other options for that command. Excel features a lot of dialog boxes that you'll use a lot, such as Format Cells, Spelling, Past, Find and Replace, etc. There are types of dialog boxes.

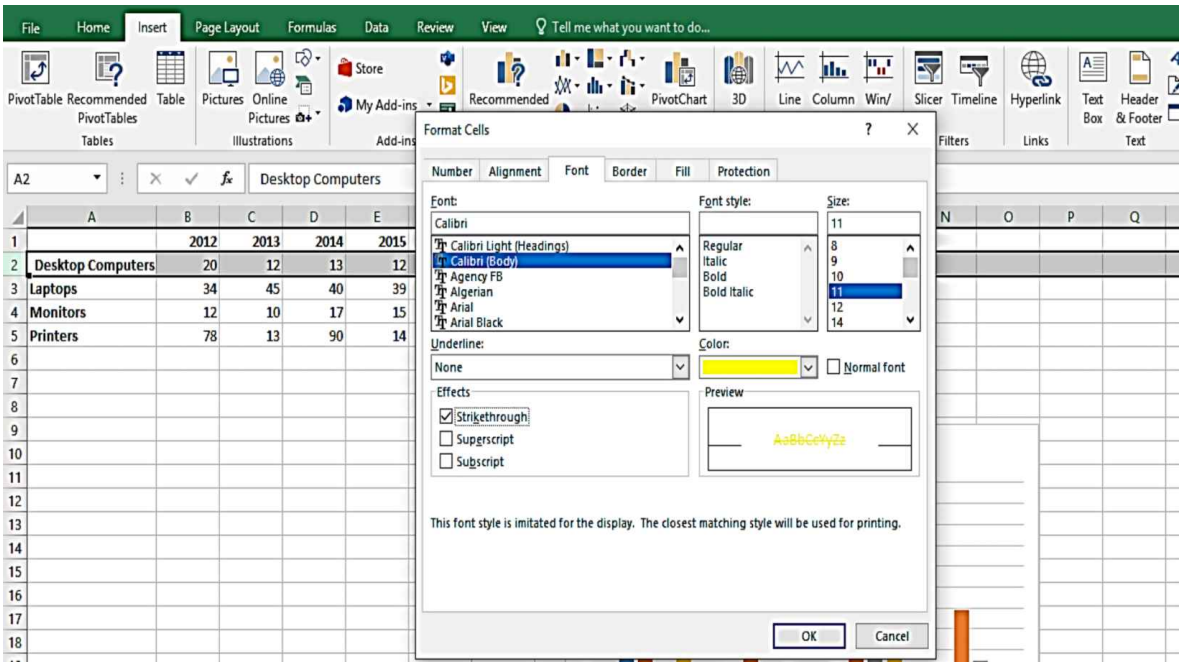
Typical Dialog Box: If this box appears on your screen, it doesn't go away by itself until you decide to close it. when it appears, perform your action, then you click **OK**. If you want to dismiss the box, click on the **Cancel** button. This will close the dialog box immediately and no action will take place. The image below is a Typical dialog box.



Navigating Dialog Boxes: This box appears when you click on a command that you want to use. You can easily see them from the list of commands on the Insert Tab.



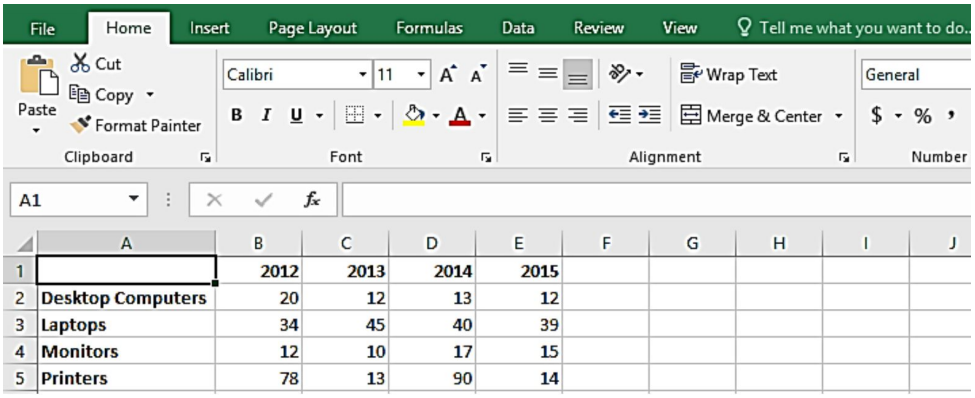
Tabbed Dialog Boxes: Many of the dialog boxes in Excel are Tabbed dialog boxes. It has several commands on it. You make the changes you want, and once you are done, click **OK**.



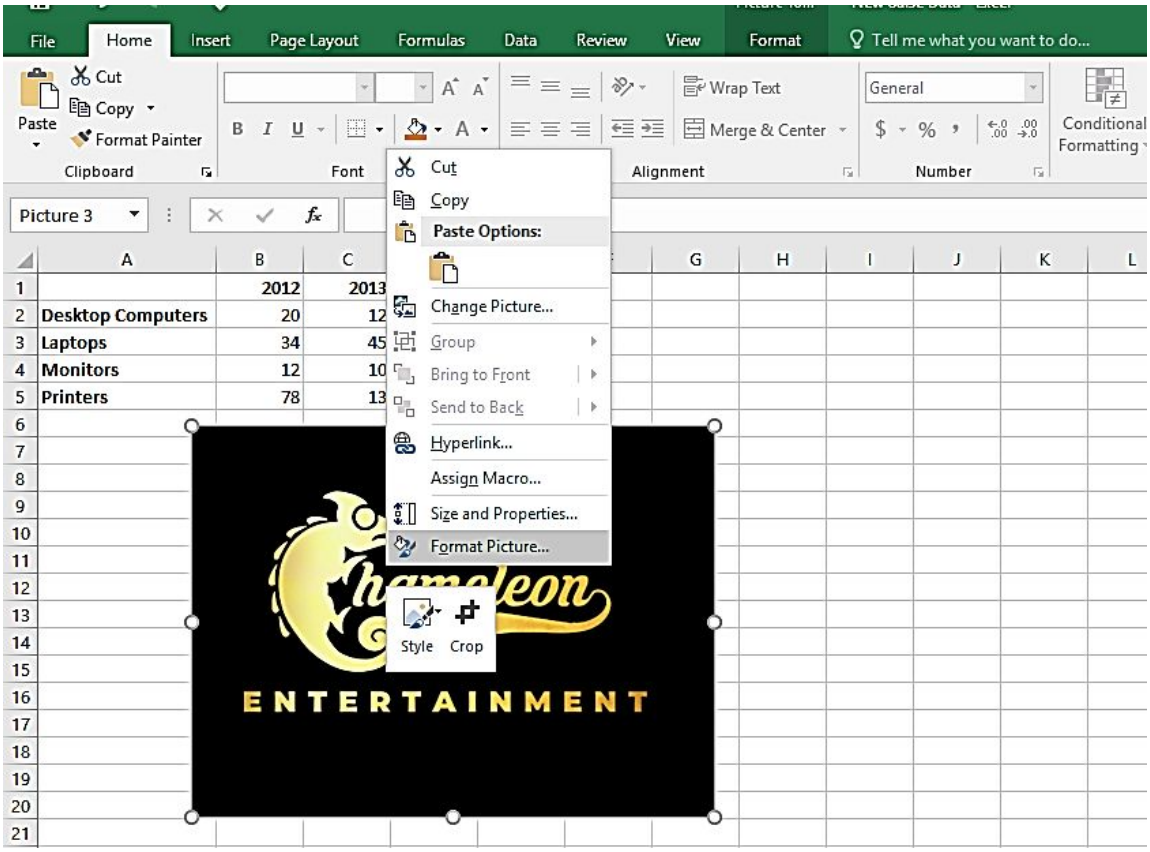
USING TASK PANES

In Excel, task panes are interface panels that display on the right side of the window. It provides users with easy access to common features, data, and instructions. Below is an example.

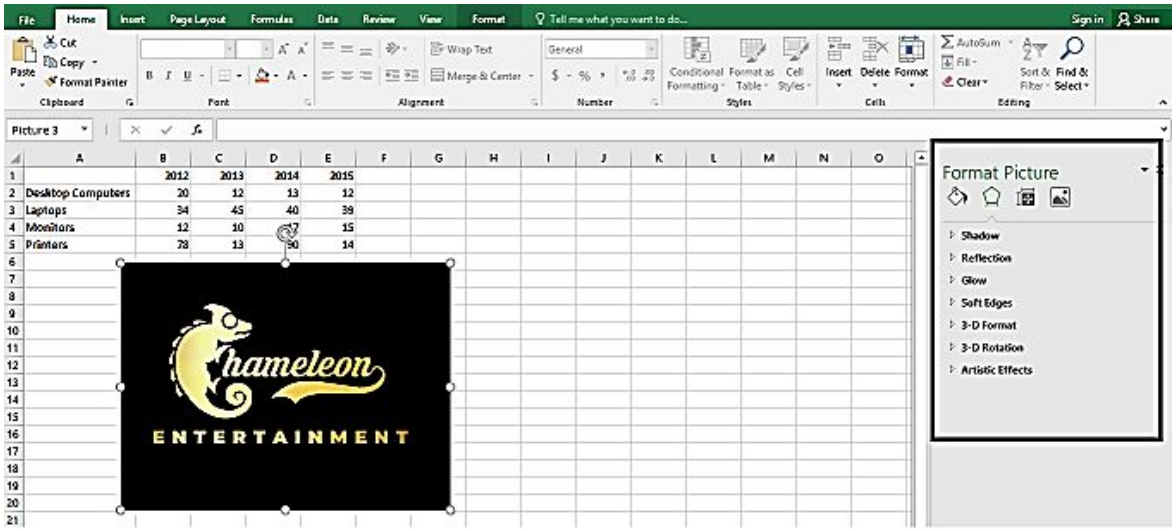
Open an excel sheet (It should have some details in it).



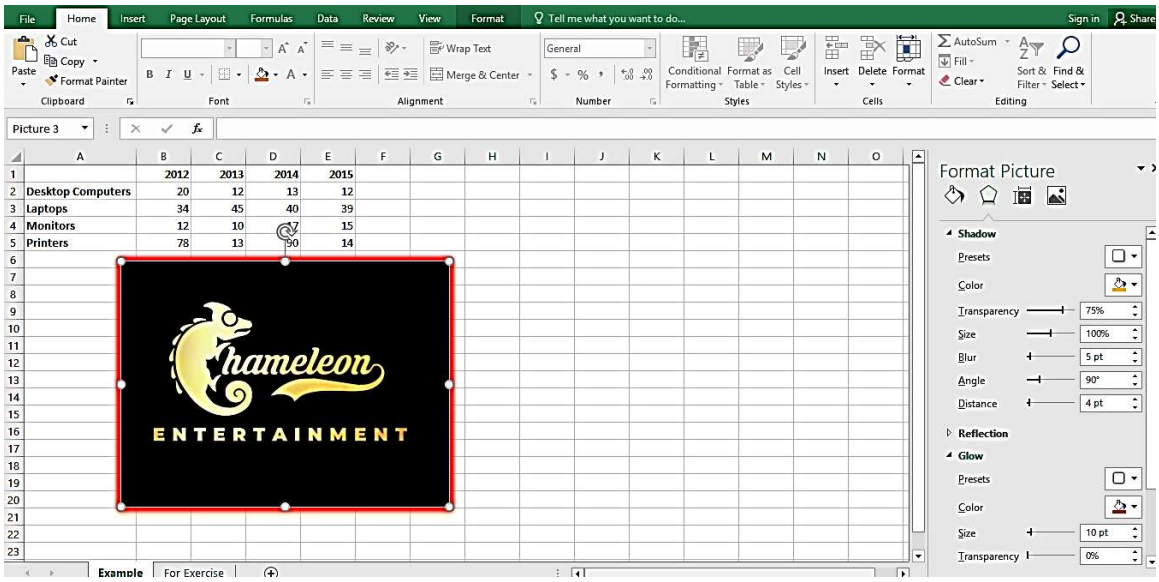
Now, let's insert a picture. Click **Insert** > **Pictures** > Select the picture you want, then click **Insert**. Once the picture has been displayed on the worksheet, right-click on it and select **Format Picture**.



This will open up the Format Picture Task pane. You will see lots of options you can select from in the Task Pane.

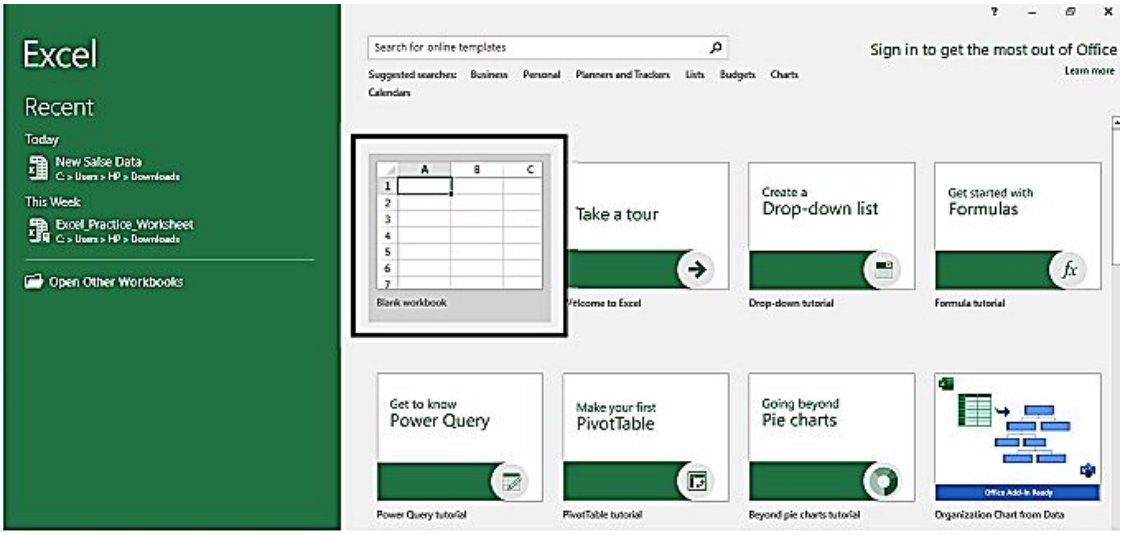


Click on an option. As you make the changes, you will see the picture adjusting to the changes you have made.


File
Home
Insert
Page Layout
Formulas
Data
Review
View
Format
Tell me what you want to do...
Sign in
Share
Cut
Copy
Format Painter
Paste
Clipboard
Font
Wrap Text
Merge & Center
Alignment
General
Number
Conditional Formatting
Format as Table
Cell Styles
Styles
Insert
Delete
Format
Cells
AutoSum
Fill
Clear
Sort & Filter
Find & Select
Editing
Picture 3
2012 2013 2014 2015
Desktop Computers 20 12 13 12
Laptops 34 45 40 39
Monitors 12 10 7 15
Printers 78 13 90 14
Chameleon
ENTERTAINMENT
Example
For Exercise
Format Picture
Shadow
Presets
Color
Transparency 75%
Size 100%
Blur 5 pt
Angle 90°
Distance 4 pt
Reflection
Glow
Presets
Color
Size 10 pt
Transparency 0%

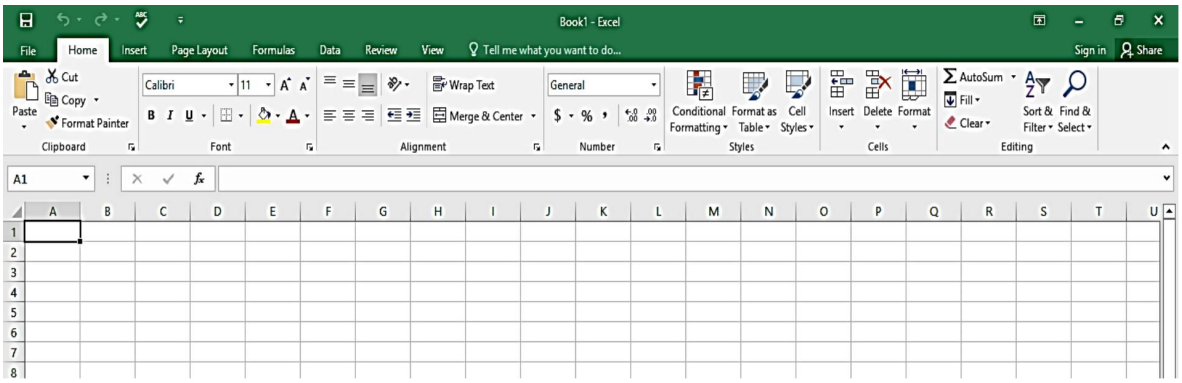
CREATING YOUR FIRST EXCEL WORKBOOK

You'll get a welcome screen when you first launch Excel, where you can select to access an already Excel spreadsheet or you create a new one. You may create a fresh, blank worksheet or a ready-made workbook using a template on Excel's welcome page. For the time being, click the "**Blank workbook**" icon to create a new spreadsheet without any formatting or data.



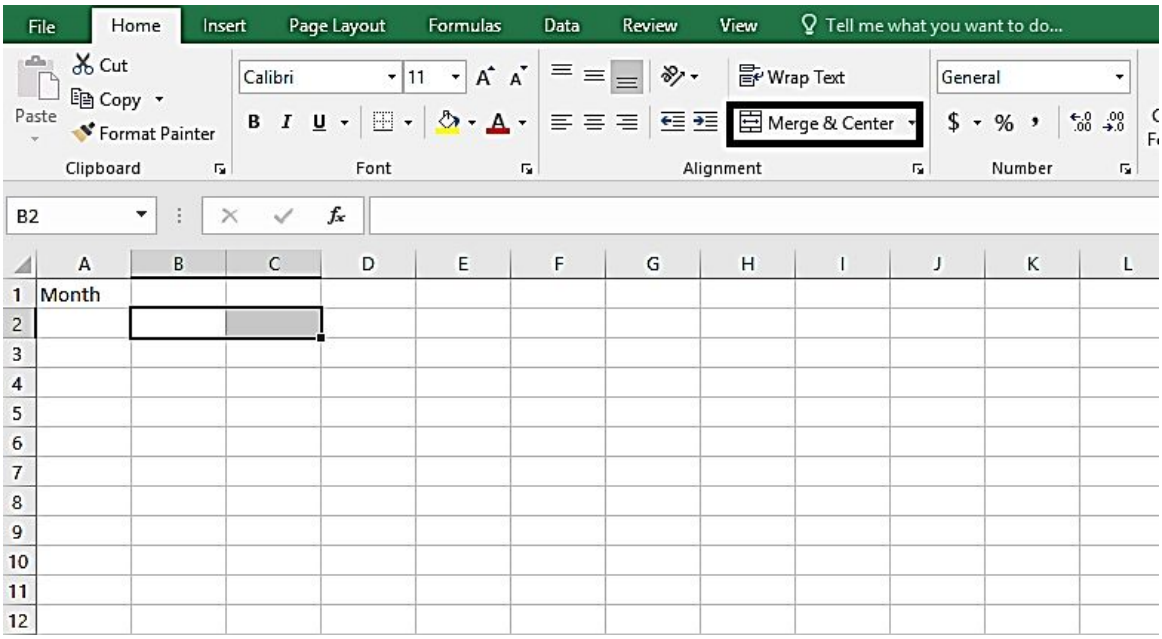
Getting Started on Your Worksheet

A worksheet is a grid of cells into which you may write data and formulae. The grid occupies the majority of the Excel display. It's where you'll do everything from inputting data to developing formulae to evaluating the outcomes. The worksheet consists of rows and columns gridlines and is labeled with numbers and alphabets.

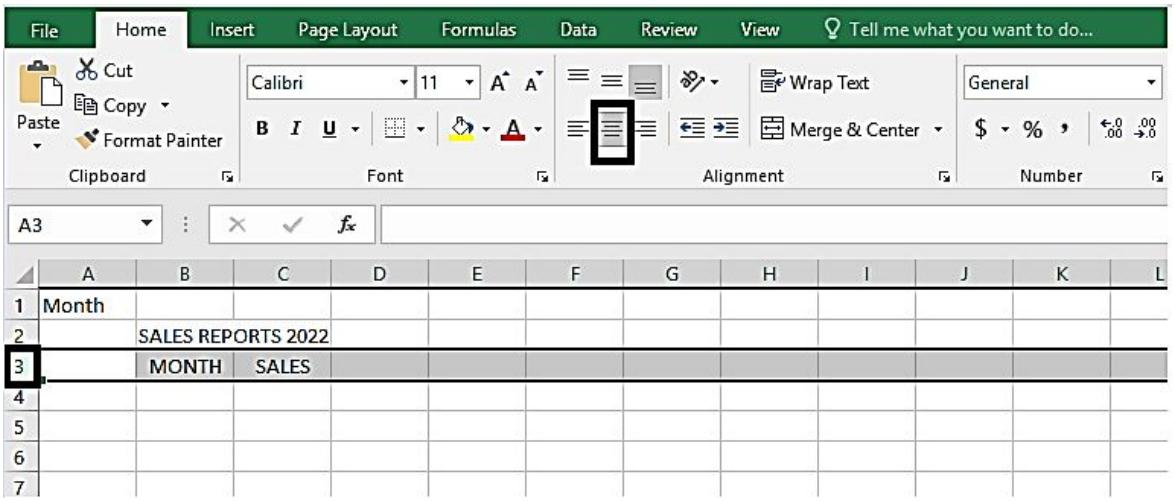


Filling in the Month Names

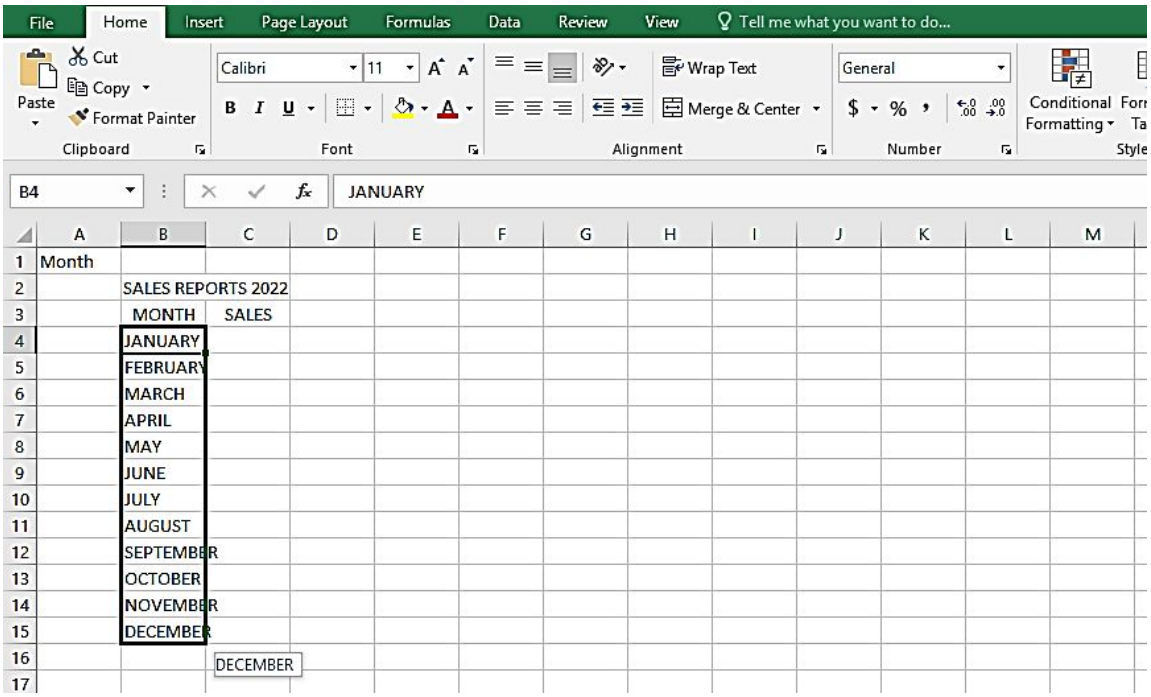
Now, we are going to fill in some data. First, select **Cell B2** and **Cell C2** at the same time. To do this, click on Cell B2, and why holding the left-click button on your mouse, move the cursor over Cell C2. This will select both cells. Now, on the Home tab, select **Merge & Center** from the ribbon which will merge both cells into one cell.



Now, click on the merged cell and type in Sales Report. Now, activate cell B3 and type in the word Month. Activate cell C3 and type in the word Sales. Now, select cell C3. In the alignment group, select the **Center command**.

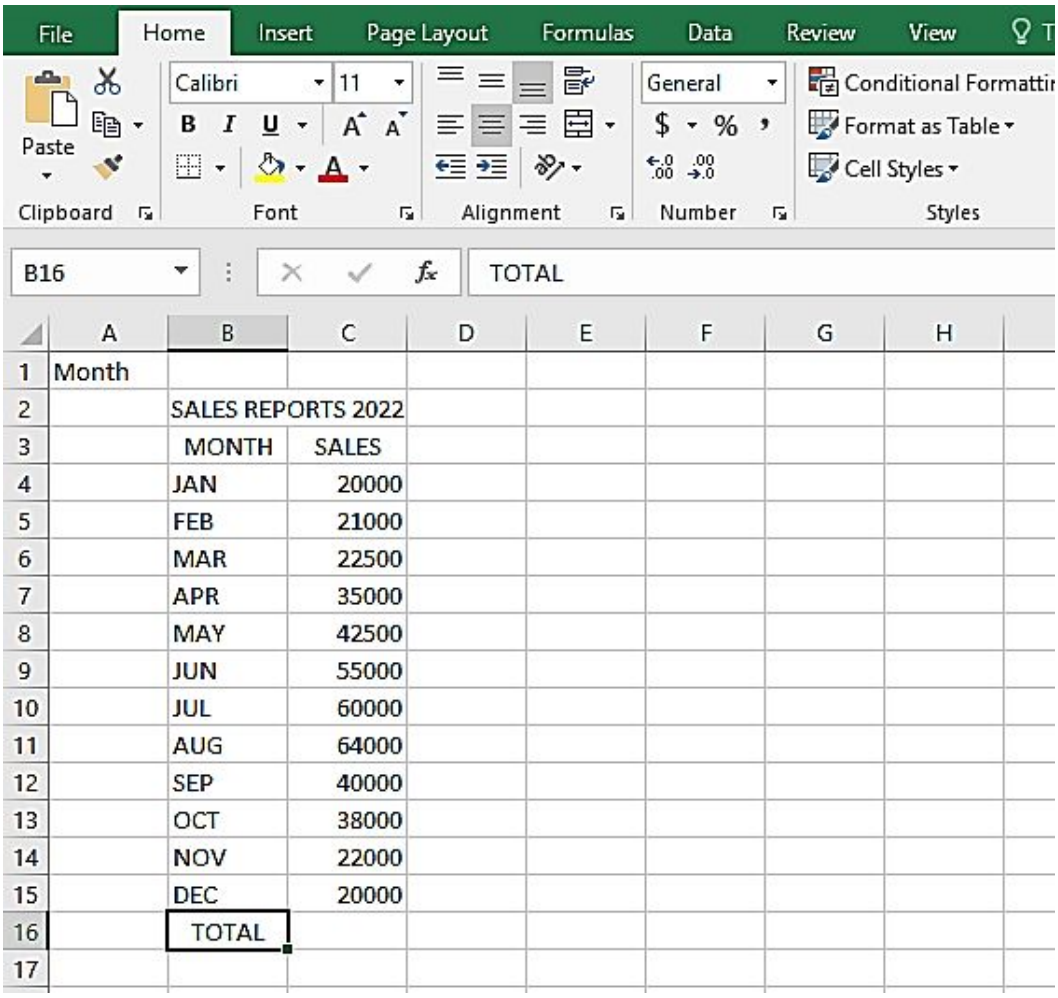


Now, activate Cell B4 and type in **JANUARY**. Then, on the small square box on the bottom right of Cell B4, click and drag down to 11 rows (**B15**). Once you've done this, Excel will automatically complete the rest of the months for you instead of making you type the months because it recognized January.



Entering The Sales Data

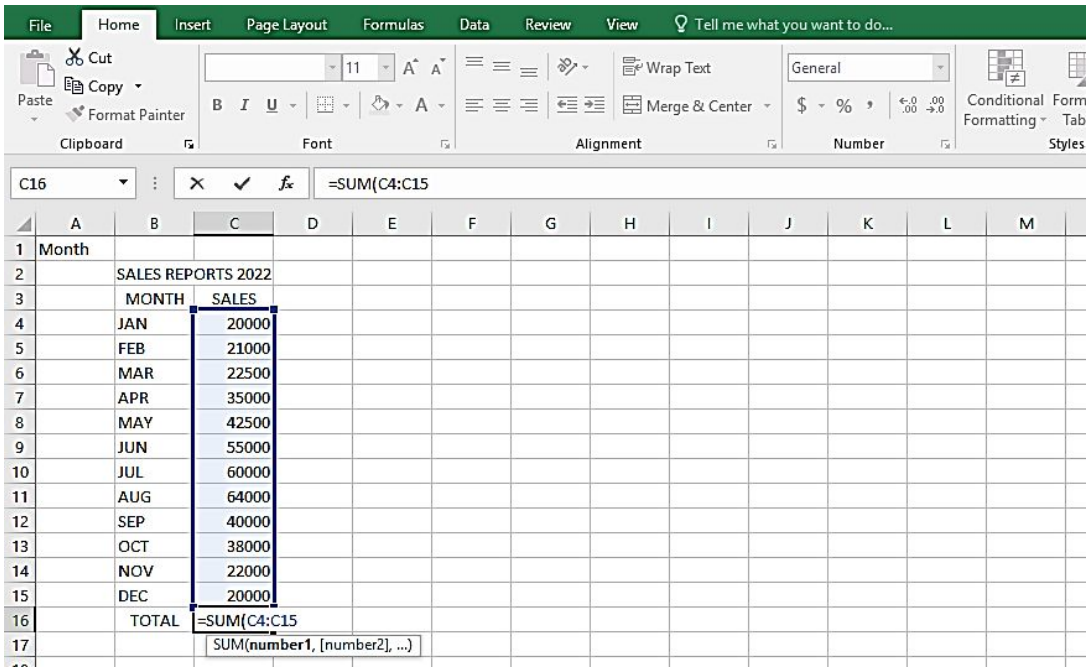
Now, enter the following numbers (as you can see in the image below) into C4 and C15 in the exact following format without dollar signs or commas. Then, activate cell B16 and type in Total and then center it.



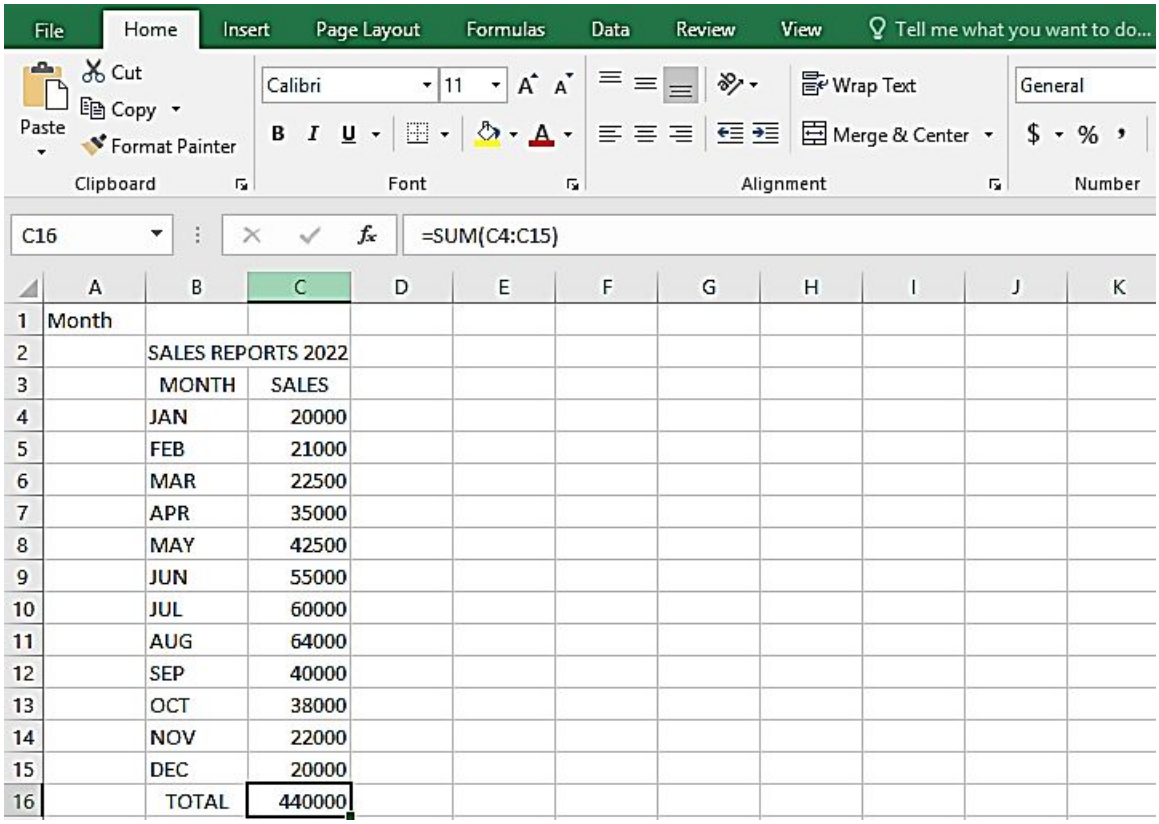
	A	B	C
1	Month		
2		SALES REPORTS 2022	
3		MONTH	SALES
4		JAN	20000
5		FEB	21000
6		MAR	22500
7		APR	35000
8		MAY	42500
9		JUN	55000
10		JUL	60000
11		AUG	64000
12		SEP	40000
13		OCT	38000
14		NOV	22000
15		DEC	20000
16		TOTAL	
17			

Summing the Values

The SUM function is used for summing values. we will apply it in cell **C16**. Activate cell C16 and enter in the equal sign, sum, and left parenthesis. Then select cell C4 to cell C15 and close the parenthesis. The contents within cell C16 should be as follows: **=sum(C4:C15).**

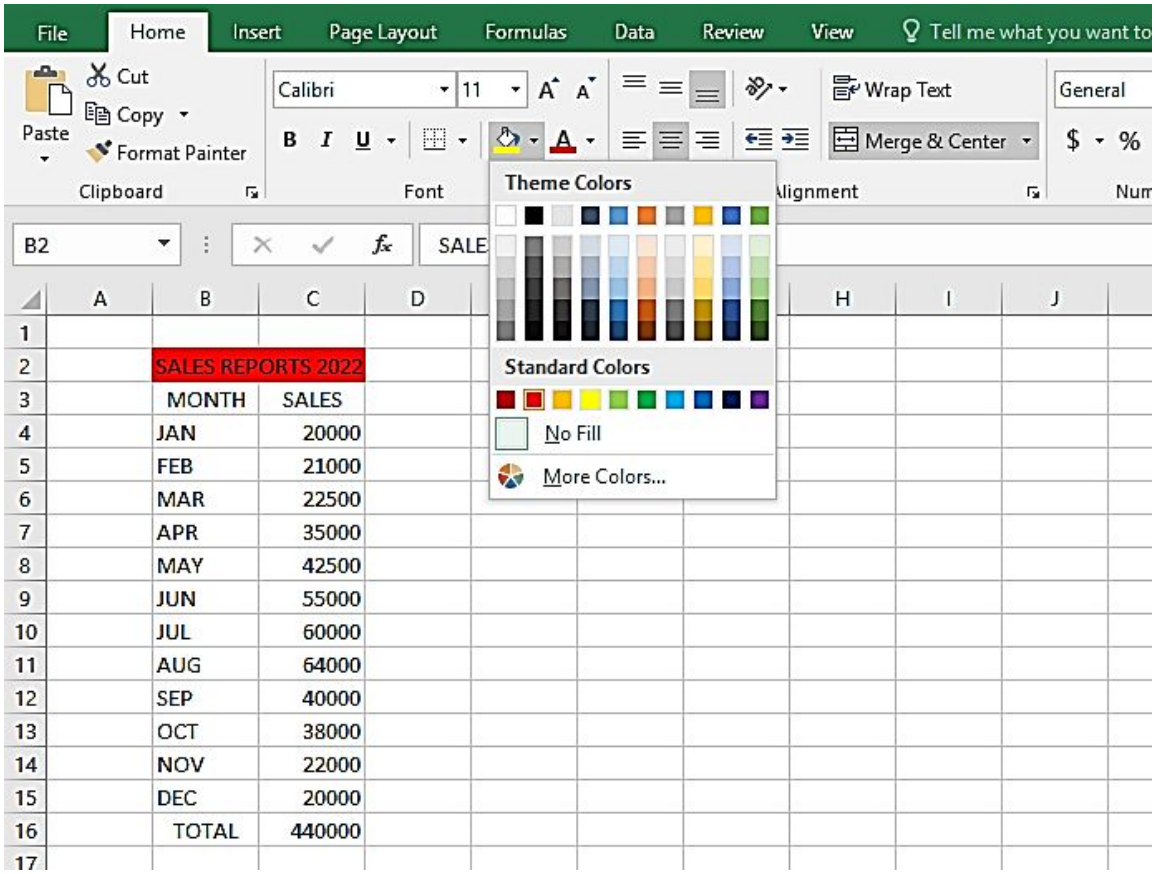


Then, press ENTER, and this sums up the monthly sales.

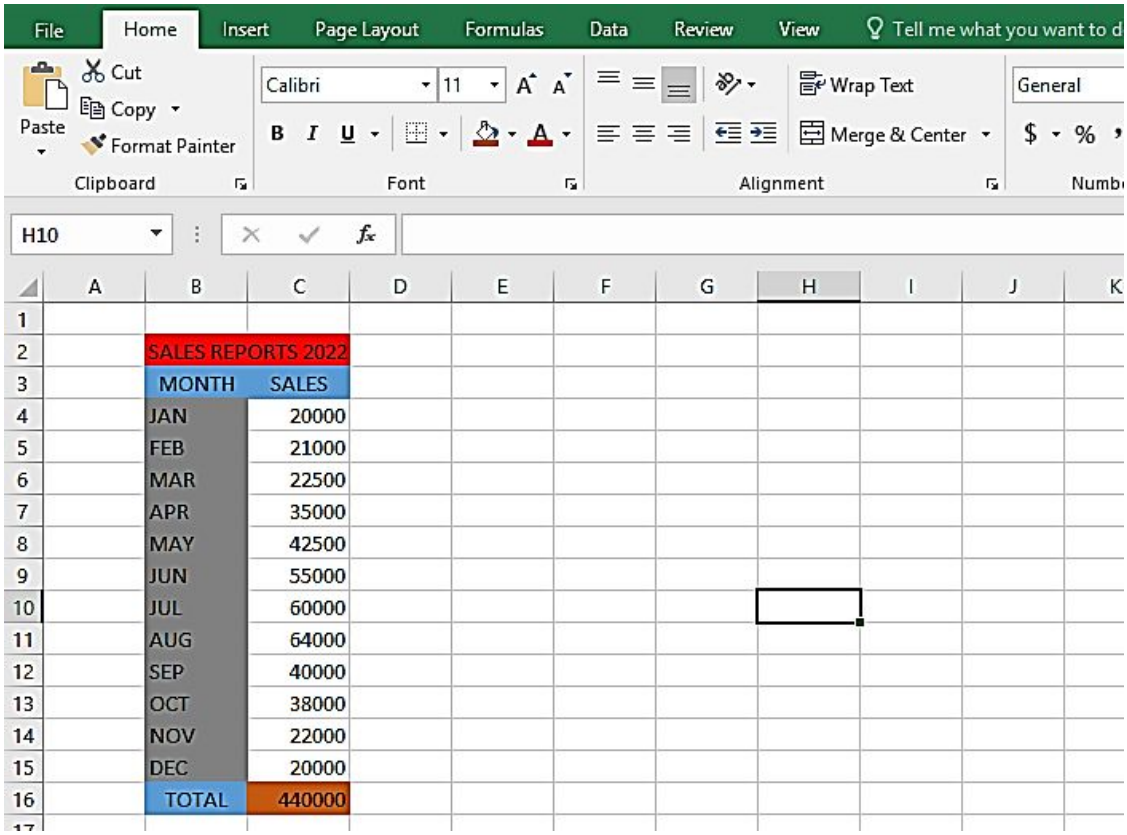


Making Your Worksheet Look a bit Fancier

Select **Cell B2** and **C2**. Click the down arrow on the fill color command on the ribbon and select a color. This will color the title of the table.

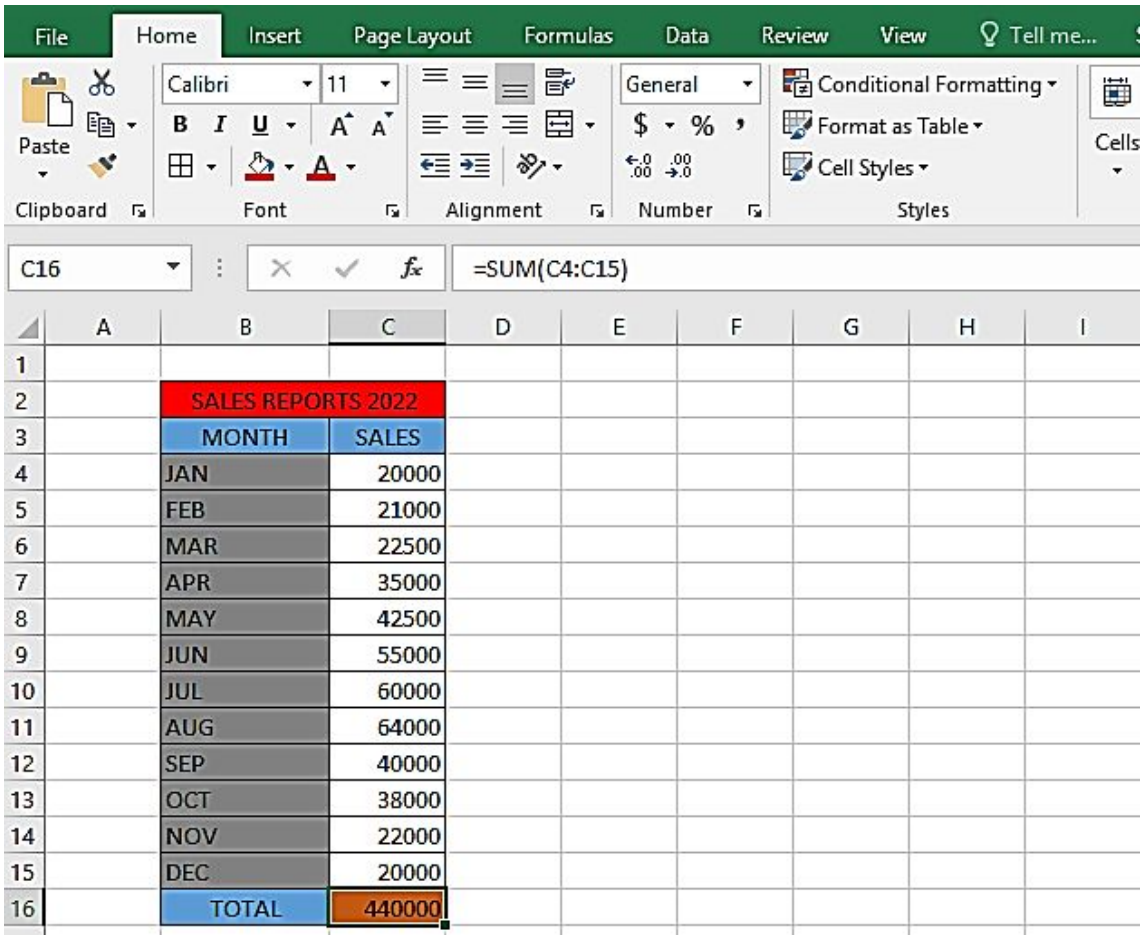


Now, select cells B3, C3, and B16 which are the Month, Sales, and Total. Repeat the same steps above but pick a lighter color. Repeat the same steps for cells **B4** to **B15** which are the Months. Finally, select cell **C16** and fill it with a very light color to differentiate it from the rest of the Sales number.



Now, let's add a border

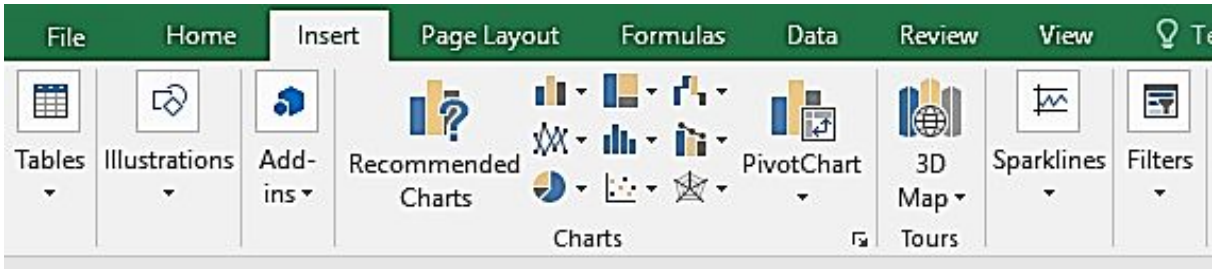
Select cell B2 through cell B16 (the entire **Sales report)**. Select the down arrow of the border command and select **All Borders**. There are other border options there as well.



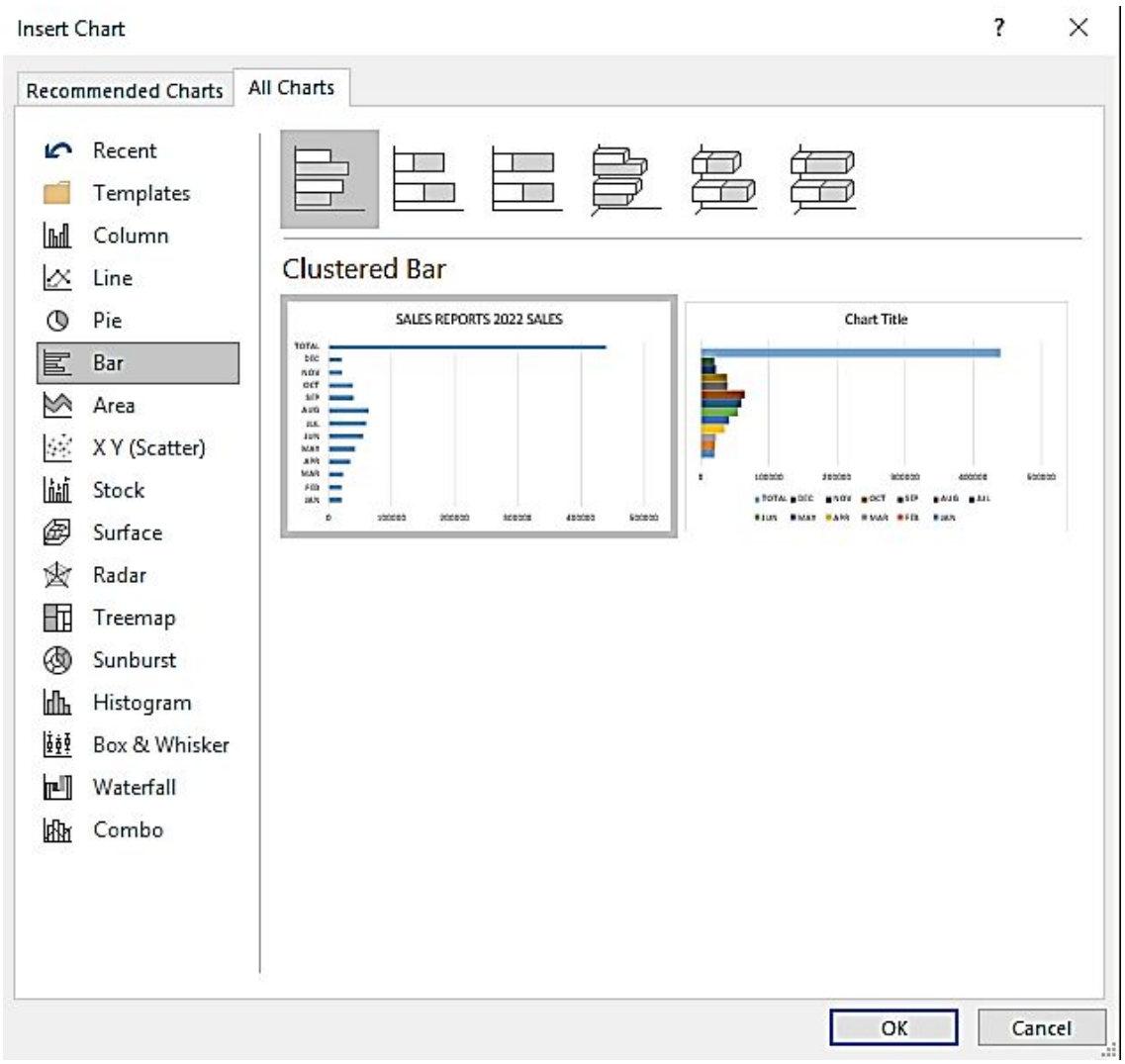
	A	B	C	D	E	F	G	H	I
1									
2		SALES REPORTS 2022							
3		MONTH	SALES						
4		JAN	20000						
5		FEB	21000						
6		MAR	22500						
7		APR	35000						
8		MAY	42500						
9		JUN	55000						
10		JUL	60000						
11		AUG	64000						
12		SEP	40000						
13		OCT	38000						
14		NOV	22000						
15		DEC	20000						
16		TOTAL	440000						

Creating a Chart

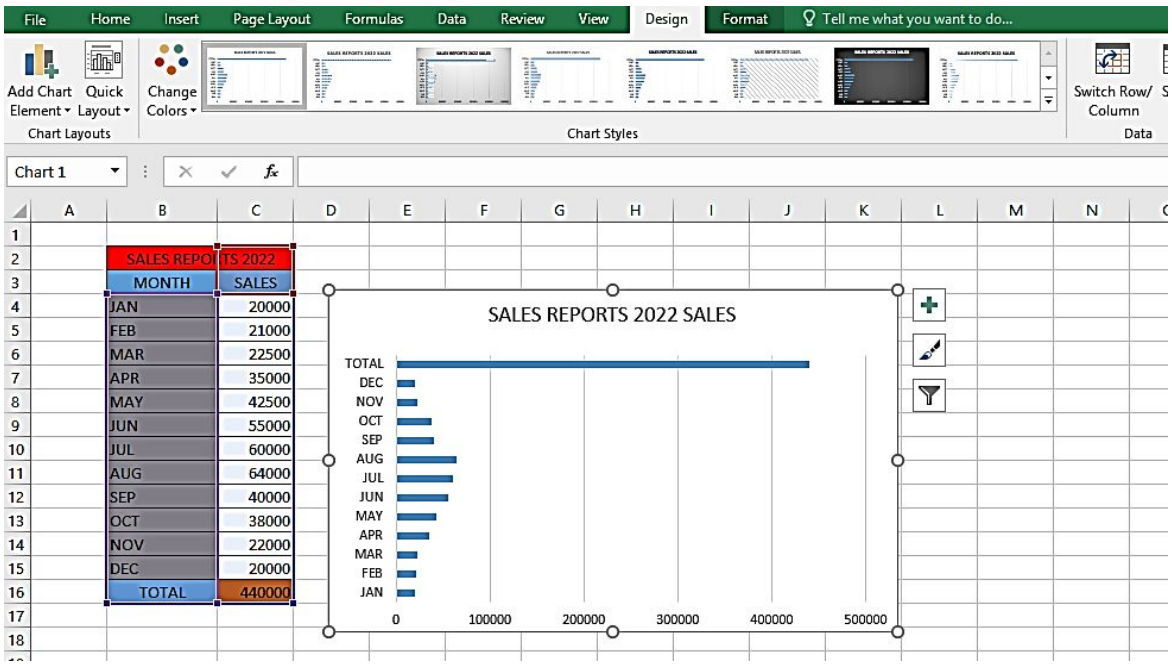
Now, choose the cell you want to create a graph for. To do this, click and drag your mouse across the cell. Once you've done this, click on the Insert Tab on the ribbon. You will see the chart command menu on the Insert tab options.



You can create different charts for your work. In this case, we will create a bar chart. Click on **Recommended Charts** > **All Charts**. Then, select **Bar**. Click **OK**.

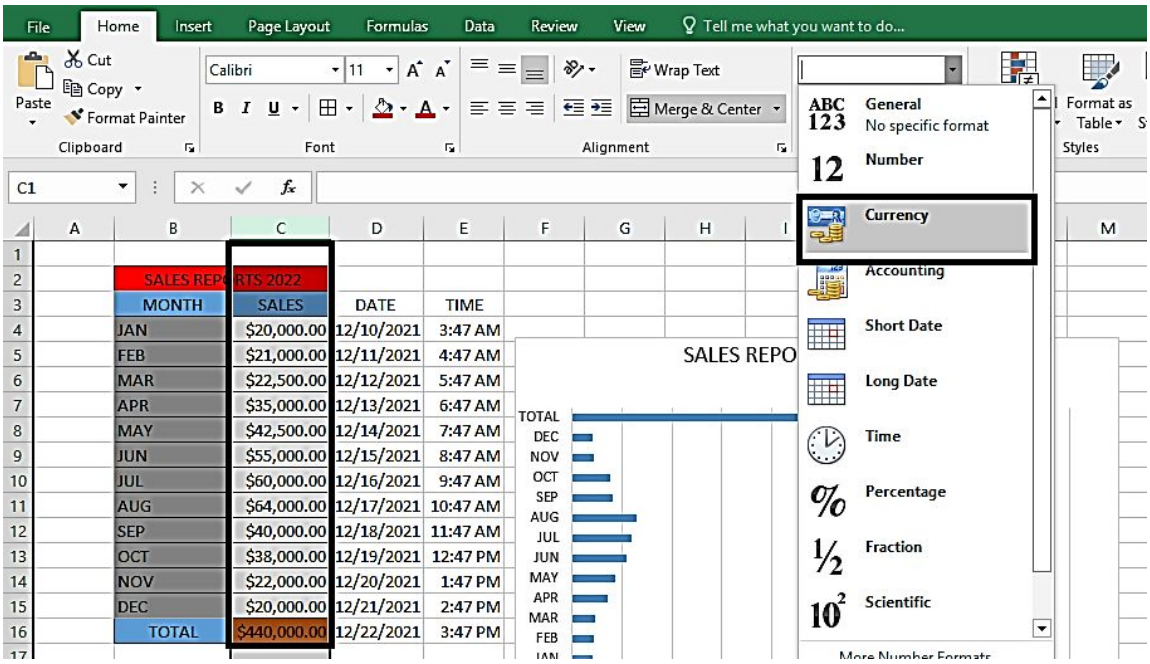


This will immediately create a pie chart for your work.



Formatting the Numbers

Select the cell > click the down arrow on Number group and select any number format option. you want. Click on More Number Formats for more formatting options. On the image below, I formatted the numbers to Currency (Dollar).



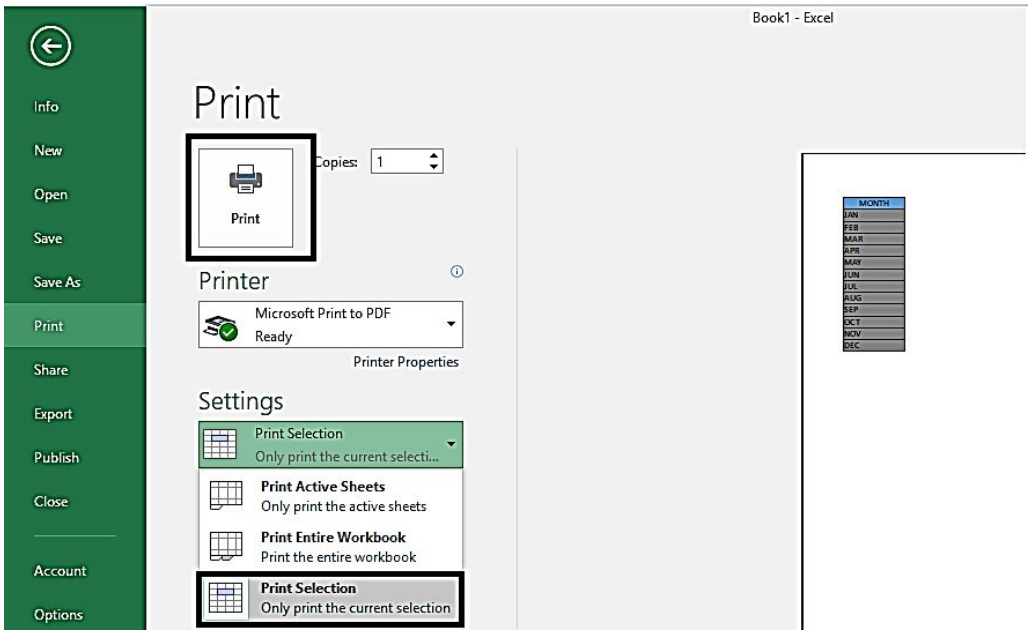
Printing your Worksheet

Excel sheets might have much information, and printing it all at once isn't always practical. By identifying the desired region, navigating to the print options, and selecting the 'print chosen area' option, you may print specific areas of a spreadsheet. Printing selected sheets in a workbook may be done similarly. "**Print Areas**" may also be utilized by people who want to fine-tune their formatting before printing. There are different methods you can use in printing your worksheet.

Printing from a Selection

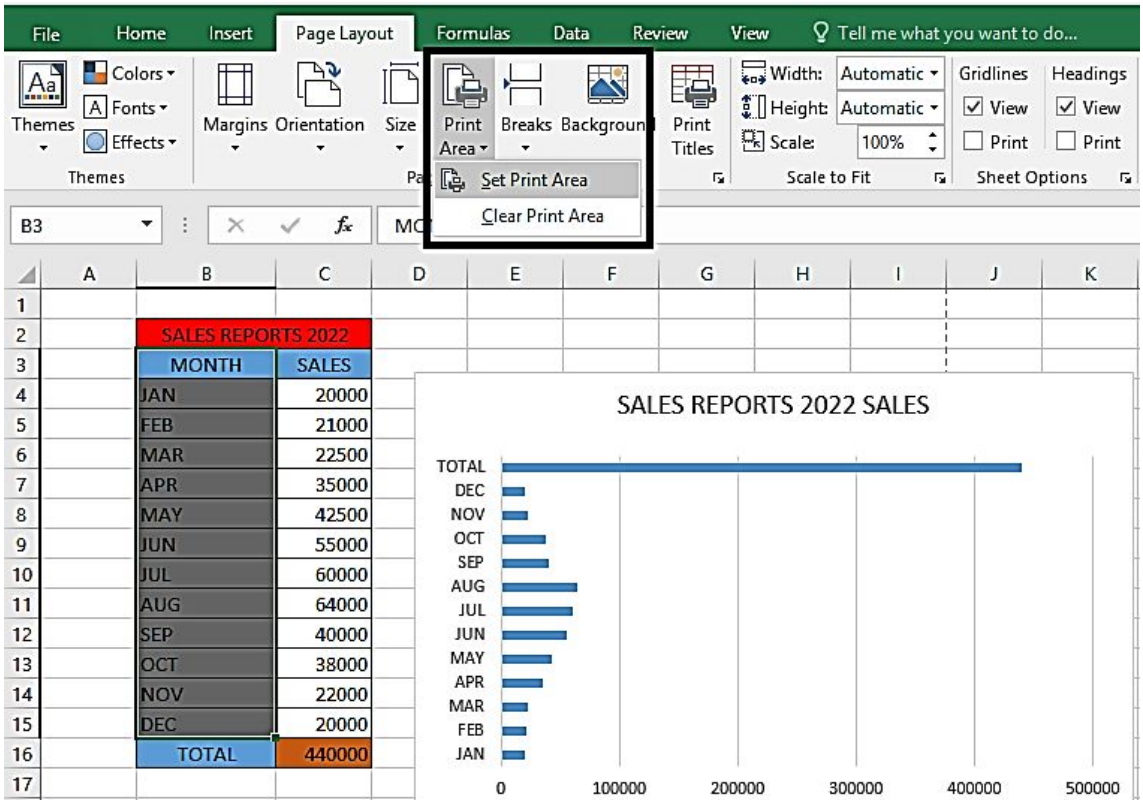
Highlight the cell(s) you want to print. Click on **File** and choose **Print**.

On the Print Setting menu, hit the down arrow and select **Print Selection**. Then, click on **Print**. This will print out only the selected area in your spreadsheet.



Using a Print Area

Highlight the cell(s). Click on Page Layout. Click on **Print Area**, then select Set Print Area.



The print area will be identified by the highlighted cells. You may continue working while this area is stored for future printing.

- The "Orientation" button allows you to move between landscape and portrait mode.
- On a printed page, the "Margins" button modifies the margins.
- "Scale to Fit" determines how many pages your printed material will occupy.
- From the same dropdown menu, you may clear, overwrite, or add to the print area.

Click on **File** and select **Print**. On the Print settings menu, select **Print Active Sheet**. Then, click on **Print**.

Saving Workbook

When you save a workbook for the first time, Excel will ask you to name it. Any modifications to the text, numbers, or formulae must be saved using the Save procedure once the file has been given a name.

- Go to **File > Save New Workbook**.

- Choose **File Save As**.
- A dialog window called **Save As** opens.
- Select a location for the file.
- Fill in the File Name: box with a name for your file.
- Select **"Save"** from the drop-down menu.

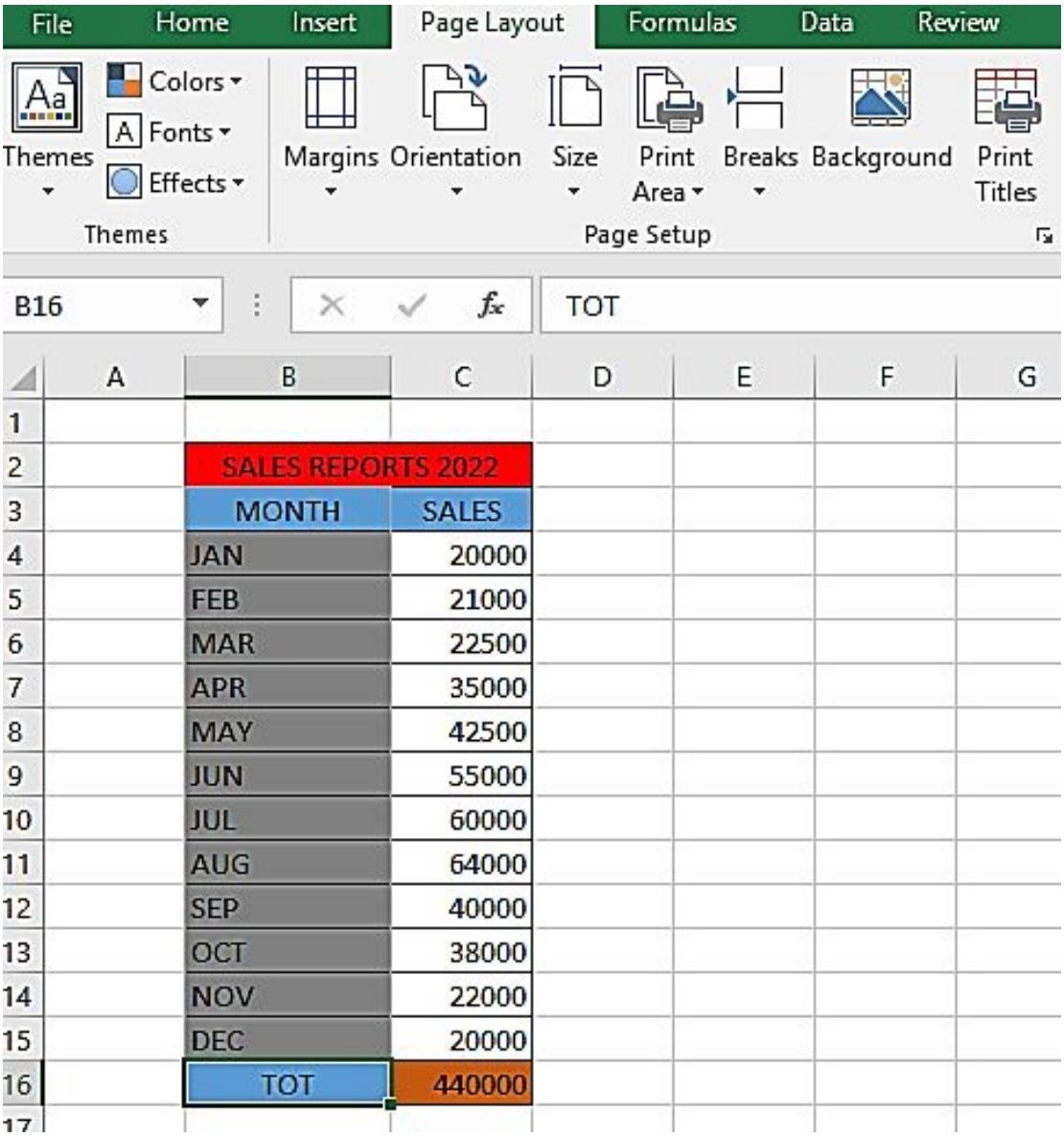
When working with a spreadsheet, it's a good idea to save it periodically. It's never pleasant to lose data. Using the shortcut key combination **Control key + S,** you may save your worksheet fast.

CHAPTER TWO

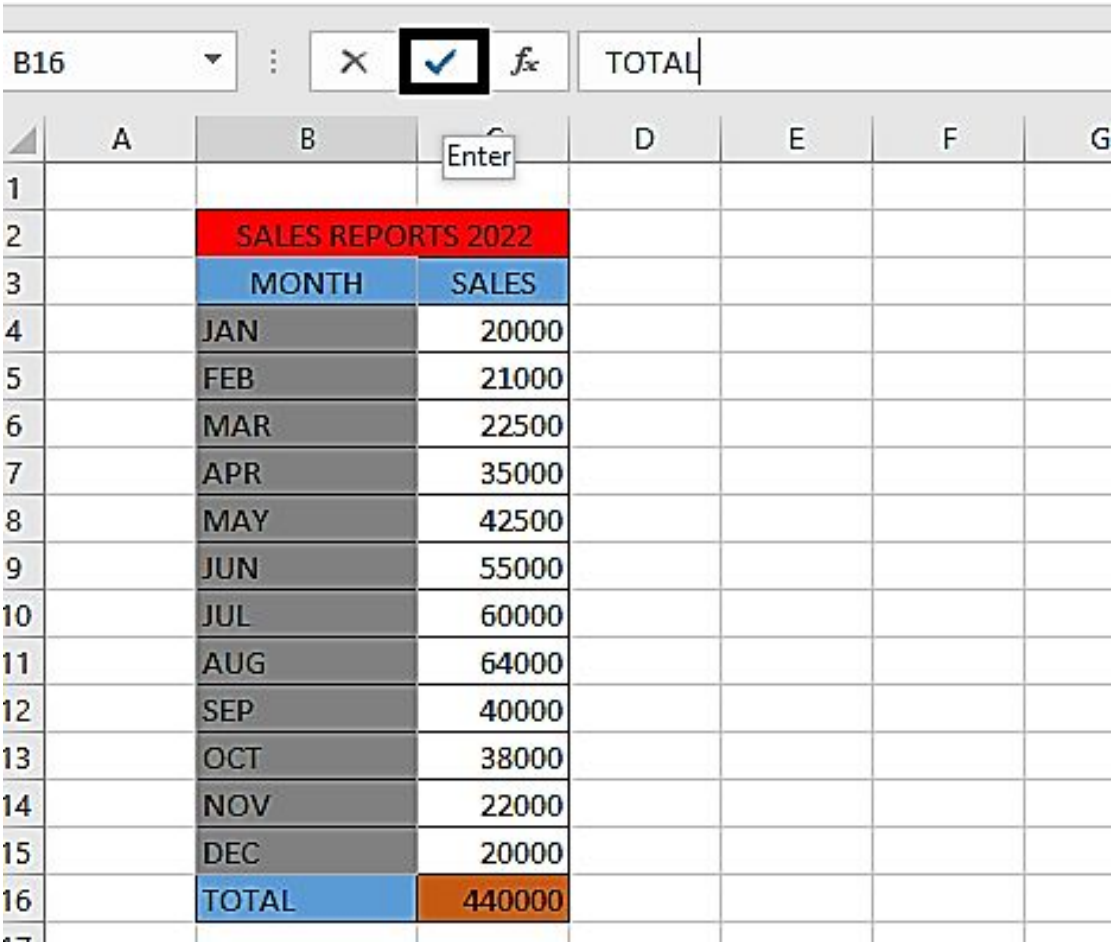
ENTERING AND EDITING WORKSHEET DATA

Double-clicking the cell location or using the Formula Bar may alter the data that has been put in it. You may have observed that the data you put into a cell location showed in the Formula Bar as you wrote it. The Formula Bar may be used to input data into cells as well as amend data that has previously been entered.

For example, click on cell B16, and type in the word Tot. Activate cell B16, then, on the formula bar, you will see the abbreviation, **Tot**.



So, click on it and complete the word to Total, then click on the checkmark icon on the left. This will change the word to **Total** in cell **B16**.



Exploring Data Types

In Excel, there is the Numeric data type, Text data type, Date and Time data type, and Formula data type.

Numeric values

The numerical data which are stored in Excel cells are used in building the majority of formulae in Excel. Numeric data is aligned to the right-hand side. Numeric data may be divided into two categories.

Numeric Data: Numeric data is used to keep track of amounts. 500 bags of cement, for example.

Date and Time: Date and Time values are stored using the Date and Time data type. Technically, Excel saves Date and Time as numbers as well. Date and time data, like numeric data, is aligned to the right-hand side. A date value, a time value, or both may be stored using the data and time data type.

Depending on how you structure the Cell, the date and time value might appear in a variety of forms.

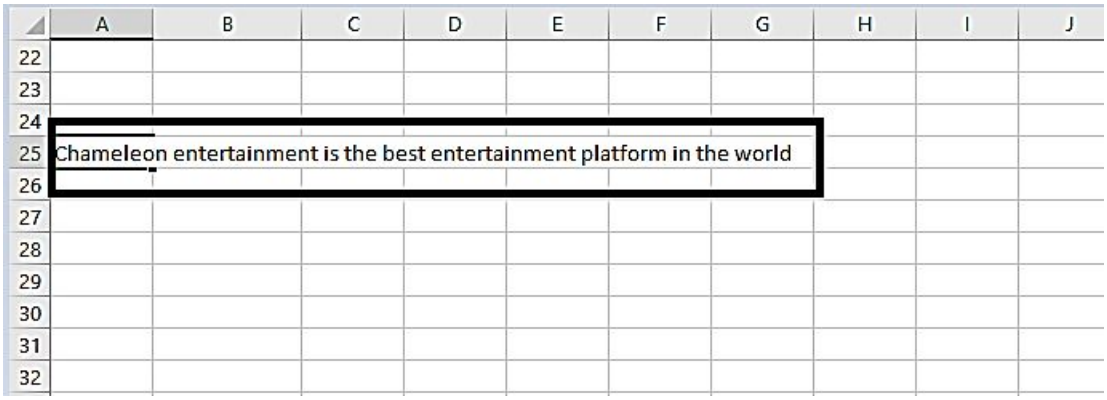
Excel's numeric data type is used to record various amounts that may then be utilized in mathematical operations using Excel formulae. Numeric characters (0 to 9) may be used in Excel cells with numeric data types. Aside from numeric characters (0–9), the special characters listed below may be used for many purposes.

+	Positive symbol
-	Negative symbol
()	Negative symbol
%	Percentage symbol
.	Decimal symbol
,	Decimal symbol
E	Exponential symbol

Text Entries

Text is any string of letters, digits, spaces, and characters. This is the most popular data type. Text is the only data type in Excel that is oriented to the left by default. It's mostly used to name table headings, descriptions, and other things. Although text can as well be a number, it should not be utilized in calculations. You may get a #**VALUE!** error if you endeavor to execute any mathematical operation with text data in a Cell. Customer names, customer numbers (using customer numbers in computations would be meaningless), and addresses are examples of the popular usage of the Text data type.

If the text data in an Excel Cell is bigger than the Cell width, the text data will flow over into the empty right-side Cells. If a right-side empty Cell is subsequently filled, Excel hides the spilled text before revealing the data in the new full Cell. See below.



Formulas

A formula is a set of instructions that are entered into a cell to generate a value. It must start with an equal symbol (=). A mathematical equation, cell references, functions, or an operator might all be examples. An expression is another name for a formula. Because MS Excel can build tables with a large quantity of data, you use this function to add formulae to your table and receive faster results. Following are some fundamental Excel functions to get you started, assuming you can now input and function with your favorite formulae.

SUM Formula: First and foremost, the SUM function in Excel is a must-know formula. Values from several columns or rows are often combined. =SUM is a simple selection that adds the column values (A2:A8). Example: Summing up the values of a single row, =SUM(C4-C15).

MEDIAN Formula: The average number of shareholders in a certain shareholding pool is an example of a simple average that the AVERAGE function should bring to mind. Example: The formula =AVERAGE is used to calculate an average (C2:C14). (SUM(C2:C14)/12) is likewise comparable.

COUNT Formula: The COUNT function keeps track of how many cells in a given range contain just numeric values. Example: COUNT is used to count the numerical values in a column (C: C). To count rows, you must change the range of the formula.

IF Formula: The IF function is often employed when you wish to sort your data according to a set of rules. Other formulae and functions may be true, for example, the value is true and false.

Example: =IF(C2D3, 'TRUE,' 'FALSE') – IF(C2D3, 'TRUE,' 'FALSE') – IF(C2D3, ' This method checks the two numbers to see whether C3 is smaller than D3. If the reasoning is right, the cell value should be TRUE; otherwise, it should be FALSE.

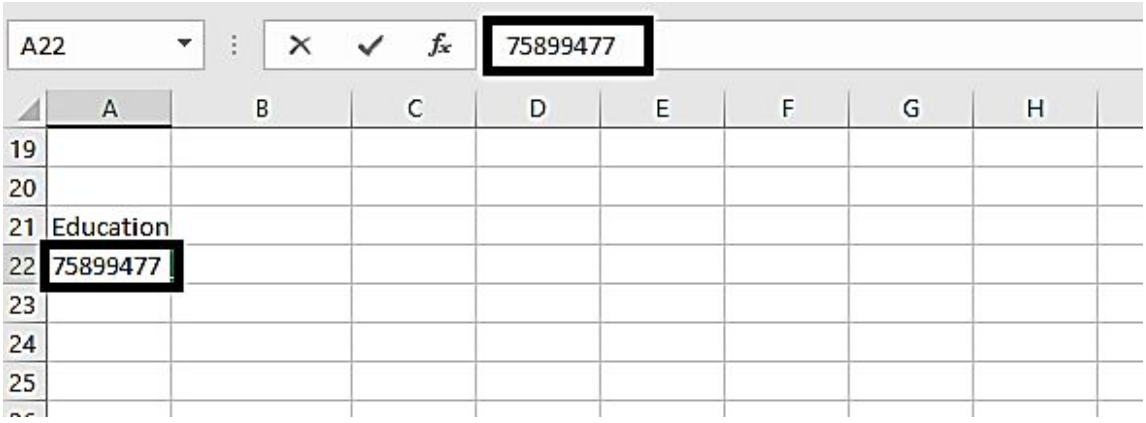
COUNTA Formula: COUNTA counts all cells in a given range in the same way as the COUNT function does. Regardless of cell type, all cells are counted. It counts the same things as COUNT: dates, times, strings (including logical values and errors), and empty strings or text.

Entering Text and Values into your Worksheets

Any cell may have either text or number. It might be difficult to input data if you haven't been taught how, so follow the steps below to discover the tips and tricks for efficiently entering data.

Entering Numbers and Text

To input numbers or texts, first of all, activate the cell by clicking on the cell, then input the value and hit **Enter** key. After inputting the value, activating the cell, you will notice that the value is shown in the cell likewise in the Formula bar.



A cell may carry up to 32,000 characters, which is more than enough for a normal chapter in a book. Despite a cell carrying a large number of characters, you'll discover that it's impossible to show them all. The formula bar may not fully display lengthy text. To expand the height of the Formula bar and show additional text, click the bottom of the Formula bar and drag it down.

When inputting values, especially numbers, you may use decimal points, currency symbols, mathematics symbols, etc. excel considers a value to be negative if it is preceded by a minus sign or it is enclosed in parenthesis.

Entering Dates and Times into your Worksheets

According to what you want to perform, there are numerous methods to add dates in Excel. Do you wish to include today's date in a report or invoice, for example? Perhaps you'd want to put a date in Excel that would regularly refresh and always show the current date and time? Or maybe you'd like to have your worksheet auto-fill weekdays or enter random dates? Let’s show you how you can do that.

Entering date and time values

Choose the cell. Then, press **Control key + Semi-Colon (;).** This will add the current date to that cell. To enter the time, select the cell, then press **Control + Shift + Semi-Colon (;)** on your keyboard. This will add the current time on that cell.

You can also enter date and time using some functions. To do this, simply Activate the cell you want to add a date on, type in this function on the cell **=TODAY()** and then press **Enter**. For the time, select the cell, type in this function **=NOW(),** and press **Enter**.

D4 | 12/10/2021

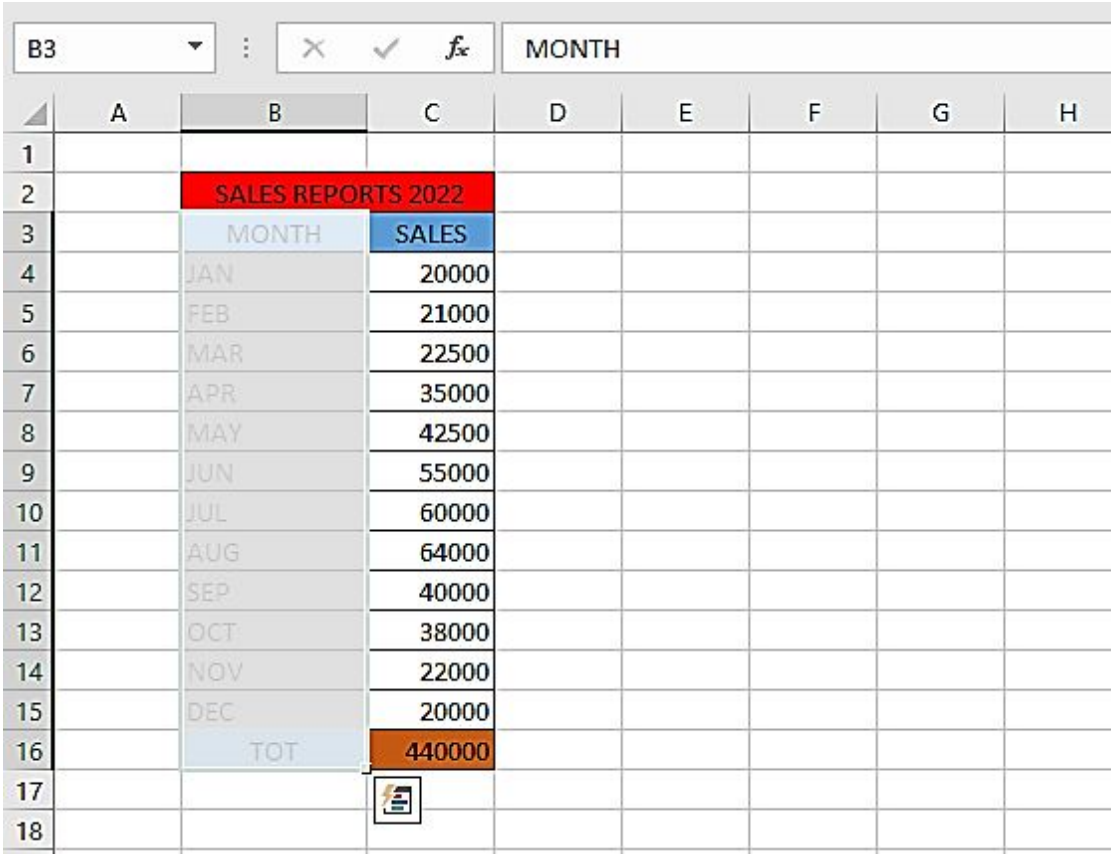
	A	B	C	D	E	F	G
1							
2		SALES REPORTS 2022					
3		MONTH	SALES	DATE	TIME		
4		JAN	20000	12/10/2021	3:47 AM		
5		FEB	21000				
6		MAR	22500				
7		APR	35000				
8		MAY	42500				
9		JUN	55000				
10		JUL	60000				
11		AUG	64000				
12		SEP	40000				
13		OCT	38000				
14		NOV	22000				
15		DEC	20000				
16		TOTAL	440000				

MODIFYING CELL CONTENTS

Deleting the contents of a cell

There are various techniques for deleting data on a worksheet. This is a useful command if you accidentally delete data from your worksheet. The instructions below show you how to erase data from a cell or a range of cells

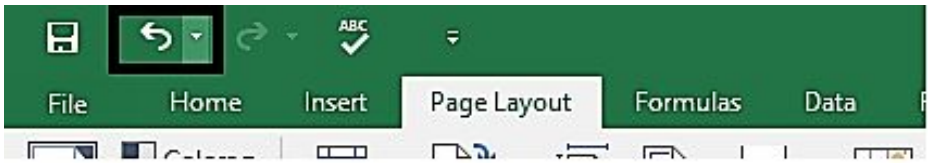
- Click on any cell you want to delete. Then, on your keyboard, press the Delete key. This will delete the contents of the cell.
- Select cell **B3** to **B16** by highlighting it. To do this, place the mouse cursor over B3, click and drag down to B16. Then, on the Fill handle of B16, click and drag it up to cell B3, then leave the mouse button. All contents of B3 to B16 will be deleted.



B3	MONTH
SALES REPORTS 2022	
MONTH	SALES
JAN	20000
FEB	21000
MAR	22500
APR	35000
MAY	42500
JUN	55000
JUL	60000
AUG	64000
SEP	40000
OCT	38000
NOV	22000
DEC	20000
TOT	440000

Replacing the contents of a cell

To replace the contents, you can use the Undo button on the Quick Access Toolbar. Click on it and the contents will be back. You can also press the Control key + Z to do this.



Learning some handy data-entry techniques

The core of Excel is data input. If you can't rapidly and properly input data into your spreadsheets, you won't be able to utilize the tools to analyze and report on the data. When it comes to data input, Excel gets a lot of things right, yet certain things aren't straightforward. Even the most seasoned Excel users may sometimes choose more sophisticated procedures than are required. See below.

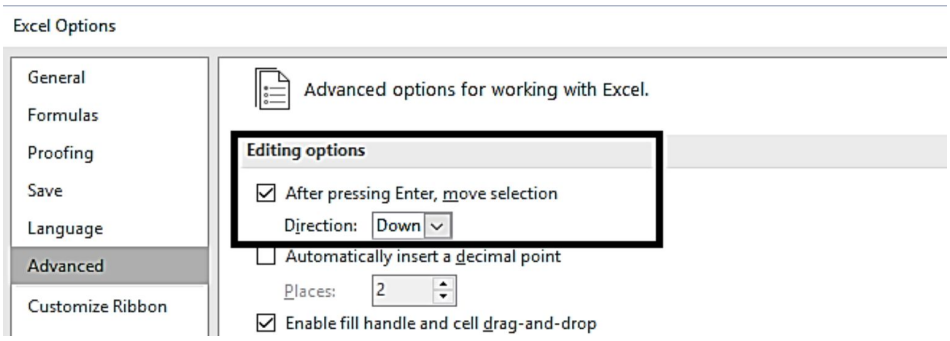
- If you wish to remain in the same cell but switch to a new line when entering long text, you can't merely hit [Enter]. This just advances you to another cell. Instead, use [**Alt**] + [**Enter**] to make a line break or a new line in the same cell. This technique is often known as a new line or line break.
- Do you use product codes or other ids that start with one or more zeros in your entries? When you input data like this, Excel thinks it's numbered and removes the beginning zeros. Format your worksheet cells as text rather than numbers to persuade Excel to allow you to input values with leading zeros. There are two techniques to consider:

1. One: Type an apostrophe (') in front of each item to convert it to a text format. However, if you have a lot of data, this is a time-consuming method since you'll have to add the apostrophe to each record, not just the ones with leading zeros. Your list will not order appropriately if this is not done.
2. Format selected cells into the text to prepare for data input. Choose the cells (or a whole column) where numbers will be kept as text. Right-click, then select Format Cells, then in the Category box, select Number Click Text and then OK to apply.

Automatically moving the selection after entering data

As you hit Enter, Excel slides the pointer down to another cell. That isn't always the best course of action. It's aggravating when you're typing data from one column to another. You may now hit the right arrow key instead of hitting **Enter**, however, this will cause you to slow down. Although pressing Tab is simpler than extending for the right arrow key, changing the cursor movement as follows may be the simplest solution

Click on **File**. Click on **Options**. This will open up the Excel option menu. On the left-hand side of the menu, click on Advanced. On the **Editing option**, below the **After Pressing Enter** option, select the direction you want from the down arrow. The direction options are Right, Left, Up, and Down. When you are done, click **OK**.



Selecting a range of input cells before entering data

In Excel, working with a whole data set is a regular activity. You could wish to transfer the data, apply a filter or a standard format, or convert it to a table. There are several reasons to pick a data range, but doing so may need to leap through a few selection hoops, particularly if you're dealing with a wide range that covers multiple screens. Fortunately, selecting a whole data range is simple and fast.

Use the **Go To** function to choose a data range as follows:

Any cell in the data range may be selected by clicking it. For example, you might choose any cell from B2 through C15 to choose the data range B2:C15.

[**F5**] is the shortcut key. Press it.

Click the Special button in the bottom-left corner of the **Go To** dialog.

Select Current Region from the pop-up menu that appears.

When you click **OK**, Excel will choose the current data range for you (the current region).

Using CTRL + Enter to place information into multiple cells

In Excel, copying and pasting a single cell is simple. When it comes to copying and pasting a group of cells, columns, or rows, you have several options. Use the shortcut **Control key + Enter key** to activate. Pick a few cells and type any term or value into any of them. Instead of hitting Enter, hold down the Control key and hit Enter. You'll see that the name is copied to all of the chosen cells.

Changing modes

In an Excel spreadsheet, there are four different sorts of cell editing modes. "**Ready**," "**Edit**," "**Enter**," and "**Point**" are the four sorts of Cell modes. An Excel cell's default mode is "Ready." Excel is ready to take data in any of its worksheet Cells while it is in Ready mode.

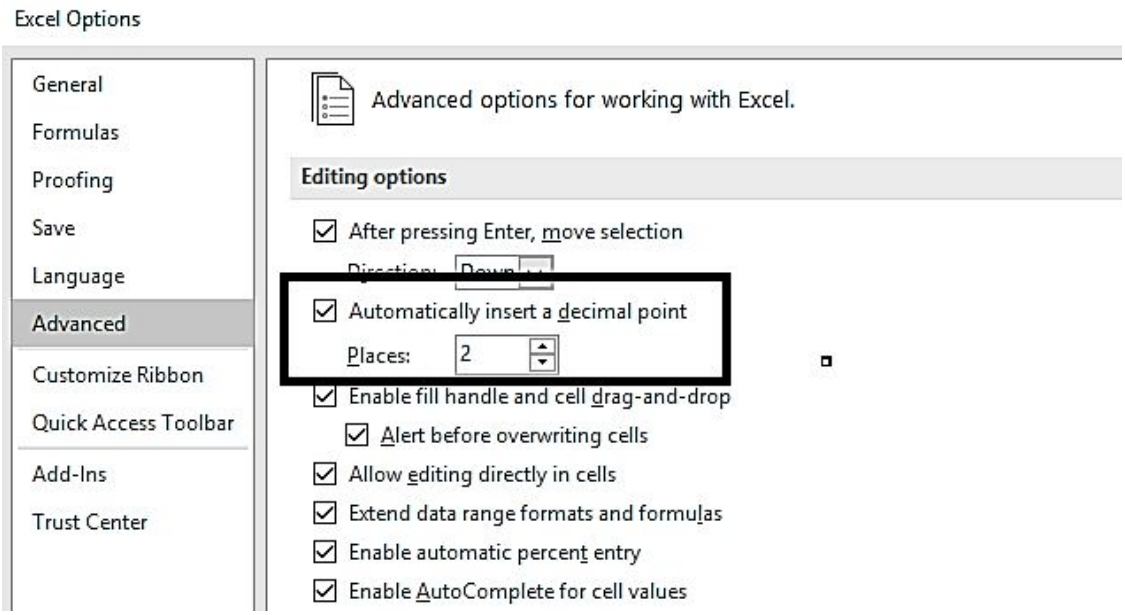
The default "**Ready**" mode of its Active Cell is changed to "**Edit**" mode by pressing the function key "**F2**" once. If you hit the function key "**F2**" again when in "**Edit**" mode, the Cell mode will change to "**Enter**." The fourth cell mode is called "**Point**." While creating or editing a formula, "**Point**" cell mode enables you to explore a large Excel spreadsheet and choose the required cells.

Entering decimal points automatically

If you need to input many numbers, each of which includes two decimal numbers, as illustrated below, manually typing the decimal point will be a waste of time. Now I'll show you how to quickly add a decimal point to a number in Excel at a precise location.

B	C	D
	34.65	
	77.54	
	32.12	
	224.56	
	0.12	
	9.56	
	55.3	
	23.4	

To do this, click on **File** > **Options**. In the Options menu, select **Advanced**. Under the Editing Option, check the box close to the **Automatically insert a decimal point** option. Then, put in the decimal places in the Places option.

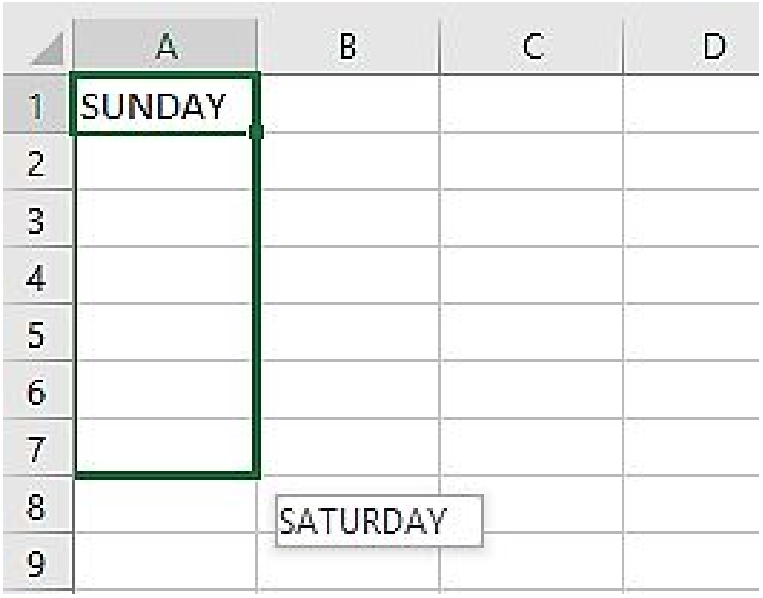


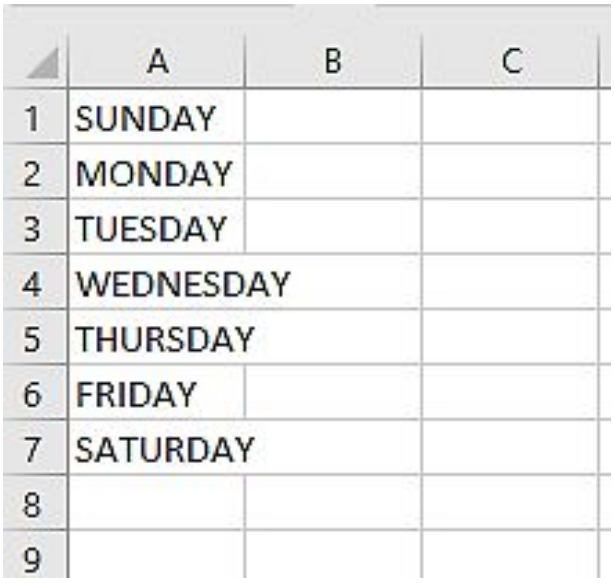
After that, click **Ok**.

Using Autofill to enter a series of values

You may use the AutoFill command to automatically lengthen a predictable sequence (for example, 10,20,30.... day, hours of the day). You may also use AutoFill to propagate formulae - create the formula once, then use AutoFill to spread it to the other cells.

So, select a cell and type the first day of the week; Sunday. Activate the cell you typed in the day. Then, hover the cursor to the little box beside the cell. When the pointer changes to an **Add sign (+),** click and drag down. Excel will fill in the rest of the values i.e. the days of the week.



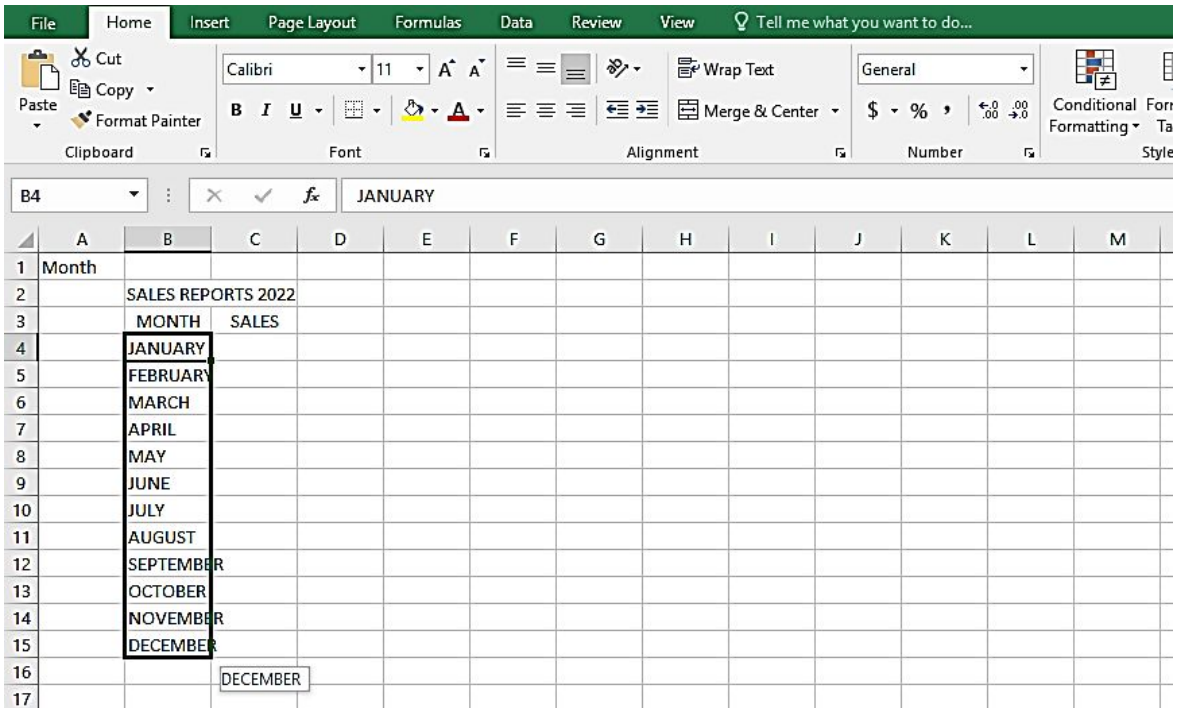


Using Autocomplete to automate data entry

When manually inputting data into a spreadsheet, the AutoFill option comes in handy. This function is useful for a variety of things, but it's especially useful for inputting data in a certain order, such as the digits 2, 4, 6, 8, and so on, or non-numeric data like the days of the week or months of the year. Just like we did in chapter one when we completed the months of the year by dragging down the box beside the month cell. See the example below;

Activate **Cell B4** and type in January. Then, you will see a tiny small box beside the cell which is the Fill Handle.

Click on it and drag down to 11 rows on the bottom right of Cell B4 (**B15**). Because Excel identified January, it will automatically fill the remainder of the months for you rather than making you input them.



Forcing text to appear on a new line within a cell

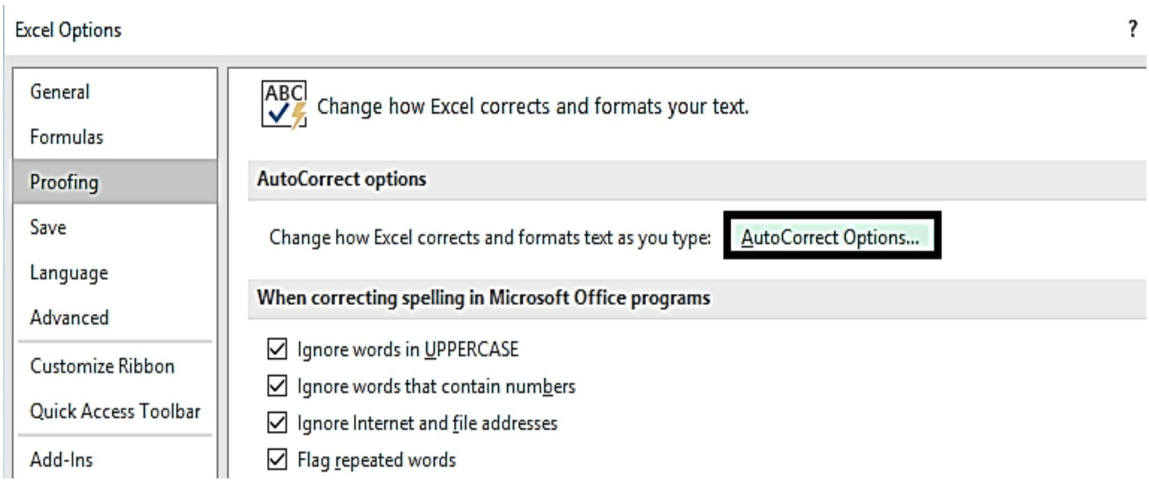
By pressing the **Alt key + Enter**, you can insert a line break or start a new line of text or create space between lines and paragraphs. On the cell you want the line break to appear, double-click on it. to break the line, click the desired position inside the cell you have chosen.

Using Autocorrect for shortcut data entry

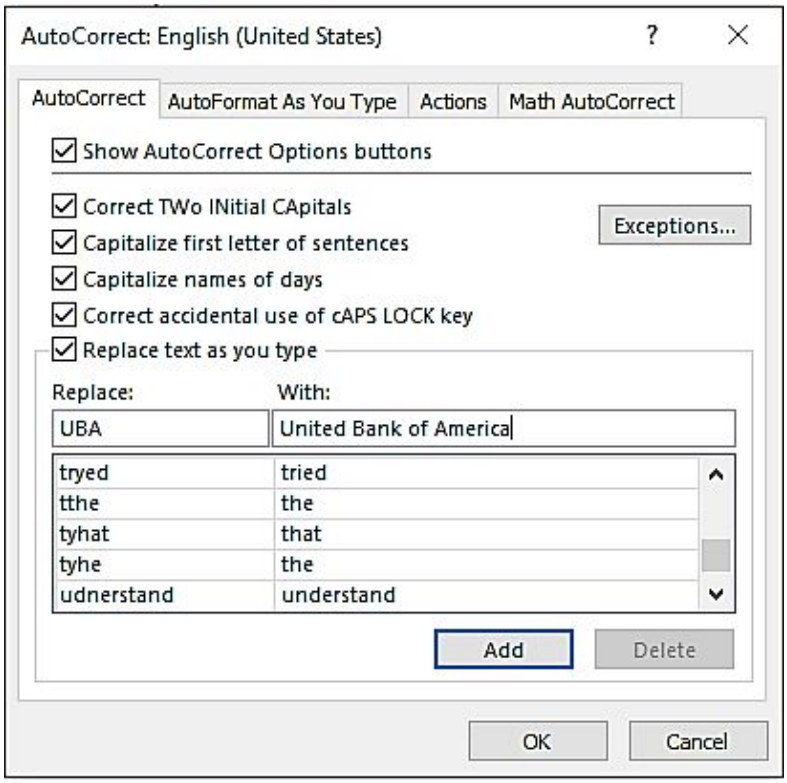
Excel's AutoCorrect tool may be used to create shortcuts for frequently used words or phrases. Entering lengthy stuff or individual name takes time and often results in mistakes and inaccuracies. To fix this problem, use the AutoCorrect tool to create shortcuts and modify them. Follow these procedures below;

Click on **File** > **Options**. This will open up the **Excel Options** menu.

On the left-hand side of the menu, select **Proofing**. Then, click on **AutoCorrect Options.**



This will open up the AutoCorrect option dialog box. On the Replace text box, type in the shortcuts you want and what you want to replace them with. Then, click **Add**. As you can see in the image below.



You must give each AutoCorrect item a distinct name after entering or choosing it.

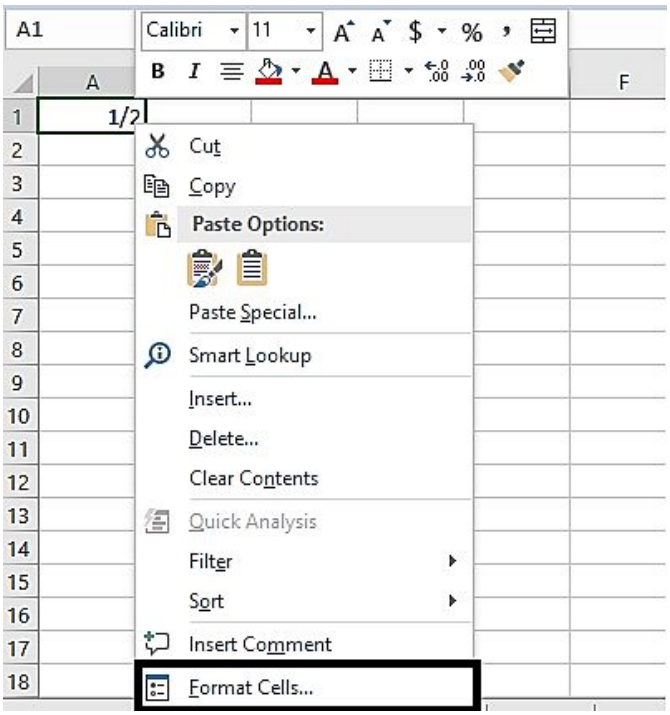
If you're going to name an AutoCorrect entry, don't use a popular term unless you're going to change it.

Don't call an entry Mr., for example. Instead, use an underscore or another symbol to distinguish it, such as *Mr. If you don't make the term unique, Word will automatically insert the AutoCorrect entry anytime you enter it, whether you want it or not. If you've picked a frequent term, reverting each auto-correction will take too much time.

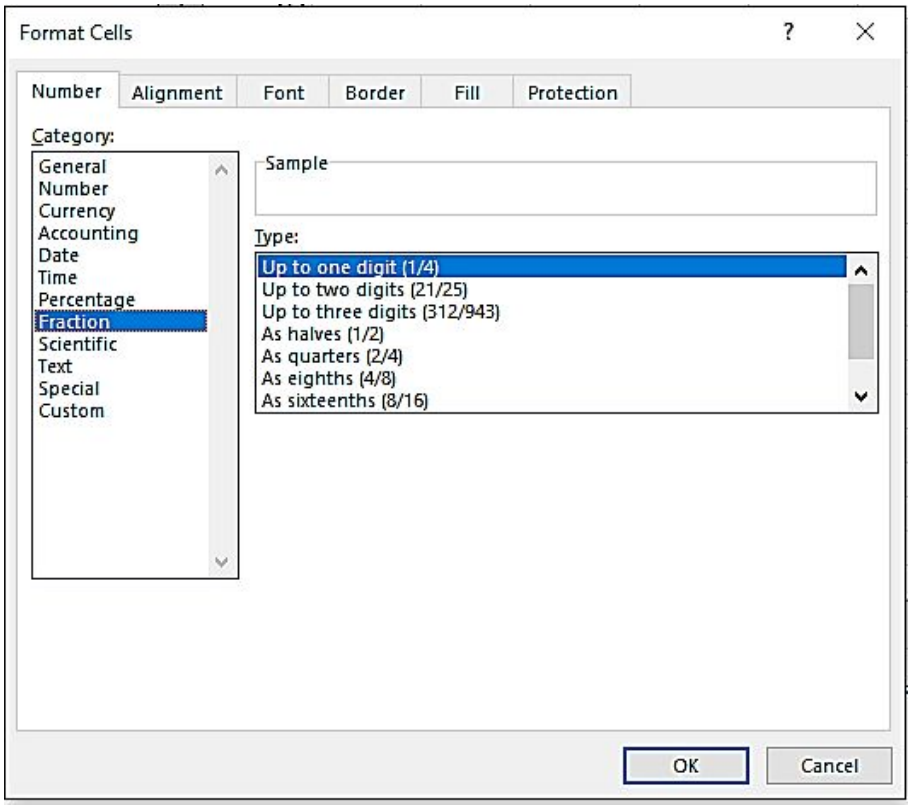
Note that your AutoCorrect list in Excel is shared with other Office products. Any AutoCorrect entries you make in Word will function in Excel and Outlook as well.

Entering numbers with fractions

When we use the slash **("/")** symbol to separate two integers in Excel, the values are converted to decimal format. We may use the Fractions option to retain fractions for such values; first, choose the cell whose value we want to convert fractional and then choose the Format Cells option from the right-click menu list.



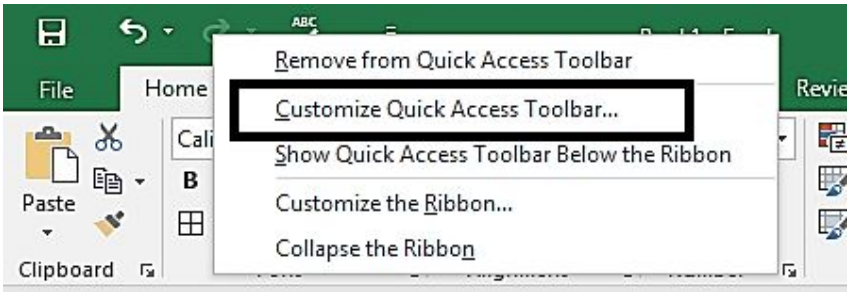
Click on the **Number tab**, pick **Fraction** from the category area, where we have many criteria for fractioning up to one digit, two digits, or three digits like halves, eighths, etc. Then select the **Fraction Type** you want.



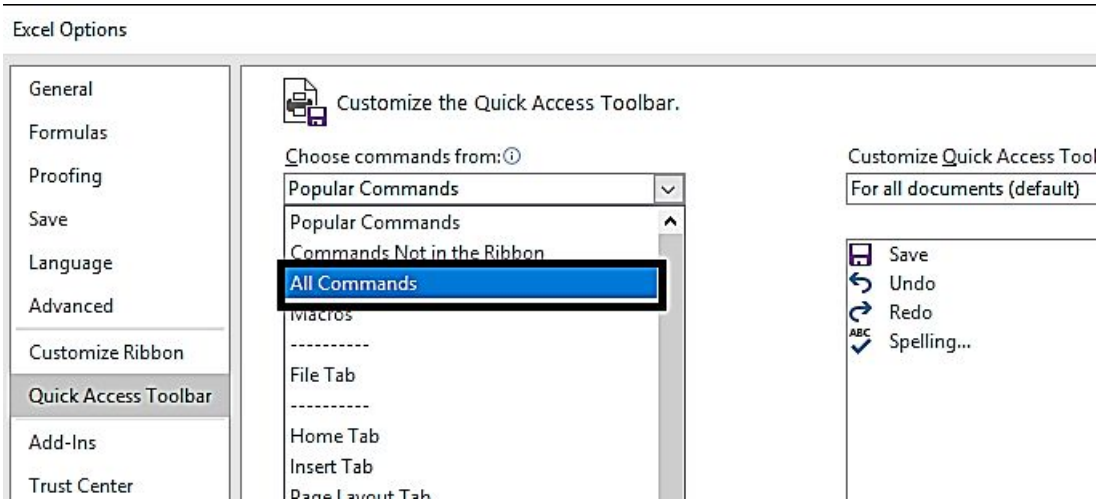
Using a form for data entry

A data entry form can assist by data entry process more efficient and error-free. You use it to put data into your worksheet. By default, there is no data entry form option on the Excel Ribbon. So, you will have to add it to the Quick Access Toolbar so you can access it easily. Follow the steps below to add it;

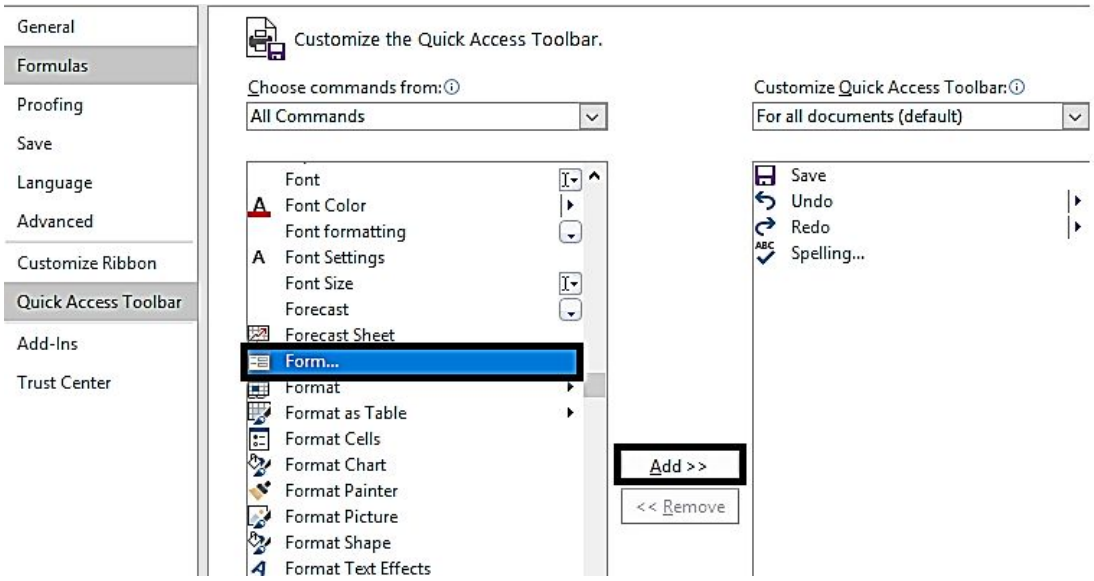
Right-click on any option on the **Quick Access Toolbar** and select **Customize Quick Access Toolbar.**



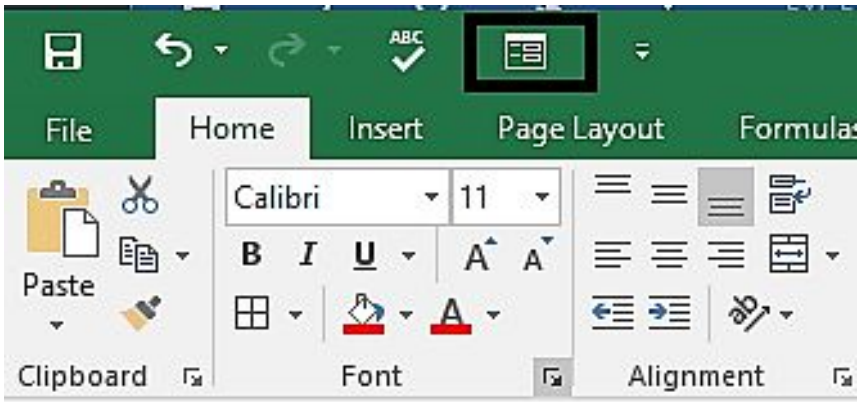
This will open up the Excel Options box. Click on the drop-down arrow on the Choose commands from and select All Commands.



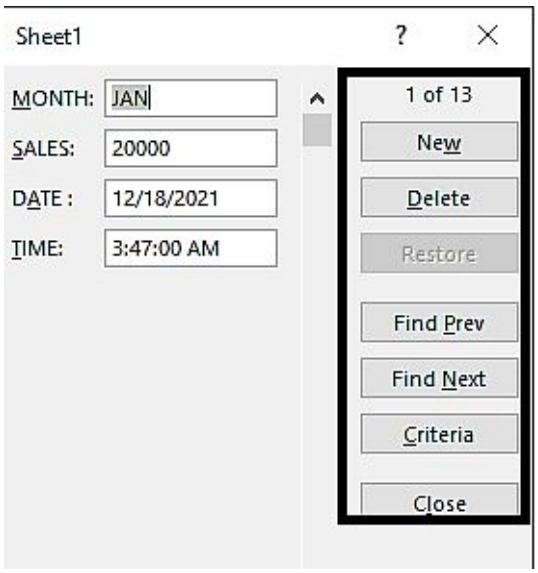
On the All command list, click on Form, then click on the Add button. Then, OK.



You will see the Form Icon on the Quick Access Toolbar. So, you can easily access it now. Simply click on the cell you want to input data from, then click the Form-Icon.



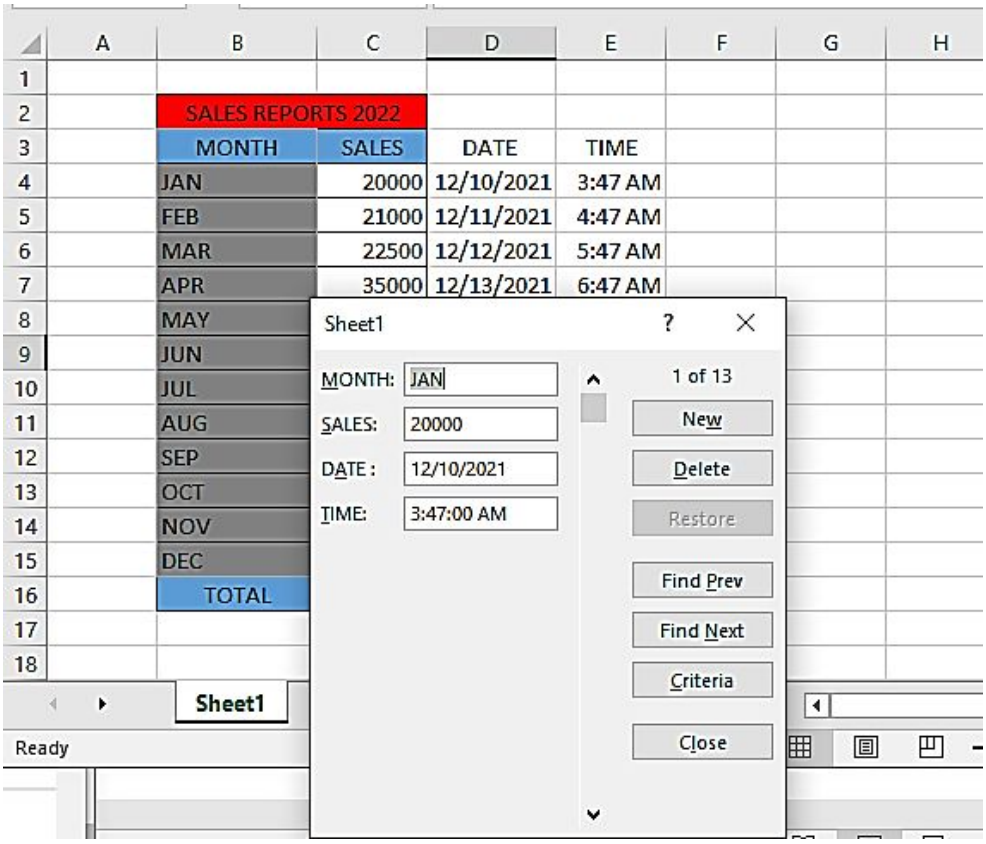
The Data Entry Form is made up of different options. Below is a brief explanation of what each option does.



- **New**: This clears any existing data in the form and enables you to start over with a new record.
- **Delete**: You may use this to get rid of an existing record.
- **Restore**: If you're updating an existing entry and haven't clicked New or pressed Enter, you may restore the old data in the form.
- **Find Previous**: This will locate the preceding entry.
- **Find Next:** This will take you to the next page.
- **Criteria**: You may use criteria to discover particular records.
- **Close**: This will bring the form to a close.
- **Scroll Bar**: The scroll bar may be used to navigate through the records.

Let's take a look at all you can accomplish with an Excel Data Entry form.

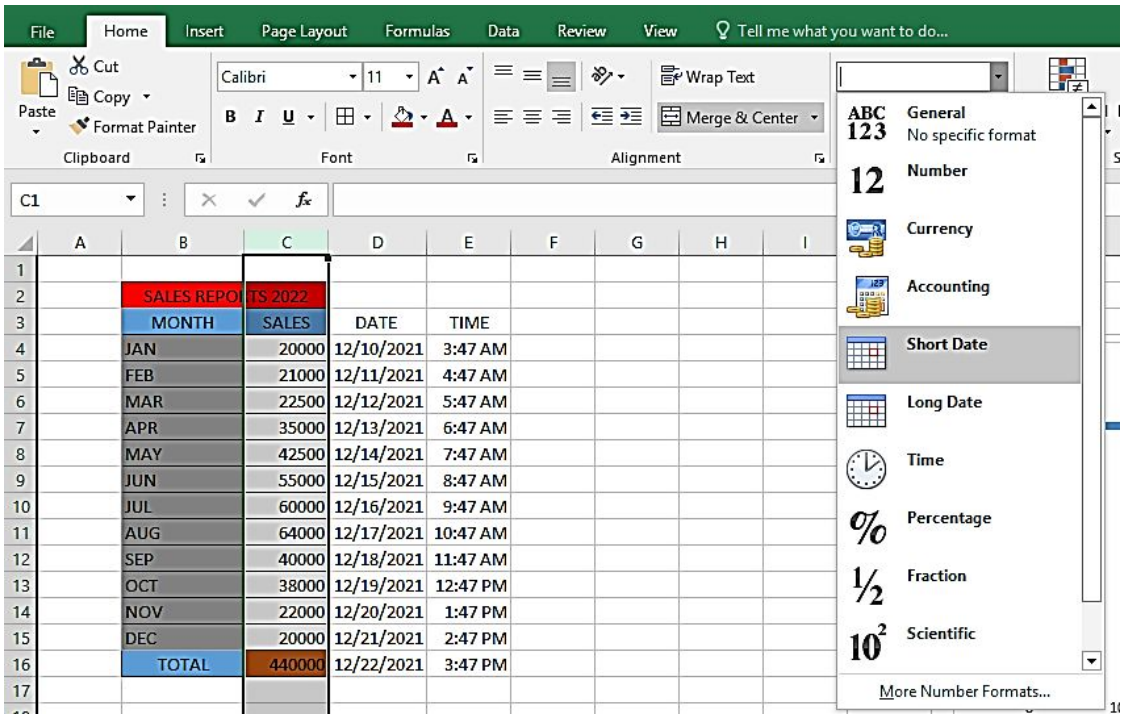
- Activate the cell for the data.
- Click on the Form-Icon. This will open the data form box. Now type in the data in the fields. Then, press the Enter key. You can also click the New button.

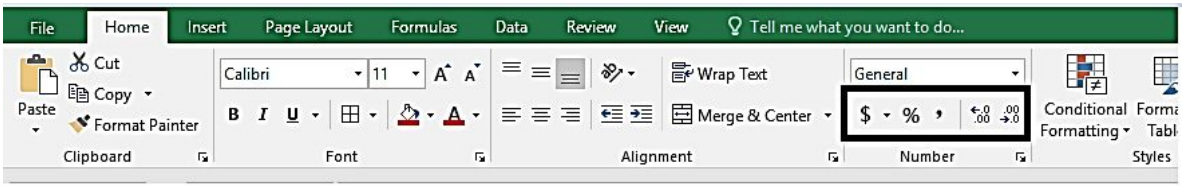


Applying Number Formatting

It's a wise concept to utilize suitable number formats for your data if you're dealing with a spreadsheet. Number formats specify what sort of data you're utilizing in your spreadsheet, such as percentages (%), money ($), times, dates, etc. Number formats not only make it simpler to read your spreadsheet, but they also make it easier to utilize.

To apply a number format, choose the cell > On the Number group, click on the arrow and select a number format. Click on More Number Formats for more formatting options.

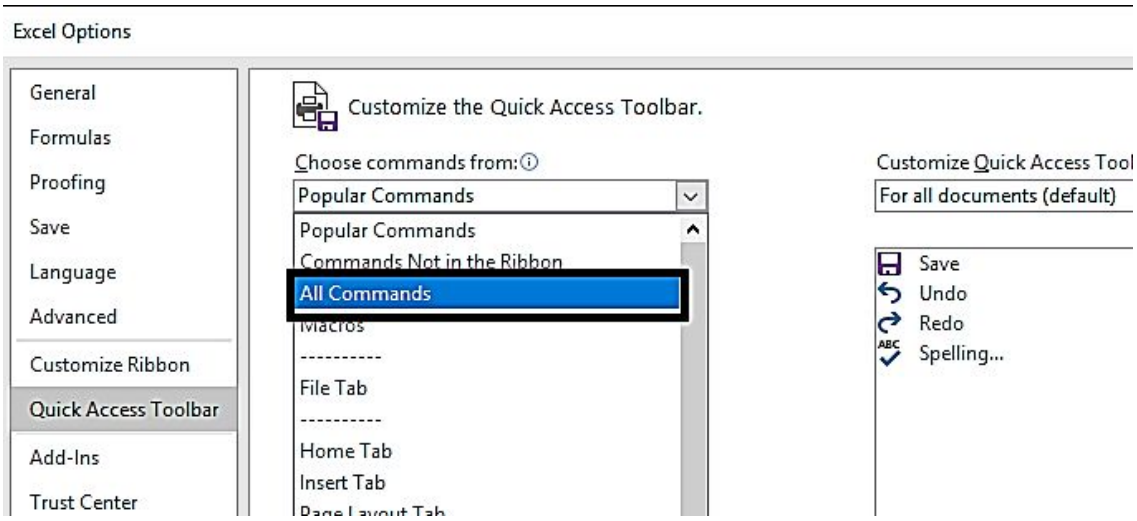




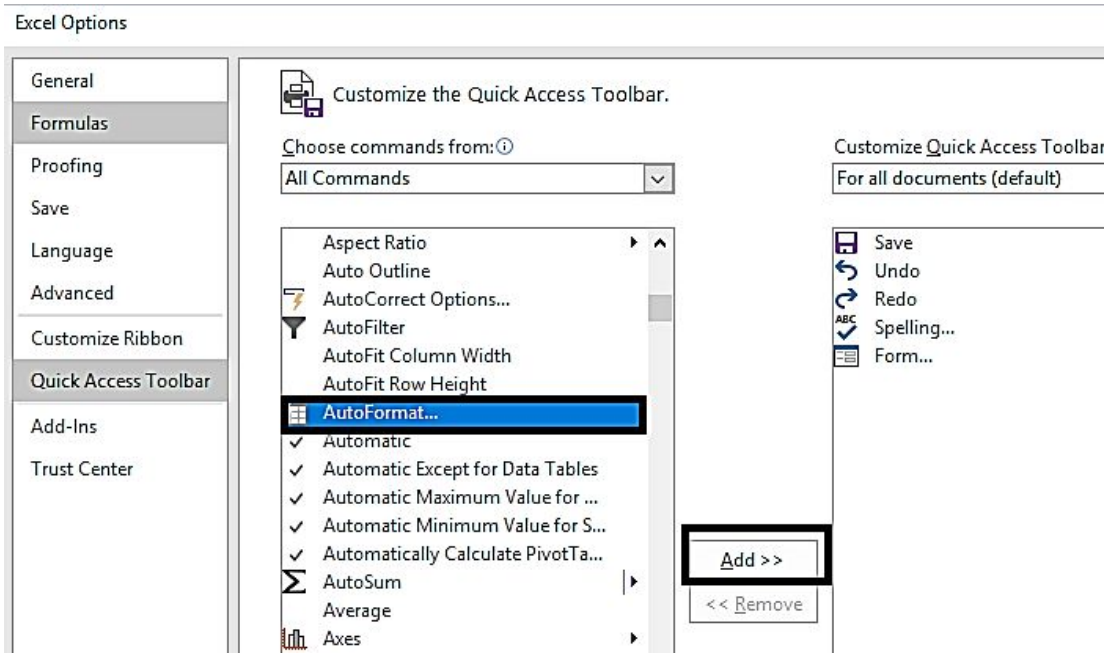
Using automatic number formatting

The AutoFormat option cannot be accessed from the ribbon, so you will have to add it to the Quick Access Toolbar. Right-click on the Quick Access Toolbar and select **Customize Quick Access Toolbar.**

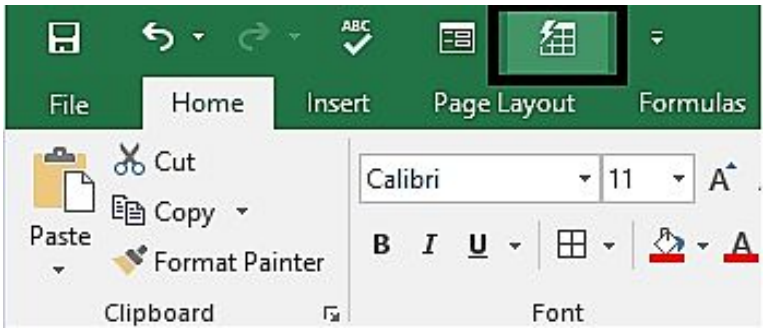
Click on the down arrow on the Choose commands from and select **All Commands**.



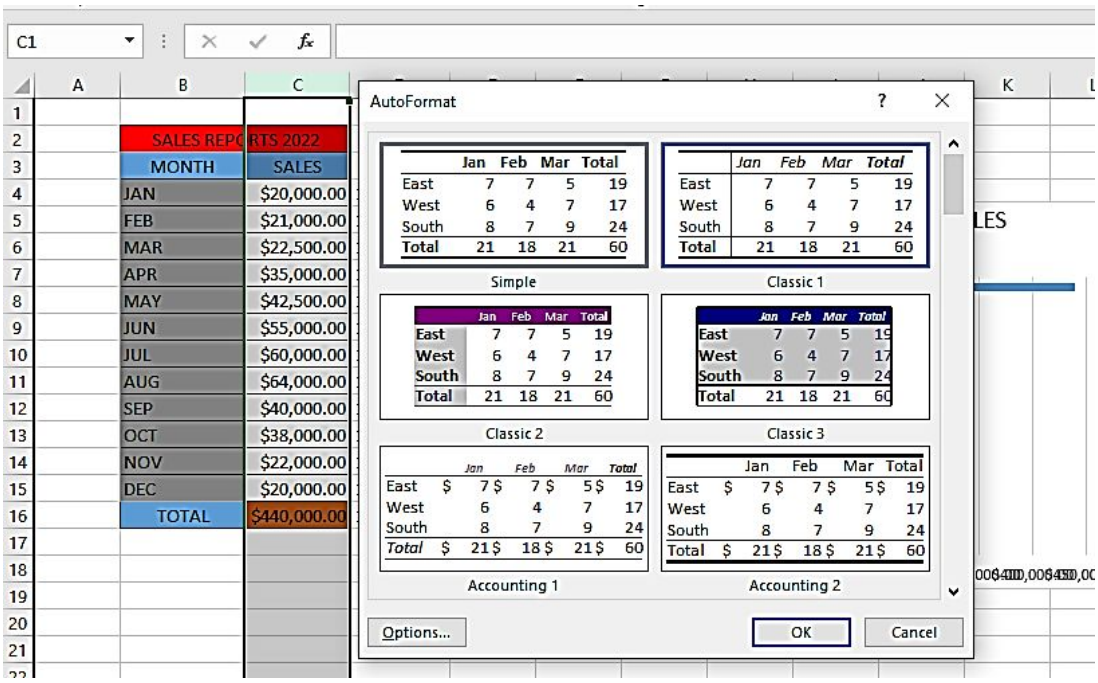
On the All Commands list, click on AutoFormat, then click Add. This will add the AutoFormat Option on the Quick Access Toolbar.



This will add the AutoFormat Option on the Quick Access Toolbar.



To AutoFormat the numbers, simply highlight the whole data, hit the AutoFormat icon. This will display the AutoFormat menu. Choose any style, then click **Ok**.



Using shortcut keys to format numbers

There are shortcuts for formatting numbers on Excel. **Control key + Shift key + Number key**. Simply choose the cell(s), then press the shortcut keys. Below is a list of the shortcut keys and their function.

Control + Shift + ` = **General**	Control + Shift + 5 = **Percentage**

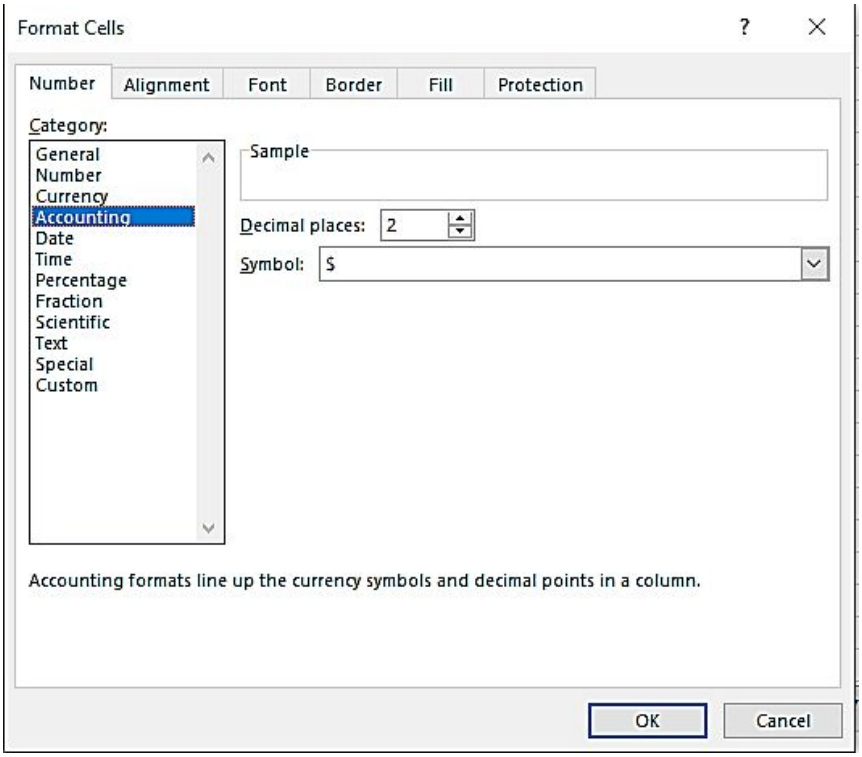
Control + Shift + 1 = **Number** Control + Shift + 6 = **Scientific**

Control + Shift + 2 = **Time** Control + Shift + 7 = **Border**

Control + Shift + 3 = **Date**

Formatting numbers by using the Format Cells dialog box

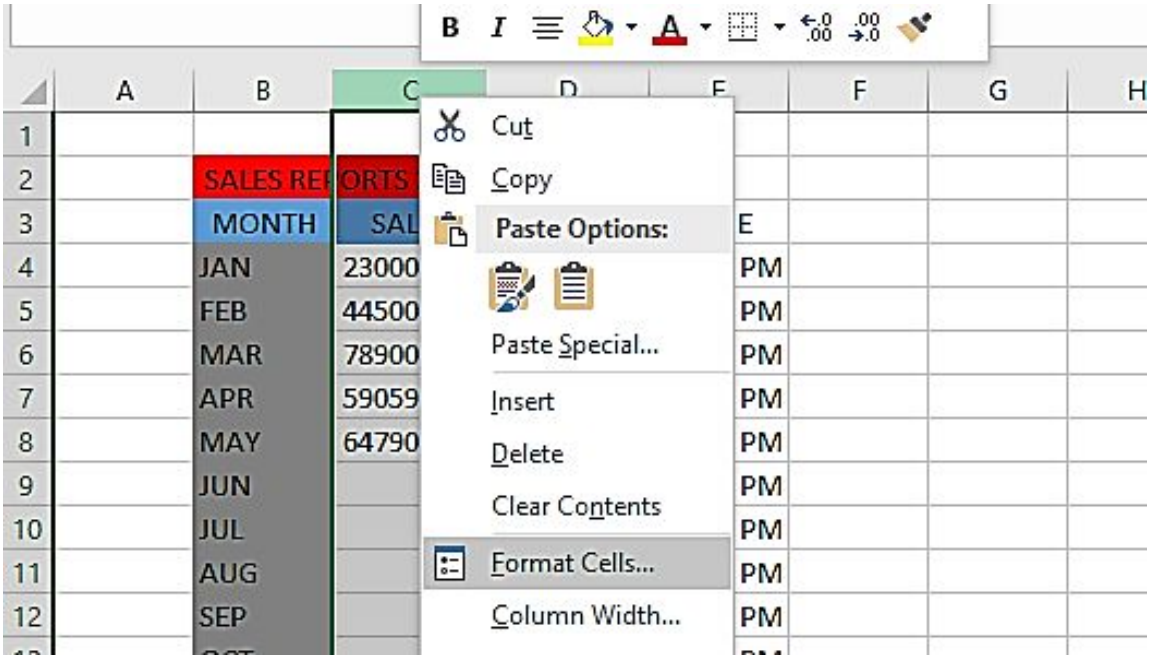
Pick the cell for formatting, right-click on it and select **Format Cells**. On the Dialog box, you will see a list of options that you can select from. Choose the one you want and click **OK**.



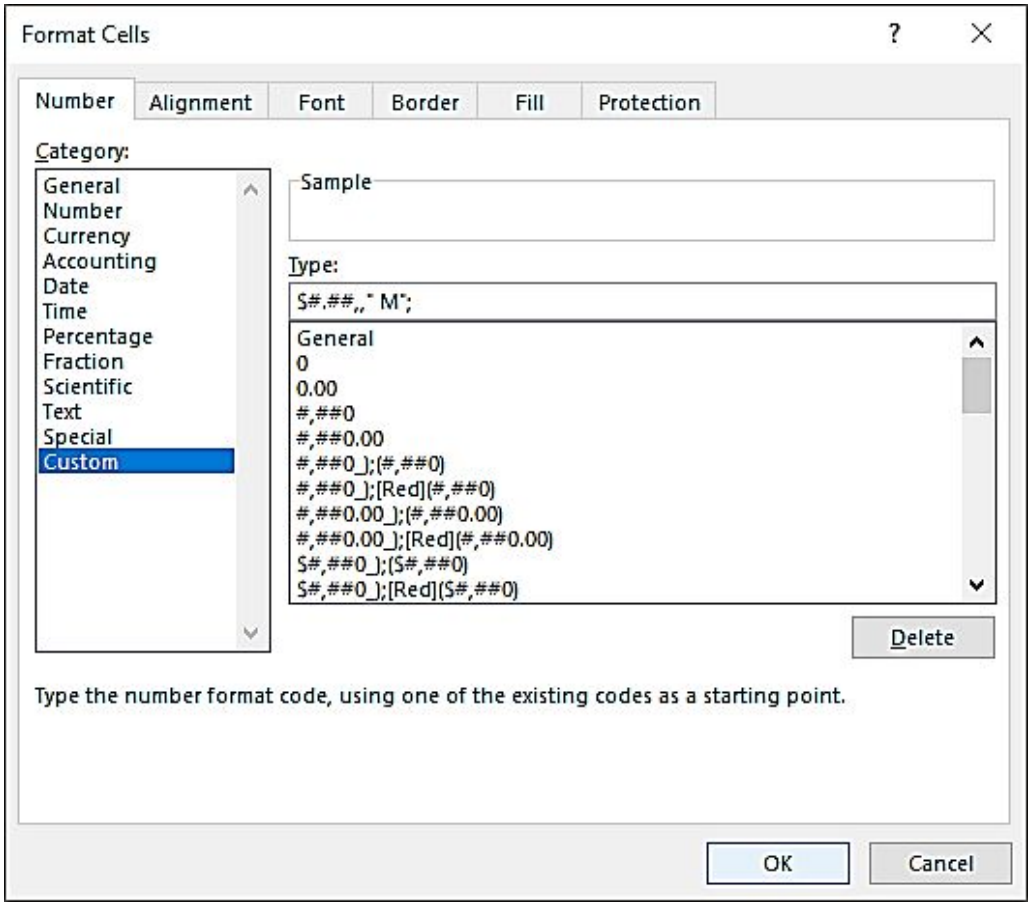
Add your own custom number formats.

You may wish to format a number in a custom manner, such as formatting 421020000 as $421.02 M, and then store this for future use. You can also apply it to multiple cells. To do this, follow the steps below.

Select the cell that has a number value in it, right-click on it, then click on **Format Cells**.



Click on the Number tab, then click on Custom. On the box below the Type option, type in the format code $#.##,," M"; then, click **OK**.



	A	B	C	D	E
1					
2		SALES REPORTS 2022			
3		MONTH	SALES	DATES	TIME
4		JAN	$230. M	12/10/2021	12:17 PM
5		FEB	$445. M	12/11/2021	1:17 PM
6		MAR	$789. M	12/12/2021	2:17 PM
7		APR	$590.59 M	12/13/2021	3:17 PM
8		MAY	$647.9 M	12/14/2021	4:17 PM

CHAPTER THREE

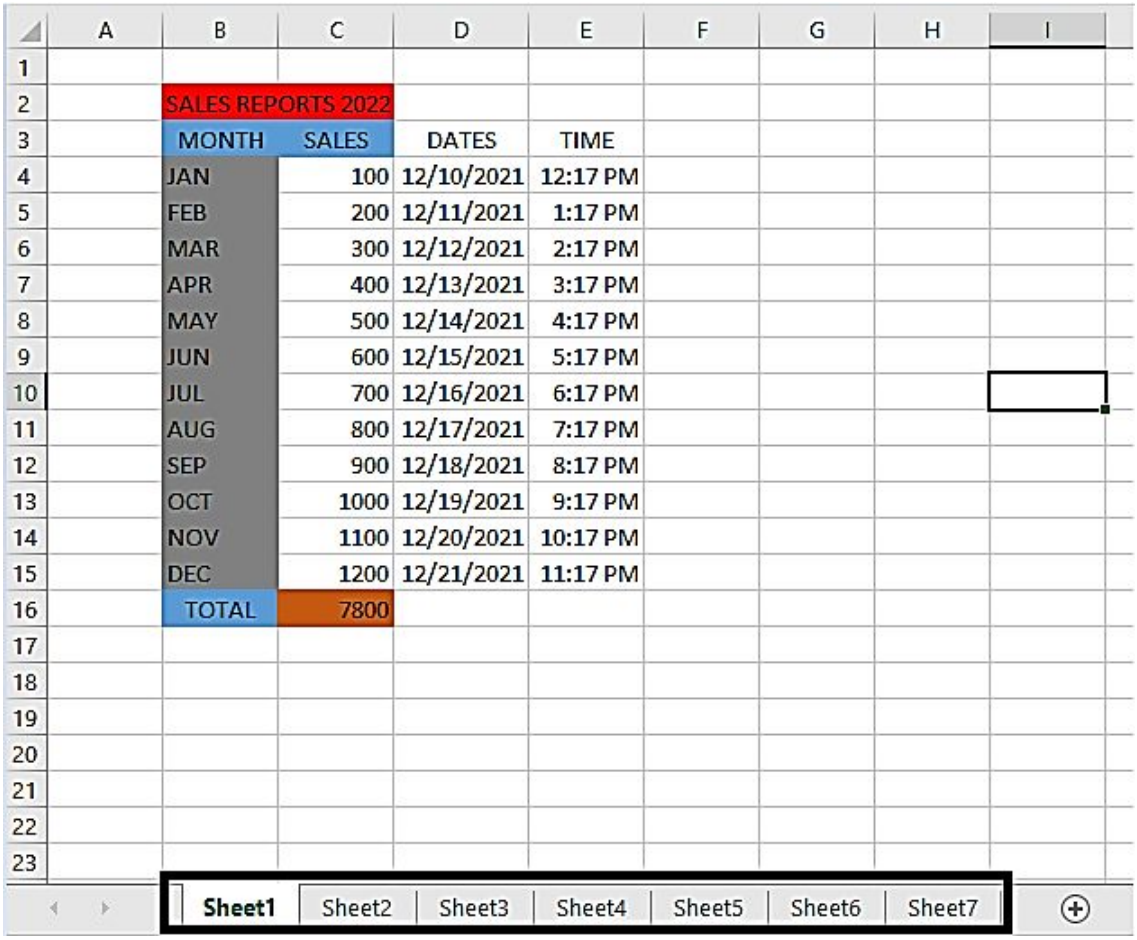
PERFORMING BASIC WORKSHEET OPERATIONS

Worksheets may be a fantastic tool for organizing your data. Rather than jamming everything into one worksheet, the user may utilize several worksheets inside a workbook.

Learning the Fundamentals of Excel Worksheet

Each file in Excel is referred to as a workbook, and each workbook may include more than one worksheet. Consider an Excel workbook as a notebook, with worksheets serving as pages inside the notebook. You may see a specific sheet, add new sheets, delete sheets, and copy sheets just like in a notepad.

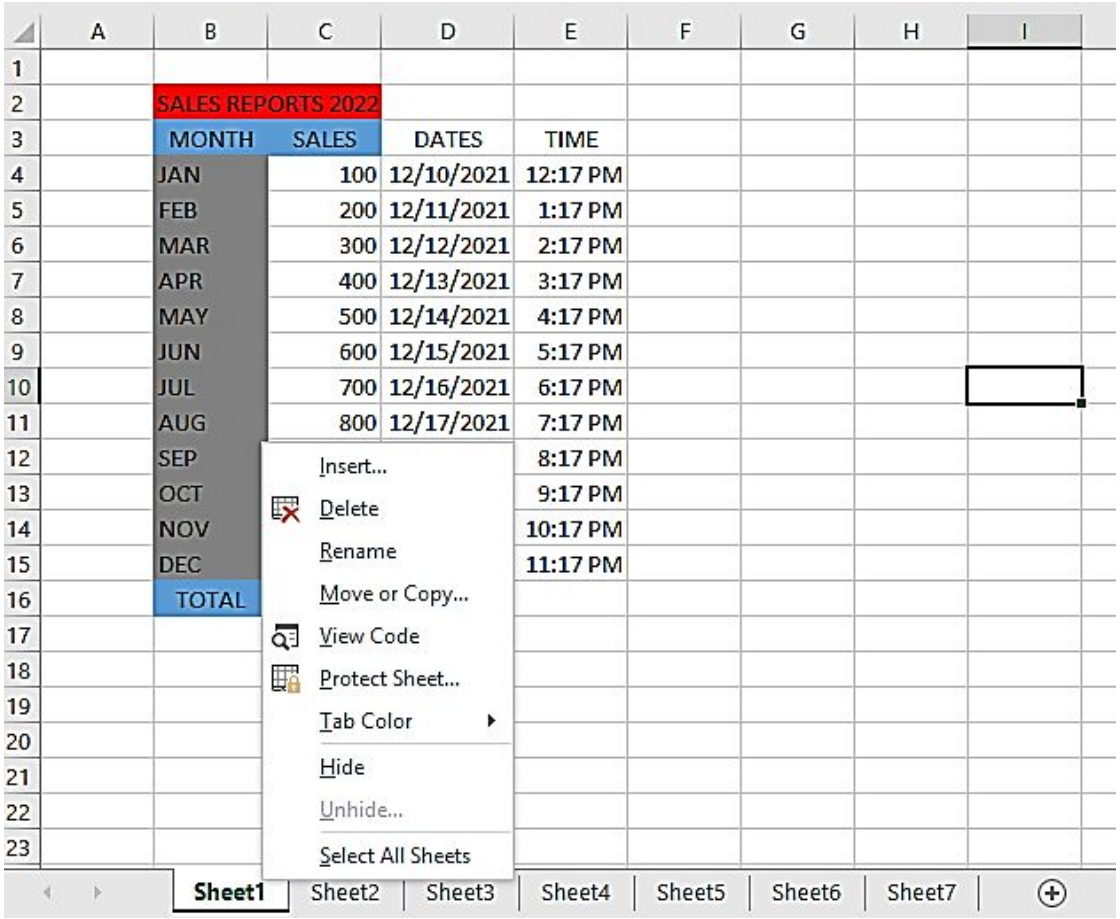
Excel workbook files can contain more than one-sheets. These sheets can be different from each other. It can be chart sheets (containing a chart) or worksheets (which contain rows and columns). Take note that each worksheet has a unique name; by default, a workbook opens with three worksheets named Sheet1, Sheet2, and Sheet3. However, you may add, remove, and rename these spreadsheets as desired.



SALES REPORTS 2022			
MONTH	SALES	DATES	TIME
JAN	100	12/10/2021	12:17 PM
FEB	200	12/11/2021	1:17 PM
MAR	300	12/12/2021	2:17 PM
APR	400	12/13/2021	3:17 PM
MAY	500	12/14/2021	4:17 PM
JUN	600	12/15/2021	5:17 PM
JUL	700	12/16/2021	6:17 PM
AUG	800	12/17/2021	7:17 PM
SEP	900	12/18/2021	8:17 PM
OCT	1000	12/19/2021	9:17 PM
NOV	1100	12/20/2021	10:17 PM
DEC	1200	12/21/2021	11:17 PM
TOTAL	7800		

Sheet1 Sheet2 Sheet3 Sheet4 Sheet5 Sheet6 Sheet7

Right-clicking on a worksheet brings up a menu containing some options for making changes to your worksheet. You will see options like **Insert, Move or Copy, Rename, Delete**, and others. You can also change the color of the worksheet.



Working with Excel windows

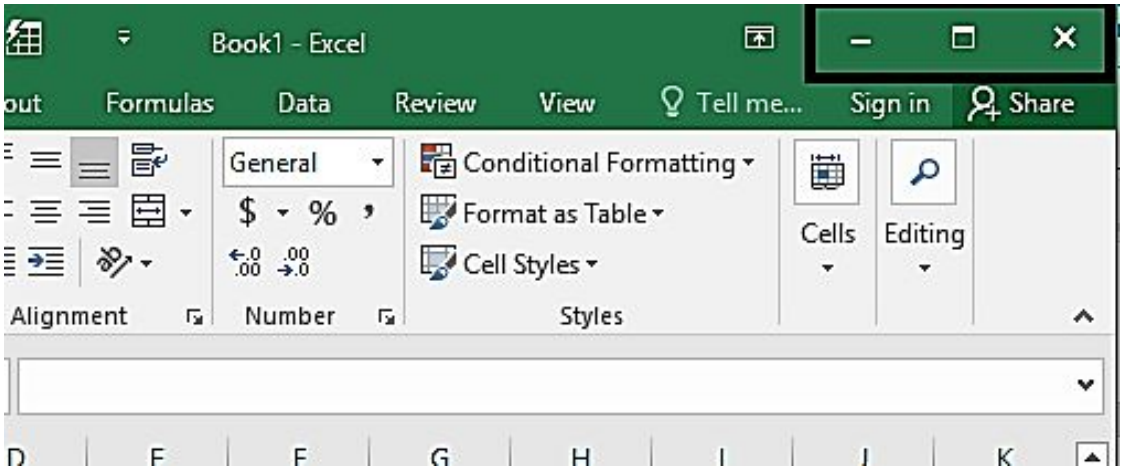
A window is opened for each Excel workbook file that you open. A window is the workbook's container in the operating system. You may open as many Excel spreadsheets as you want concurrently. As with other Windows programs, the Excel window's control buttons are situated in the window's extreme right top corner.

Three window-control buttons are accessible. To minimize the Excel application window, press the left button. The middle button maximizes/restores the Excel software window. To dismiss the Excel application window, click the right button.

The functionalities of the left and right buttons are always identical. They are used to minimize and close the Excel software window. However, the center button's operation is dependent on the present state of the Excel window. If the current state of the Excel window is Maximized, the center button is used to Restore the Excel window to its default state. When the

current state of the Excel window is Restored, the center button is utilized to maximize the Excel window. You must comprehend three concepts relating to window state: minimized, maximized, and restored.

- **Minimized state**: A minimized Excel window is not visible on the Operating System screen but is minimized to stay on the Windows taskbar.
- **Maximized state**: The term "maximized Excel window" refers to the state of the Excel window when it has been maximized to fill the whole screen of your Operating System.
- **Restored state**: When an Excel window is restored to its original size, it is said to be restored to its restored condition. When the window state is restored, the size of the Excel window is less than when it is maximized. You may resize the Excel window in this state.



Moving and Resizing Windows

When the Excel window is in the Restored state, drag the Windows pointer to one of the window's sides or corners. As seen here, the Windows cursor transforms into a **double-headed arrow.** Once you see the arrow, click and drag the mouse. The window will begin to resize. Note that when you drag the window, the resizing will affect the height and the width.

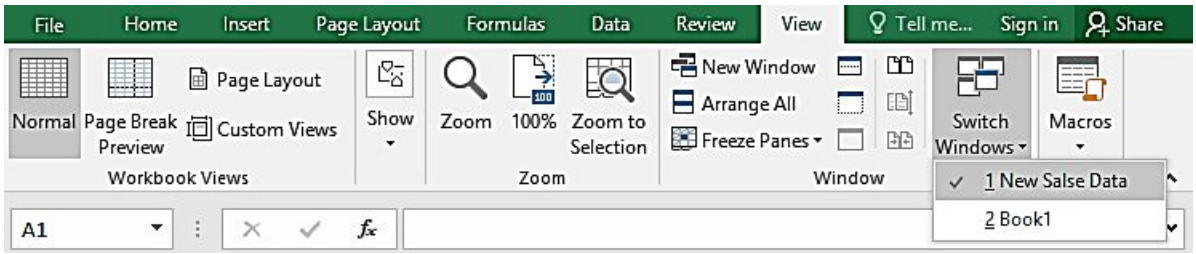
To move a window

When the Excel window is in a Restored state, move your mouse pointer to the top of the Excel title bar. Then, click and drag the window to any location on the screen you want.

Switching Windows

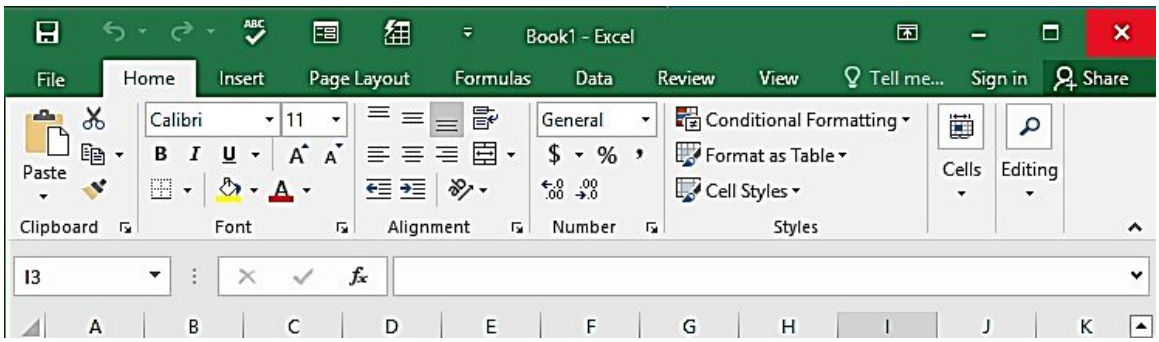
You must have at least two Excel workbooks open to switching windows. Click on the View Tab, click on Switch Windows.

Choose the window to switch to.



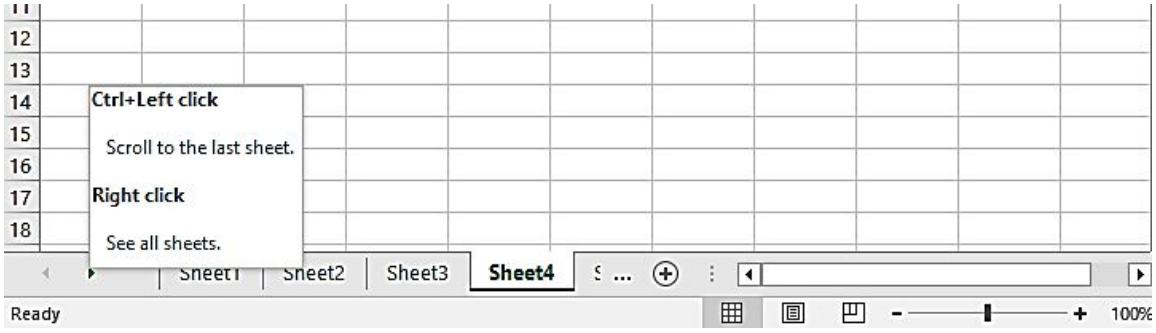
Closing Windows

On the top right-hand side of the Excel window, click on the close button.

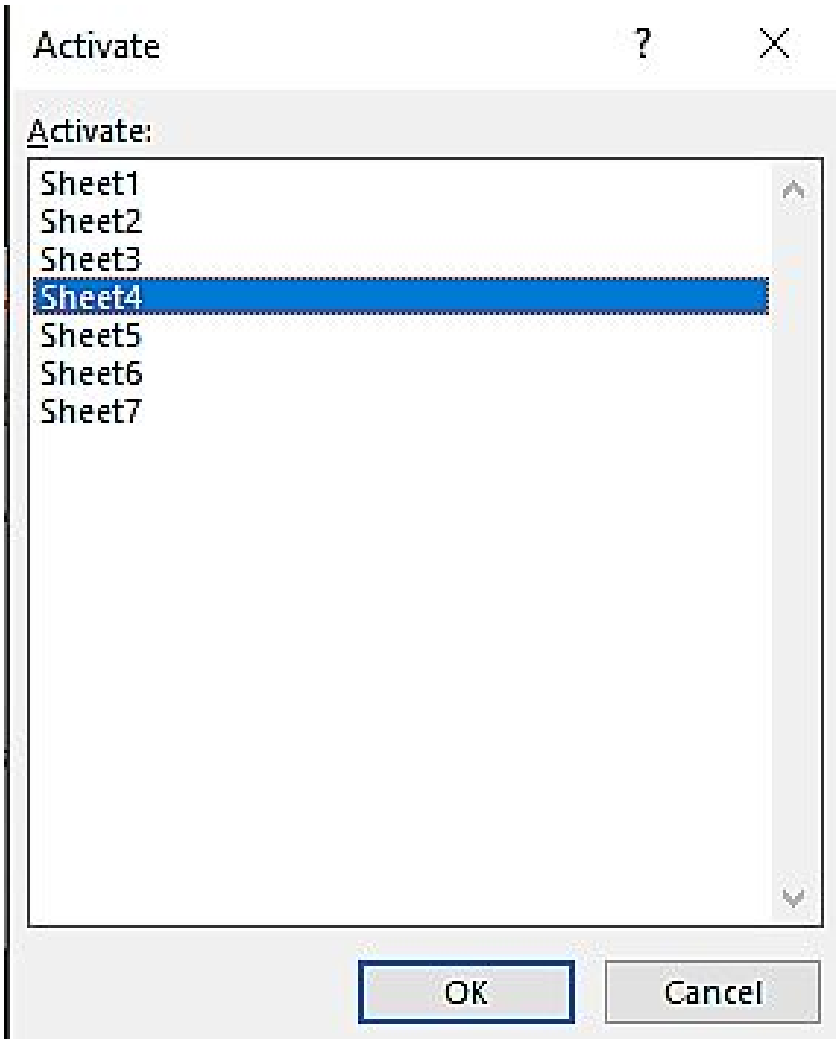


Activating a worksheet

To activate a worksheet, click on the small left arrow at the bottom left of the workbook.

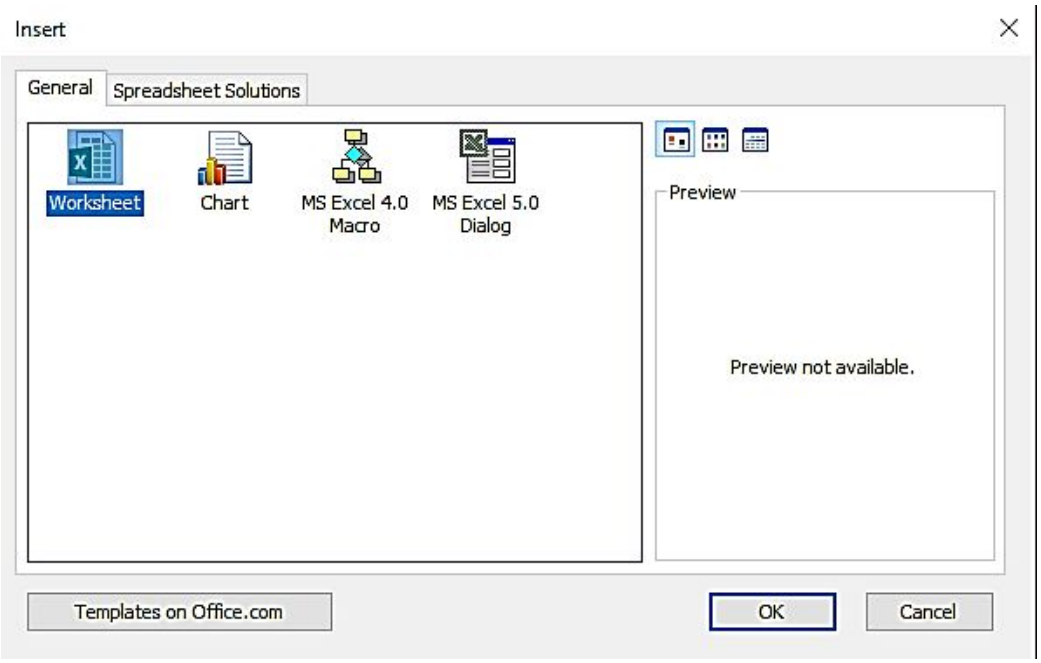


Then, right-click to see all sheets. This will bring up the Activate Sheet menu. Click on the sheet you want to activate and then click Ok.



Adding a new worksheet to your workbook

You can do this in two ways. First, click the **(+)** sign below the workbook to add the workbook. You can also right-click on the present worksheet below the menu which should be **Sheet 1**, then click on Insert, click worksheet and then click **OK.**



Deleting a worksheet

To do this, simply right-click on the name of the sheet you want to delete, then select **Delete**.

Changing the name of a worksheet

Select the name of the sheet you want to rename by right-clicking on it. when you do so, select Rename. Then, you can now rename the sheet by typing the name on the sheet box.

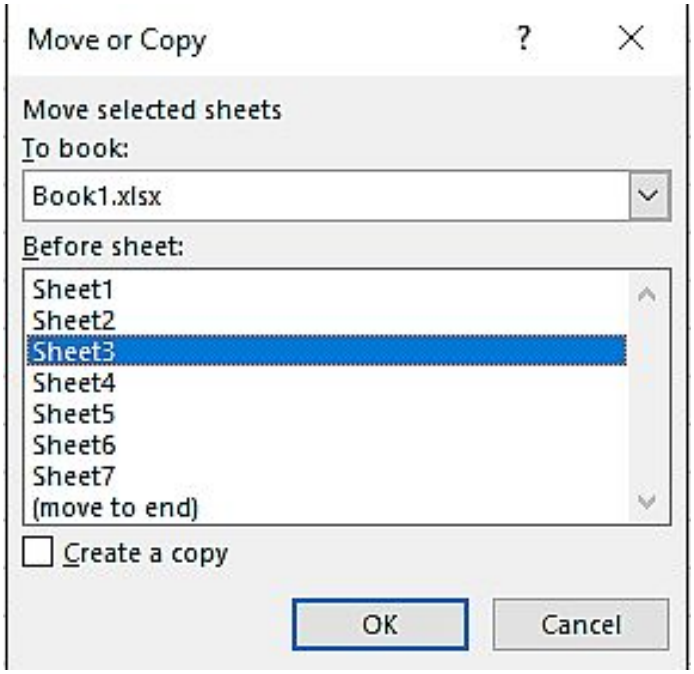
Changing the tab color

On the sheet, you want to change the tab color, right-click on it. from the list of options there, click on Tab Colour. Then select the color you want to use.

Rearranging your worksheet

You can move or copy a worksheet to another location. Right-click on the worksheet, choose Move or Copy. You can rearrange the worksheet to another position on the same workbook and you can also rearrange the worksheet to another worksheet.

1. To reposition a worksheet inside the same workbook, click the worksheet's name.



2. To reposition a worksheet to a different workbook, choose the new workbook from the "**To Book**" option and click the name of the worksheet you want to move.

Note that your worksheet will vanish from the main workbook when you move it to another workbook.

Hiding and unhiding a worksheet

Select the worksheet, right-click on it and select Hide. To unhide it, select any worksheet from the list and right-click on it, then select Unhide.

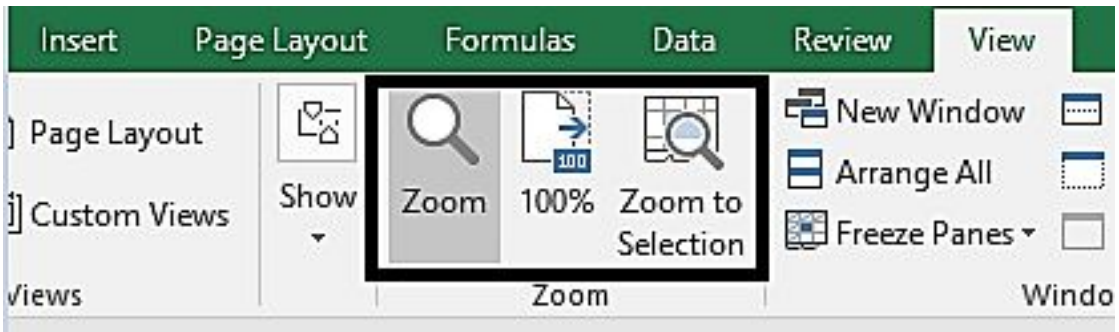
CONTROLLING THE WORKSHEET VIEW

Zooming in or out for a better view

By using the Zoom slider in the Microsoft Excel status bar, you may zoom in or out of an Excel worksheet. The status bar is located in the bottom right corner of Microsoft Excel. Slide to the desired % zoom setting. To zoom in and out in small steps, use the - or + buttons. The percentage number associated with the zoom level is also shown in the status bar adjacent to

the zoom slider. When you click the percentage, a Zoom dialog box appears, allowing you to choose from preset zoom levels or create your own.

You can also make use of the ribbon. On the ribbon, click on View. On the View tab, you will see the Zoom box with some options in it.

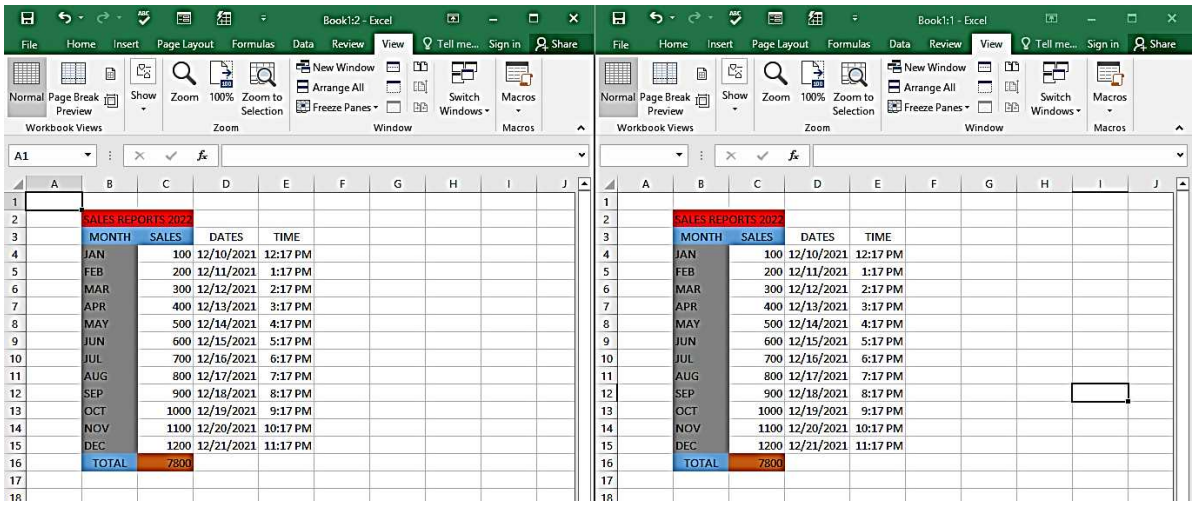


Viewing a worksheet in multiple windows

You need to have more than one window opened. So follow the steps below to do so;

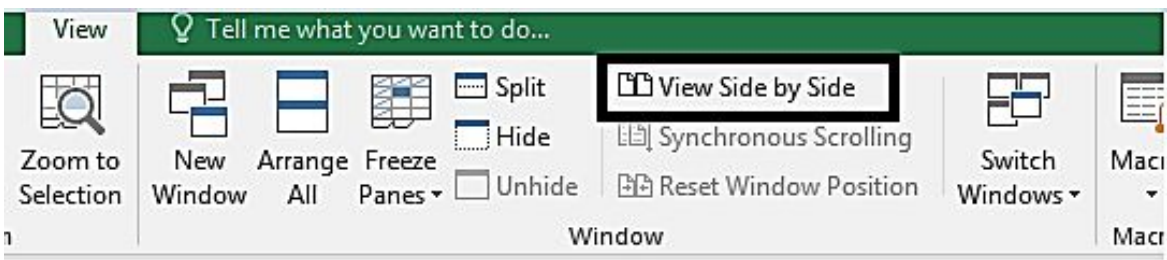
- Click **View** tab.
- From the options there, select **New Window**.
- Click on the **View tab** again and select Arrange All. This will open up a box for you to select how you want to arrange the windows. Once you have selected it, click OK.

The worksheet will now appear on both windows.



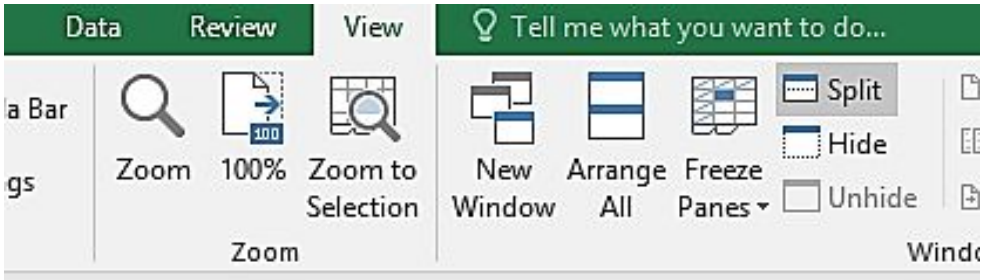
Comparing sheets side by side

To do this, click on the **View tab**, you will see the **View Side by Side option**, click on it.



Splitting the worksheet window into panes

To do this, you will make use of the Split Button on the View tab. So first of all, choose the row or column that you will like to insert the split pane. Then click on View on the ribbon, then click Split.

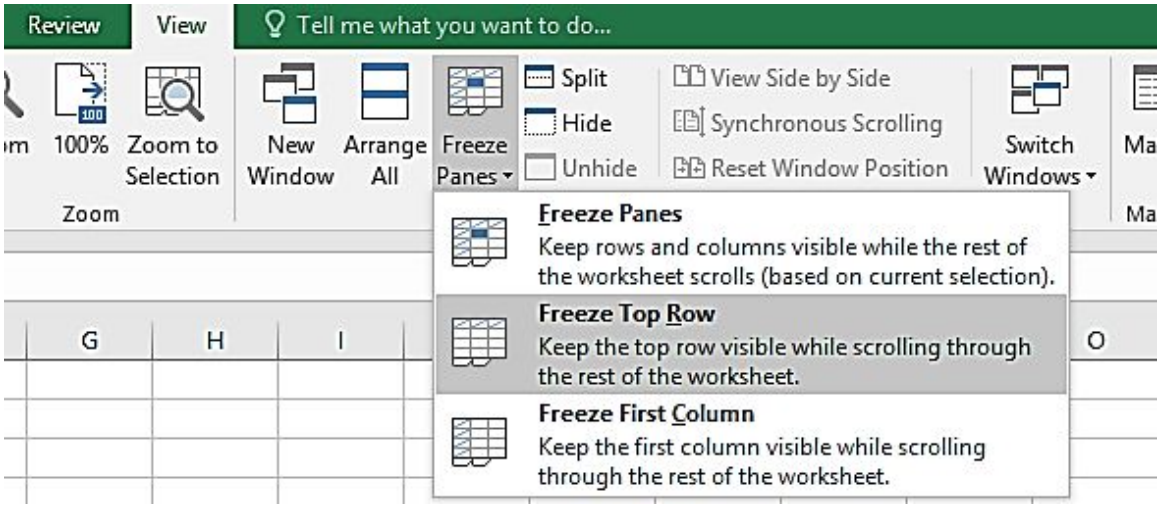


Keeping the titles in view by freezing panes

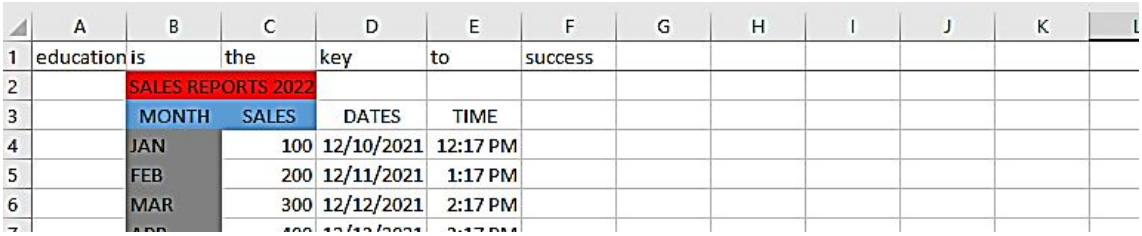
Freezing panes in Microsoft Excel implies that some rows and/or columns will be constantly visible at the top of a worksheet while scrolling. Below are the steps to do so.

Freeze Top Row

- Select **Freeze Panes** on the View tab.
- Select **Freeze Top Row** from the menu.



You will see a dark grey horizontal line on the top row.



Unfreeze the Panes

- Select Freeze Panes from the Window group on the View tab.
- Select **Unfreeze Panes** from the menu.

Freeze First Column

- Select **Freeze Panes** on the View tab.
- Select **Freeze First Column**
- You will see a dark grey vertical line in the first column.

You can do this to the rows and cells as well using the same steps.

Monitoring cells with a watch Window

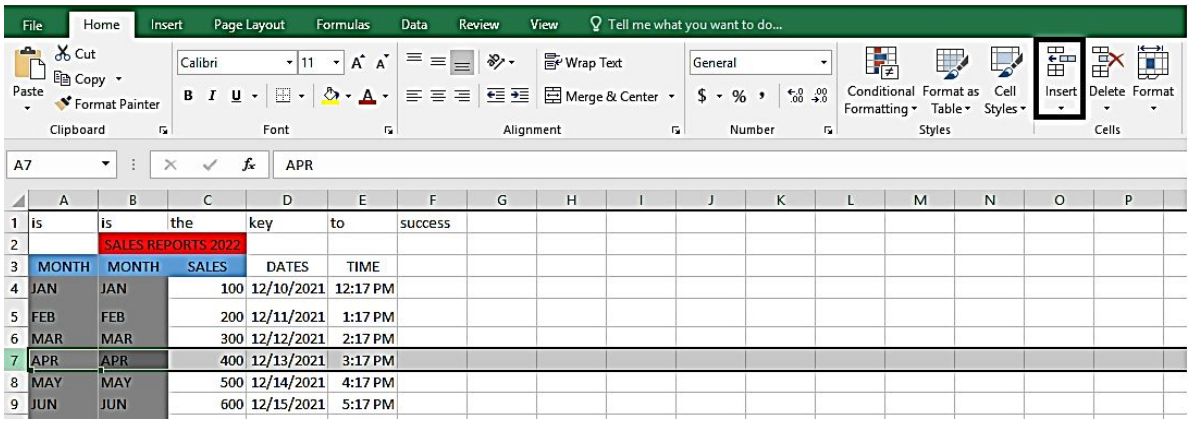
In Excel 2013, Microsoft added the Watch Window. It's a tool that displays the value of a cell and its characteristics in another window, including the workbook and worksheet titles, cell or range names, cell address, and formulae. This window may be placed anywhere you like and even docked like a toolbar.

To use the Watch Window tool simply click on Formulas on the ribbon, then click **Watch Window**. This will bring up a box where you can add and remove cells.

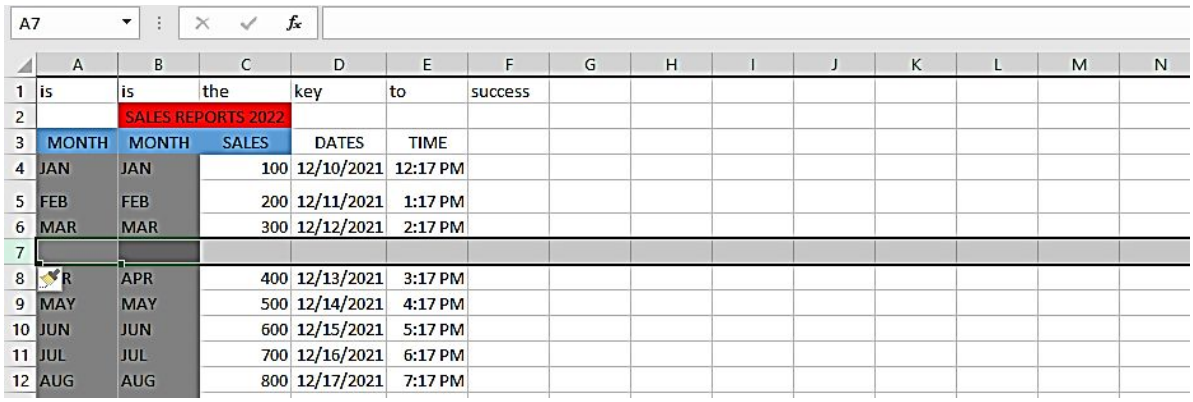
WORKING WITH ROWS AND COLUMNS

Inserting rows

Click on the heading of the row where you want to insert the new row. Then, on the home tab in the ribbon, click Insert.



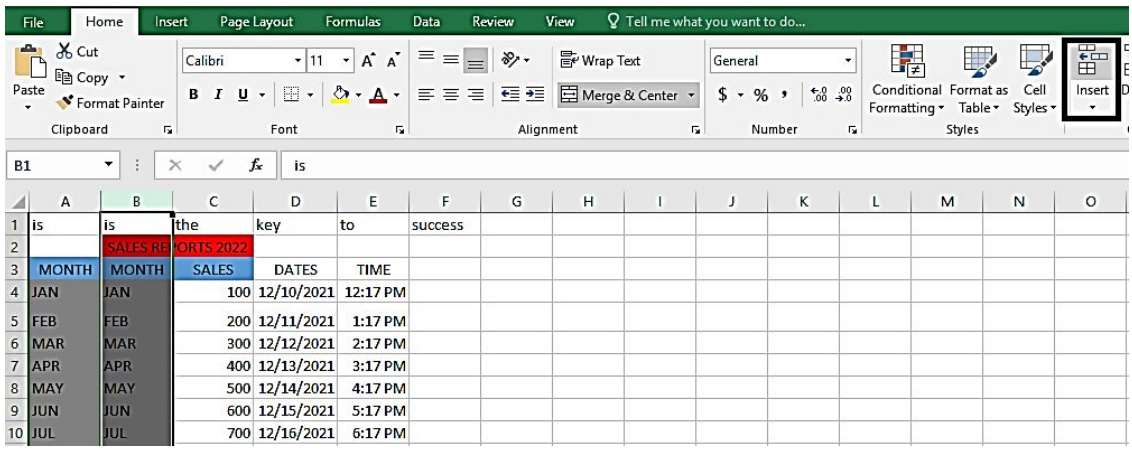
The newly inserted row will appear on top of the row you selected.



	A	B	C	D	E	F
1	is	is	the	key	to	success
2		SALES REPORTS 2022				
3	MONTH	MONTH	SALES	DATES	TIME	
4	JAN	JAN	100	12/10/2021	12:17 PM	
5	FEB	FEB	200	12/11/2021	1:17 PM	
6	MAR	MAR	300	12/12/2021	2:17 PM	
7						
8	R	APR	400	12/13/2021	3:17 PM	
9	MAY	MAY	500	12/14/2021	4:17 PM	
10	JUN	JUN	600	12/15/2021	5:17 PM	
11	JUL	JUL	700	12/16/2021	6:17 PM	
12	AUG	AUG	800	12/17/2021	7:17 PM	

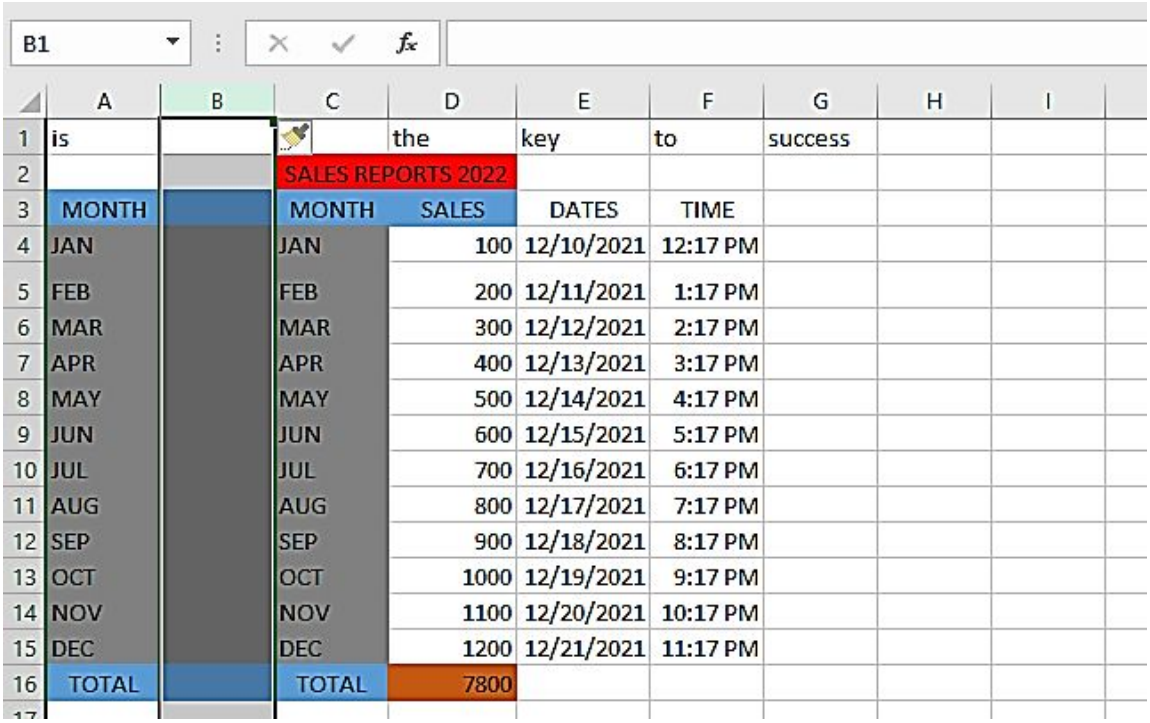
Inserting Column

Click on the heading of the column where you want to insert the new column. Then, on the home tab in the ribbon, click Insert.



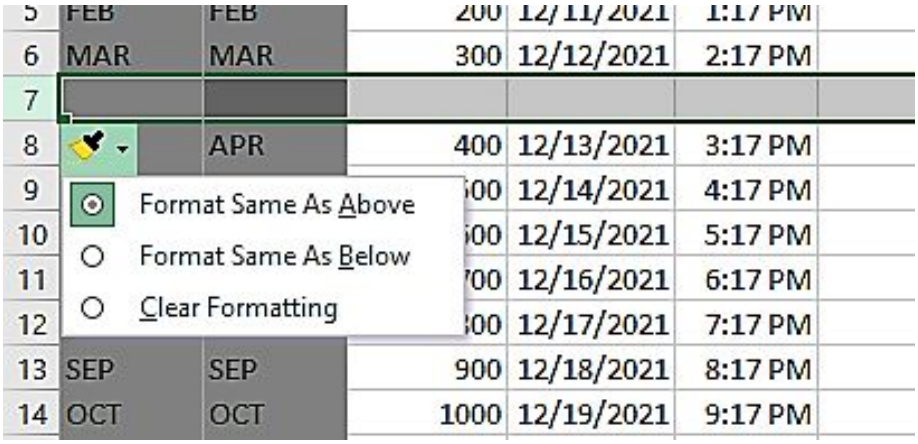
	A	B	C	D	E	F
1	is	is	the	key	to	success
2		SALES RE	ORTS 2022			
3	MONTH	MONTH	SALES	DATES	TIME	
4	JAN	JAN	100	12/10/2021	12:17 PM	
5	FEB	FEB	200	12/11/2021	1:17 PM	
6	MAR	MAR	300	12/12/2021	2:17 PM	
7	APR	APR	400	12/13/2021	3:17 PM	
8	MAY	MAY	500	12/14/2021	4:17 PM	
9	JUN	JUN	600	12/15/2021	5:17 PM	
10	JUL	JUL	700	12/16/2021	6:17 PM	

The newly inserted column will display at the left of the column you selected



	A	B	C	D	E	F	G	H	I
1	is			the	key	to	success		
2			SALES REPORTS 2022						
3	MONTH		MONTH	SALES	DATES	TIME			
4	JAN		JAN	100	12/10/2021	12:17 PM			
5	FEB		FEB	200	12/11/2021	1:17 PM			
6	MAR		MAR	300	12/12/2021	2:17 PM			
7	APR		APR	400	12/13/2021	3:17 PM			
8	MAY		MAY	500	12/14/2021	4:17 PM			
9	JUN		JUN	600	12/15/2021	5:17 PM			
10	JUL		JUL	700	12/16/2021	6:17 PM			
11	AUG		AUG	800	12/17/2021	7:17 PM			
12	SEP		SEP	900	12/18/2021	8:17 PM			
13	OCT		OCT	1000	12/19/2021	9:17 PM			
14	NOV		NOV	1100	12/20/2021	10:17 PM			
15	DEC		DEC	1200	12/21/2021	11:17 PM			
16	TOTAL		TOTAL	7800					

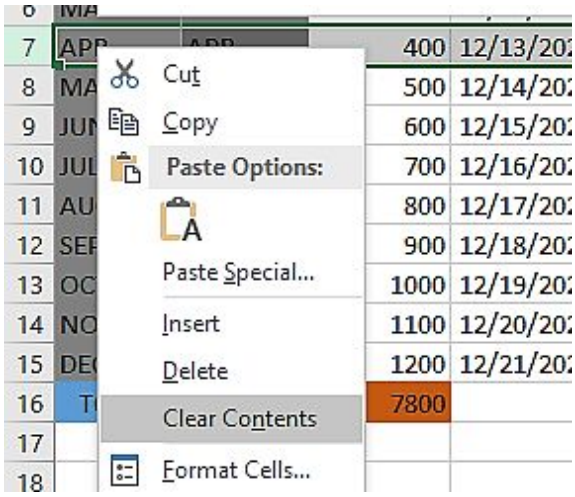
Note: A paintbrush icon appears next to newly added rows, columns, or cells when you insert new rows, columns, or cells. This button enables you to customize the formatting of these cells in Excel. Excel formats added rows by default to match the formatting of the cells in the row above. Hover your cursor over the icon, then click the drop-down arrow to see more choices.



Deleting rows and columns

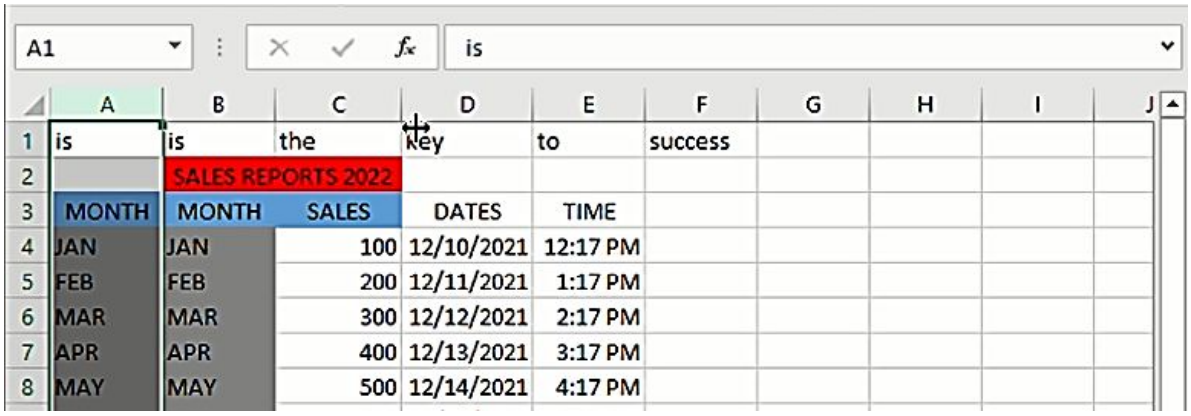
To delete a row, click on the row you want to delete, right-click and select **Delete**. Also, to delete a column, click on the column you want to delete,

right-click and select **Delete**. Note that it is very important to know the difference between removing a row or column and merely erasing its contents. Right-click a heading, then pick **Clear Contents** from the drop-down menu to delete the content from a row or column without causing others to shift.



Changing column widths

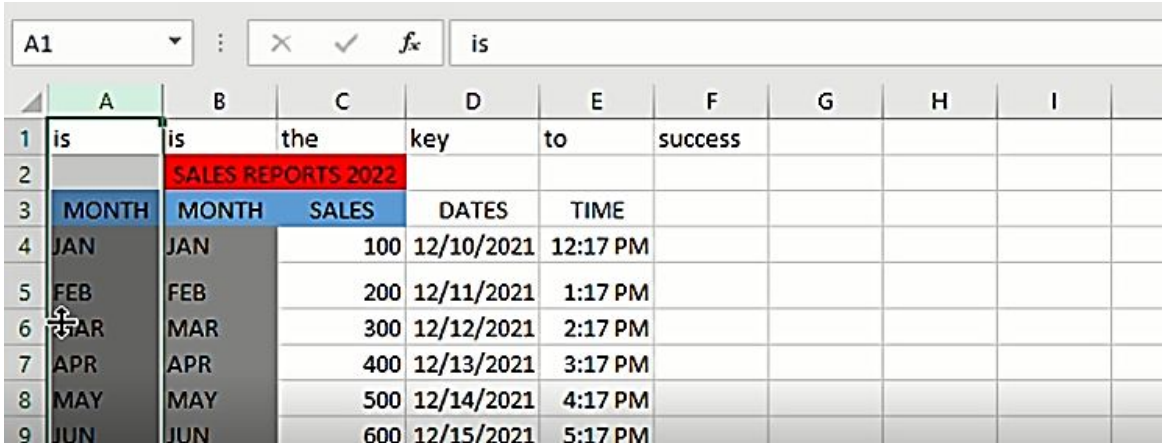
To do this, simply place your mouse cursor over the column line in the column heading. When you do this, the mouse cursor will change to a double arrow.



Then, click and drag the mouse left or right depending on how you want it to be. Then, release the mouse.

Changing row heights

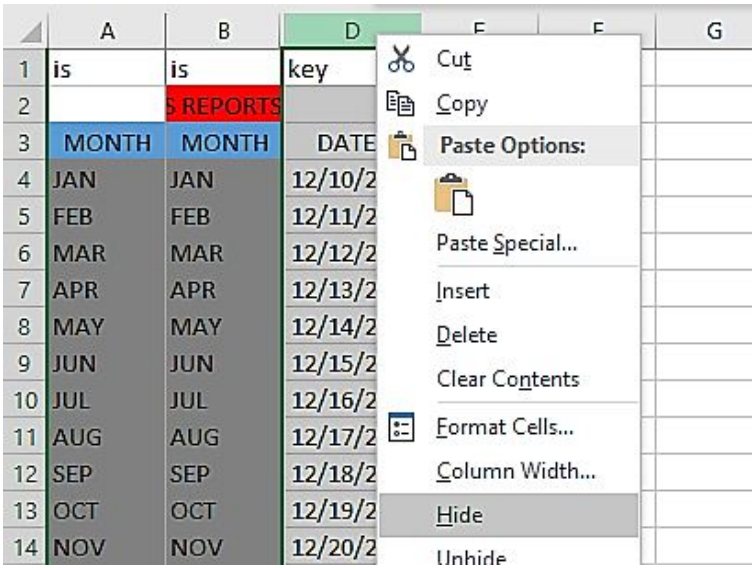
Place your mouse cursor over the row line. The mouse cursor will turn to a double arrow.



Then, click and drag the mouse up or down. Let go of the mouse.

Hiding rows and columns

Simply choose the column(s) or row(s). Then, right-click on it and select **Hide**.



This action will hide the column. You will see a green line on the worksheet after you have hidden the row/column. The green line shows where the hidden column or row is.

	A	B	E	F	G
1	is	is	to	success	
2		S REPORTS			
3	MONTH	MONTH	TIME		
4	JAN	JAN	12:17 PM		
5	FEB	FEB	1:17 PM		
6	MAR	MAR	2:17 PM		
7	APR	APR	3:17 PM		
8	MAY	MAY	4:17 PM		
9	JUN	JUN	5:17 PM		
10	JUL	JUL	6:17 PM		
11	AUG	AUG	7:17 PM		
12	SEP	SEP	8:17 PM		
13	OCT	OCT	9:17 PM		
14	NOV	NOV	10:17 PM		
15	DEC	DEC	11:17 PM		
16	TOTAL	TOTAL			

To unhide the column or row, move your cursor in-between the two columns where the hidden column was i.e. on the green line, then right-click and click **Unhide**.

C1 | the

	A	B	D	E	F	G	H	I	J	K	L
1	is	is	key	to	success						
2		S REPORTS									
3	MONTH	MONTH	DATES	TIME							
4	JAN	JAN	12/10/2021	12:17 PM							
5	FEB	FEB	12/11/2021	1:17 PM							
6	MAR	MAR	12/12/2021	2:17 PM							
7	APR	APR	12/13/2021	3:17 PM							
8	MAY	MAY	12/14/2021	4:17 PM							
9	JUN	JUN	12/15/2021	5:17 PM							
10	JUL	JUL	12/16/2021	6:17 PM							

CHAPTER FOUR

WORKING WITH EXCEL RANGES AND TABLES

UNDERSTANDING CELLS AND RANGES

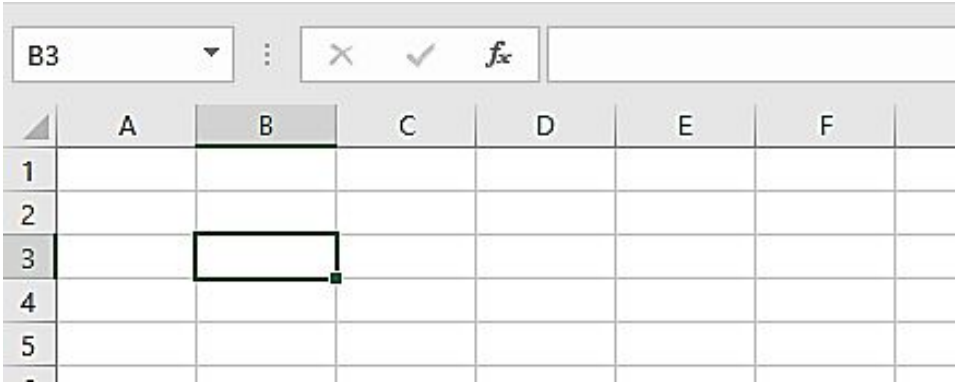
A cell range is a collection of cells that you choose to employ in functions and operations. A cell range is a set of chosen cells. This range is normally symmetrical (square), but it may also be made up of individual cells. A cell range may also be referenced in a formula.

A cell range is specified in a spreadsheet by the reference of the upper-left cell (minimum value) and the reference of the lower right cell (highest value). When different cells are eventually added to this selection, the range is referred to as an irregular cell range. The minimum and maximum values are supplied in Excel. A mathematical range, on the other hand, is a collection of values between a maximum and lowest value.

Select Single Cell Range

The intersection of the row and column in Excel is referred to as a single cell. When you click on any cell on the Excel sheet, you'll see a column name and a row name.

Let's look at the picture below as an example. The intersection of column B and row 3 is the cell chosen below. The cell may be interpreted as B3, which is a mix of row and column names.



Selecting complete columns

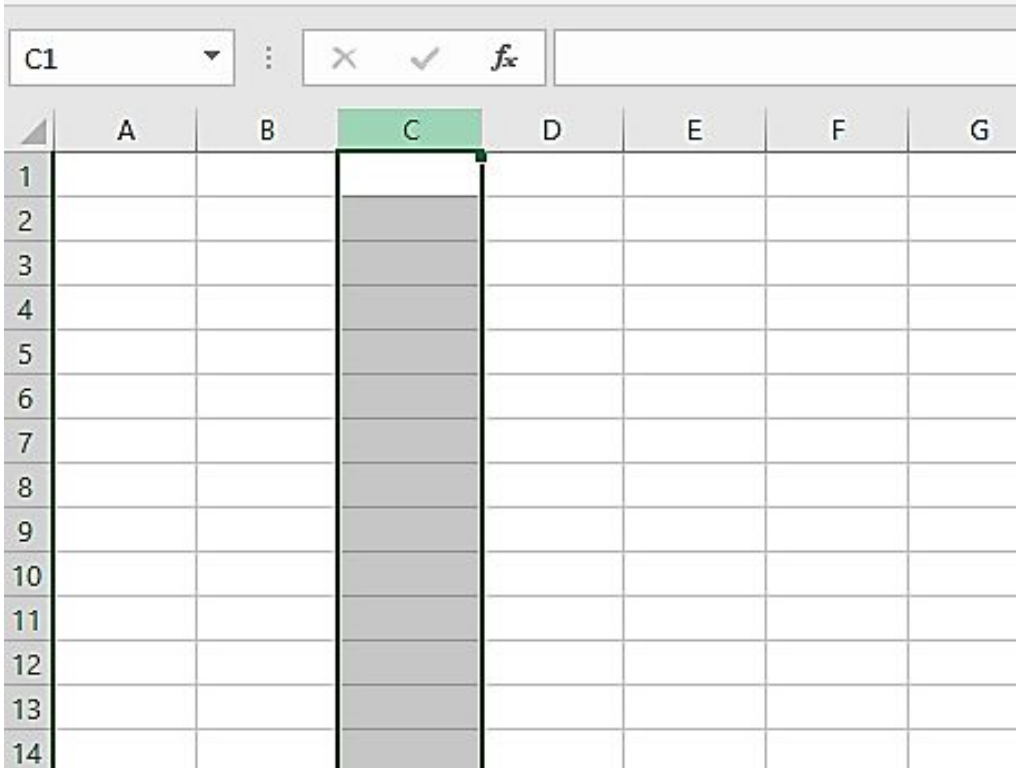
When you select all column cells in Excel, the range is also described. You may use either your mouse or your keyboard to pick all the cells in a column, depending on your preference. The techniques for selecting all column cells are shown below.

Mouse

- Click the column cell name with the mouse.

Keyboard

- Pick the column for the cell.
- Press and hold the 'ctrl' key while pressing the ‘**space'** key.

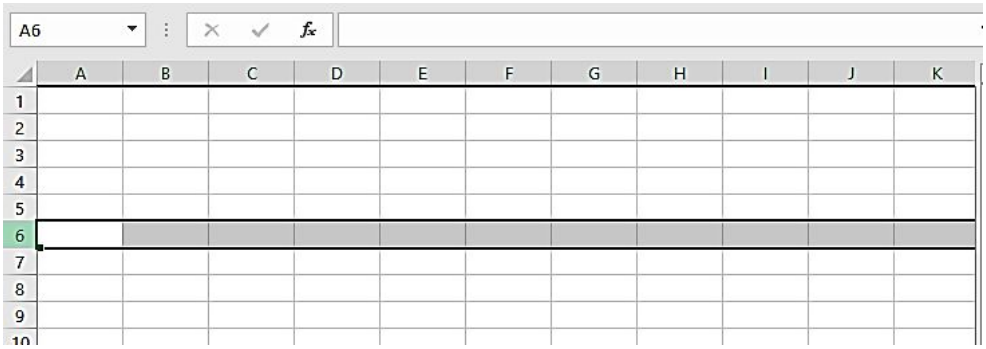


Assume you wish to pick the cells in column C in the picture above. Simply click on the C column name.

With the keyboard, go to column C. Then, while holding the '**control key**' hit the '**space' key** on your keyboard.

Selecting complete rows

- With the mouse, click the row letter of the cell.
- With the keyboard, use the arrow keys to move to the cell.
- Press the '**shift'** key and hit the '**space'** key to select a row.

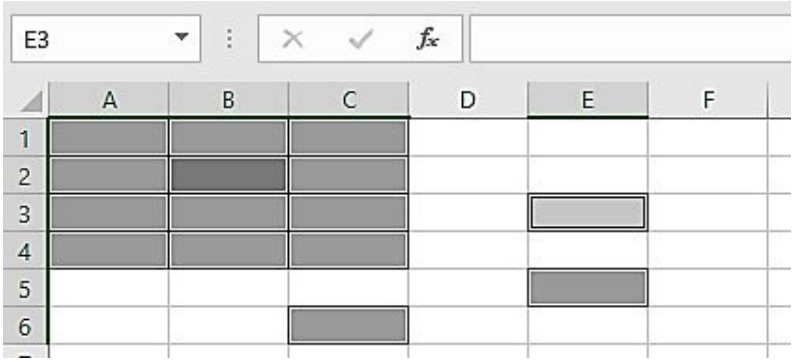


To choose a row, as shown above, do so. You must click the row's name. You may also use your keyboard shortcut to choose a row. Using the arrow keys on your computer, go to any cell in row 6. Now, while holding down the '**shift'** key, press the '**space'** bar on your keyboard.'

Selecting noncontiguous ranges

To choose noncontiguous ranges, follow the procedures outlined below:

- Using the mouse, click on the start cell.
- Press and hold the Control key on your keyboard.
- Select the cells you wish to select by clicking on them.

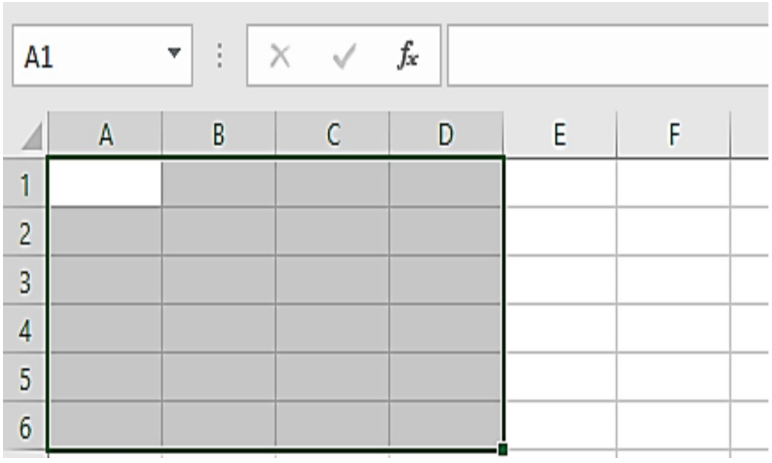


Assume you wish to choose the range (A1:C4, C6, E3, E5) shown in the figure above. Using the arrow keys on the keyboard, click or visit the initial cell. Now press C4 while holding down the 'ctrl' key. With the Control key held down, click C6, E3, and E5 cells again to select them.

Selecting multi-sheet ranges

It's a technique for picking many cells in a certain pattern, such as squares or rectangles. This approach may be used to pick both tiny and big areas of cells. Follow the procedures shown below to choose your pattern.

- Use the mouse or keyboard to go to the first cell.
- Press and hold the '**Shift'** key on your keyboard.
- Select the last cell.

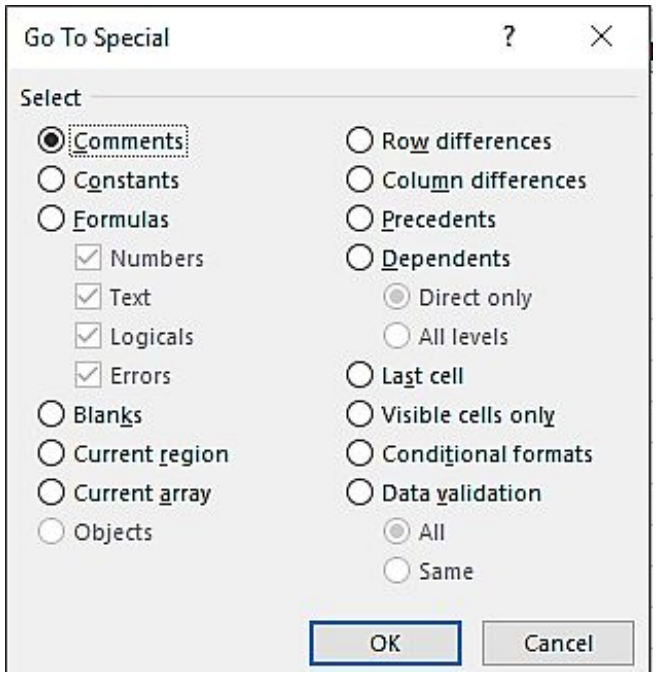


Assume you wish to choose the range (A1: D6), as shown in the figure above. To begin, use your mouse or keyboard to go to cell A1. Now press the '**shift'** key on your keyboard and click cell D6. As seen in the graphic above, this will choose the needed cell range.

Selecting special types of cells

You may copy, move, remove, color, fill, and protect specific cells on a sheet, such as cells holding Constants, Formulas, blank cells, and more. To select particular cells, follow these steps:

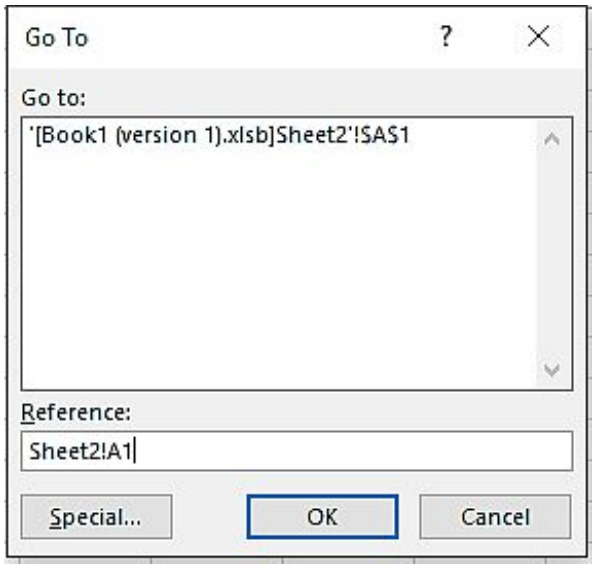
- Press Control key + G on your keyboard.
- This opens up the Go to the dialog box. Click on Special.



- Click OK after selecting one of the available buttons.

Selecting cells by searching

- Press Control key + G on your keyboard.
- Type in the cell and click Ok.

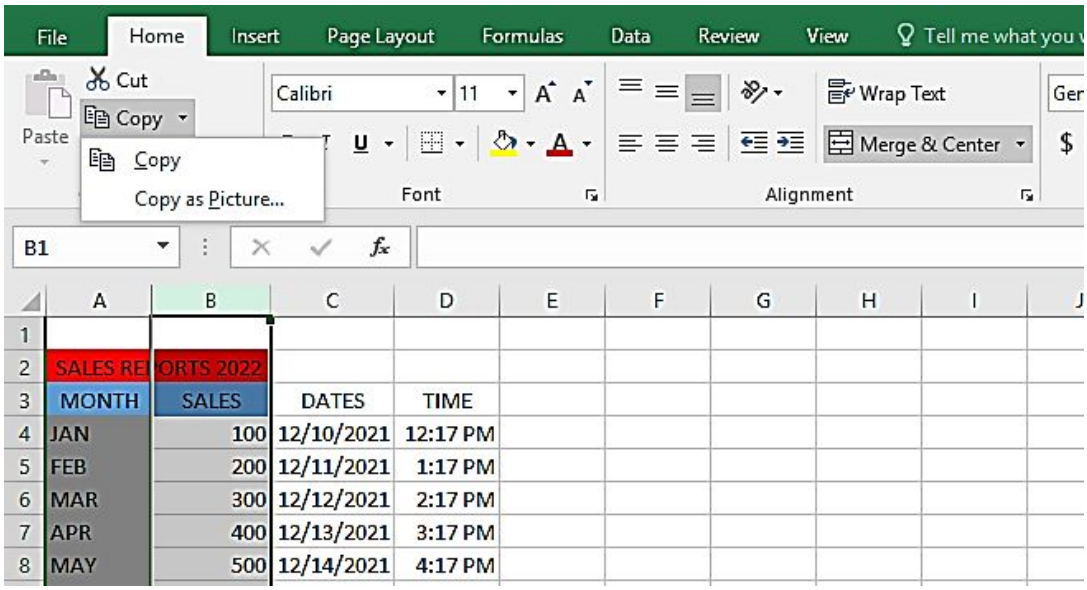


COPYING OR MOVING RANGES

There are different ways to copy and move ranges in Excel. In Excel, copying and pasting a cell is simple. When it comes to copying and pasting a collection of cells, columns, or rows, there are ways for it.

Copying by using Ribbon commands

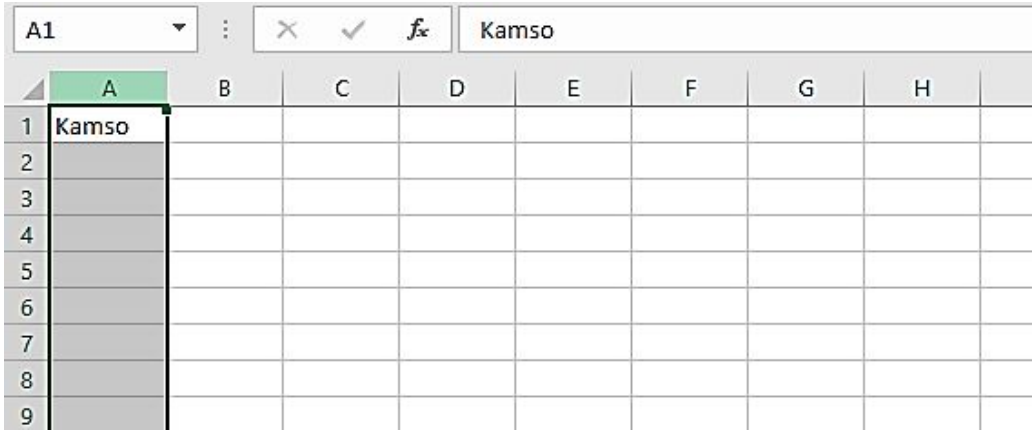
Click on the cell range heading (row or column). Select Copy from the home tab. To copy as a picture is possible also.



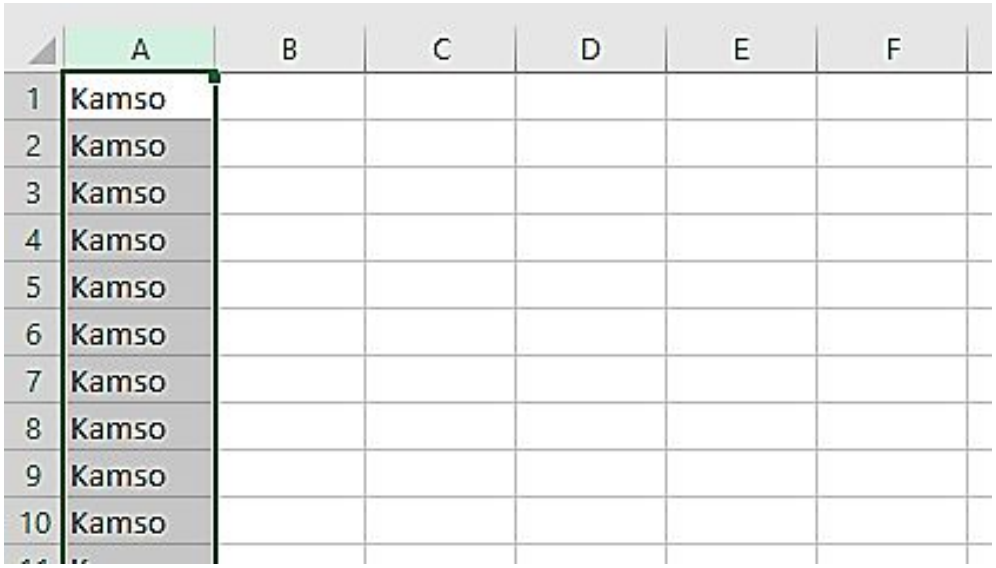
Copying by using shortcut keys

To copy a range of cells, use Control key + C simultaneously after choosing the range of cells. Choose a range of cells in which you wish to paste it again, and then click Control key + V to paste it. This is the most convenient method for copying and pasting several cells at once.

Other shortcut keys are Control key + D and Control key + R. Control key + D is used for copying and pasting data downwards. It can also copy the values of a full column. To do this, choose any range of cells that are in the same column as the cell you want to replicate.

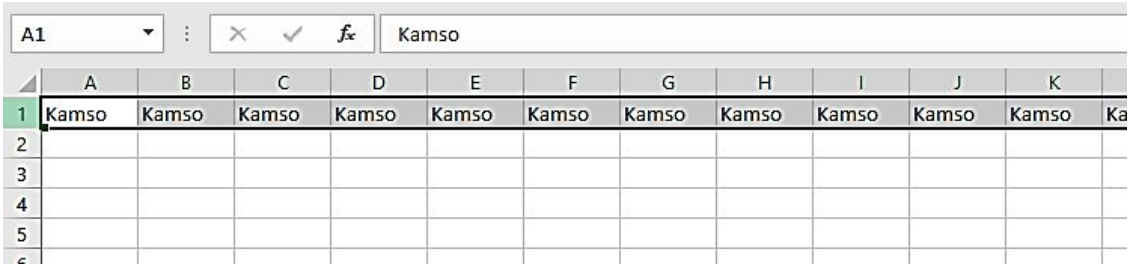


Now, press Control key + D. this action will copy the values downwards.

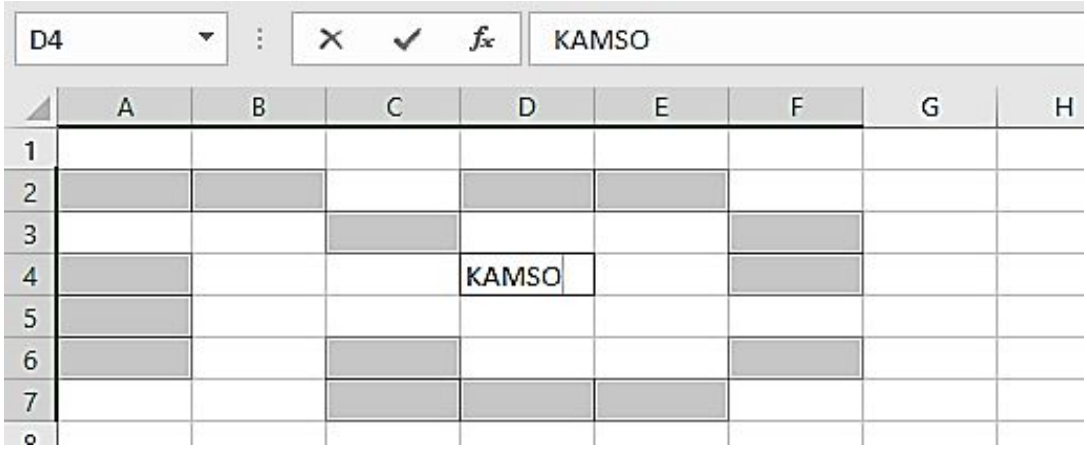


Control key + R also does the same action, but this time, it copies the values to the right-hand side. This shortcut works well for rows. To do this, simply click on the cell range, but this time you are not choosing from the bottom up, choose the cells from the right.

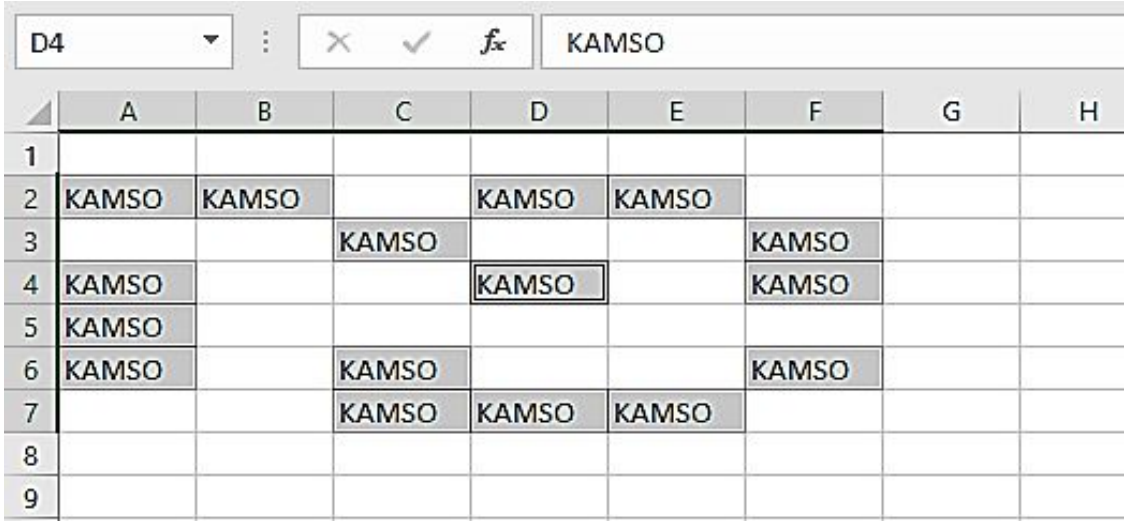
After you have selected it, press the Control key + R.



You may also duplicate a single value to several cells using another shortcut. Control key + Enter is the shortcut. To do so, pick a few cells on your worksheet and type any term or value into any of them. After selecting the cells, press Enter to put in a value in any of the cells.



Now, press the **Control key + Enter**.

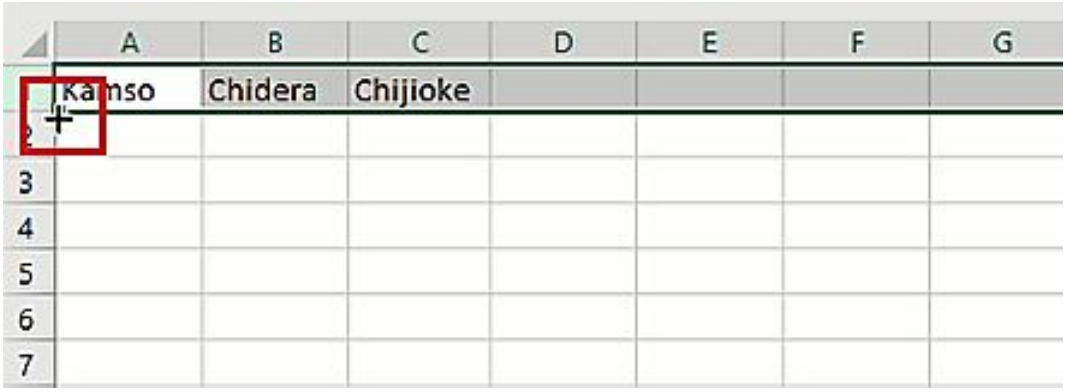


Copying or moving by using drag-and-drop

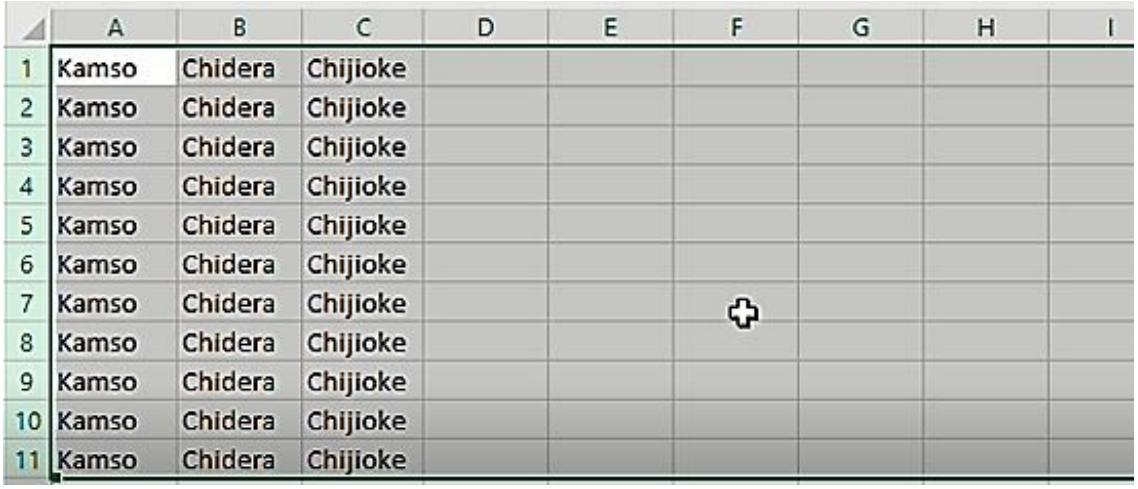
For copying a set of values for columns, rows, or a range of cells, we will make use of the **Fill Handle** option. To do so, enter some values in the

appropriate cells. Select the cells after inputting the data. The value is surrounded by a green box.

In Excel, this green area is called the Fill Handle. Drag the fill handle down to replicate these values for a range of cells by hitting the "+" symbol that appears in the bottom right corner of the fill handle.



Once you stop dragging the handle, you will get the result, as you can see below.



Copying to adjacent cells

So in our example below, there are data in range A1:C7.

F5

	A	B	C	D	E	F	G	H
1	Name	Score 1st Day	Score 2nd Day	Total Score				
2	emeka	65	45					
3	john	76	77					
4	dudu	34	90					
5	getar	98	78					
6	mark	23	43					
7	chibu	90	67					
8								

Column D is empty and it will consist of the total score of the table. To do this, we are to copy and paste the formula for that. Now, in Cell D2, enter in this formula **"=B2+C2",** then press **Enter**. As you can see in the image below;

DAYS360 =B2+C2

	A	B	C	D	E	F
1	Name	Score 1st Day	Score 2nd Day	Total Score		
2	emeka	65	45	=B2+C2		
3	john	76	77			
4	dudu	34	90			
5	getar	98	78			
6	mark	23	43			
7	chibu	90	67			
8						

Then, using the fill handle, drag down and release to fill in the empty cells.

	A	B	C	D	E
1	Name	Score 1st Day	Score 2nd Day	Total Score	
2	emeka	65	45	110	
3	john	76	77	153	
4	dudu	34	90	124	
5	getar	98	78	176	
6	mark	23	43	66	
7	chibu	90	67	157	

Now, we want to copy a range of cells to the adjacent side. So, select the range of cells. In this example, we want to copy the Total Score column. To

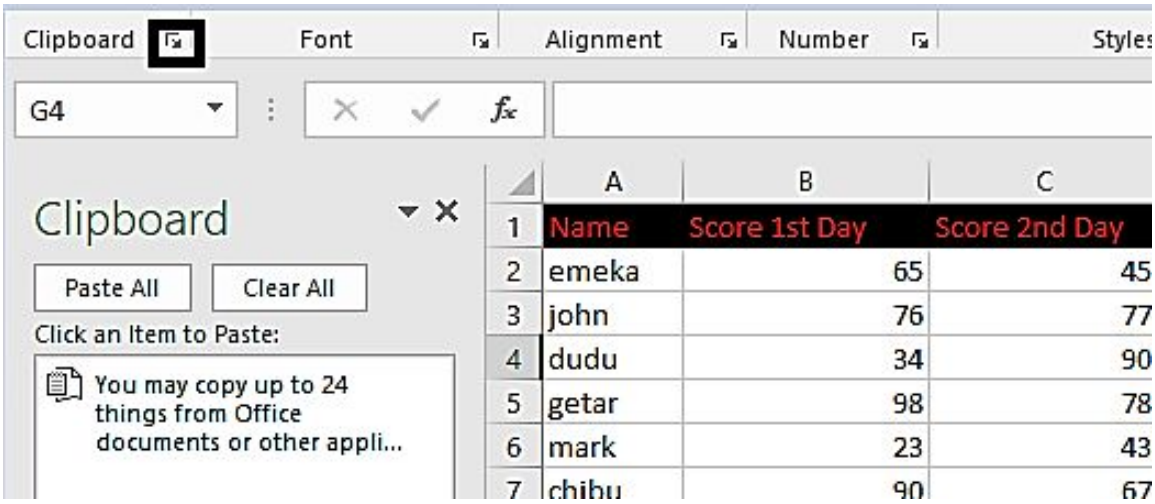
do this, we will select the cell on the right-hand side which is Cell E. when you select it, press **Control key + R**.

A	B	C	D	E
Name	Score 1st Day	Score 2nd Day	Total Score	Total Score
emeka	65	45	110	155
john	76	77	153	230
dudu	34	90	124	214
getar	98	78	176	254
mark	23	43	66	109
chibu	90	67	157	224

Using the Office Clipboard to paste

You may copy up to 24 things from Office documents or other applications and paste them into another Office document using the Office Clipboard. You can paste text from an email message, data from a workbook or datasheet, and a graphic from a presentation into a document, for example. You may organize the copied objects in the document as you wish using the Office Clipboard.

When you utilize the Clipboard task window, you're not restricted to copying the last thing you copied or cut. Many of the last pictures and text you copied or cut are stored in the Clipboard task window. First, Open the Office Clipboard. On the Home tab, click on the Clipboard dialog box launcher.



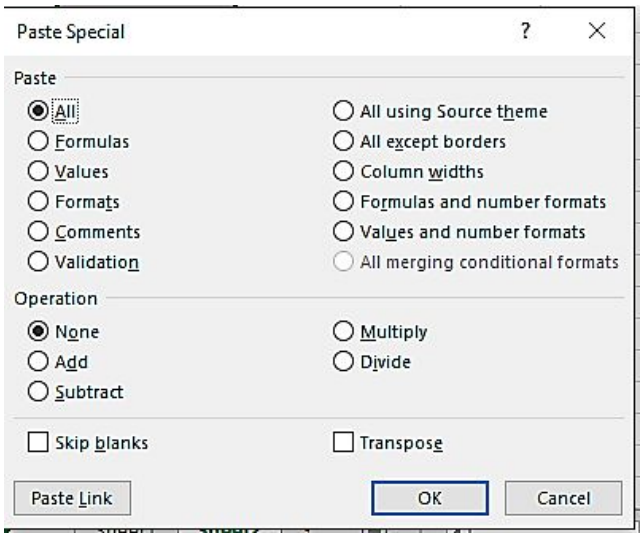
Now to copy and paste, follow the steps below;

- Open the file from which you'd want to copy things.
- Select the first thing you wish to copy and click CTRL+C on your keyboard.
- Continue copying stuff from the same or other folders until you've gathered all you desire. Up to 24 things may be stored on the Office Clipboard. The initial item on the Office Clipboard gets destroyed after you copy the twenty-fifth item.
- Now, open the clipboard pane. On it, you will see all the things you've copied. You can select each item to paste or you can paste all of them. So, to paste one item, click on the item. to paste all items, click on the **Paste All** box on the clipboard pane.

Pasting in special ways

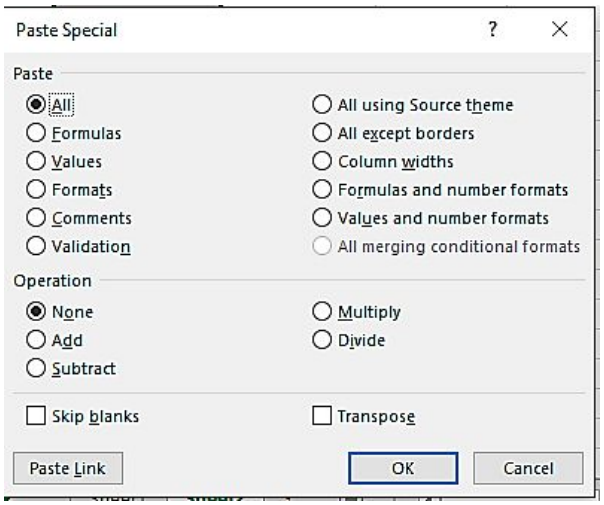
When a conventional copy/paste isn't suitable, Excel's Paste Special provides a variety of choices, such as pasting just certain portions of copied cells or performing a mathematical function on the copied data.

All of the Paste Special options are shown in the image below:



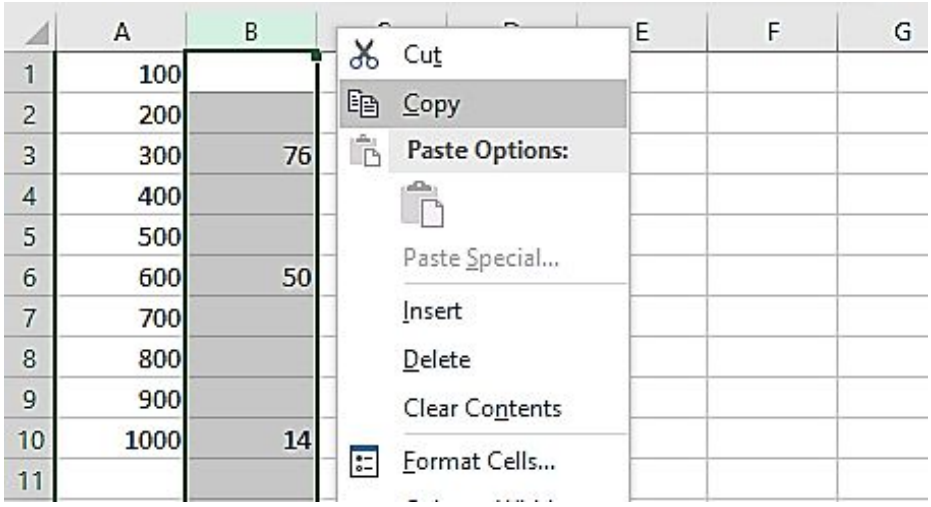
Using the Paste Special Dialog box

This is an easy process. Select the cell or range of cells and right-click on the area you wish to paste the item on the workbook and select **Paste Special**. This will open up the Paste Special Dialog box where you have a list of options on how you can paste the copied item.



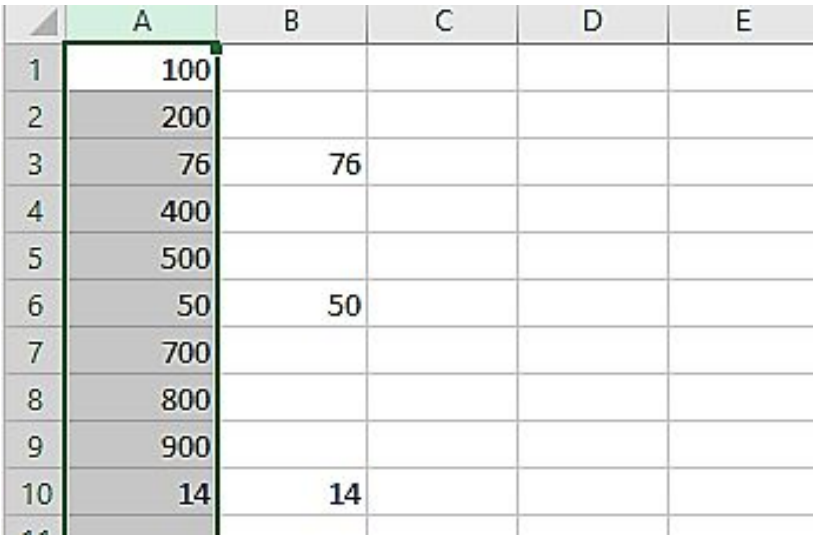
Skipping blanks when pasting

So, we will make use of the Paste Special Skip Blanks Option to do this. As you on the image below, range B1:B10 has some blank spaces in its cells. So we are going to copy the range and skip those blanks. So, copy Cell B.



Now, select cell A1. Right-click on it and select Paste Special.

Check the box on Skip Blanks and click **Ok**.



USING NAMES TO WORK WITH RANGES

However, there are certain key requirements for naming named ranges in Excel that you should be aware of before you begin:

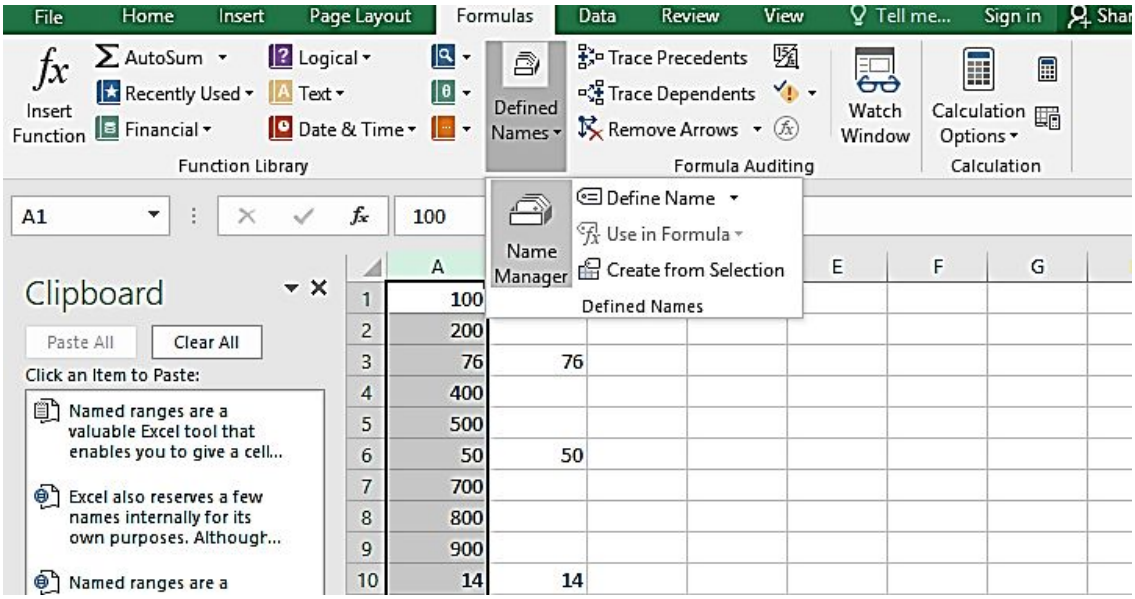
a. There are no spaces allowed in names. Instead of using a space, you might use an underscore character (such as Annual Total).
b. You may name the range with any combination of alphabets and digits, but it must begin using a letter symbol. A number cannot begin a name.
c. Except for underscores and periods, no other symbols are permitted.

d. Although names are restricted to 255 characters, it is best to make them as brief as possible while still being relevant and clear.

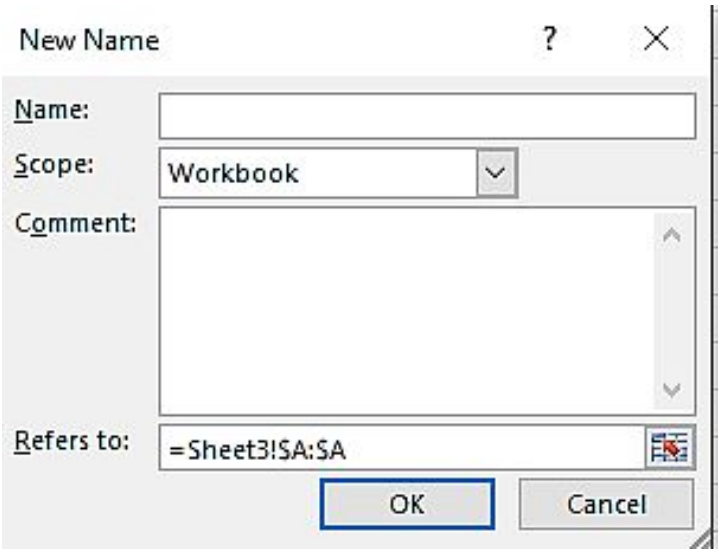
Excel also keeps a few names in reserve for internal use. Although it is possible to construct names that override Excel's internal names, this is something you should avoid.

Creating range names in your workbooks

Choose the cell or range. Click the Formula tab on the ribbon. Navigate to the Define Names section. Click the down arrow and select **Name manager**.

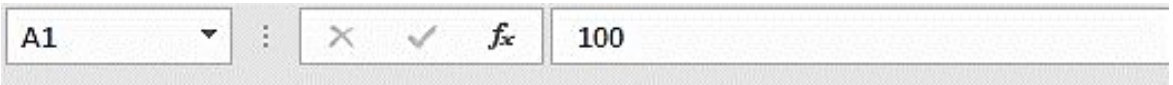


Click on New. This opens up the New Name dialog box.



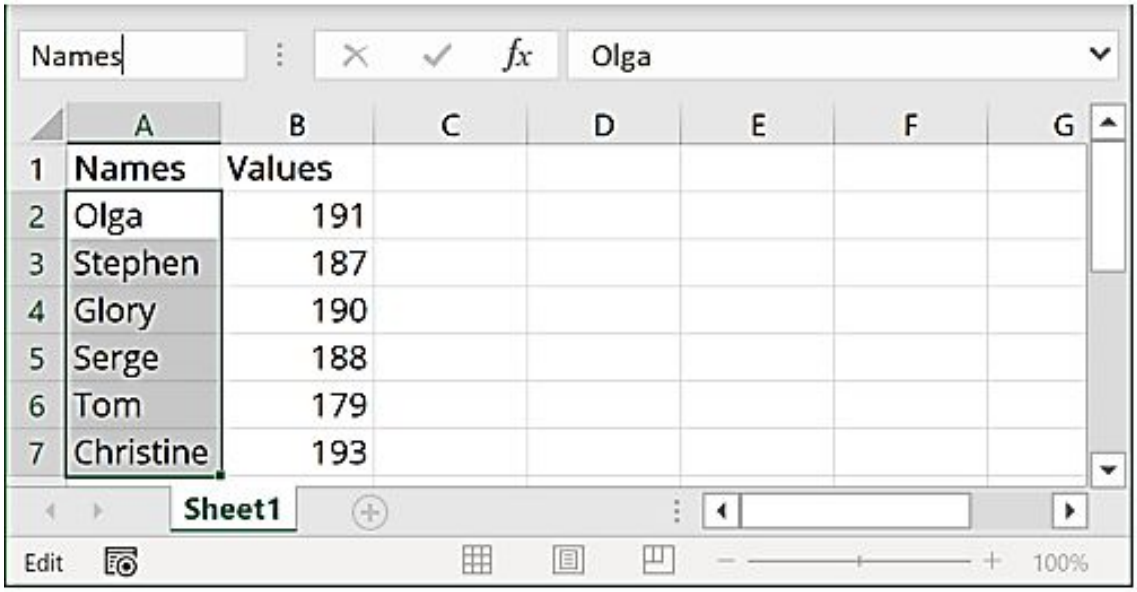
In the Name box, type a name (Excel can display the name if you selected a data range with a heading line). In the area labeled Refers to, the active or chosen cell or range address shows. To add the name to your spreadsheet and exit the dialog box, double-check that the address provided is accurate.

Using the Name box to construct a name is a quicker option:



Choose the cell or range, then input the name. Press Enter. (If you input a name and then click on the worksheet, Excel will not assign the name to the chosen range.) You can't modify the range that a name refers to if it already exists. Instead of selecting the range, attempting to do so choose it.

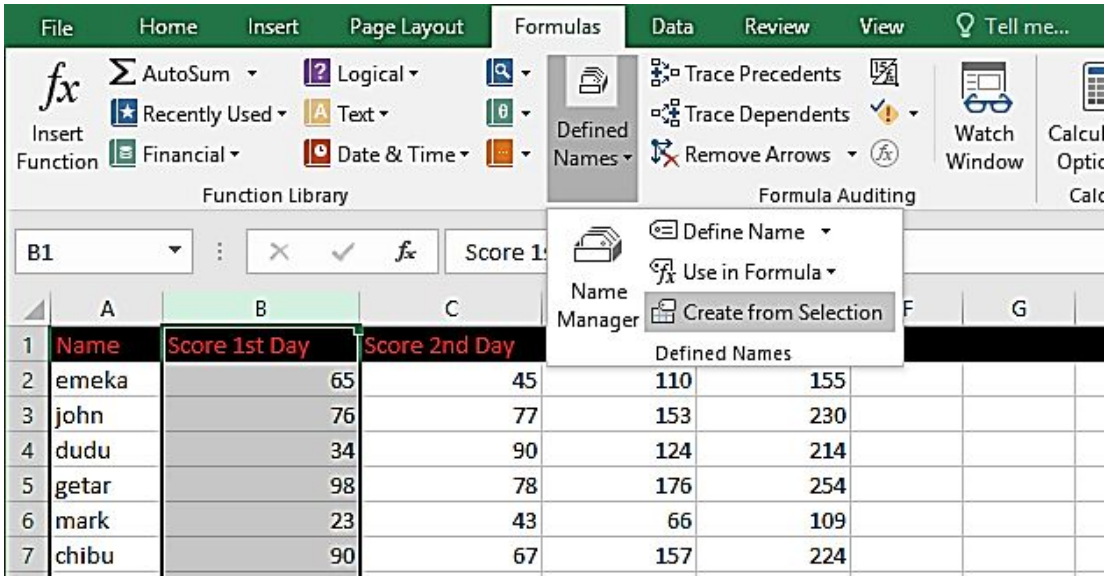
For instance:



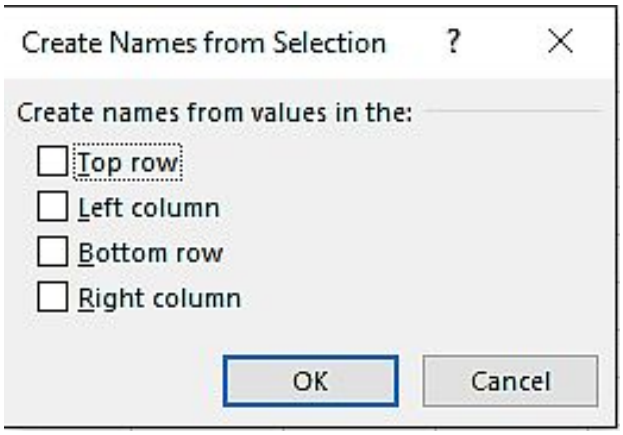
If your formula contains named cells or ranges, you can either input the name instead of the address or select a name from a table, then Excel will automatically insert it. Names and Values are two specified names on the worksheet.

Using the Create Names from Selection dialog box

You may rapidly generate names for numerous cells by using existing row or column labels. Choose the cell range and labels. In the Defined Names group of the Formulas tab, pick **Create from Selection**.



Select the place of the text and click **OK**.

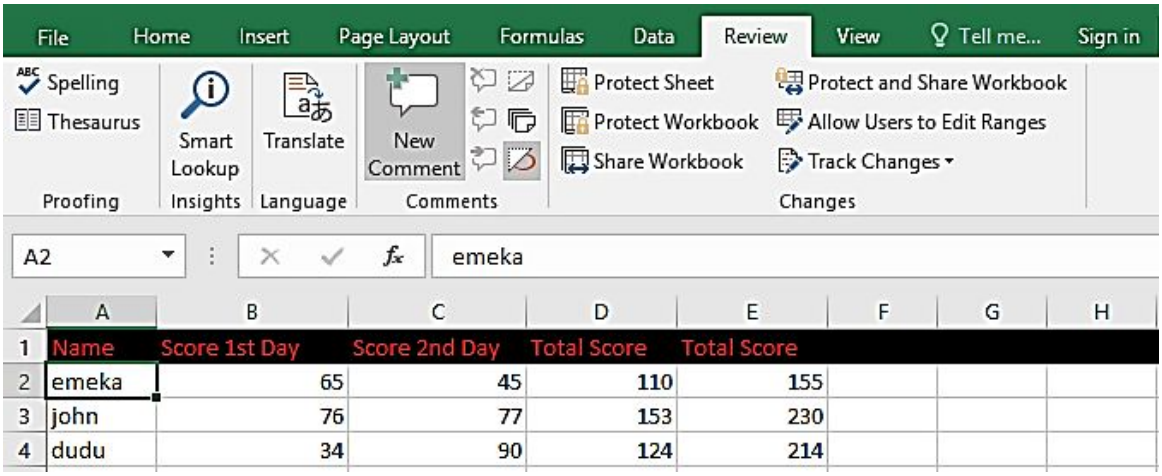


ADDING COMMENTS TO CELLS

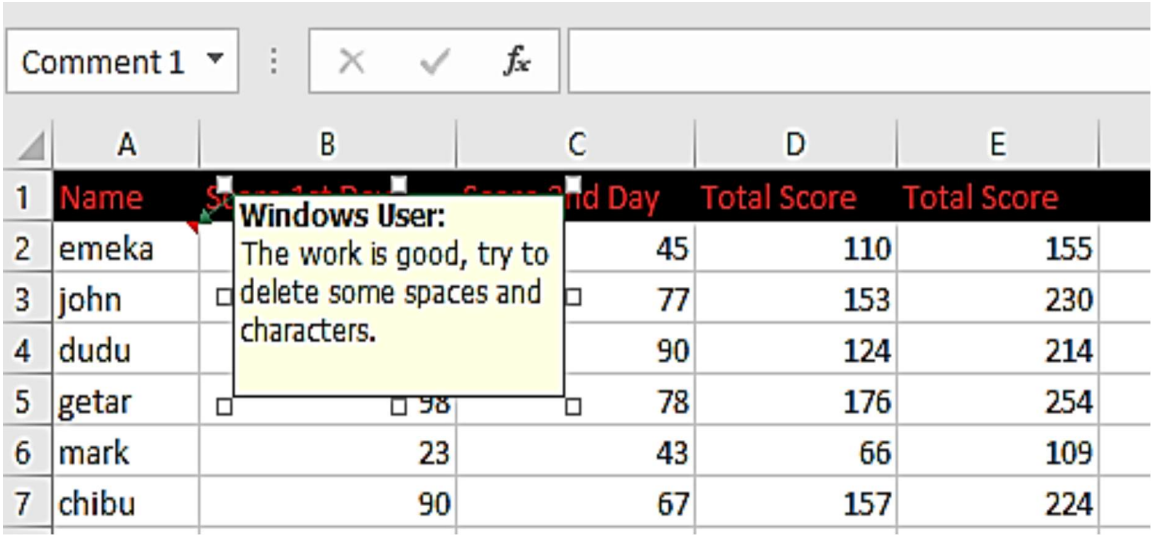
Let's say you've gotten an Excel document from someone and you'd want to provide comments, make edits, or ask questions about the data. Writing a comment to a specific cell in the worksheet is a simple way to do this. Because it doesn't modify the data, a comment is typically the easiest approach to add extra information to a cell.

This tool is also useful for explaining formulae to other users or describing a specific value. You may use an image instead of words to describe something in a comment. Follow the steps below to add comments to cells.

- First, choose the cell you would like to add a comment on.
- On the ribbon, click on the Review tab, then select New Comment.

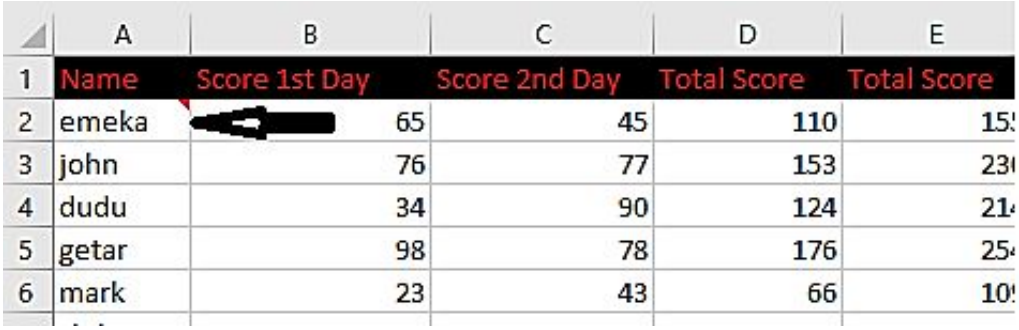


This will display a small box on the screen. Type in your comment in the box. When you are done, click on any cell.



	A	B	C	D	E
1	Name	Score 1st Day	Score 2nd Day	Total Score	Total Score
2	emeka		45	110	155
3	john		77	153	230
4	dudu		90	124	214
5	getar	98	78	176	254
6	mark	23	43	66	109
7	chibu	90	67	157	224

The comment box will disappear. But you will notice a red mark on the column you have just added a comment. That red mark indicated that the cell contains a comment. When you hover your mouse cursor on the cell, it will display the comment.

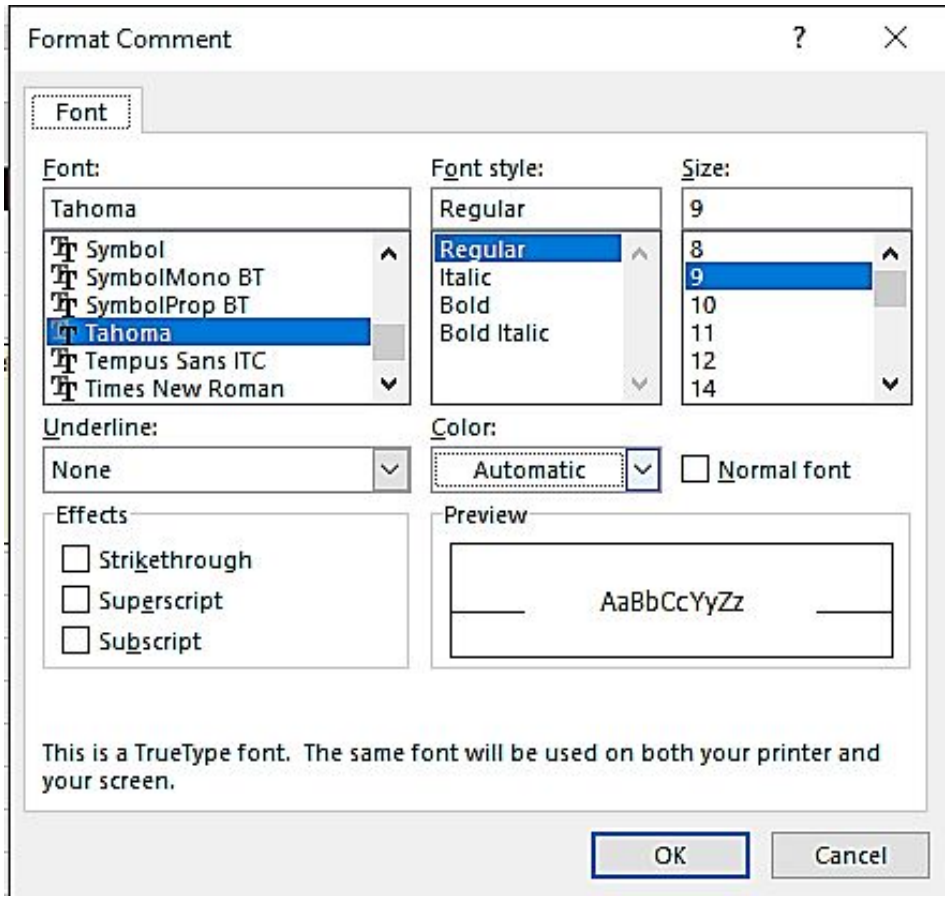


	A	B	C	D	E
1	Name	Score 1st Day	Score 2nd Day	Total Score	Total Score
2	emeka	65	45	110	15
3	john	76	77	153	23
4	dudu	34	90	124	21
5	getar	98	78	176	25
6	mark	23	43	66	10

Shift key + F2 will perform the same action here.

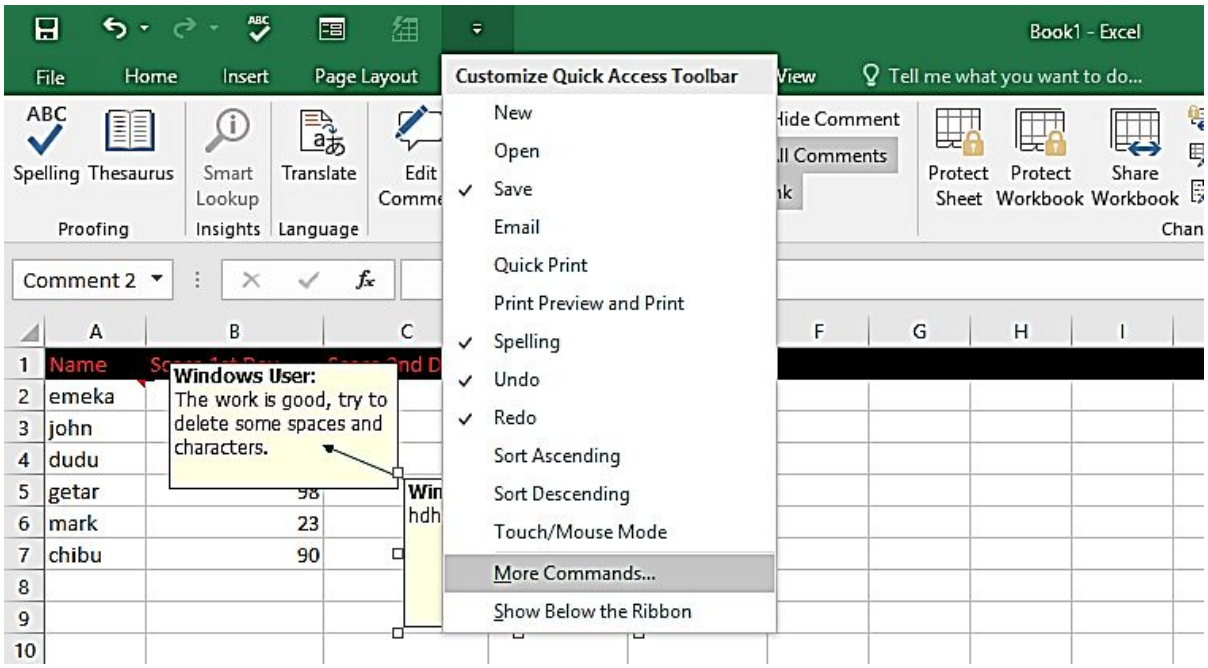
Formatting comments

To format the comments, hover your mouse cursor to the cell to display the comment box. Once it has been displayed, right-click on it and select Format Comments. This will bring up the Format Comment dialog box. After formatting, click **Ok**.

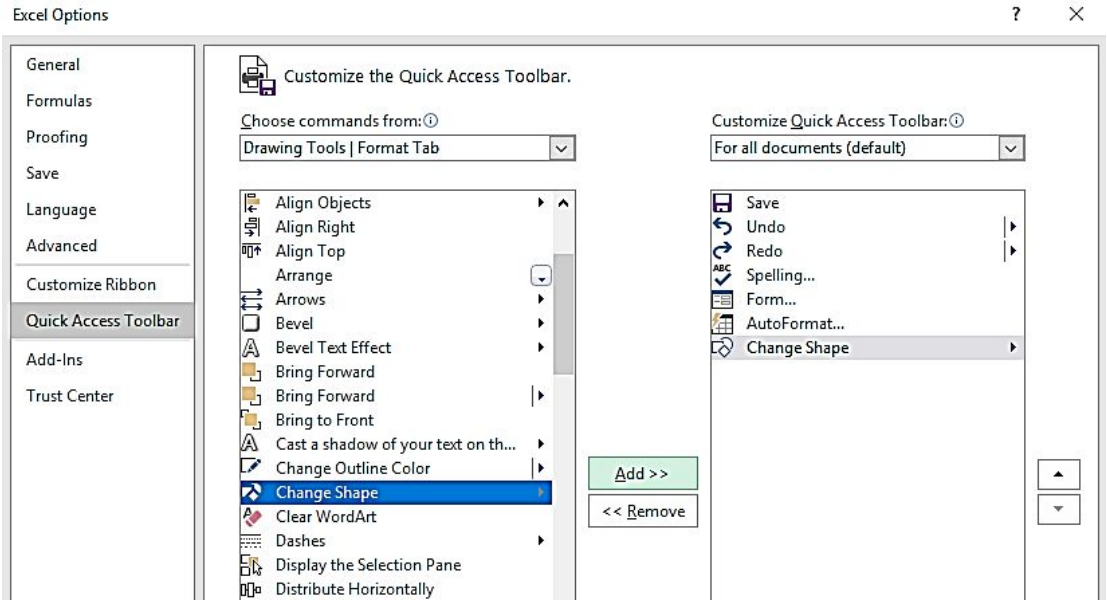


Changing a comment's shape

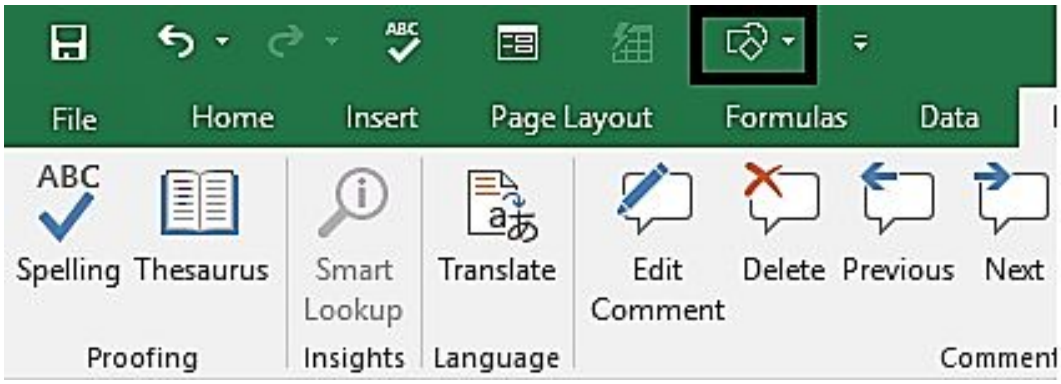
By default, the shape of the comment box is a rectangle. You can decide to change this shape. You will add a tool to the Quick Access Toolbar. So, click the down arrow on the Quick Access Toolbar and select More Commands.



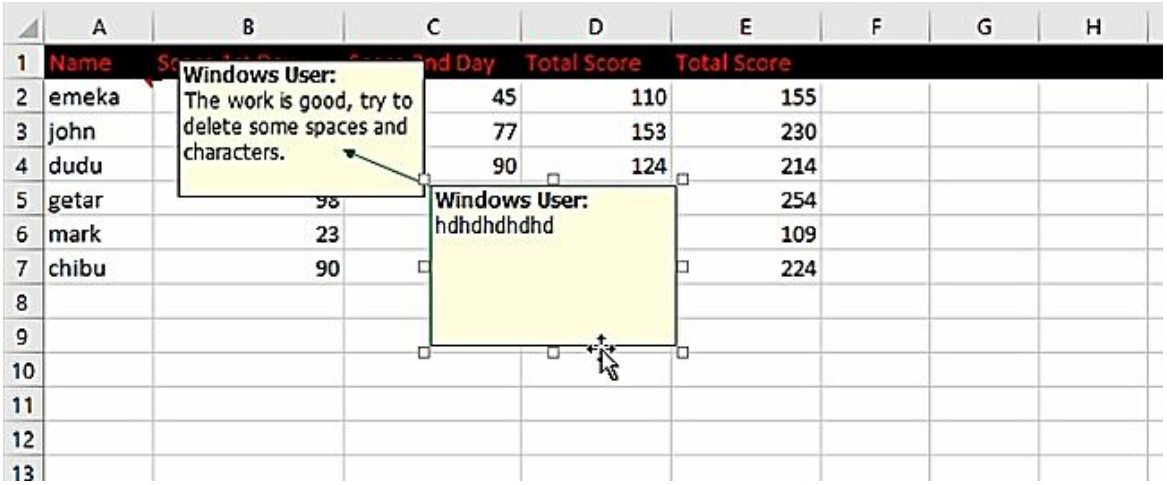
On the **Choose commands from** option, hit the down arrow and select **Drawing Tools |Format Tab.** From the list of commands below the options, select Change Shape. Then, click Add and click Ok.



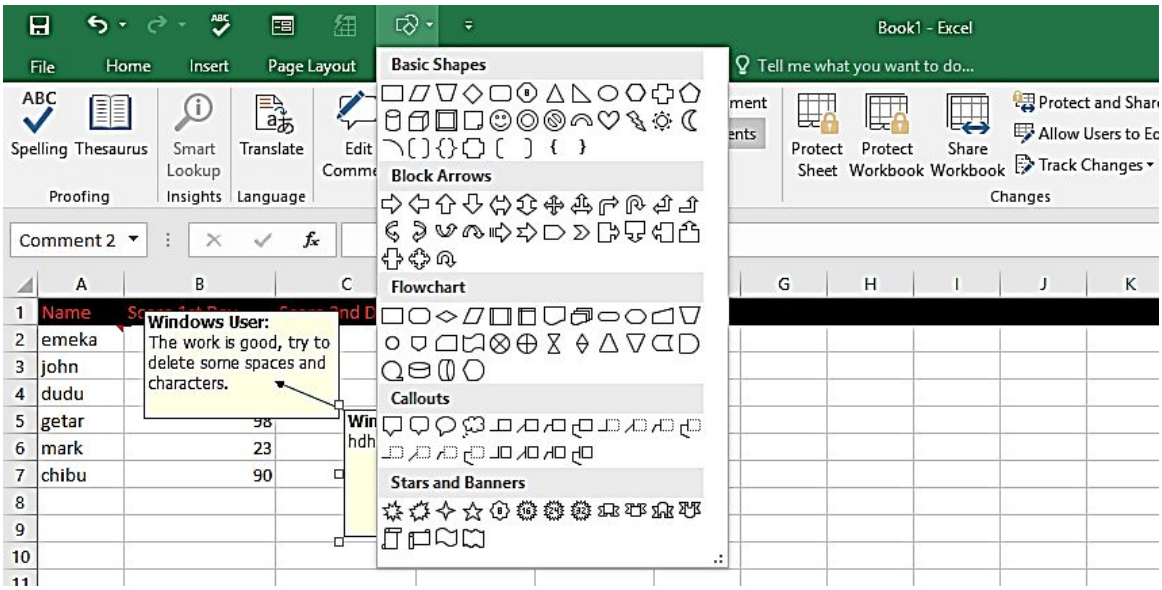
The shape icon will be added to the commands in the Quick Access Toolbar.



At first, the shape icon won't be accessible. So, you have to first work on the comment box. Click on the comment box and move your cursor around it until it switches to the four-headed arrow. Then, click.

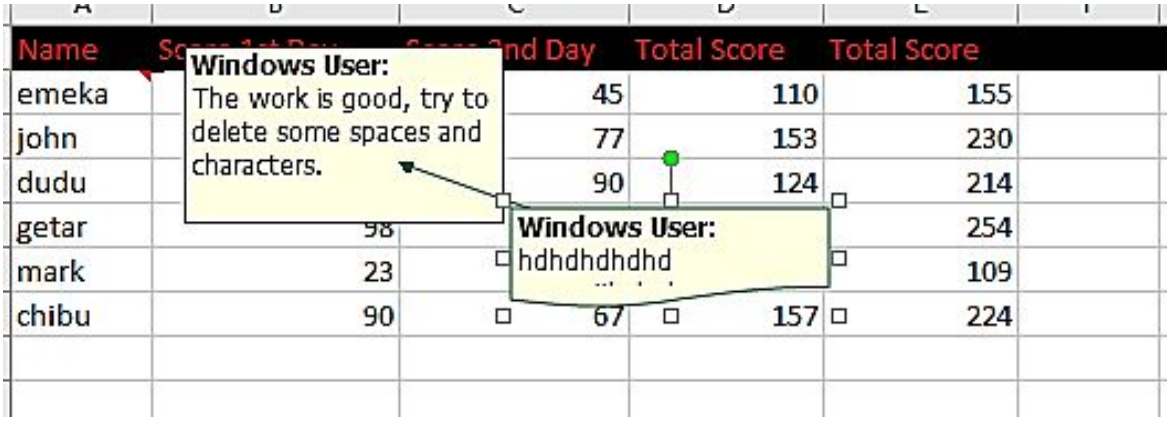


The shape icon will be accessible now. So, click on it. This will display a box that consists of different shapes. Select any shape.



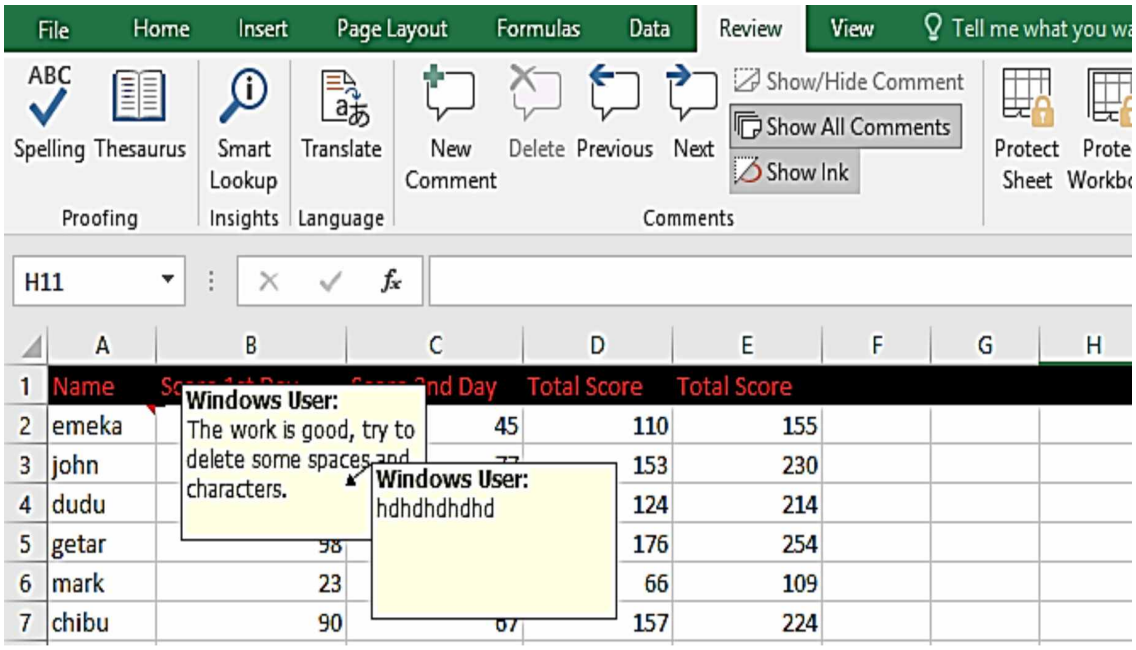
Resizing comments

Most times, when you change the shape of the comment box, the text inside will no longer fit into the comment box. You can solve this issue by resizing the comment box. To do this, click on the comment box, then click on the sizing angles around it (the small transparent boxes) and then drag it to the size you want.



Hiding and showing comments

Simply click on the **Review tab** and select **Show All Comments**.



To hide the comments, click on **Show All Comments** the second time.

Editing comments

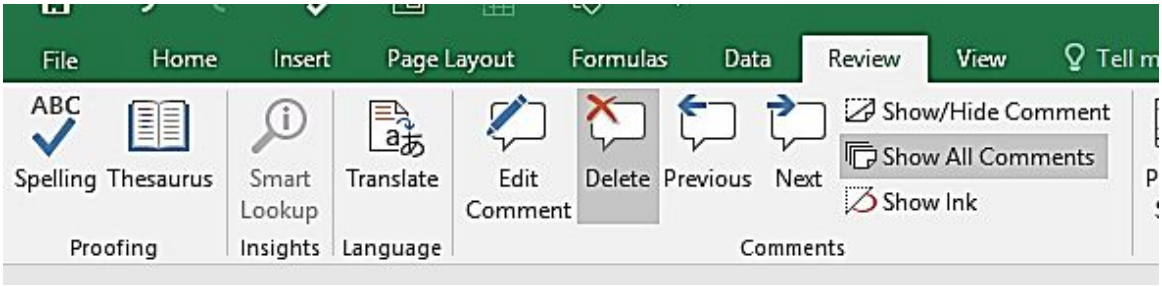
Right-click on the cell that has the comment on it and selects **Edit Comments**.

This opens up the comment box. Now, you can click on it and start making changes to it or you can right-click and select **Format Comment** to make more edits.

Deleting comments

You may not want a comment to be on a cell again and you want to delete it. Right-click on the cell, then select Delete Comments from the options.

Also, do this with the Review Tab. Select the **Delete icon**.



WORKING WITH TABLES

Microsoft Excel makes it simple to create tables and do computations. Its working area consists of a series of cells that must be filled with information. As a result, the information may be structured and utilized to create graphs, charts, and summary reports.

Working with tables in Excel may seem hard at first look to a novice. It varies significantly from Word's table creation concepts.

Understanding a table's structure

A table in excel consists of many elements which are explained below;

The header row

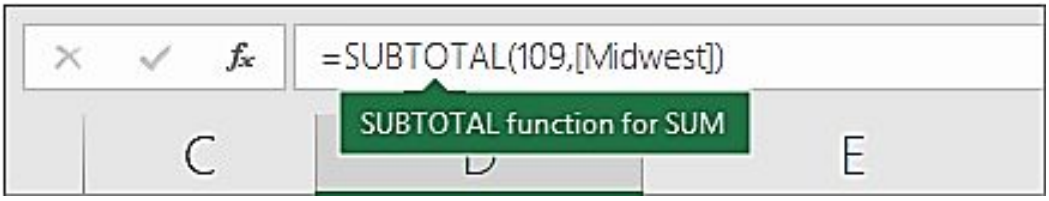
Every table in Excel consists of a header row. The columns in a table have filtering enabled in the header row. This is to enable you to filter your table as well as sort it easily.

Calculated columns

You may build a calculated column by inserting formula in one cell in a table column and having that formula automatically applied to all other cells in that table column.

The total row

When you add a total row to a table, Excel provides an AutoSum drop-down list from which you may choose among functions like SUM, AVERAGE, and others. When you choose one of these choices, the table will convert it to a **SUBTOTAL** function, which by default ignores rows that have been concealed by a filter. You may adjust the SUBTOTAL function parameters to include hidden rows in your computations.

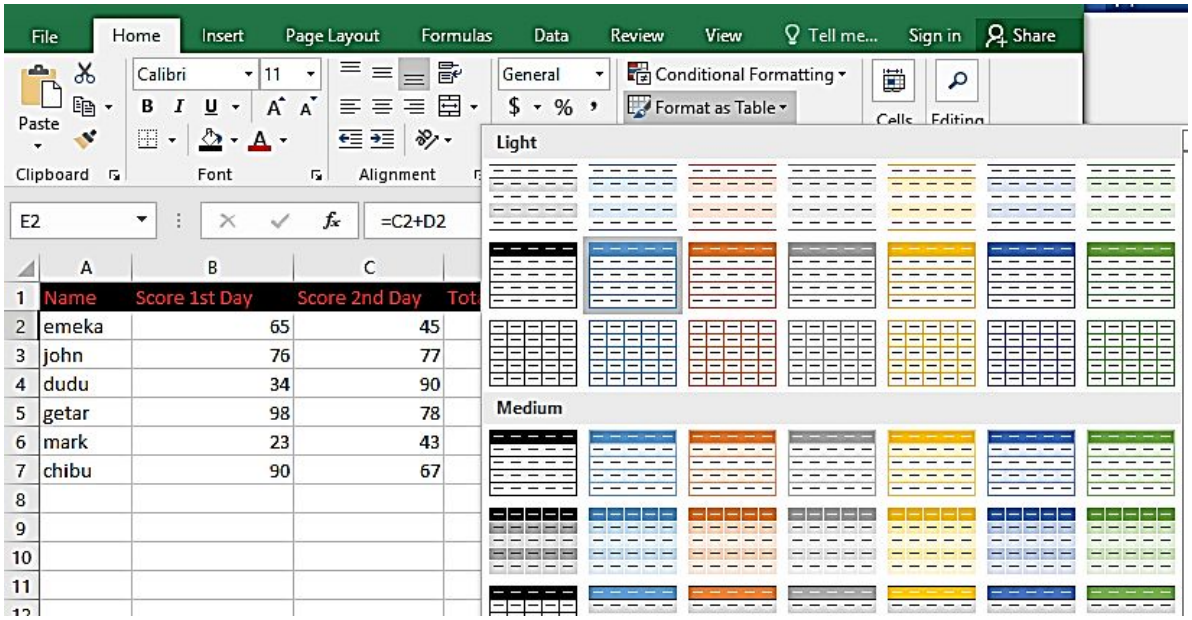


Creating a table

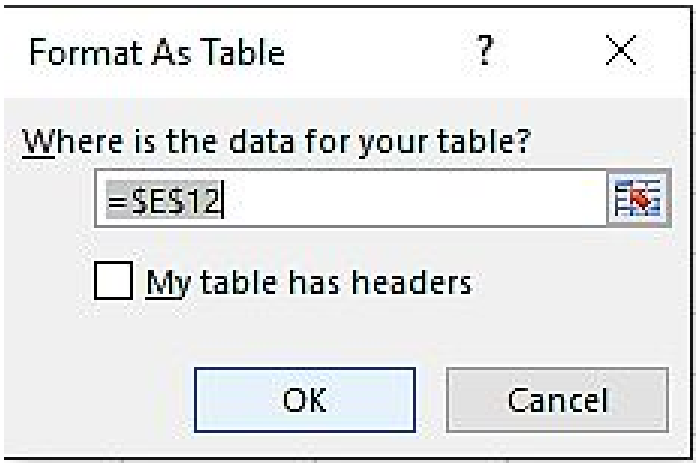
Tables in Excel are useful for providing data collections structure. It contains several useful features, such as data organization, headers, and applied filters. Tables may be accessed via the Insert menu tab or the shortcut key **Control key + T**. All we have to do now is choose the range of cells we want to include in the table. The Design tab, which appears when we pick the table, allows us to adjust table styles. Follow the steps below to create a table.

Choose the cell or range you want to create the table on.

Click on the Home tab, then click on **Format as Table**. This will display a menu that consists of some table styles. Choose any style you want.



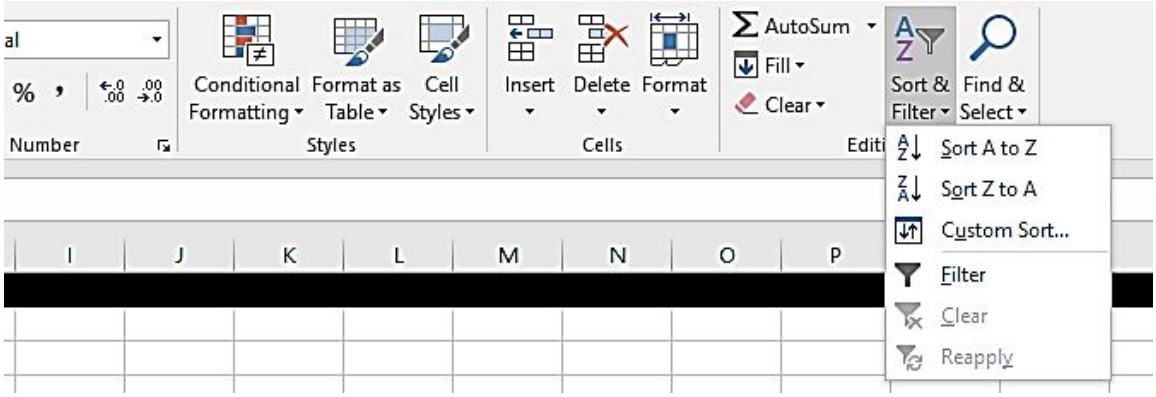
When you click on the style you want, a dialog box will open. Check the box on the My table as header (Checking this box makes the first row of the range the header row) and click Ok.



	A	B	C	D	E
1	Name	Score 1st Day	Score 2nd Day	Total Score	Total Score2
2	emeka	65	45	110	155
3	john	76	77	153	230
4	dudu	34	90	124	214
5	getar	98	78	176	254
6	mark	23	43	66	109
7	chibu	90	67	157	224

Sorting a table

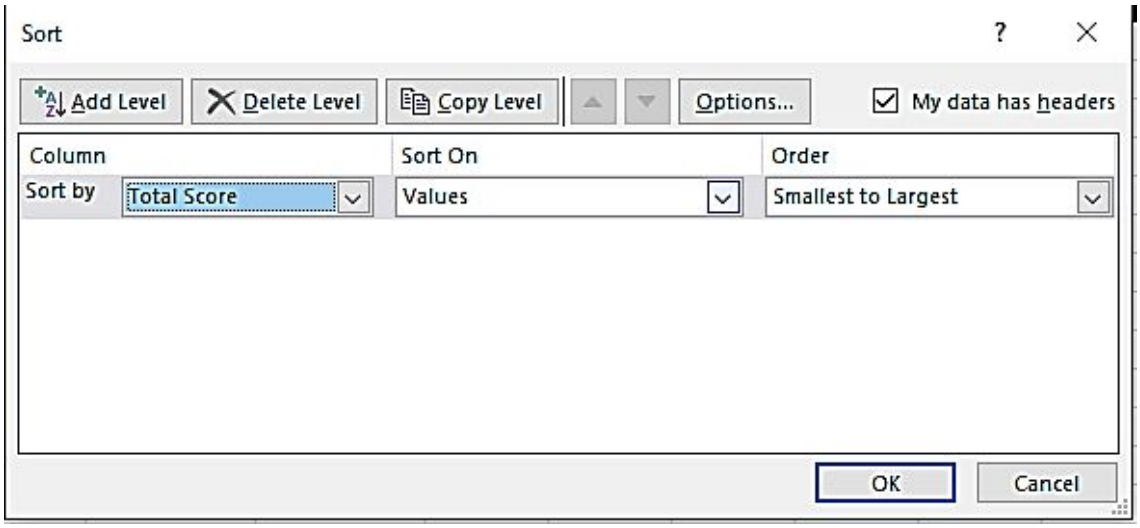
One of the most frequent data management tools is sorting. You may sort your table in Excel by one or more columns, ascending or descending order, or by performing a custom sort. First, click on the cell. Then, click on Sort & Filter.



You will have different sorting options.

- **Sort A to Z:** This is to sort in ascending order
- **Sort Z to A:** This is to sort in descending order
- **Custom Sort:** This is for applying various sort criteria in multiple columns.

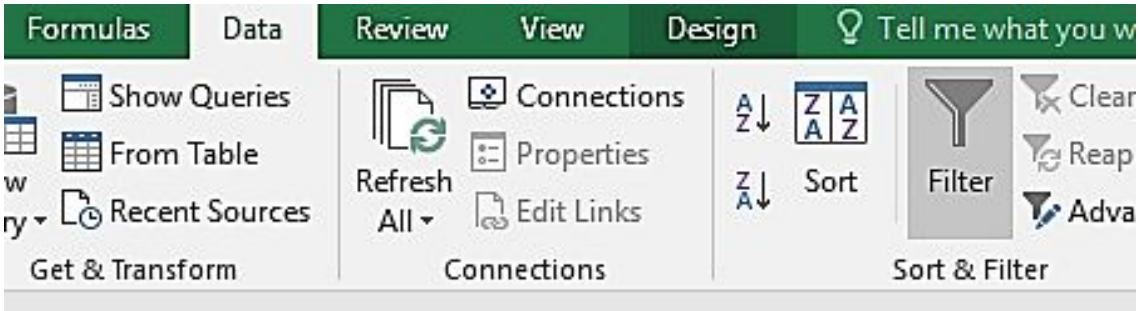
Click on **Custom Sort**, then click **Add Level**.



Then, enter in how you want it to be sorted. Once you are done, click Ok.

Filtering a table

Click on cell on your worksheet. On the ribbon, click on the Data tab, then select Filter.

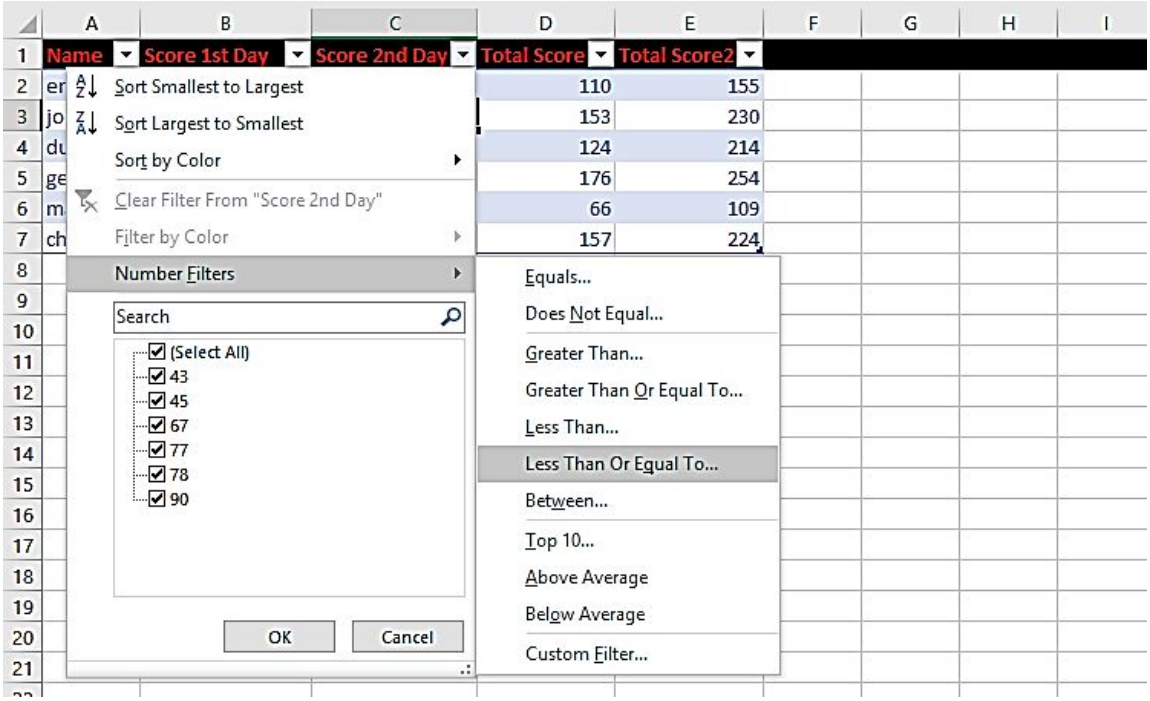


Now, click on the arrow on the column header.

Name	Score 1st Day	Score 2nd Day	Total Score	Total Score2
emeka	65	45	110	155
john	76		153	230
dudu	34	90	124	214
getar	98	78	176	254
mark	23	43	66	109
chibu	90	67	157	224

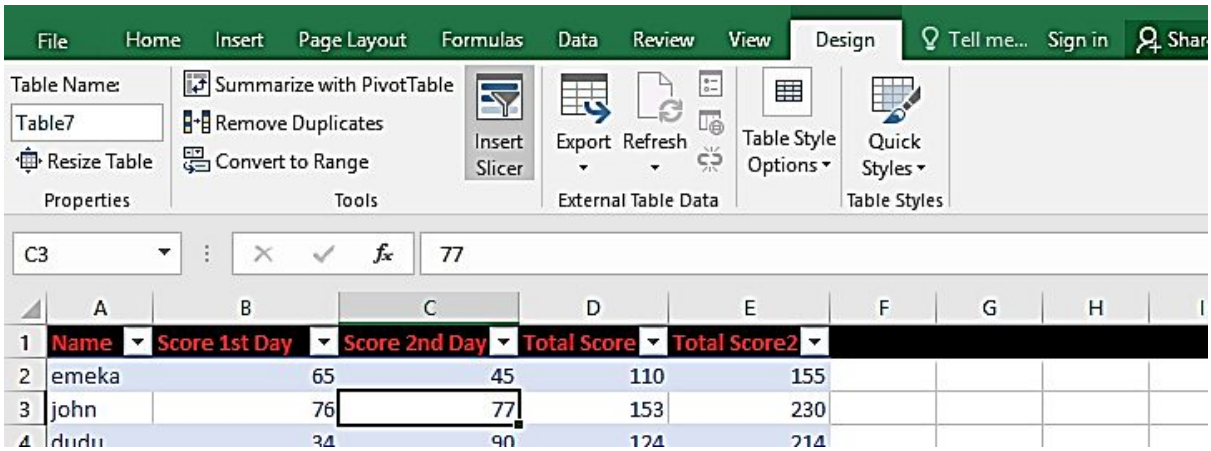
Score 2nd Day:
(Showing All)

Then, click on Number Filters. Select any filter option.

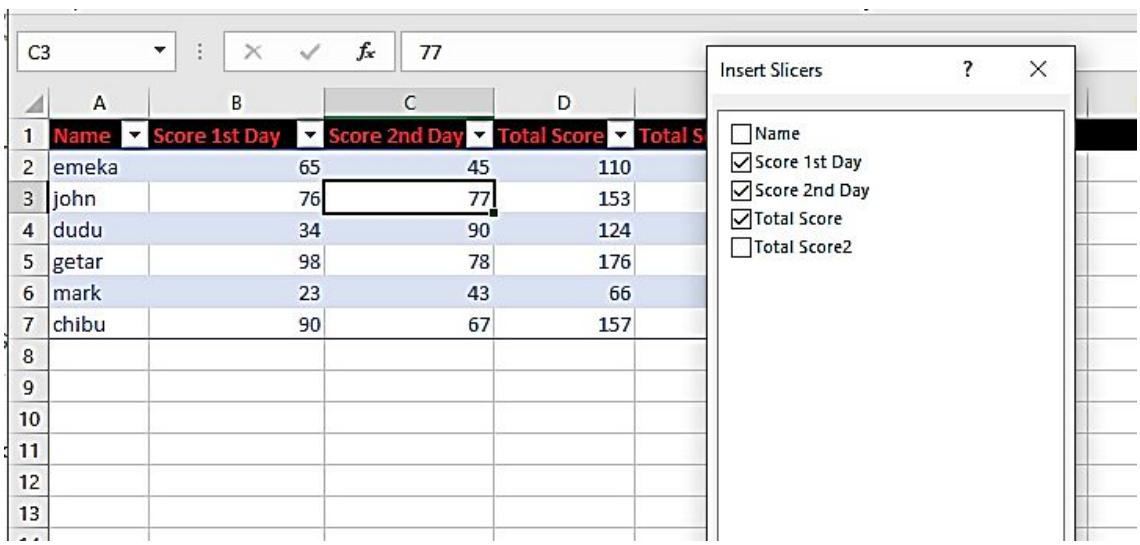


Filtering a table with slicers

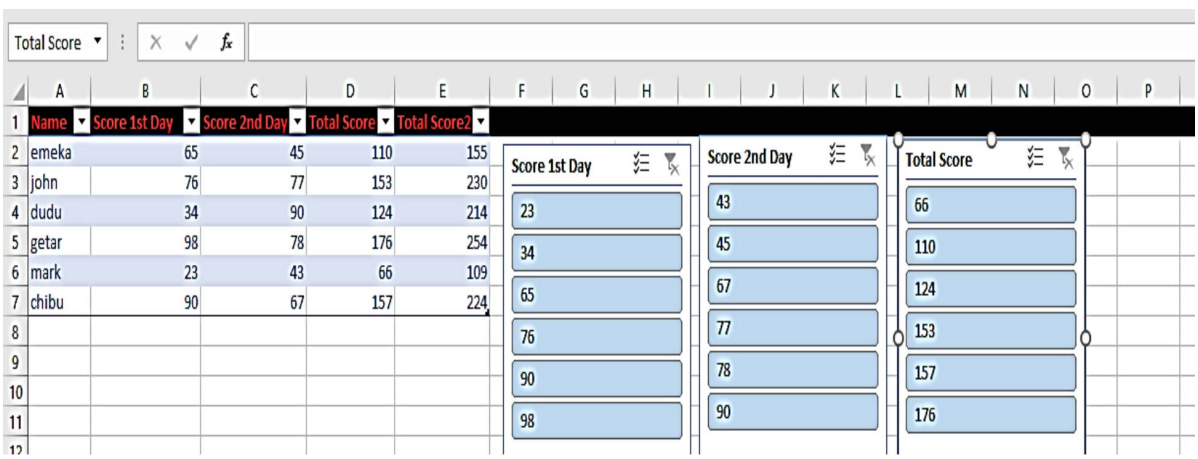
Adding Slicer filters to your tables may dramatically boost the usability of tables by allowing you to filter table data more quickly and simply. Choose the table for filtering. Then, click on Insert Slicer. You can find the Insert Slicer on the Design tab on the ribbon.



When you click on Insert Slicer, it opens up a dialog box. On it, you are to check the boxes of the field in the table in which you want to filter with a slicer.



Then, click Ok.

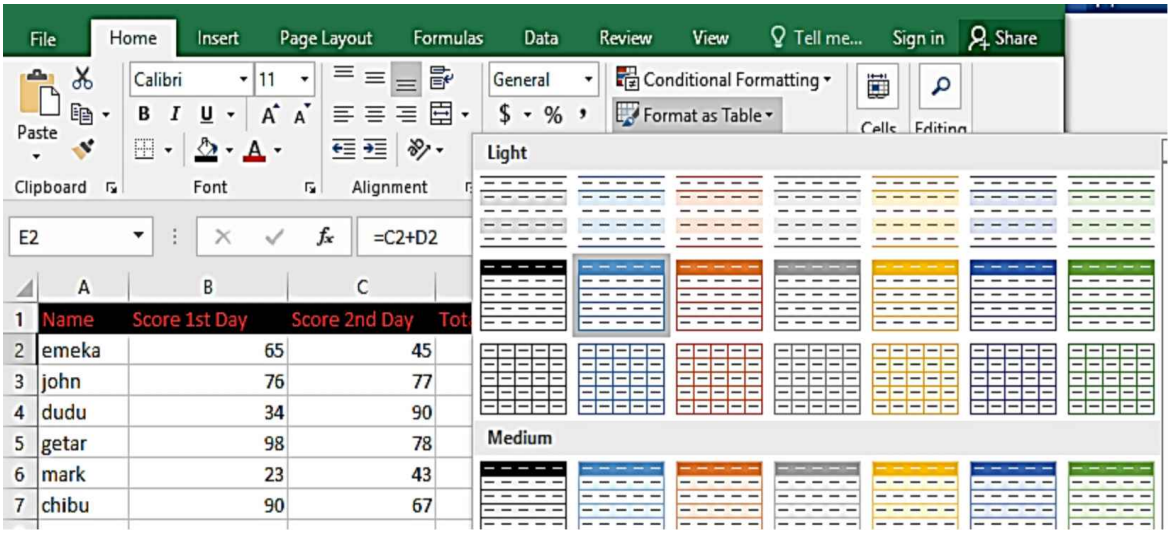


Tables are among Excel's most powerful features, but when you add Slicer filters to them, you significantly increase their use by allowing you and your team to swiftly filter tables without having to utilize the typical drop-down filter environment.

Changing the table's appearance

What's the first thing you'd want to do with an Excel table once you've generated it? Make it appear just how you want it to!

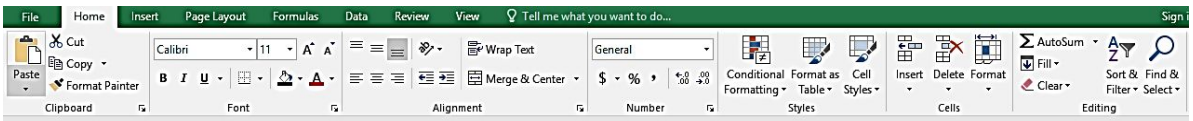
To do this, simply select the table, click on the **Home** tab, then click on **Format as Table**. This will display a menu that consists of some table styles. Choose a style.



CHAPTER FIVE

FORMATTING WORKSHEETS

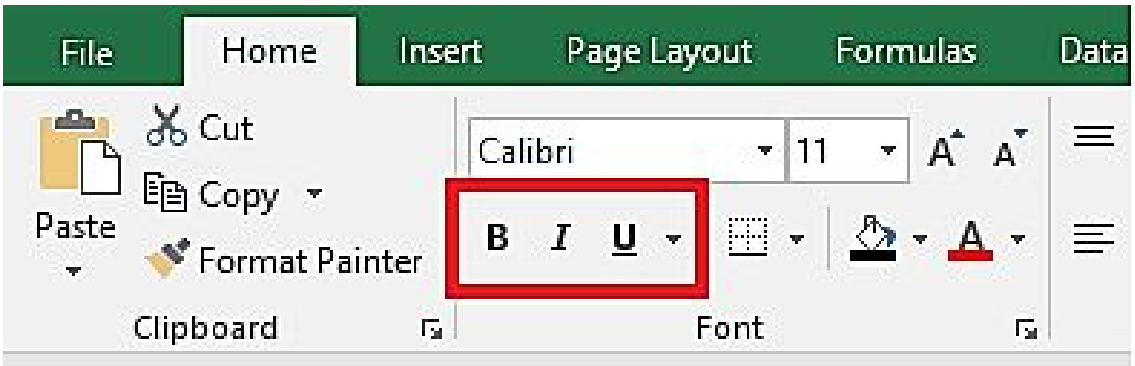
GETTING TO KNOW THE FORMATTING TOOLS



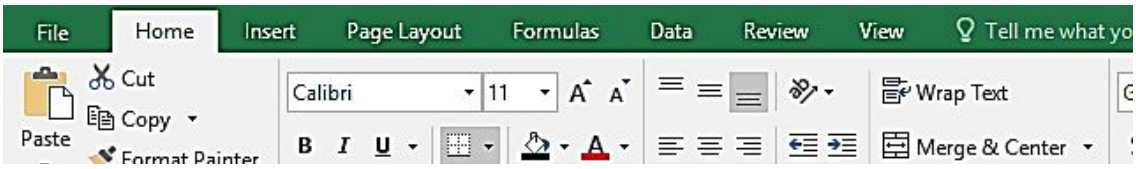
Using the formatting tools on the Home tab

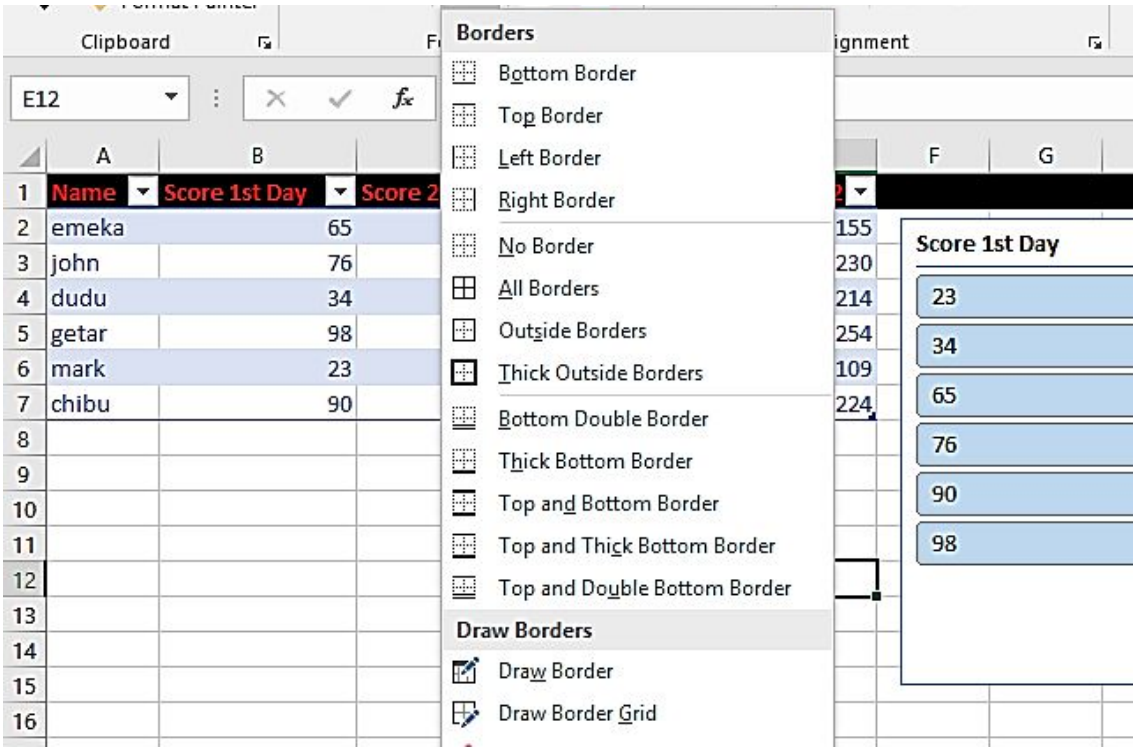
When you're thinking about how to design a spreadsheet, it's helpful to know what tools you have at your disposal. What tools alter the appearance of a worksheet?

Italic, Underline, and Bold: These three tools are fundamental options. You see them almost in any text editing tool. Just highlight the text or sentences and click on any of these tools.



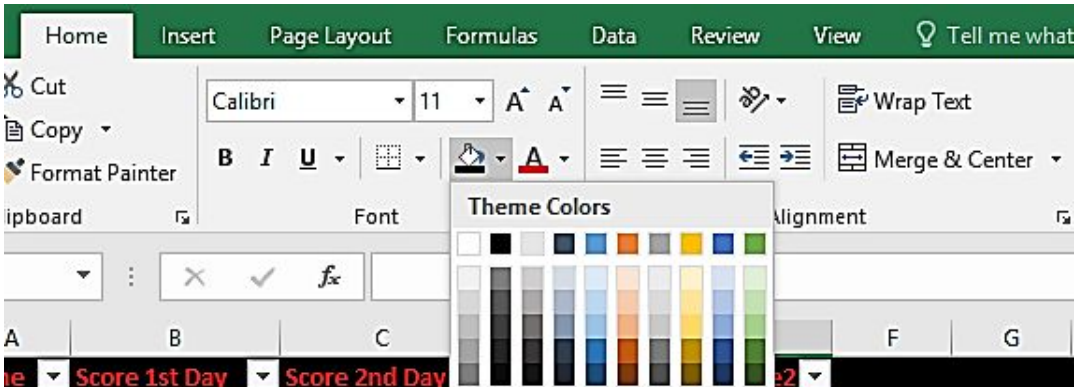
Borders: Borders are useful for segmenting your data and separating it from other portions in your worksheet. The border tool in Excel can create a variety of borders, but it might be difficult to use at first. Begin by highlighting the cells to which you wish to apply a border. Select one of the built-in styles from the Borders dropdown menu.

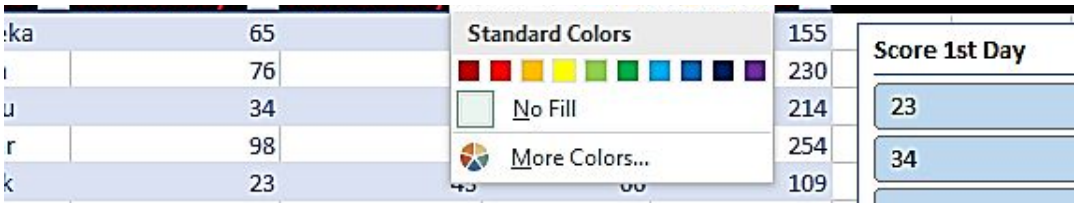




Shading: Shading, commonly known as **fill**, is a color applied to the cell's backdrop. To apply shading to a cell, click and highlight the cells you wish to shade.

Then, on the Font tab of the Home ribbon, click the arrow next to the paint bucket option. To apply a color to a cell, choose one of the several color thumbnails. I'll also utilize the **More Colors** option to launch a full-featured color choosing window regularly. The easiest way to make writing legible is to use light tones.



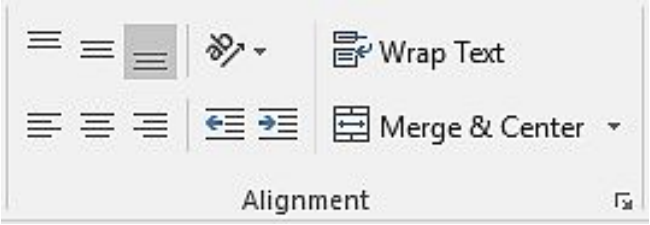


You may use shading to emphasize important data once again. One suggestion is to utilize a constant fill depending on the data of the cell, such as blue for every "input" field where you manually enter data, as I indicated previously.

Don't go overboard with the shading. When you apply too many of these to your cells, it detracts from the information provided in the spreadsheet.

Alignment: How the contents of a cell are aligned to the edges is referred to as alignment. Text may be aligned to the left, center, or right. In a cell, content is left-aligned by default. When working with huge data sets, you may wish to experiment with alignment to improve readability.

Text on the left border of a cell is a regular change I make, whereas numeric quantities should be right-aligned. Also, when column headings are centered at the top, they look fantastic.

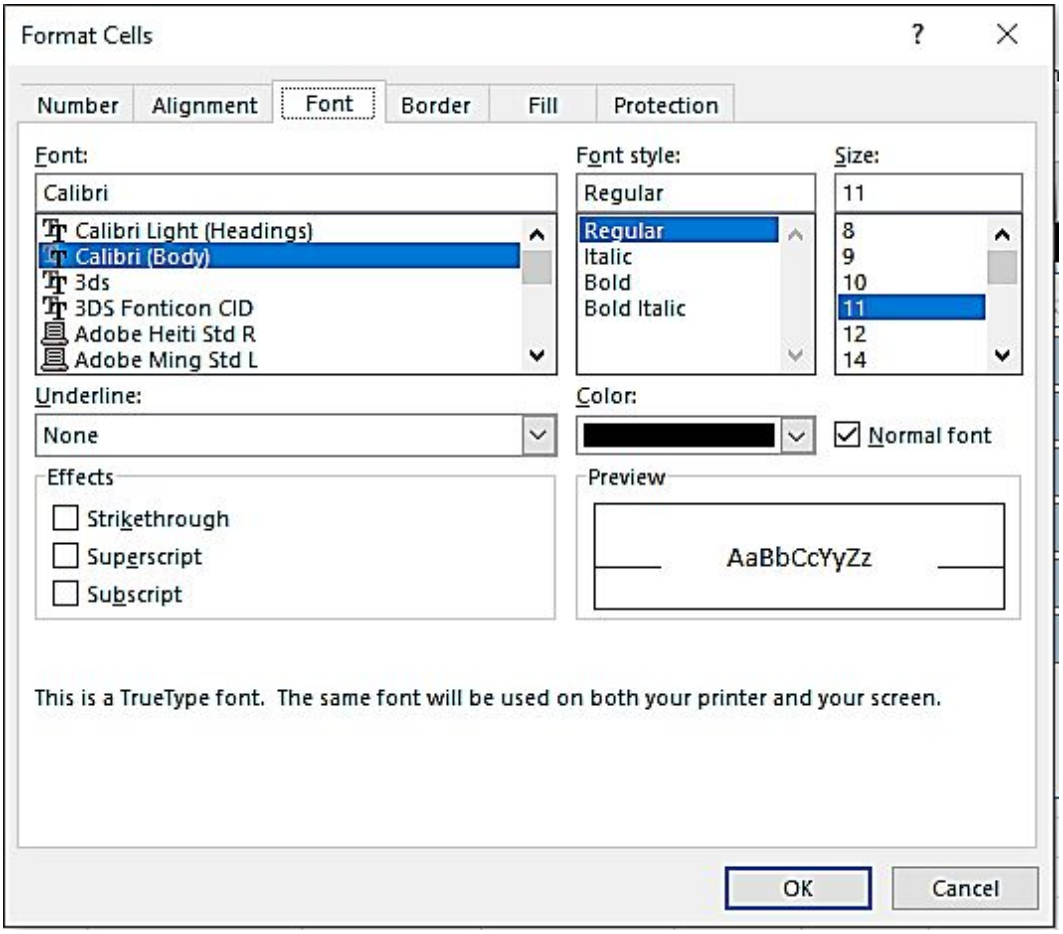


The three alignment buttons on the Alignment tab of Excel's Home ribbon may be used to change alignment. You may also modify whether the content aligns towards the top, middle, or bottom of the cell by aligning it vertically.

Using the Format Cells dialog box

When formatting a cell value from General to Number, Accounting, Currency, etc., Format Cells is mostly used to do this. Format Cells allow us to modify the formatting of a cell number without affecting the actual number. We may modify the quantity, alignment, font style, Border style, Fill options, and Protection in Format cells.

Also, use **Control key + 1** to open it. You can also use the **Shift key + F10** as well as right-clicking on the cell you want to format and select Format Cells. On the Format Cell box, you will see six tabs which are **Number, Font, Border, Fills, Protection, and Alignment.**



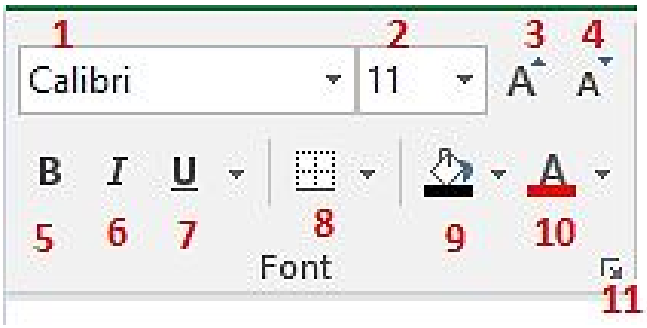
Simply select the cell or range. Press the shortcut keys listed above, open the box, and then click on any of the tabs depending on your format style. Once you are done, click Ok.

Formatting your worksheets

Worksheets are often dismissed as dull, utilitarian tools. They are, without a doubt, quite helpful for organizing data and doing computations. That doesn't mean we can't add some flair to our spreadsheets with some Excel styling.

When we format a worksheet correctly, it gives a second layer of significance to it. Formatting isn't a haphazard process; it's a technique of applying certain styles to indicate the kind of data in a cell.

Using fonts to format your worksheet



1. **Font** — Changes the font of the currently selected cell (s). Fonts are several methods of displaying the same letters.

2. **Font Size** – Controls the text size (the font). Font size is proportional to the size of the number. In this box, you may write a custom size. You may use the numbers 1 through 409 in Excel, including half sizes.

3. **Change Font Size** – Increases the font size.

4. **Reduce Font** – Reduces the font size.

5. **Bold** – Highlights the chosen cell(s). Control key +-B and Control key +-2 are shortcut keys.

6. **Italic** – Italicizes the chosen cell(s). Control key +-I and Control key +-3 are shortcut keys.

7. **Underline** — Highlights the chosen cell(s). Control key +-U and Control key +-4 are shortcut keys.

8. **Borders** – For the specified cell, add and remove borders (s). The down arrow will bring up a large list of border options. Click **More Borders**... for more border options.

9. **Fill Color** – Changes cell background color. The cells have "**No Fill**" by default.

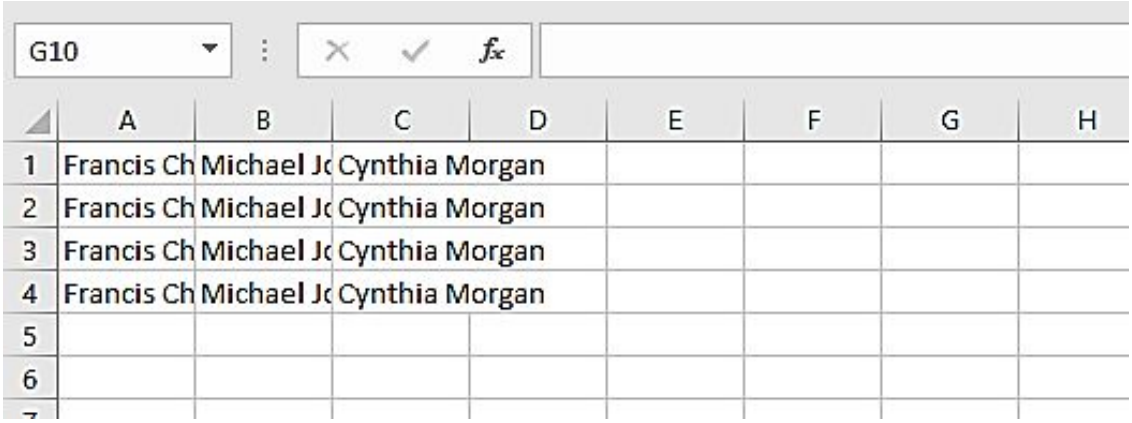
10. **Font Color** — Modifies the font color

11. **Format Cells** — This button brings up the dialog box.

Wrapping or Shrinking text to fit the cell

When text does not fit inside a cell and overflows to nearby cells, or even when text extends to the next cell, this is one of the problems encountered by Excel users.

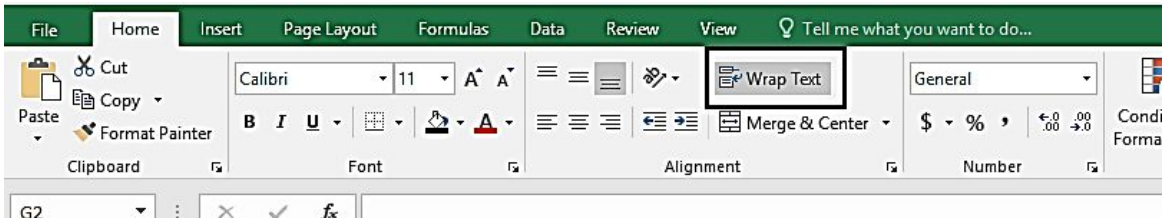
Furthermore, when there is material in the neighboring column, Text is sometimes cut-off. Because of the column's narrow width, all of the contents of the cells are not visible in the image below, however, you may always change the width. You'll also come across hyperlinks that don't fit in the cell.



Purpose of Wrap Text

Wrap Text ensures that all of the texts in a cell remain inside the cell's bounds, ensuring that all of the cell's contents are visible to readers. So, to do this, simply

Click on the Cell(s) or Range. On the Home tab, on the Alignment group, click on the Wrap Text option.



	A	B	C	D	E	F	G	H	I	J	K	L
1	Francis Chikamso	Michael Jobson	Cynthia Morgan									
2	Francis Chikamso	Michael Jobson	Cynthia Morgan									
3	Francis Chikamso	Michael Jobson	Cynthia Morgan									
4	Francis Chikamso	Michael Jobson	Cynthia Morgan									

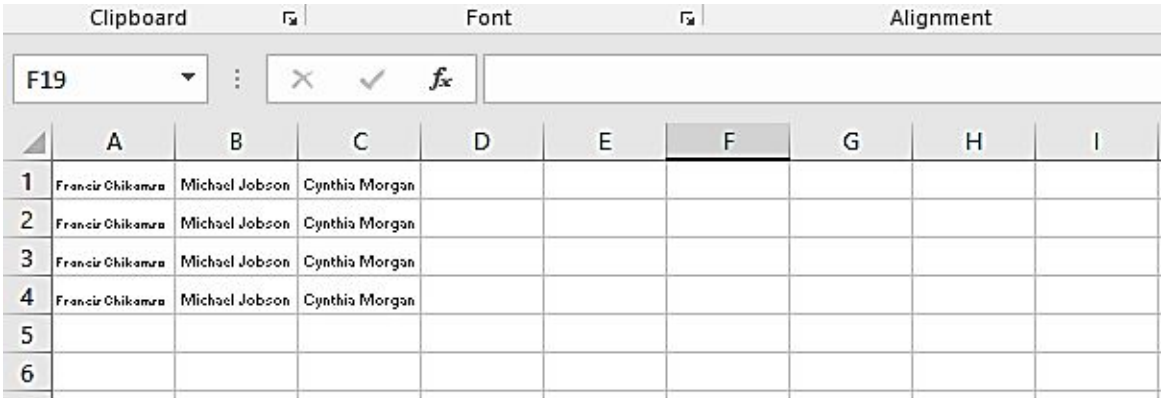
The breadth of the cell remains constant, but the cell is made taller than previously to ensure that all contents are contained inside the body of cells. As a consequence of this operation, the text in Excel will move down rather than across.

Shrinking text

Consider the case when you don't want to raise the cell size horizontally or vertically to fit the text inside the cell boundaries. You may utilize Excel's **'Shrink the text'** option in such cases. To use this, the first thing you are to do is to unwrap the text you have wrapped. Select the cell and click on **Wrap Text**.

Right-click on the cell or range.

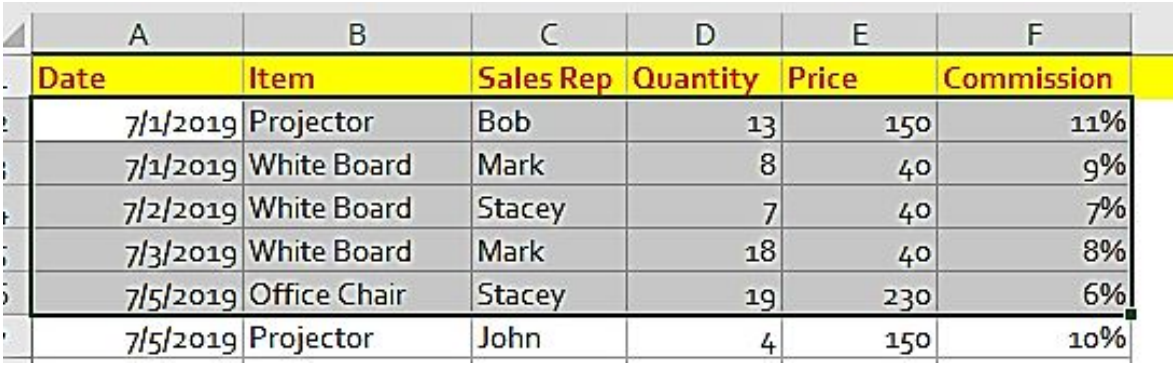
Click on **Format Cell**. On the Alignment, tab selects the box **Shrink to fit**.



Do you notice how the type size of the contents in the cell changed? This effect will not affect the cell boundaries; width and height of the cell.

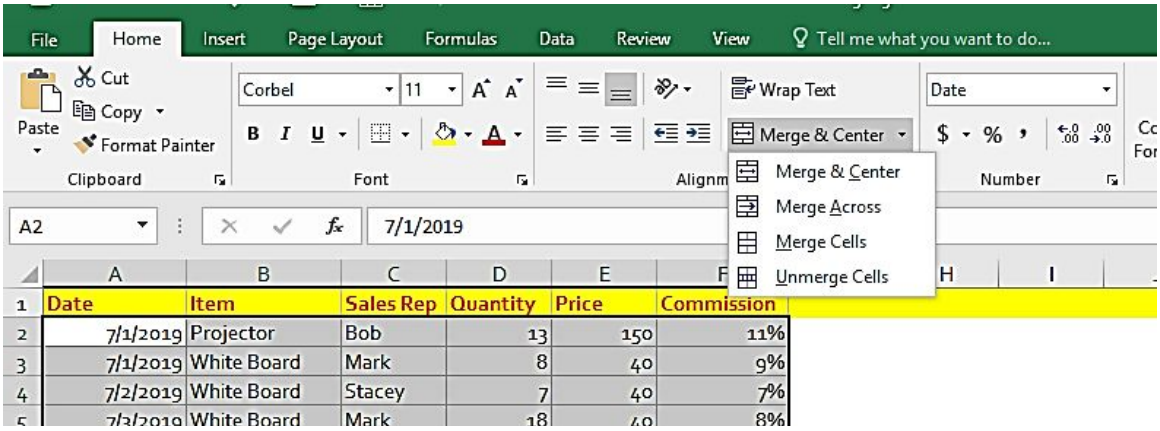
Merging worksheet cells to create additional text space

Once you have opened your worksheet, choose the cells for merging.



Date	Item	Sales Rep	Quantity	Price	Commission
7/1/2019	Projector	Bob	13	150	11%
7/1/2019	White Board	Mark	8	40	9%
7/2/2019	White Board	Stacey	7	40	7%
7/3/2019	White Board	Mark	18	40	8%
7/5/2019	Office Chair	Stacey	19	230	6%
7/5/2019	Projector	John	4	150	10%

Select **Merge & Center** on the Home tab. This will merge the cells and will center the content. Click the down arrow on the **Merge & Center** option to see other merging options.

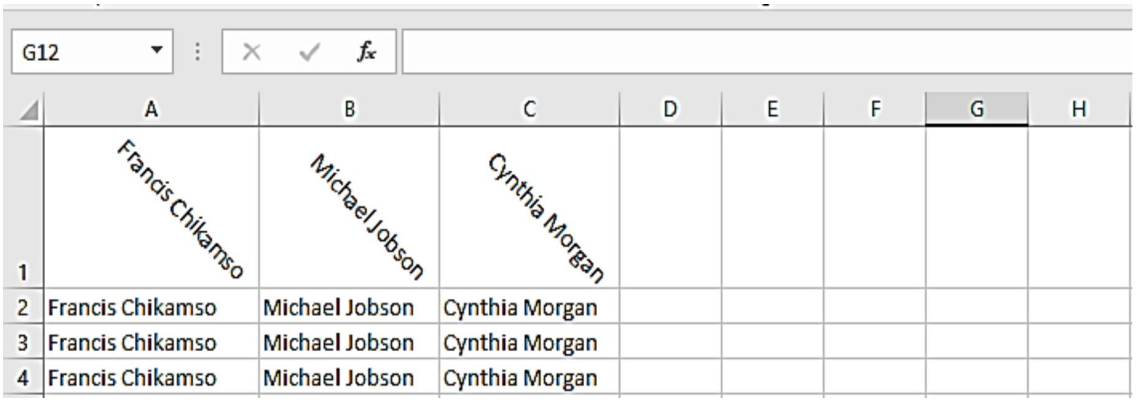


6	7/5/2019	Office Chair	Stacey	19	230	6%
7	7/5/2019	Projector	John	4	150	10%
8	7/8/2019	Printer	Bob	9	80	6%

Displaying text at an angle

Using an angle for your text, particularly for column and row headings, maybe aesthetically pleasant. You may swiftly rotate the text in either a clockwise or counterclockwise direction. Simply follow the steps below;

- Click on the cell or range of cells.
- Click on the down arrow near the **ab** (with an arrow below) symbol in the alignment group.
- Choose either **Angle Counterclockwise** or **Angle Clockwise** from the top two choices.



Using colors and shading

First, select the cells, then press **Control key + 1** to launch the Format Cells dialog.

Click the **Font tab.** After choosing font color, click ok. In the image below, I changed the color of the Total Score 2 column to blue.

	A	B	C	D	E	F
1	Name	Score 1st Day	Score 2nd Day	Total Score	Total Score2	
2	emeka	65	45	110	155	
3	john	76	77	153	230	
4	dudu	34	90	124	214	
5	getar	98	78	176	254	
6	mark	23	43	66	109	
7	chibu	90	67	157	224	

To fill the cells with color, select the desired cells. Launch the format cells dialog box. Click on the **Fill** tab and select a color, then click **Ok**. This formatting draws attention to the column headings and the data in the total score column.

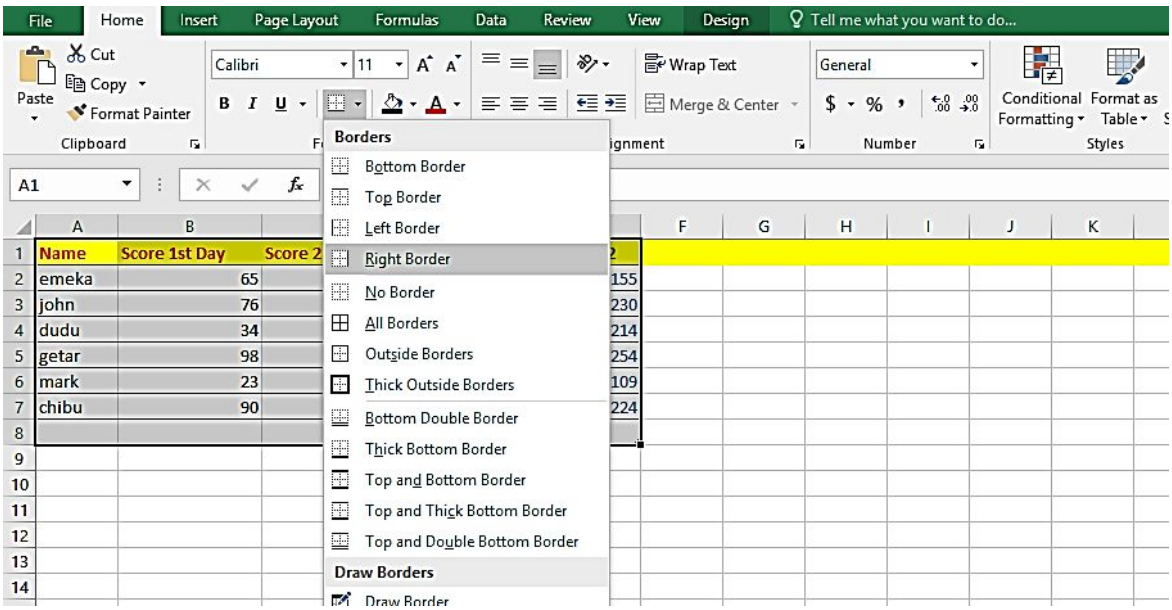
I13

	A	B	C	D	E	F	G
1	Name	Score 1st Day	Score 2nd Day	Total Score	Total Score2		
2	emeka	65	45	110	155		
3	john	76	77	153	230		
4	dudu	34	90	124	214		
5	getar	98	78	176	254		
6	mark	23	43	66	109		
7	chibu	90	67	157	224		
8							
9							
10							
11							

Adding border lines

Highlight the cells. Click on the drop-down arrow.

So, select the kind of border you want to add and where you want to add it.



Using conditional formatting

In Excel, conditional formatting is used to emphasize data based on certain conditions. It would be tough to see different patterns merely by looking at your Excel worksheet. In Excel, conditional formatting allows you to visualize data and make spreadsheets more understandable. It enables you to add formatting to cell values such as colors, icons, and data bars based on the cell values.

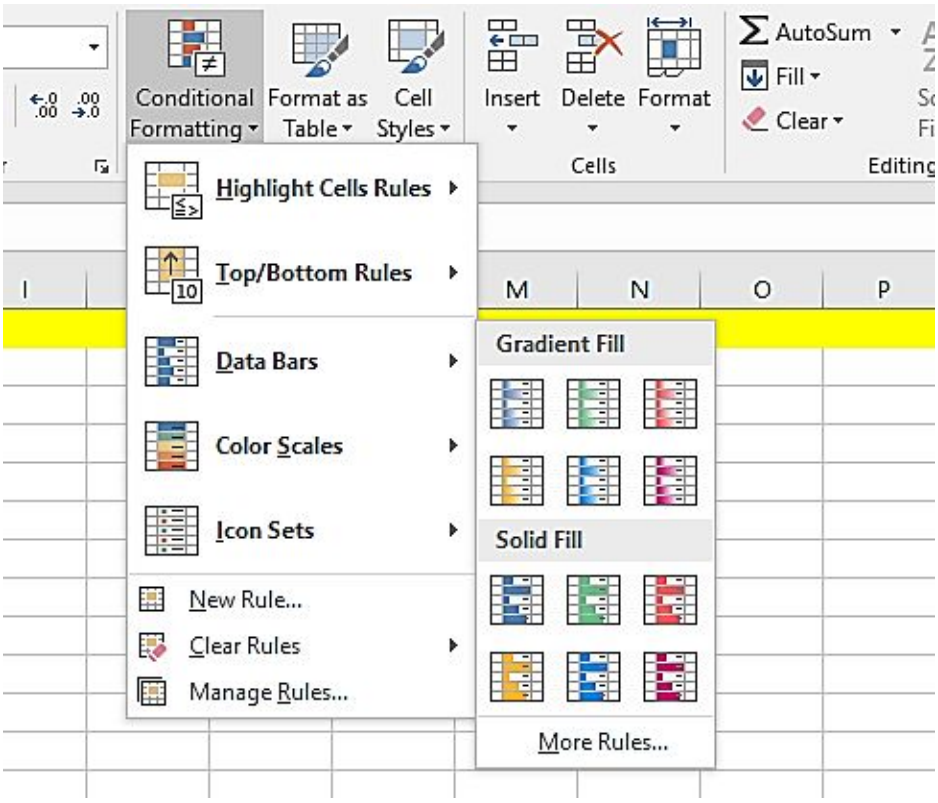
It makes it simple to scan your data and check for vital signs graphically. With numerical data, conditional formatting works best. Simply choose a column of data and make sure you're on the Home tab of Excel's ribbon to get started. From the Conditional Formatting dropdown menu, you may choose from a variety of styles. Each of the formats your cells in a different way, but they all adjust to the cells you've highlighted.

Using graphical conditional formats

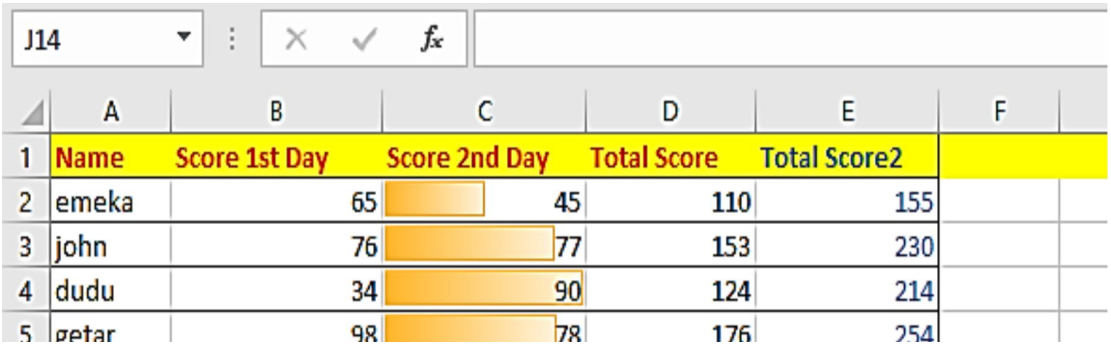
Data bars, color scales, and icon sets are the three conditional formatting choices for displaying graphics. These sorts of conditional formatting might help you see a range of numbers.

Using data bars

Horizontal bars are shown directly in the cell using the data bars conditional format. The length of the bar is determined by the cell's value in comparison to the other values in the range. To do this, simply select the column or row. Click on **Conditional formatting** and select Data bars which will display a list of different data bars for you to select from.



Pick one and the effect will be applied on your worksheet.



	A	B	C	D	E	F
1	Name	Score 1st Day	Score 2nd Day	Total Score	Total Score2	
2	emeka	65	45	110	155	
3	john	76	77	153	230	
4	dudu	34	90	124	214	
5	getar	98	78	176	254	

6	mark	23	43	66	109
7	chibu	90	67	157	224
8					

Surprisingly, the colors used for data bars are not theme colors if you pick one of the 12 data bar types. The data bar colors do not change when you alter the document theme. However, if you use the New Formatting Rule dialog box to add the data bars, the colors you pick are theme colors.

Using color scales

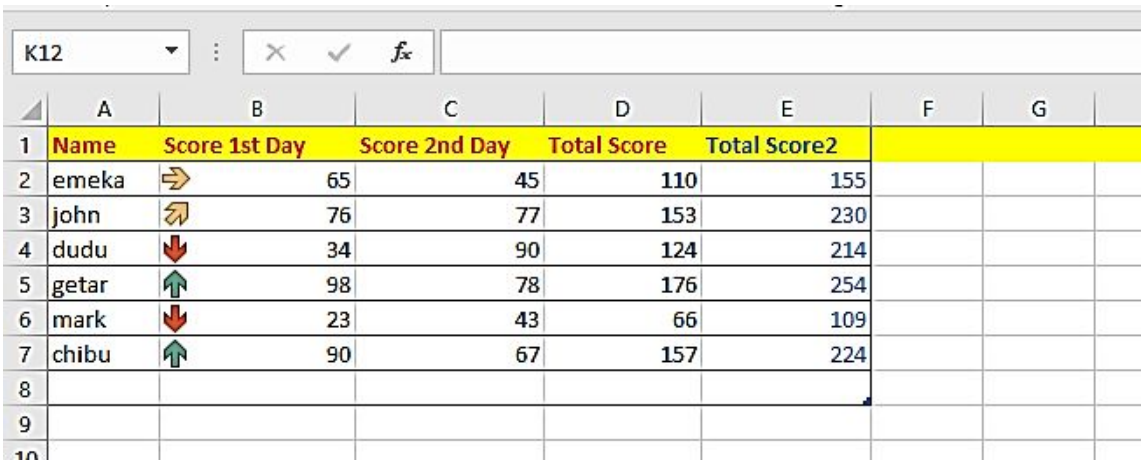
Select the column or row. Click on **Conditional formatting** and select Color Scales which will display a list of different color scales for you to select from. Select one and it will be applied to your worksheet.

M6

	A	B	C	D	E	F
1	Name	Score 1st Day	Score 2nd Day	Total Score	Total Score2	
2	emeka	65	45	110	155	
3	john	76	77	153	230	
4	dudu	34	90	124	214	
5	getar	98	78	176	254	
6	mark	23	43	66	109	
7	chibu	90	67	157	224	
8						

Using icon sets

Select the column or row. Click on **Conditional formatting** and select **Icon Sets** which will display a list of different icon sets for you to select from. Select one and it will be applied to your worksheet.



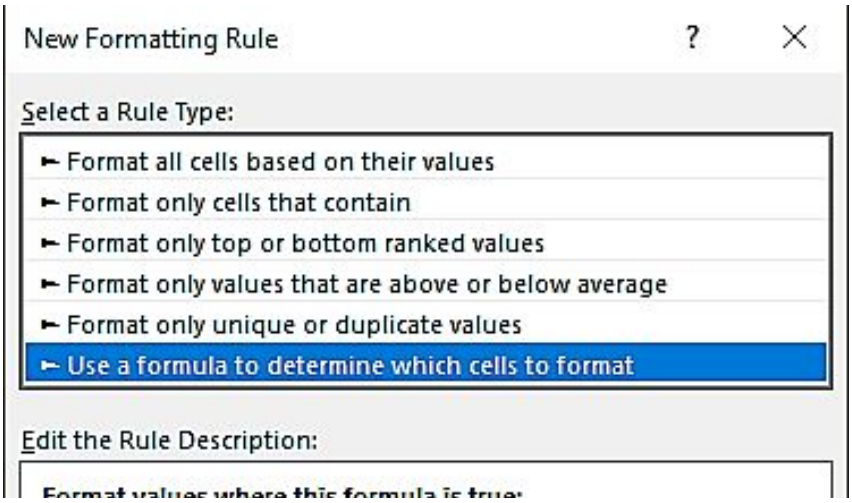
	A	B	C	D	E
1	Name	Score 1st Day	Score 2nd Day	Total Score	Total Score2
2	emeka	65	45	110	155
3	john	76	77	153	230
4	dudu	34	90	124	214
5	getar	98	78	176	254
6	mark	23	43	66	109
7	chibu	90	67	157	224

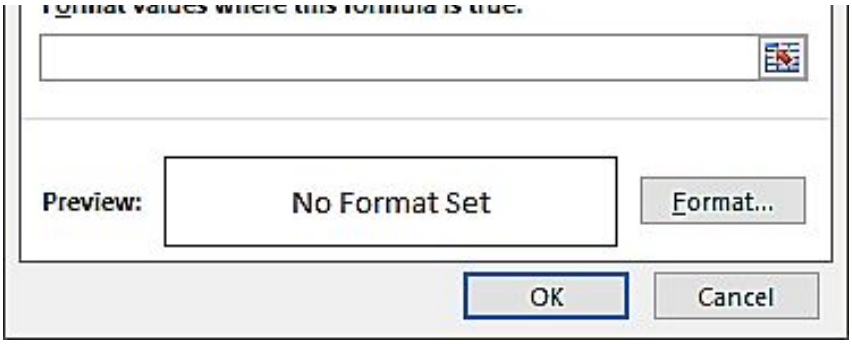
Creating formula-based rules

Formulas are a more powerful technique to apply conditional formatting since they enable you to apply rules based on any reasoning. Excel comes with a plethora of "presets" that makes it simple to establish new rules without having to use formulae.

Although Excel comes with several "presets" for conditional formatting, they are restricted. You may, however, construct rules using your unique formulae. You may take over the situation that activates a rule and apply precisely the reasoning you need by creating your formula. Formulas provide you with the greatest amount of power and versatility.

To create formula-based rules, simply choose the cells. Then, on the Home tab, click on Styles > Conditional Formatting > New Rule. This will open up the new formatting rule dialog box. Click on the **Use a formula to determine which cells to format** option, and then type in the formula.





The formula has to be logical. It must return either TRUR or FALSE. When it is true, the conditional formatting will apply but when it is false, it will not apply. Note that the formula must start with an **equal to (=)** sign.

Understanding relative and absolute references

There are several types of cell references in Excel formulas, some of which we have listed below.

Absolute cell references: (Those preceded by a $ sign, such as $A$1) are always consistent, regardless of where they are copied.

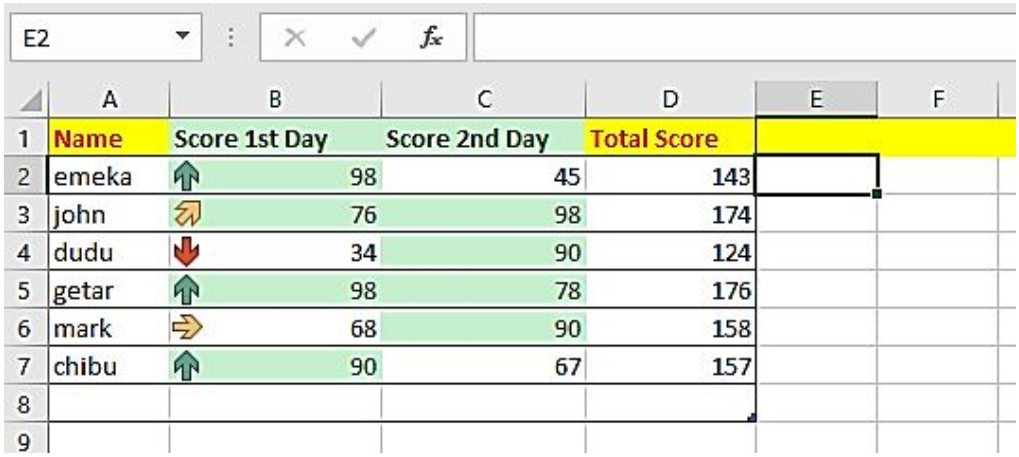
Relative cell references: (Those without the $ sign, such as A1) alter depending on the relative location of the rows and column when replicated over several cells.

Mixed cells references: This is the absolute column and relative row ($A1), or relative column and absolute row (A$1). These are mostly used in conditional formatting rules to indicate that a column letter or row number should be fixed when a rule is applied to all other cells in the chosen range.

In conditional formatting rules, cell references are tied to the specified range's top-left most cell. Simply create a formula for the top-left cell when establishing a new rule, and Excel would "**replicate**" your formula to all of the other cells in the given range.

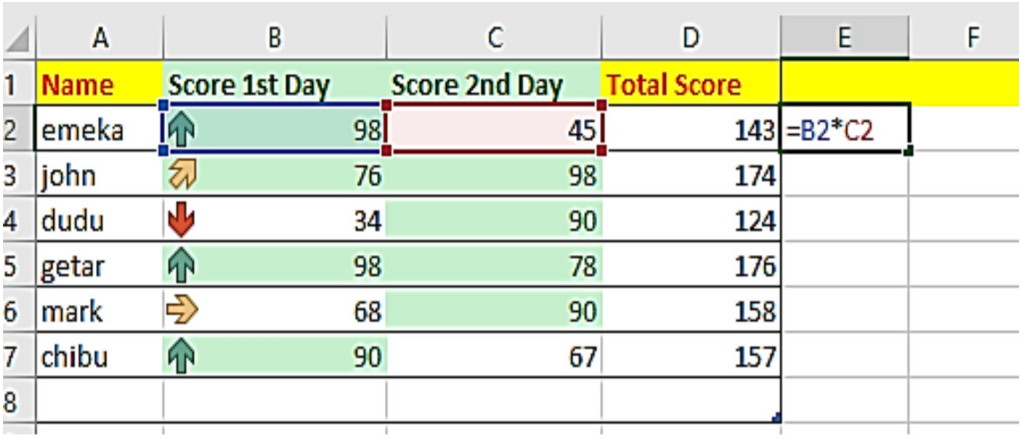
Relative references: Every cell references are a relative reference by default. When you copy them on many cells, they will adjust depending on the relative location of the columns and rows. Now, let's create a formula and copy it using relative references.

From the image below, we will create a formula that will multiply the student's score on the first day by the student's score on the second day. So, we will create the formula in cell E2. So first, select cell E2.



	A	B	C	D	E	F
1	Name	Score 1st Day	Score 2nd Day	Total Score		
2	emeka	98	45	143		
3	john	76	98	174		
4	dudu	34	90	124		
5	getar	98	78	176		
6	mark	68	90	158		
7	chibu	90	67	157		
8						
9						

On the cell, we will put in the formula which will calculate it for us. The formula here is **=B2*C2**.



	A	B	C	D	E	F
1	Name	Score 1st Day	Score 2nd Day	Total Score		
2	emeka	98	45	143	=B2*C2	
3	john	76	98	174		
4	dudu	34	90	124		
5	getar	98	78	176		
6	mark	68	90	158		
7	chibu	90	67	157		
8						

After typing in the formula, press Enter. Now, drag the fill handle to the last cell on the column. This will copy the formula to the cells with relative

references and fill in the rest of the column with the calculated answer.

When you double-click on the cells, you will see their formula. The relative cell references will differ from each other (that depends on their rows).

	A	B	C	D	E
1	Name	Score 1st Day	Score 2nd Day	Total Score	Column1
2	emeka	98	45	143	4410
3	john	76	98	174	7448
4	dudu	34	90	124	=B4*C4
5	getar	98	78	176	7644
6	mark	68	90	158	6120
7	chibu	90	67	157	6030

Absolute references

Maybe you may not want your cell reference to change when it is copied to other cells. In relative references, it changes, while absolute references don't change when it's copied. You use this to make your row or column remain constant.

Conditional formatting formula examples

Assume you choose the range A1:B10 and want to apply formatting to any cells in the range that are greater than the value in cell C1. Fill in the following conditional formatting formula:

=A1>$C$1

The reference to cell C1 in this example is absolute; it will not be altered for the cells in the chosen range. To put it another way, the conditional formatting formula for cell A2 is as follows:

=A2>$C$1

The absolute cell reference is not changed, but the relative cell reference is.

After choosing the Use a Formula to Determine Which Cells to Format rule type, each of these examples employs a formula written directly into the New Formatting Rule dialog box. You get to choose the sort of conditional formatting you want to use.

Identifying weekend days

Although Excel has a variety of conditional formatting rules for dates, it does not allow you to identify dates that fall on a weekend. To get weekend dates, use the following formula:

=OR(WEEKDAY(A1)=7,WEEKDAY(A1)=1)

This formula supposes that you've chosen a range and the active cell here is cell A1

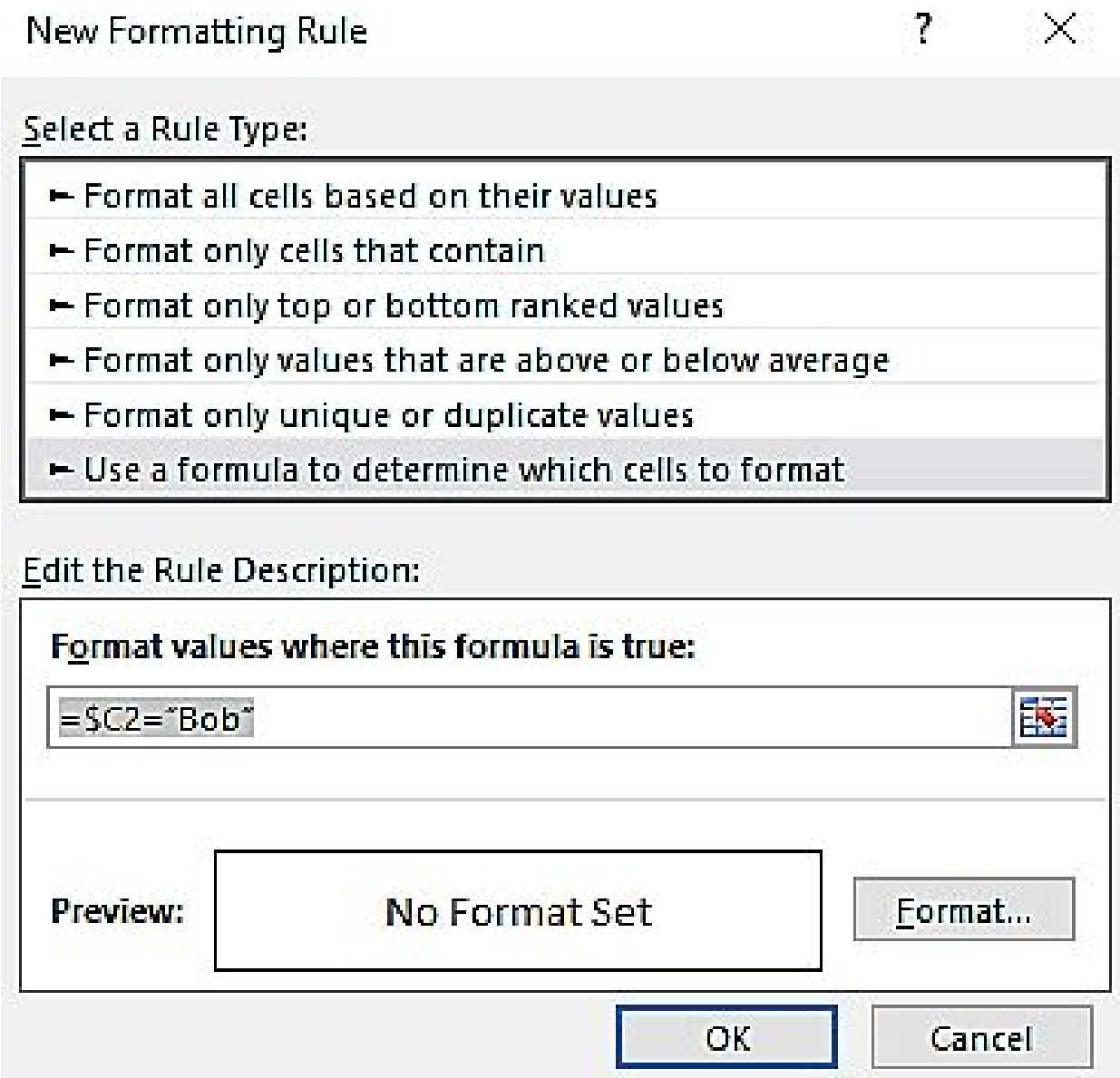
Highlighting a row based on a value

In my example below, I want to highlight the records that contain everything about Bob.

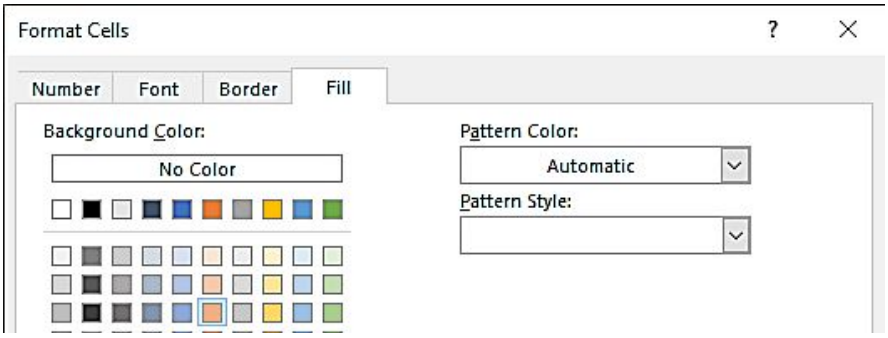
	A	B	C	D	E	F
1	Date	Item	Sales Rep	Quantity	Price	Commission
2	7/1/2019	Projector	Bob	13	150	11%
3	7/1/2019	White Board	Mark	8	40	9%
4	7/2/2019	White Board	Stacey	7	40	7%
5	7/3/2019	White Board	Mark	18	40	8%
6	7/5/2019	Office Chair	Stacey	19	230	6%
7	7/5/2019	Projector	John	4	150	10%
8	7/8/2019	Printer	Bob	9	80	6%
9	7/10/2019	Printer	Laura	16	80	2%
10	7/10/2019	Office Chair	Mark	15	230	9%
11	7/10/2019	Diary	Bob	15	16	1%
12	7/10/2019	Office Chair	John	7	230	2%
13	7/13/2019	Diary	Laura	23	16	11%
14	7/17/2019	White Board	Bob	20	40	5%
15	7/17/2019	Office Chair	Mark	9	230	3%
16	7/20/2019	White Board	Stacey	23	40	6%
17	7/20/2019	White Board	Stacey	4	40	5%

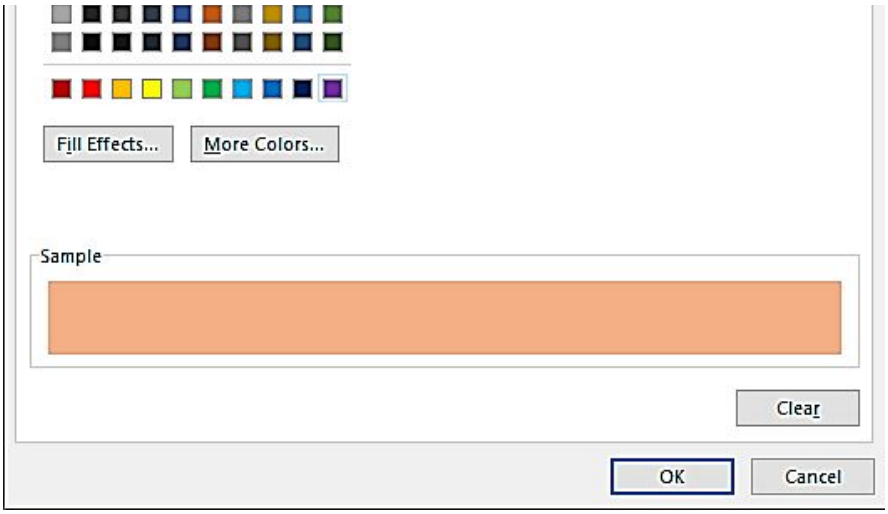
So, I highlight the entire worksheet, select Conditional Formatting (Home tab) and select New rules. Choose the **"Use a formula to determine which cells to format"** option. On the box, below it, type in this formula **=$C2=" Bob"**

e



Then, click on the Format option. Click on the Fill tab and choose a color that you want it to be highlighted with. Then, click Ok.





This will be the result.

Date	Item	Sales Rep	Quantity	Price	Commission
7/1/2018	Projector	Bob	13	150	11%
7/1/2018	White Board	Mark	8	40	9%
7/2/2018	White Board	Stacey	7	40	7%
7/3/2018	White Board	Mark	18	40	8%
7/5/2018	Office Chair	Stacey	19	230	6%
7/5/2018	Projector	John	4	150	10%
7/8/2018	Printer	Bob	9	80	6%
7/10/2018	Printer	Laura	16	80	2%
7/10/2018	Office Chair	Mark	15	230	9%
7/10/2018	Diary	Bob	15	16	1%
7/10/2018	Office Chair	John	7	230	2%
7/13/2018	Diary	Laura	23	16	11%
7/17/2018	White Board	Bob	20	40	5%
7/17/2018	Office Chair	Mark	9	230	3%
7/20/2018	White Board	Stacey	23	40	6%
7/20/2018	White Board	Stacey	4	40	5%

Explanation

Conditional Formatting examines each cell for the condition we've set, which is =$C2=" Bob" in this case. As a result, it will check whether cell C2 contains the name Bob or not while inspecting each cell in row A2. If it does, that cell is highlighted; if it does not, it is not.

It's important to note that the dollar symbol ($) comes before the column alphabet ($C1). By doing so, we've ensured that the column will always be C. When cell A2 is tested for the formula, it will also check cell C2, and when cell A3 is examined for the condition, it will also check cell C3. By using conditional formatting, we can highlight the whole row.

Displaying alternate-row shading

Pick a range. Click on Conditional Formatting and select New Rule.

Date	Item	Sales Rep	Quantity	Price	Commission
7/1/2019	Projector	Bob	13	150	11%
7/1/2019	White Board	Mark	8	40	9%
7/2/2019	White Board	Stacey	7	40	7%
7/3/2019	White Board	Mark	18	40	8%
7/5/2019	Office Chair	Stacey	19	230	6%
7/5/2019	Projector	John	4	150	10%
7/8/2019	Printer	Bob	9	80	6%
7/10/2019	Printer	Laura	16	80	2%
7/10/2019	Office Chair	Mark	15	230	9%
7/10/2019	Diary	Bob	15	16	1%
7/10/2019	Office Chair	John	7	230	2%
7/13/2019	Diary	Laura	23	16	11%

Click on “Use a formula to determine which cells to format”

Type =**MOD(ROW(),2).**

Click **Format** to choose a style. Click Ok.

	A	B	C	D	E	F
1	Date	Item	Sales Rep	Quantity	Price	Commission
2	7/1/2019	Projector	Bob	13	150	11%
3	7/1/2019	White Board	Mark	8	40	9%
4	7/2/2019	White Board	Stacey	7	40	7%
5	7/3/2019	White Board	Mark	18	40	8%

6	7/5/2019	Office Chair	Stacey	19	230	6%
7	7/5/2019	Projector	John	4	150	10%
8	7/8/2019	Printer	Bob	9	80	6%
9	7/10/2019	Printer	Laura	16	80	2%
10	7/10/2019	Office Chair	Mark	15	230	9%
11	7/10/2019	Diary	Bob	15	16	1%
12	7/10/2019	Office Chair	John	7	230	2%
13	7/13/2019	Diary	Laura	23	16	11%
14	7/17/2019	White Board	Bob	20	40	5%
15	7/17/2019	Office Chair	Mark	9	230	3%

How does it work?

The residual of a division is returned by the MOD function. The ROW() method returns the number of rows in a table. For instance, MOD(7,2) = 1 for the seventh row since 7 divided by 2 equals 3 with a leftover of 1. MOD(8,2) = 0 for the eighth row since 8 divided by 2 equals 4 with a residual of 0. As a consequence, all odd rows will be darkened if they return 1 (TRUE).

Creating checkerboard shading

First, choose a range of cells and follow the steps above. On the formula box, type in this formula **=MOD(ROW(),2) =MOD(COLUMN(),2).** Click on Format and select a color. Click Ok.

	A	B	C	D	E	F
1	Date	Item	Sales Rep	Quantity	Price	Commission
2	7/1/2019	Projector	Bob	13	150	11%
3	7/1/2019	White Board	Mark	8	40	9%
4	7/2/2019	White Board	Stacey	7	40	7%
5	7/3/2019	White Board	Mark	18	40	8%
6	7/5/2019	Office Chair	Stacey	19	230	6%
7	7/5/2019	Projector	John	4	150	10%

8	7/8/2019	Printer	Bob	9	80	6%
9	7/10/2019	Printer	Laura	16	80	2%
10	7/10/2019	Office Chair	Mark	15	230	9%
11	7/10/2019	Diary	Bob	15	16	1%
12	7/10/2019	Office Chair	John	7	230	2%
13	7/13/2019	Diary	Laura	23	16	11%
14	7/17/2019	White Board	Bob	20	40	5%

Shading groups of rows

To shade rows in excel, formulas to be used will be based on CEILING, ROWS, and **ISEVEN**. The formula for it is **=ISEVEN(CEILING(ROW() – offset, n)/n).**

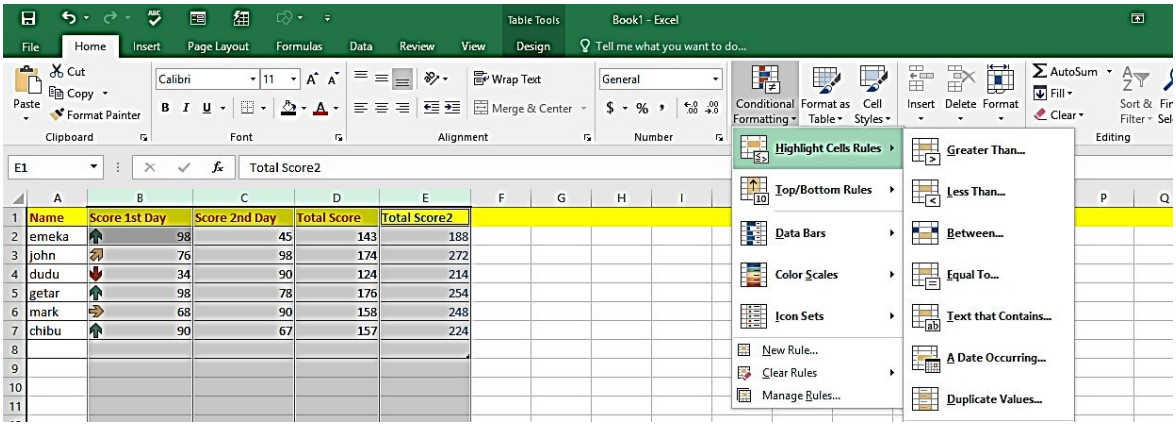
- **n** stands for the number of rows in a group
- offset stands for the number used to normalize the first row.
- So to shade group pf rows, simply follow the steps above and on the formula box, type in this formula **=ISODD(CEILING(ROW) -5,3)/3).**

Working with Conditional formats

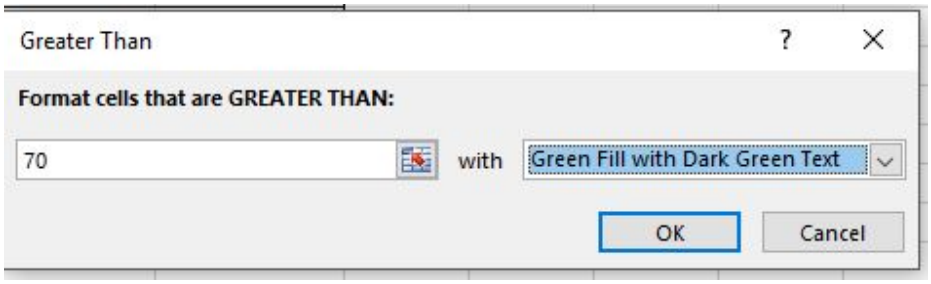
We'll go through the basics of building a new conditional formatting rule in the example below. Although there are several forms of conditional formatting, the core processes are the same for all of them. Let's have a look at what we've got.

In the image below is a table that consists of the scores of a group of students. Now, we will create a conditional formatting rule which will highlight the test scores that are over 70. We will make it highlight it with the green color. To do this, follow the steps below;

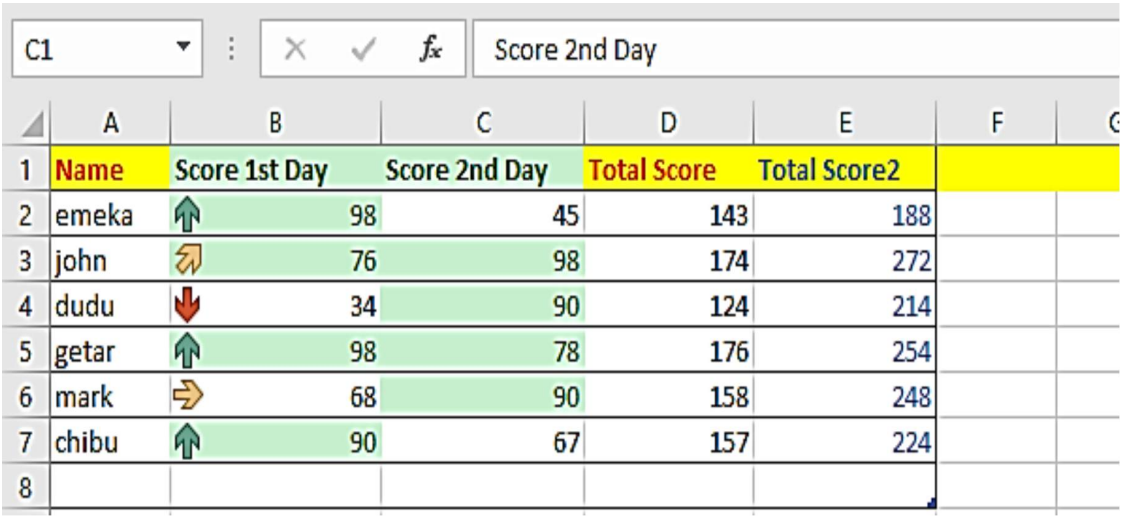
First, choose the cells you want to format. On the Home tab, click on **Conditional formatting**. From the list of options there, click on the **Highlight Cells Rules**, then select **Greater Than.**



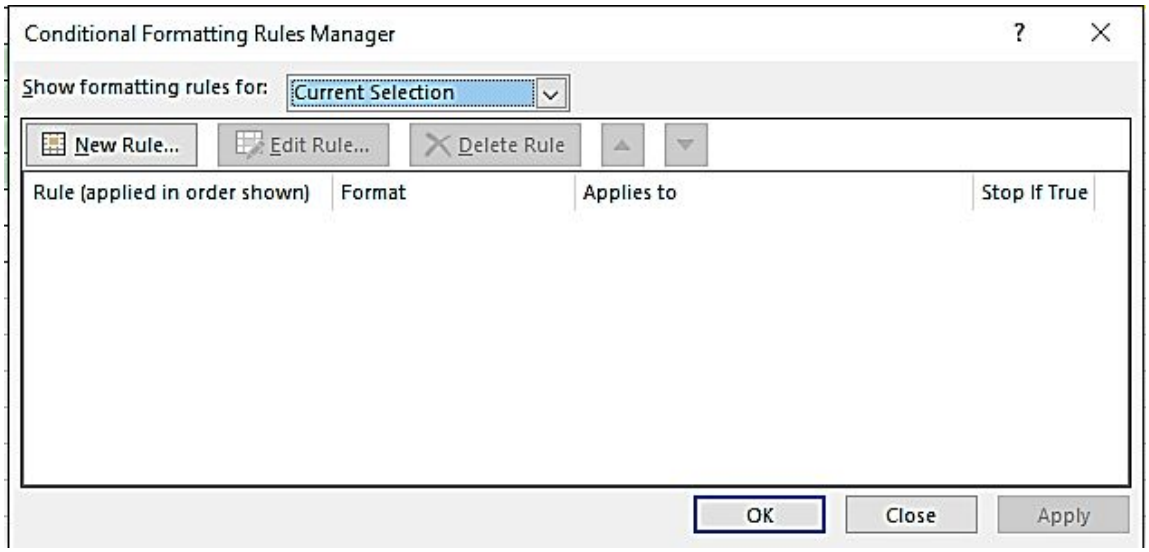
Type in 70 and select the green color. Click Ok.



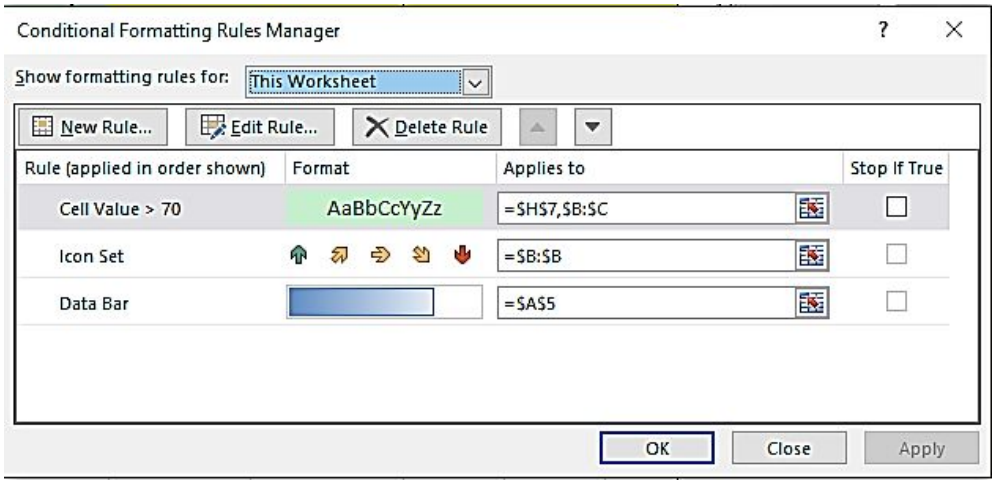
After you have clicked Ok, the rule will be created and you will see the result on your worksheet.



To access the conditional formatting rule, which you have created, click on **Manage Rules** on the conditional formatting menu. if the selection has cells that have conditional formatting applied to it, the rule will display in the Rules Manager window.

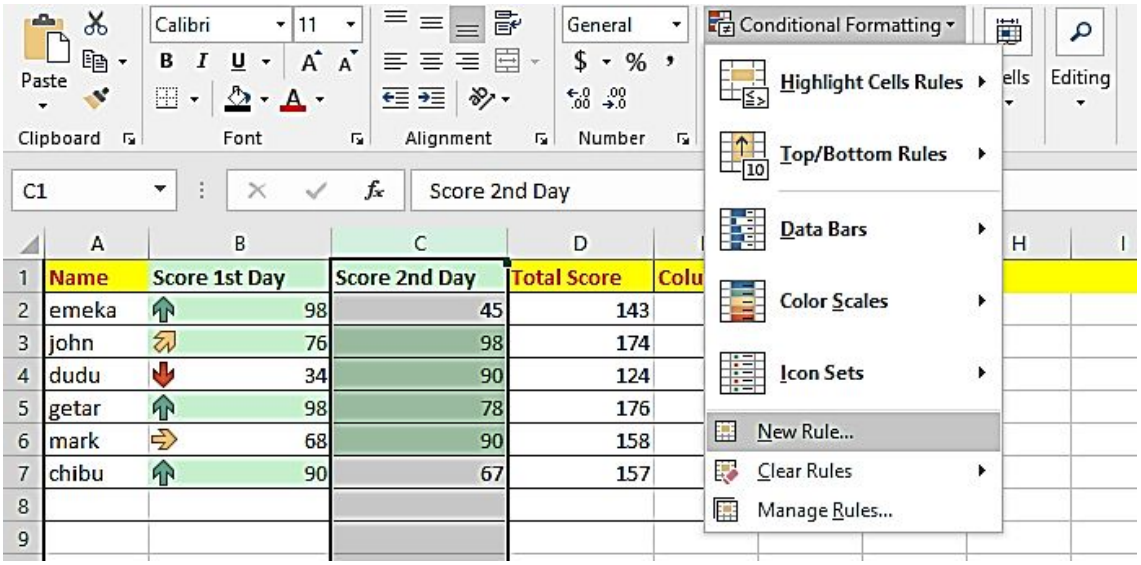


But if the current selection has no cells which have conditional formatting applied to it, then, the rules will not display. So, to make it display, click on the drop-down arrow on the "**Show formatting rules for"** option and select "**This Worksheet**". It will display all the rules and conditional formatting you have applied to that worksheet.

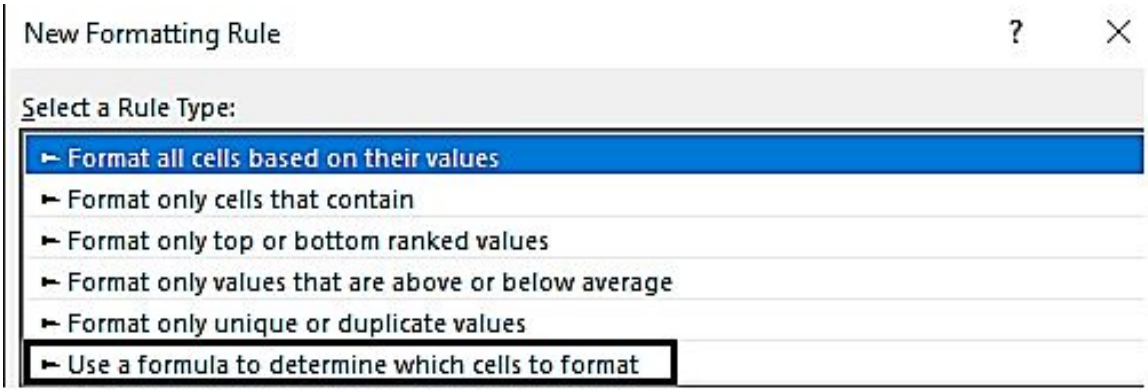


You may use the following steps to develop an excel formula for conditional formatting:

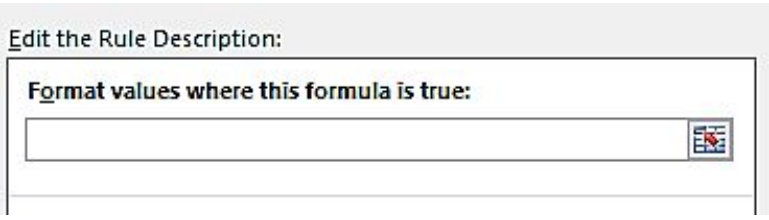
- Select cells or columns to format. If you wish to apply formatting to an entire row, however, you may pick numerous columns or the whole table. More data may be added by transforming cells into tables using the Insert tab and then choosing some empty rows below one's data.
- Select New Rule from the Conditional Formatting menu.

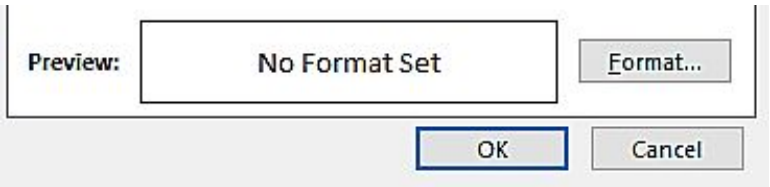


- Select Use a formula tab to decide which cells to format under New Formatting Rule.

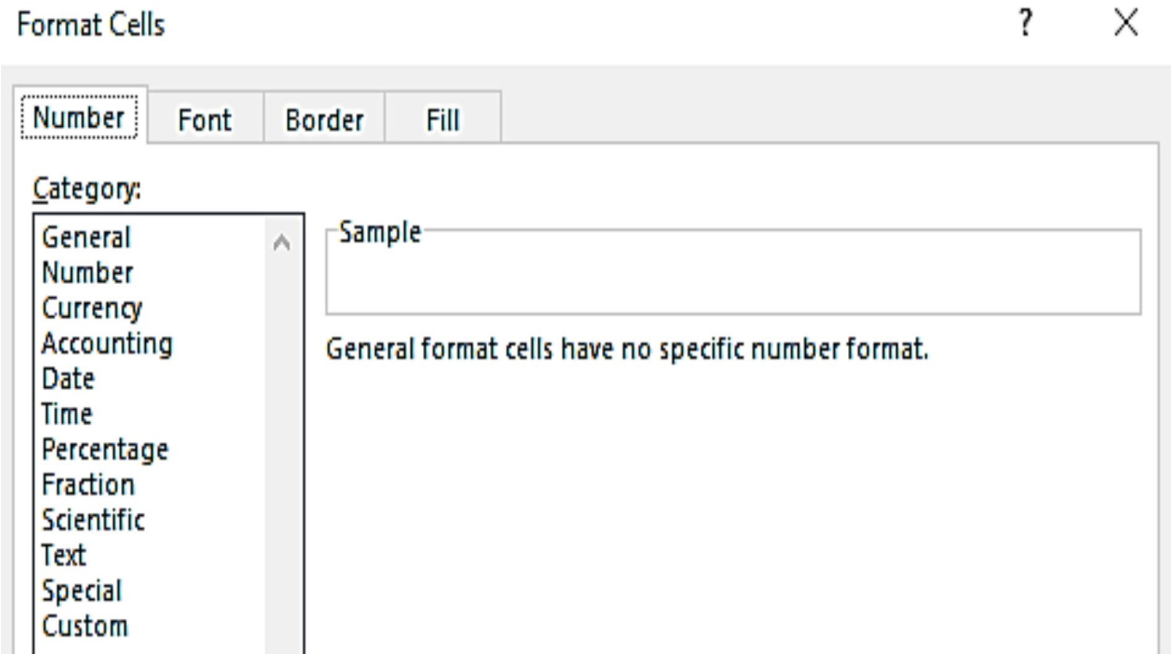


- The formula may then be typed in the appropriate area. Pick the Format option to select a custom format.





- The Font, Border, and Fill tabs may be switched to experiment with choices such as font, style, and fill color. Under the More Colors option, one may also choose a chosen color from the RGB or HSL charts and then click Ok.



- Once the preview section has shown the required format, select the Ok button to save the rule. If the results aren't what you're looking for, click Format and start modifying.

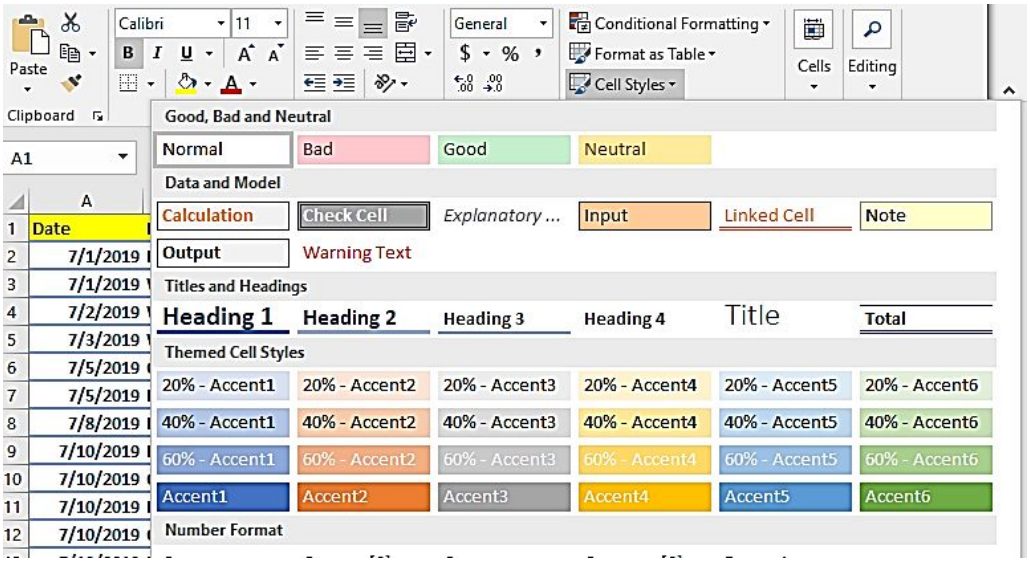
When changing a conditional formatting formula, always hit the F2 key, then use the arrows to go to the desired location inside the formula. F2 is pushed a second time while adding a cell, and then the cell is clicked.

USING NAMED STYLES FOR EASIER

FORMATTING

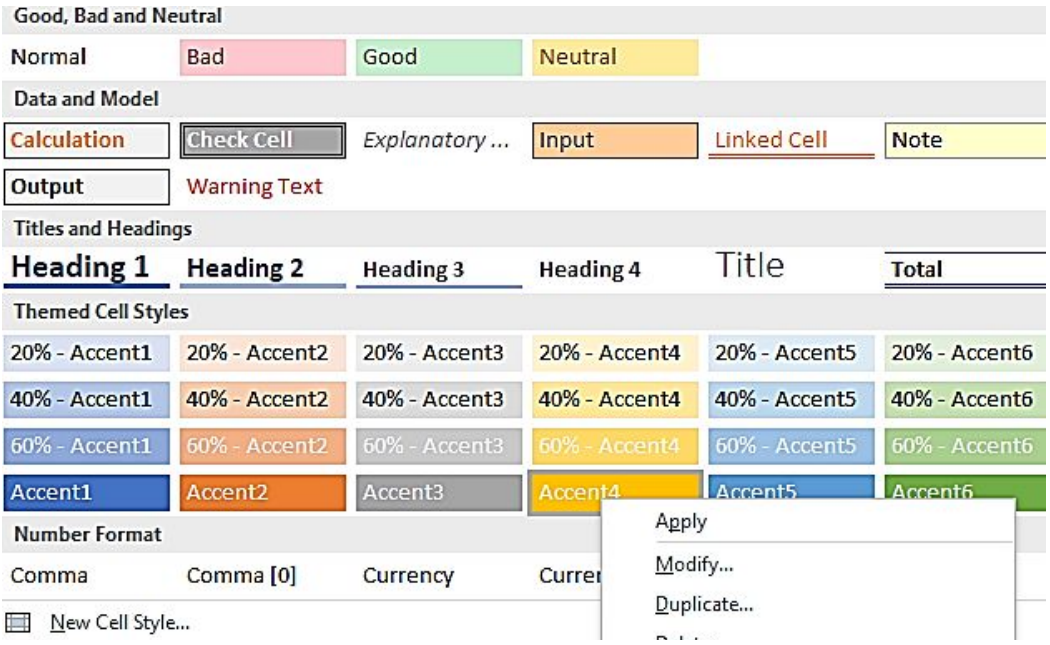
Applying styles

First, choose the cell or range of cells. Below the Conditional Formatting option, click on Cell Styles. On the menu that opens, select a style.



Modifying an existing style

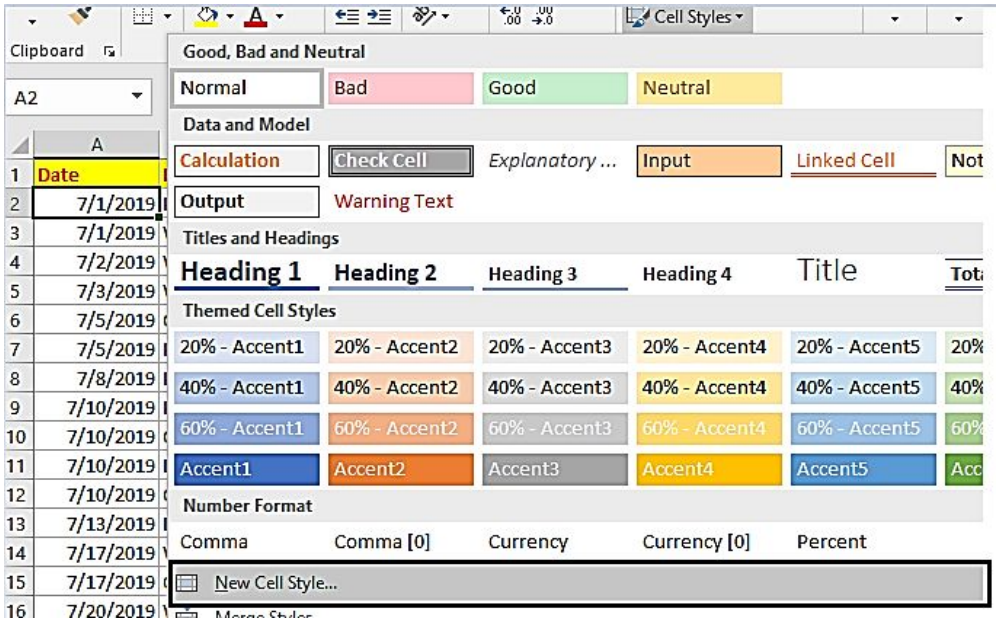
Right-click on it and select **Modify**.



A box appears containing different modifying options. Click **Format** to see the rest of the options.

Creating new styles

Choose the cell, click on **Cell Styles**. Pick **New Cell Style**.

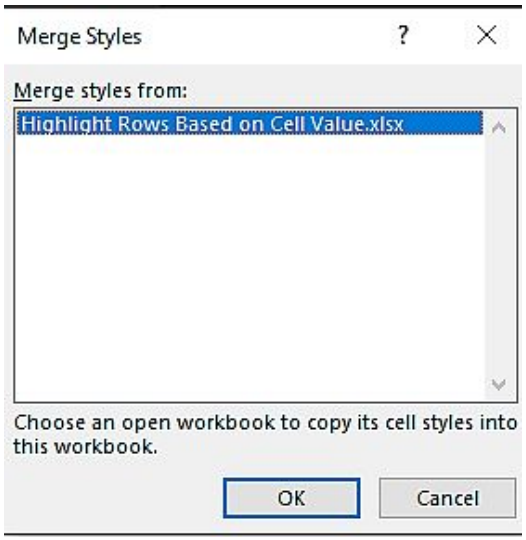


Enter style name. Select Ok. The style will be saved.

Merging styles from other workbooks

Most times, when people create styles, they like to use them in other workbooks. You can easily do that. First, launch the workbooks that have cell styles. Also, launch the other workbook that you will like to merge the style with.

Click on Cell Styles and click on Merge Styles. This opens up the Merge Style dialog box. Choose the workbook and click **Ok**.



Controlling styles with templates

In your Excel Start folder, save the workbook as a template. After that, click File, click New to select a template for the new workbook. Template files may also hold additional named styles, which is a great method to keep your workbooks looking consistent.

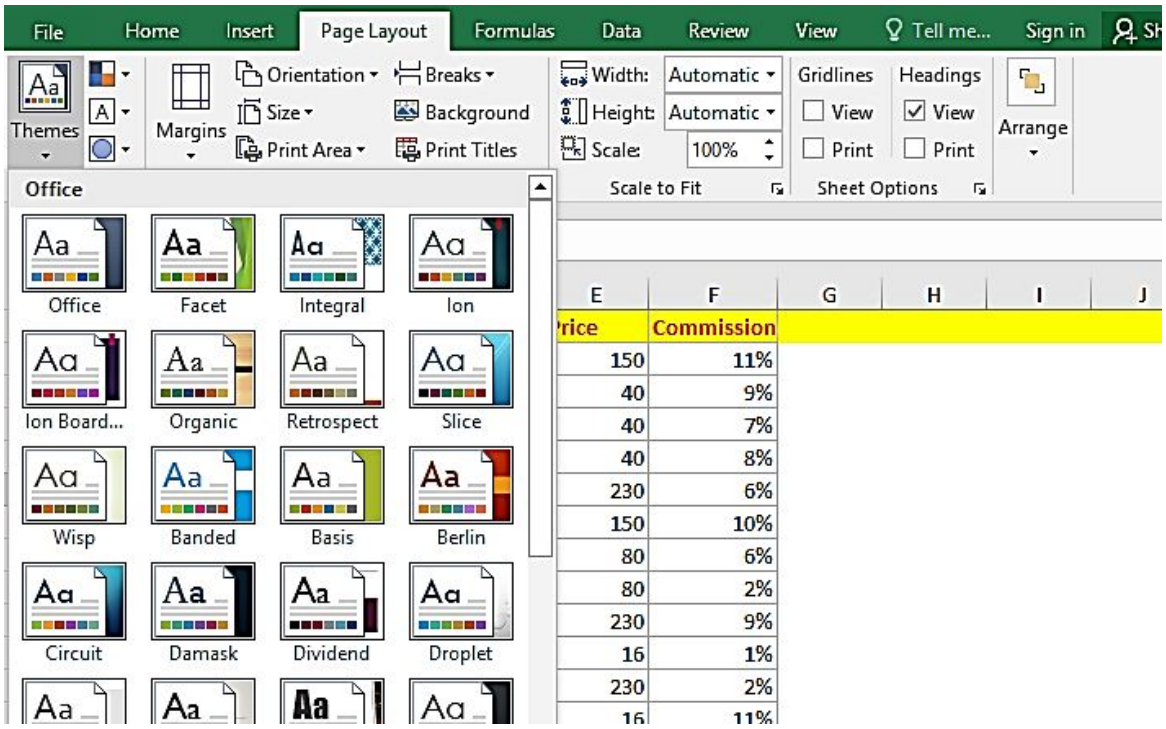
UNDERSTANDING DOCUMENT THEMES

Themes are built-in and customizable functionalities in Excel that allow you to customize the look of your worksheet. In Excel, there are numerous themes, each of which has 12 colors and two fonts (heading and body). The themes make it simple to coordinate colors, fonts, and visual formatting so that they may be utilized and modified quickly.

A standard color theme may be chosen, a custom color theme can be created, theme fonts can be changed, a specific theme can be converted to a new theme, a custom theme can be saved for reuse, and numerous adjustments to the preset themes can be made using Excel themes.

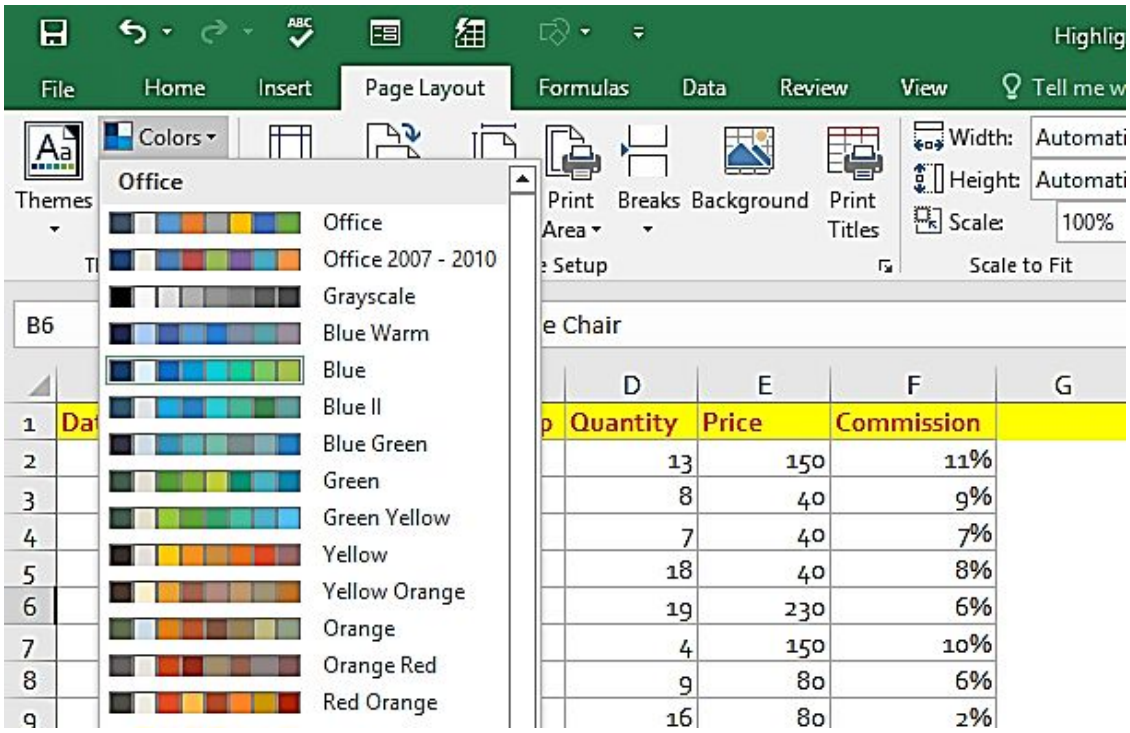
Applying a theme

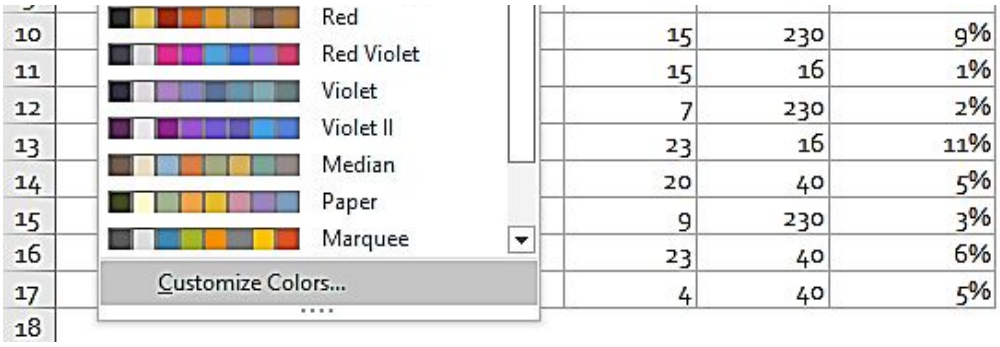
Click the **Page Layout** tab. You will see the Theme option. Click the down arrow on the Theme option. You will see different themes to apply to your workbook.



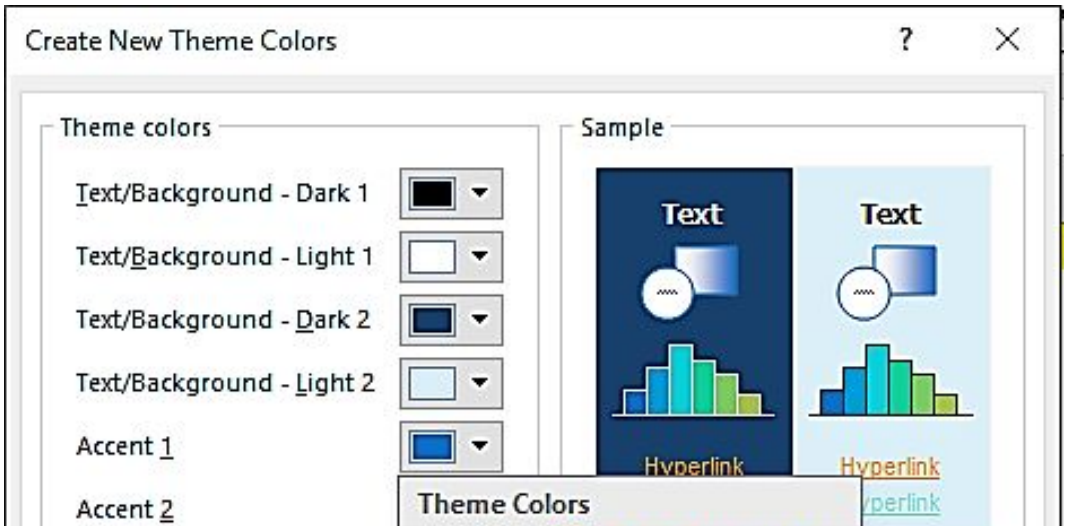
Customizing a theme

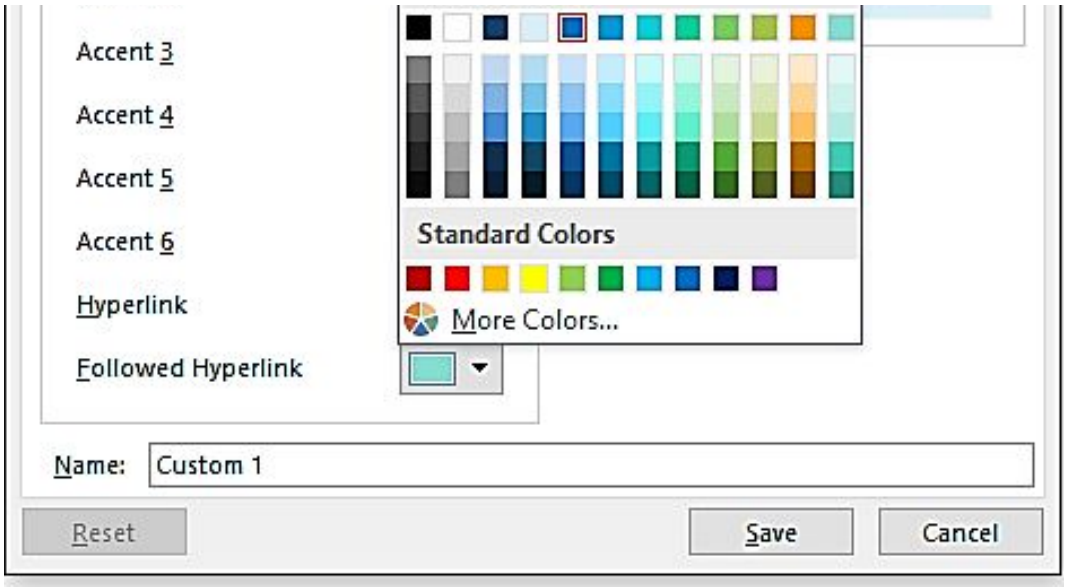
To customize a theme, click the down arrow on any of the color, fonts, or effects options and select **Customize**.





From the Create New window, make your theme using the options there. You can add text background, Accents, Hyperlink, etc.





Once, you are done, click **Ok**.

CHAPTER SIX

UNDERSTANDING EXCEL FILES AND TEMPLATES

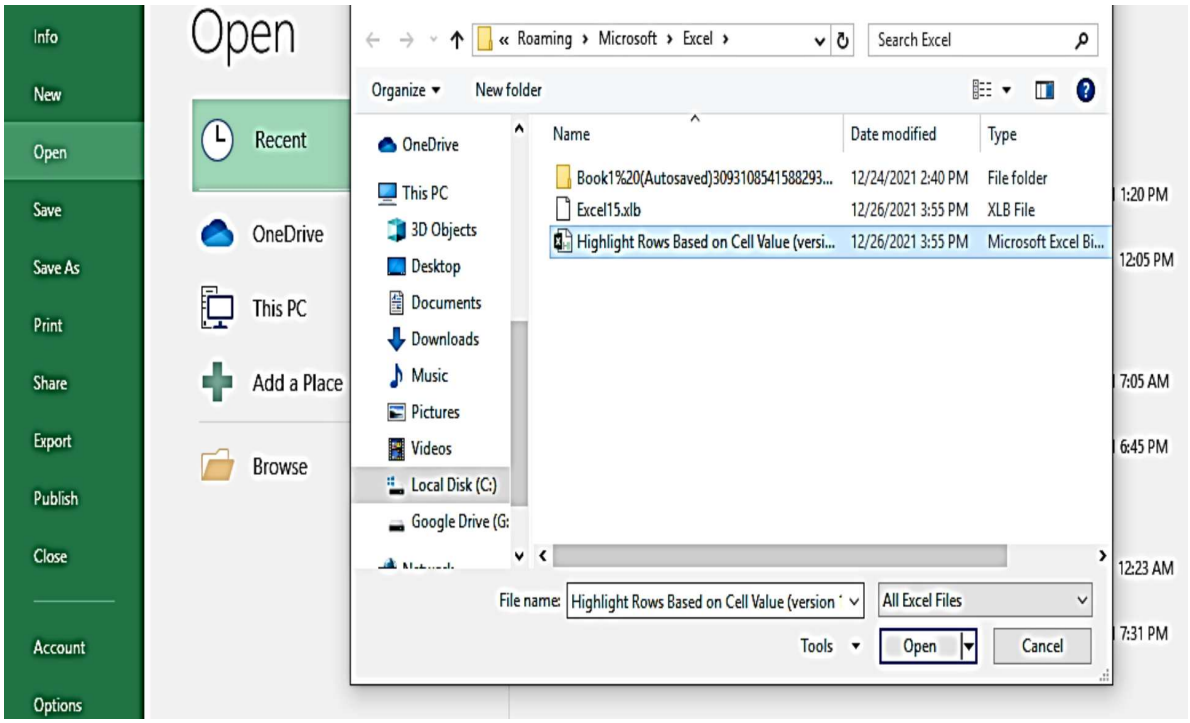
Users may build a new workbook from a blank document in Excel 2022. They also have the option of creating a new worksheet from an existing one. A new workbook comes with three worksheets by default. We may, however, adjust the number of worksheets in a workbook to meet our needs.

Creating a new workbook

To create a new worksheet, simply launch Excel on your computer, click on File and select New. Then, click on Blank workbook.

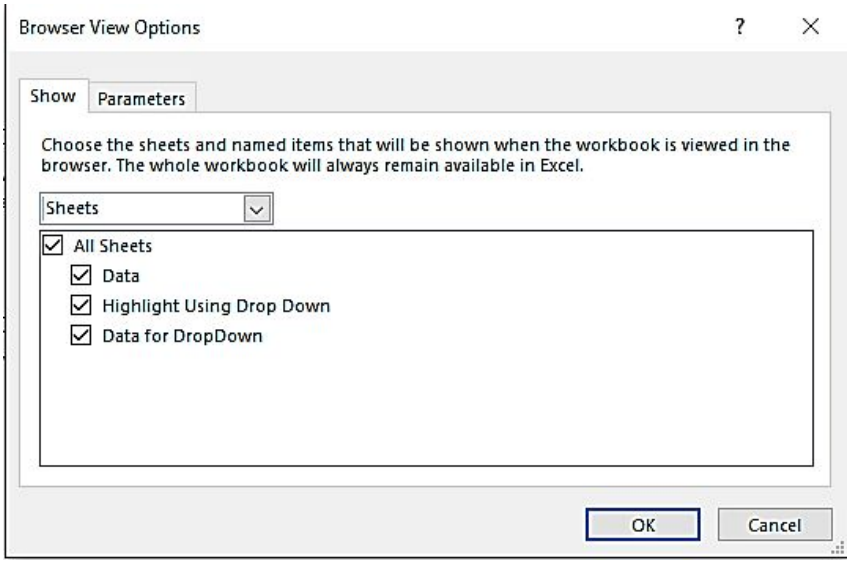
Opening an existing workbook

An existing workbook is a workbook that has been saved already and stored in the computer or cloud. You can open it from your drive or online. To open the file, click on File and select Open. Click **Browse**. A pop-up menu will appear where you will search for the file. Select the file and click **Open**.



Choosing your file display preferences

Click on File, then select Browser View Options. Click on the **Show tab**, then on the down arrow and select **Sheets**.



Pick the worksheets from the list, press **Ok**.

Saving a workbook

Click on File > Save. Select a location where you want to save the workbook. Type in the name for the workbook, then click Save.

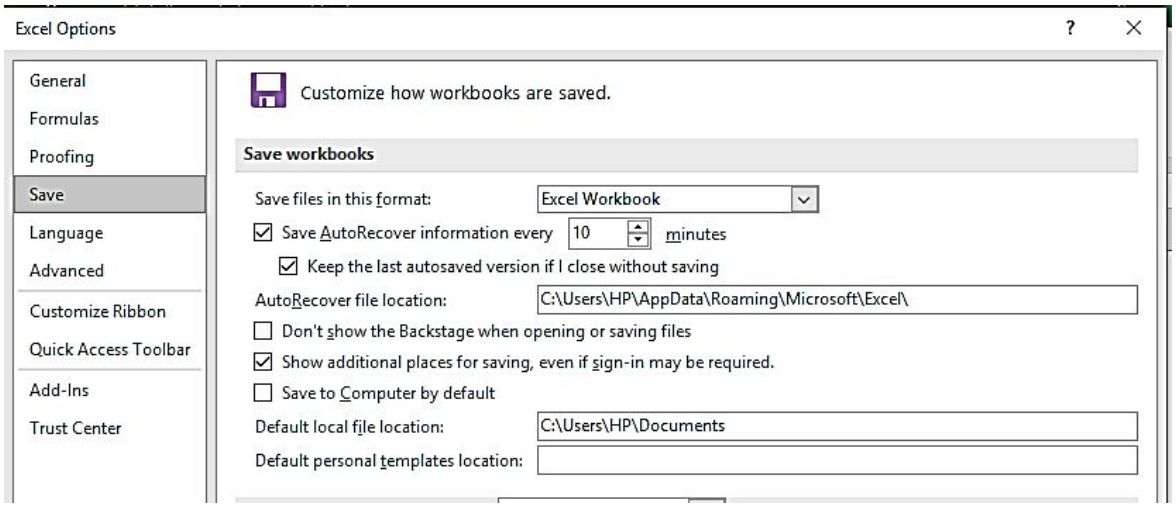
Using AutoRecover

When Excel stops response or it shuts down, AutoRecover automatically recovers the last saved work and will open the file. It will give you two options to choose from which are: to maintain the changes in the documents or dismiss them if we have already saved the data. This helps a lot because it prevents us from losing important data.

It only retrieves files that have been saved. The workbook must have been saved in the system or computer at least once.

Enabling AutoRecover in Excel

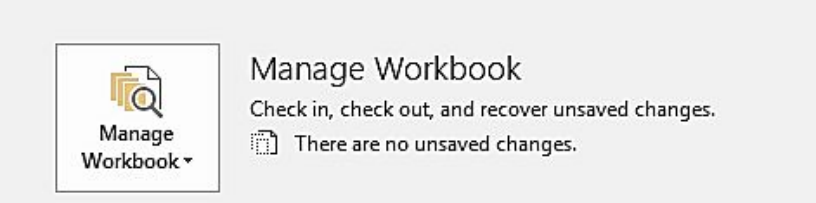
Select File, select Option. On the options menu, click on Save. AutoRecovery options are on the right.



By default, it is already enabled. If yours is not, enable It and click Ok.

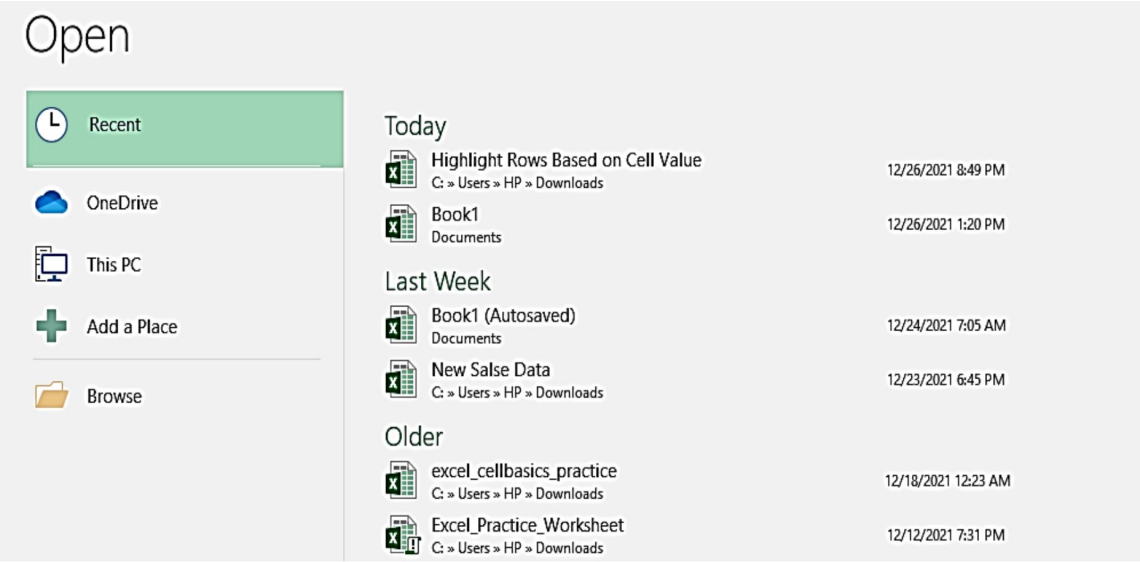
Recovering versions of the current workbook

So first of all, launch the workbook which you want to recover. Select **File** > **Info** > **Manage Versions.** On it, you will find the automatically saved versions with the time beside it.



Recovering unsaved work

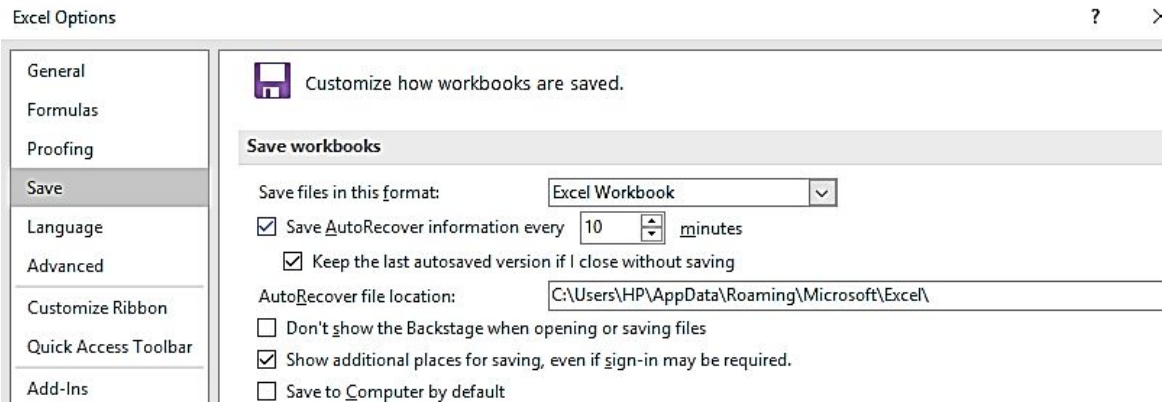
Click **File** > **Open** > Recent Workbooks. Scroll down, then click Recover Unsaved Workbooks.



Click on the workbook for recovering.

Configuring Auto recover

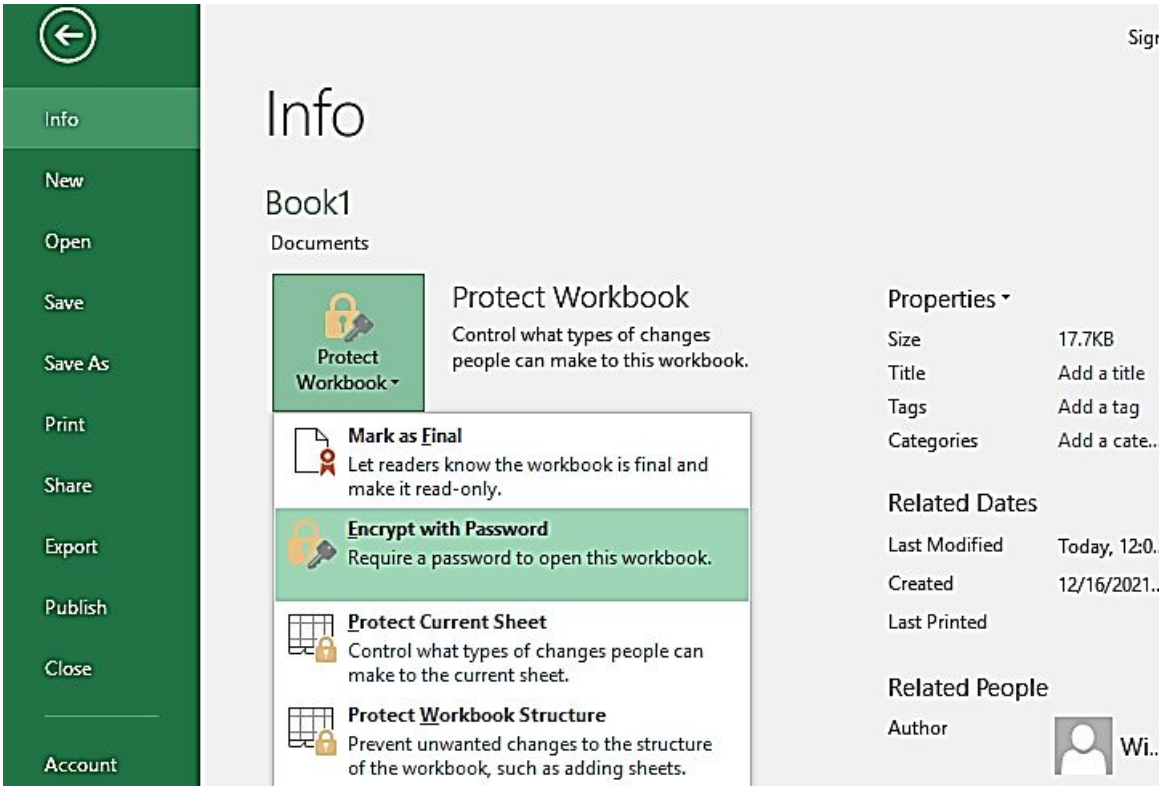
By default, your files are backed up by Excel every ten minutes. You can decide to change these settings. simply click on File > Options > Save > Save Workbooks.



Password-Protecting a Workbook

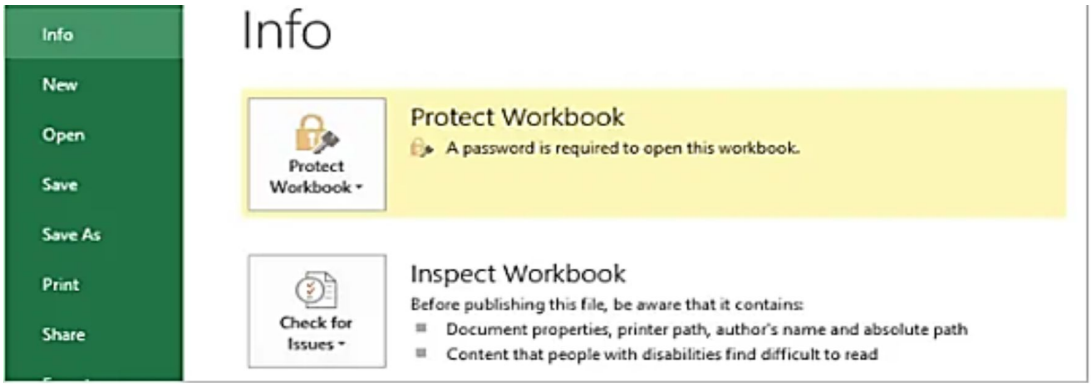
Excel, however, provides three distinct levels of data protection. This prevents data from being accessed or edited without a password. Follow the steps below to protect your workbook.

Click on File > Info. Click on Protect Workbook. Then select Encrypt with a password.



This will open up a password box. Enter in the password and click Ok. You will be asked to confirm the password again. Click Ok. Once you are done,

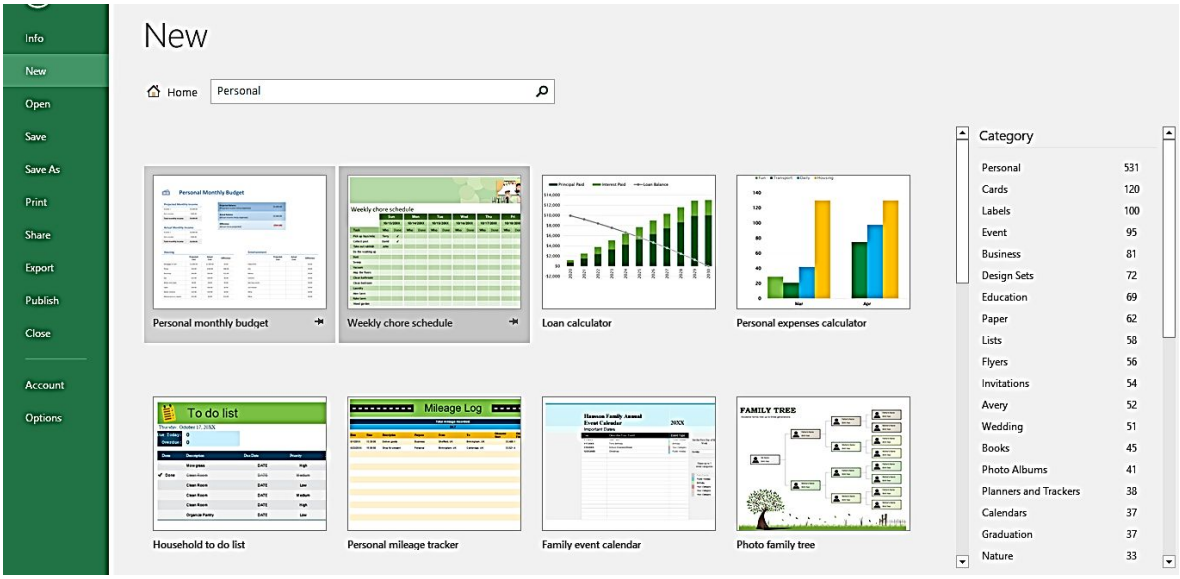
you will see the Protect Workbook option as it has been highlighted stating that a password is needed for the workbook.



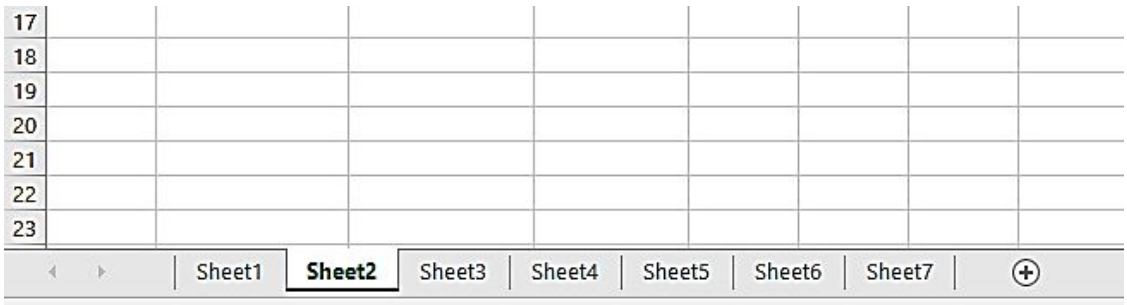
Organizing your files

Microsoft Excel is a spreadsheet-based tool that employs functions and formulae to help you manage figures and data. There are ways to discover a solution to assist you to organize your worksheets.

1. **Templates**: You shouldn't spend time re-creating Worksheets from start every time you need to evaluate data. Instead, Microsoft Excel comes with a large number of user-created templates. Simply select one of the numerous templates available in Excel by going to File > New. Of course, selecting a template that exactly matches your data analysis method may be tough.



2. **Multiple Sheets**: When dealing with anything complicated or with much data, use multiple sheets for your works. Divide your data into different worksheets and name each one appropriately. This will make it simple to locate the information you want.



3. **Highlighting the essential data**: You always should emphasize the most critical information while using any management application. When working with Excel, this is particularly true if you have a full team working on a single spreadsheet. One of the simplest ways to achieve this is to construct a dashboard sheet that summarizes your major data elements. Furthermore, you should always maintain your vital information in a legible font and use conditional formatting to provide heights and colors to important cells.

4. **Sorting Data**: Knowing how to categorize/sort your data is an important element of data analysis. It makes no difference whether you wish to order the names alphabetically or list the goods from cheapest to most expensive. Sorting your data can aid you in better understanding and visualization of your data. You may arrange your data alphabetically, numerically, by built column list, formatting, an icon set, or by time and date in Excel.

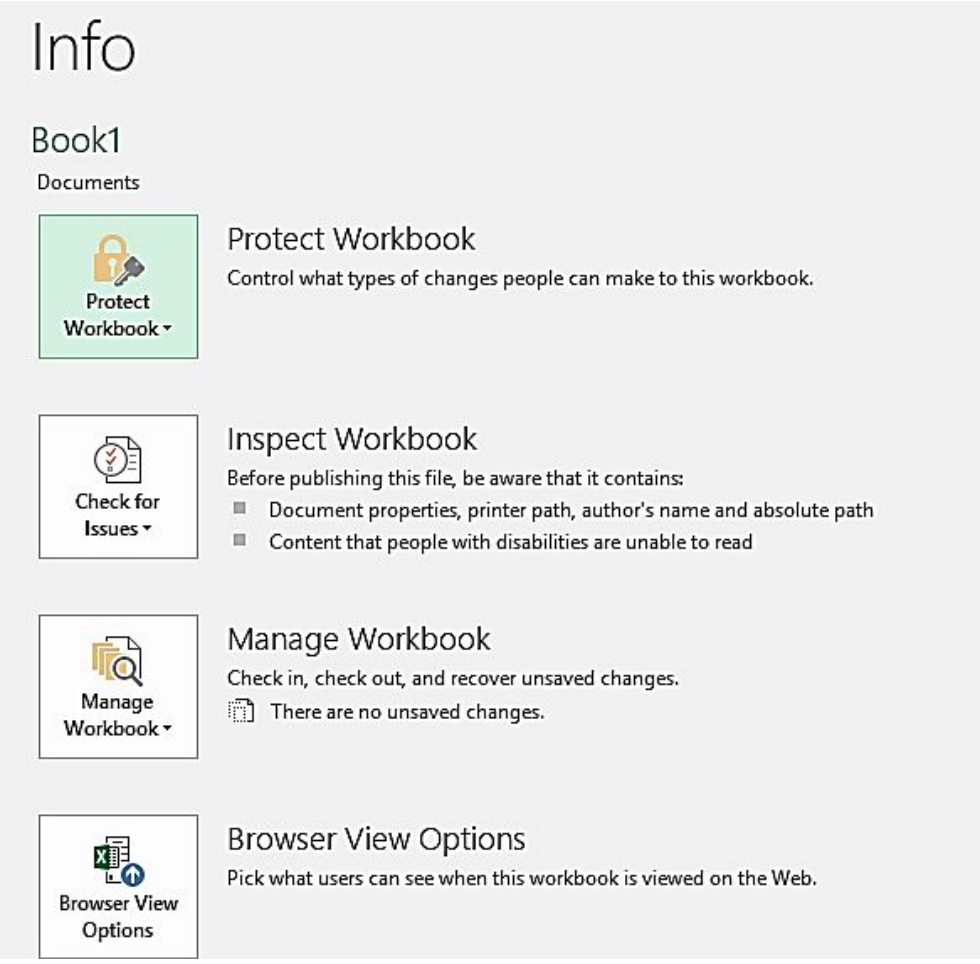
5. **Hyperlink cells**: A times, you will often spend time digging through all of the worksheets for a specific bit of data. However, this does not have to be the case. Rather, you may give your relevant cells names and create hyperlinks between them in your sheets to help you navigate the data.

OTHER WORKBOOK INFO OPTIONS

When you click on File and select Info, you will see different options on the Info menu. those options are explained below.

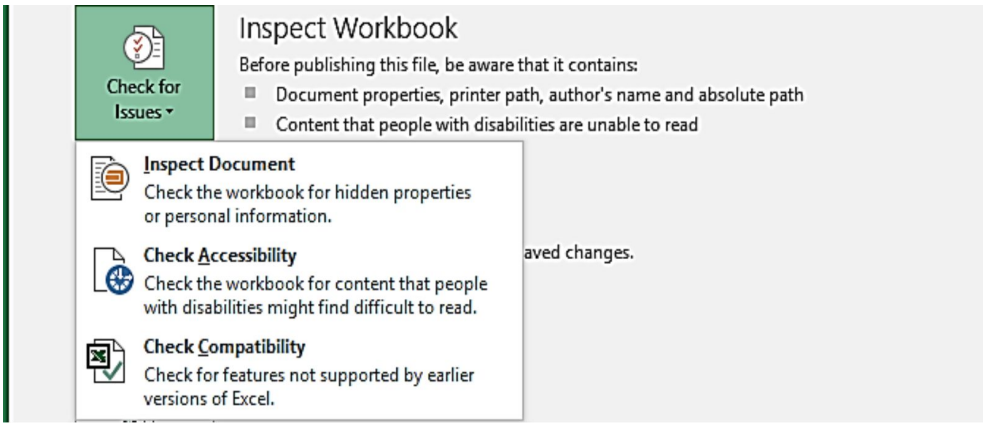
Protect Worksheet options

This option allows you to control the type of changes that people can make to a workbook.



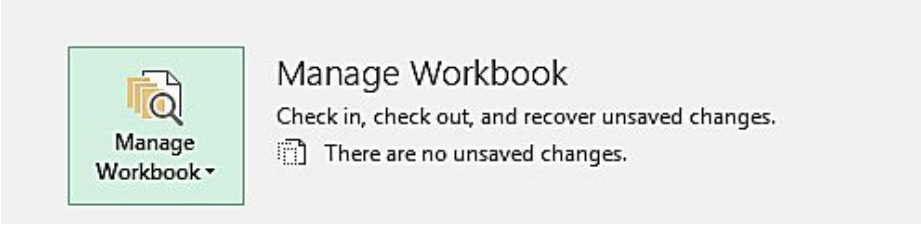
Check for issues options

This is to inspect your workbook, check accessibility, and check compatibility.



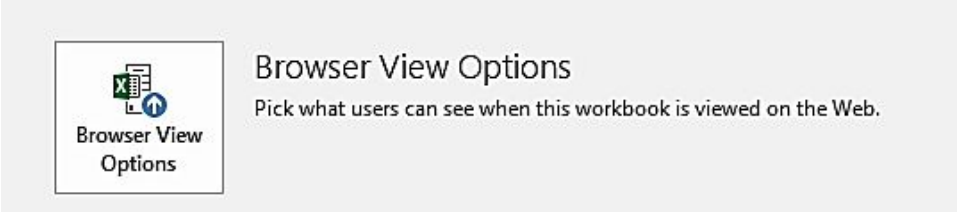
Manage workbook option

This is to check in, check out, and recover unsaved changes on your workbook.



Browser view options

This determines what users can see on your workbook when viewed on the internet.



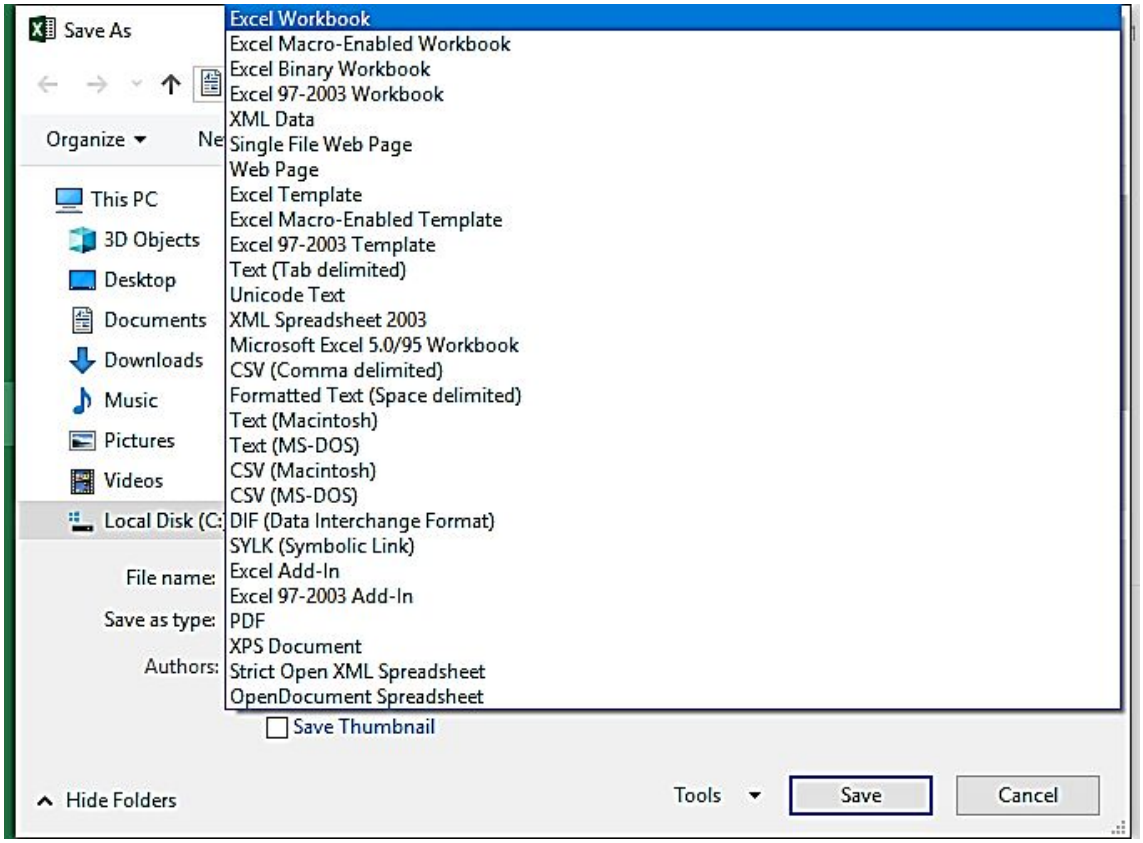
Compatibility mode section

This helps you to create documents that can be viewed by everyone. Since Excel has been there for years, it has a variety of versions. As a result, documents created in later versions might not be compatible with older versions. It is dependent on the content of a document, which is a difficult factor to consider. For instance, a feature developed in Excel 2021 will

almost certainly not work with Excel 2013. The majority of Excel users, however, are unaware of this.

Microsoft implemented Compatibility Mode to Excel to address the problem. Your workbook in compatibility mode will be readable in former versions of Excel. Compatibility Mode guarantees that workbooks created in recent editions may be viewed even if you're using an earlier version. Some documents may show improperly or not open at all if you don't use Compatibility Mode. When software upgrades affect the core of a program over time, this is typical.

To save in compatibility mode, simply open the workbook, click File > Save As >. Then, click on the down arrow on the **Save As Type** box. Select the version you want.



Closing Workbooks

When a worksheet is open, and you want to close it but not the Excel program, simply click on **File** > **Close**. Use **Control key + W** also**.** To close

every workbook that is open when you have more than one workbook open, simply press down the Shift key as you select Close from the File menu.

Safeguarding your work

Nothing is more frustrating than working for hours on a complex Excel spreadsheet only to have it destroyed due to a power outage, a hard drive crash, or even a human mistake. Protecting oneself against these tragedies, however, is not difficult.

We examined the AutoRecover option earlier in this chapter, which causes Excel to store a backup copy of your workbook at regular intervals. It's a fantastic concept, but it's far from the sole safeguard you should use. If a file is critical, more precautions must be taken to protect its security. Your work may be safeguarded using the following backup options:

- Save copies of the documents on the same disk as a backup. As you are saving your work, pick the **Always Create a Backup** option, this is essentially what occurs. Although this option provides some security if you make a mess of the spreadsheet, it is useless if your whole hard drive collapses.
- Keep a duplicate on a separate disk for backup. This assumes that your computer has more than one hard disk. Because the chances of both hard drives failing are slim, this technique provides greater protection than the previous strategy.
- Keeping a backup copy on the internet (cloud) is a good idea. Assumes that your computer is linked to a server where you may upload and download files. This procedure is relatively risk-free. However, if the network server is in the same building as you, you are in danger if the whole building burns down or is destroyed in some other way.

Working with templates

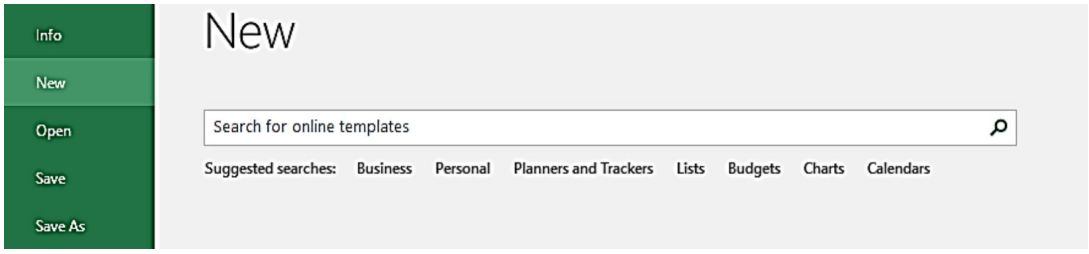
Microsoft Excel templates are a valuable feature of the Excel experience and a time-saving tool. Once you've produced a template, all it takes is a few simple modifications to make it fit your current needs, and it can then be utilized in a variety of circumstances and reused over and over again.

Excel templates may also assist you in producing consistent and appealing papers that will wow your coworkers or superiors while also making you appear your best.

Excel schedules, budget plans, receipts, inventory, and dashboards are all examples of commonly used document types that benefit from templates. What could be cooler than selecting a fully prepared worksheet with the design and feel you desire and that you can quickly customize to fit your needs?

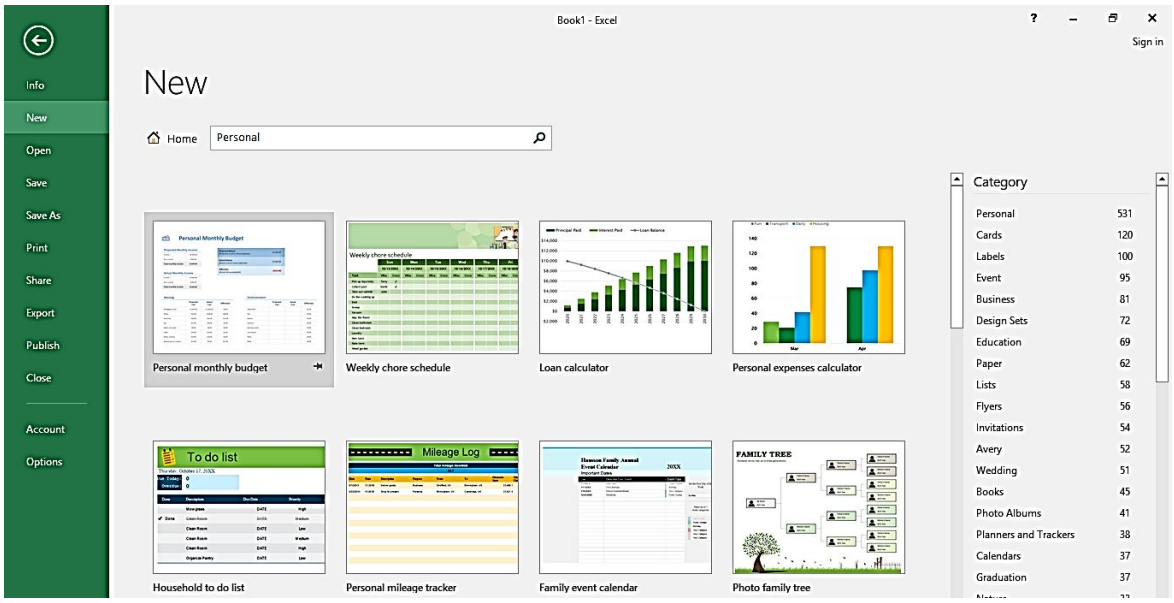
Exploring Excel templates

To explore the Excel templates, click on File > New. You will see a search box. On it, you can search for templates on the web.



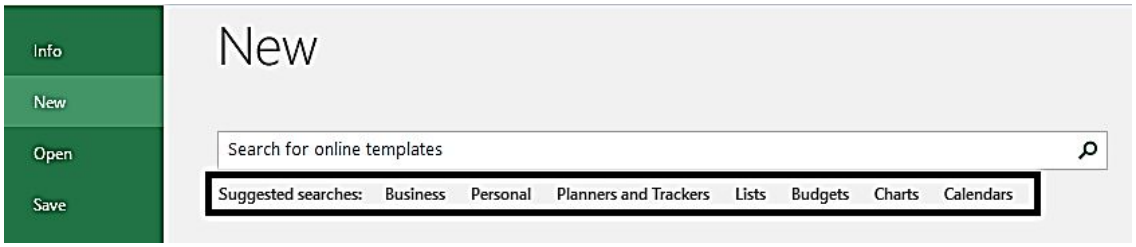
Viewing templates

Choose **File** > **New** to bring up the available templates screen in Backstage View, to see the Excel templates. You can templates maybe from your drive or Microsoft Office Online. In the right panel, when you pick a template thumbnail, you will get a preview.

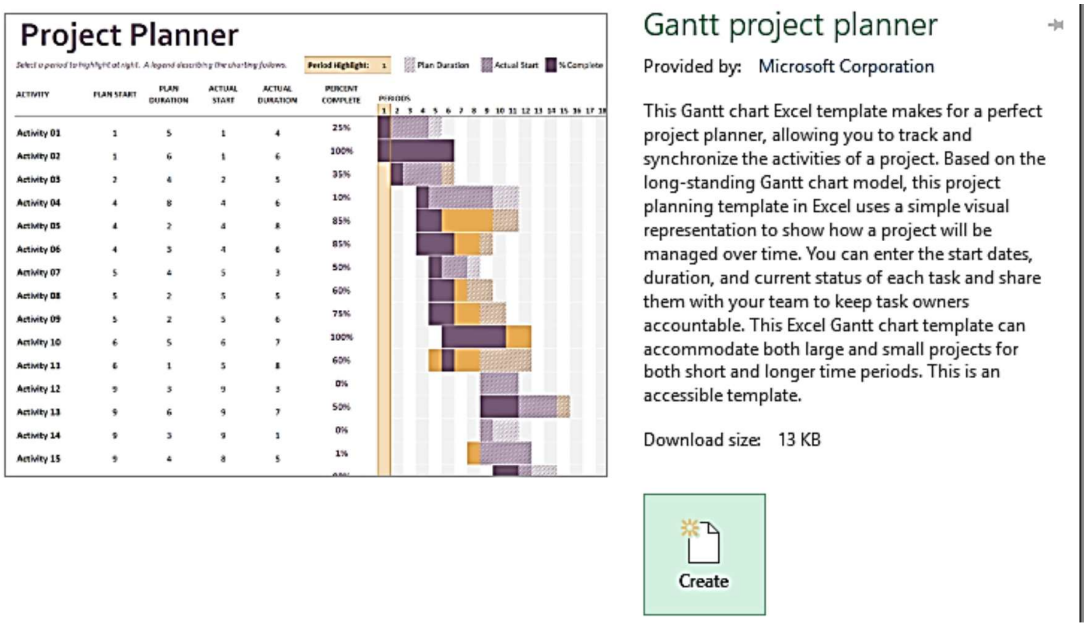


Creating a workbook from a template

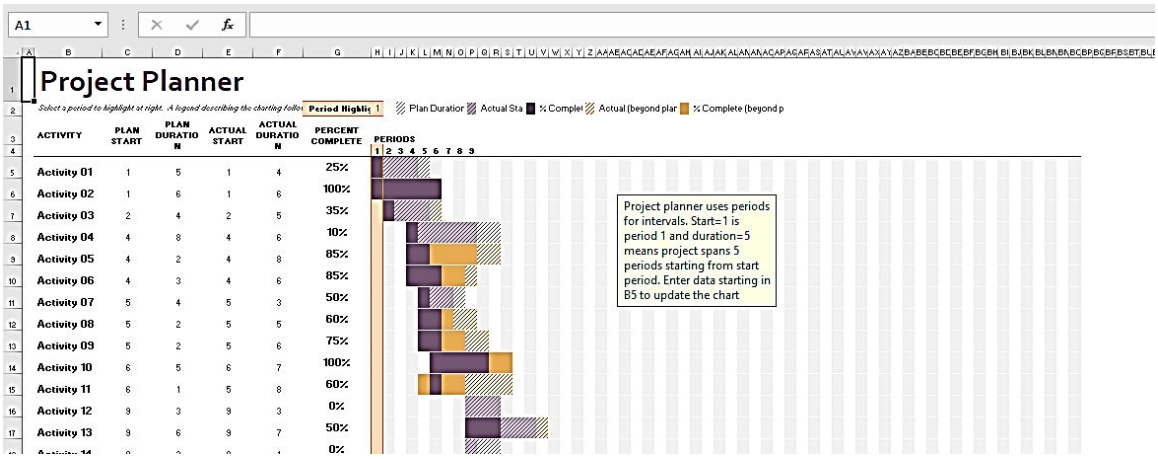
Click on **File** > **New**. On the search box, type in the template you want to use or you click on any of the options below the search box which are the suggested searches. You must be connected to the internet.



This will open a box, where you will see the information about the template. Click Create.



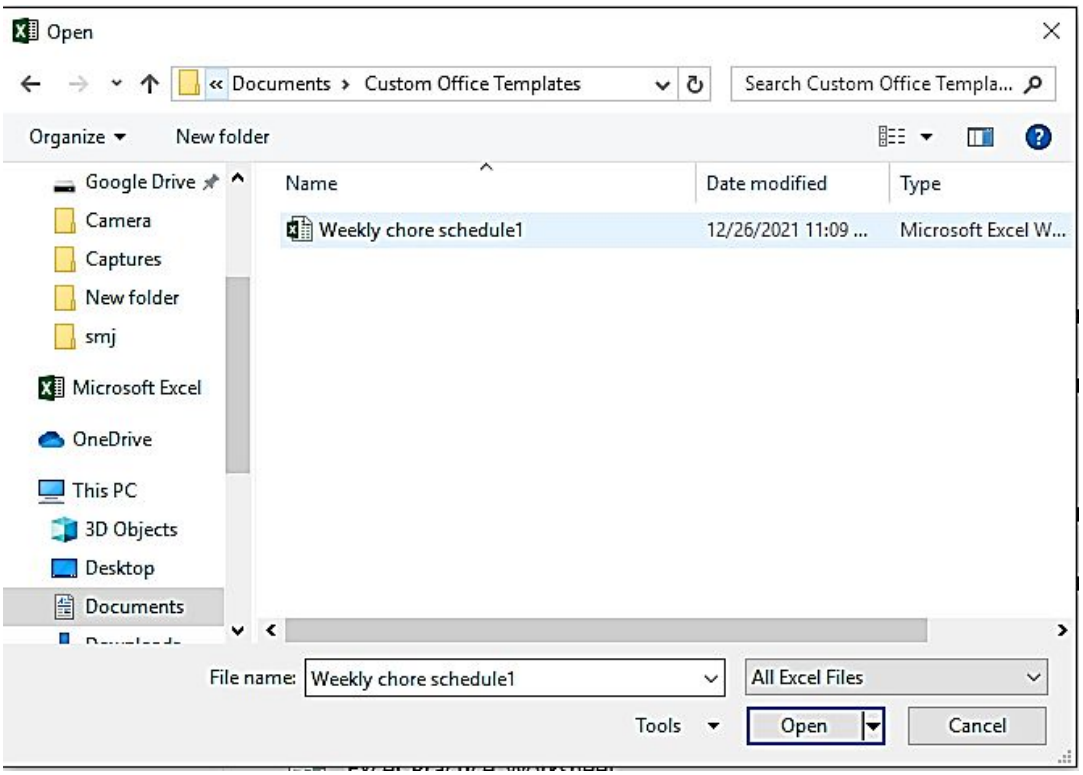
The template will begin to download. Once it's done, it will open up the template in your worksheet.



Modifying a template

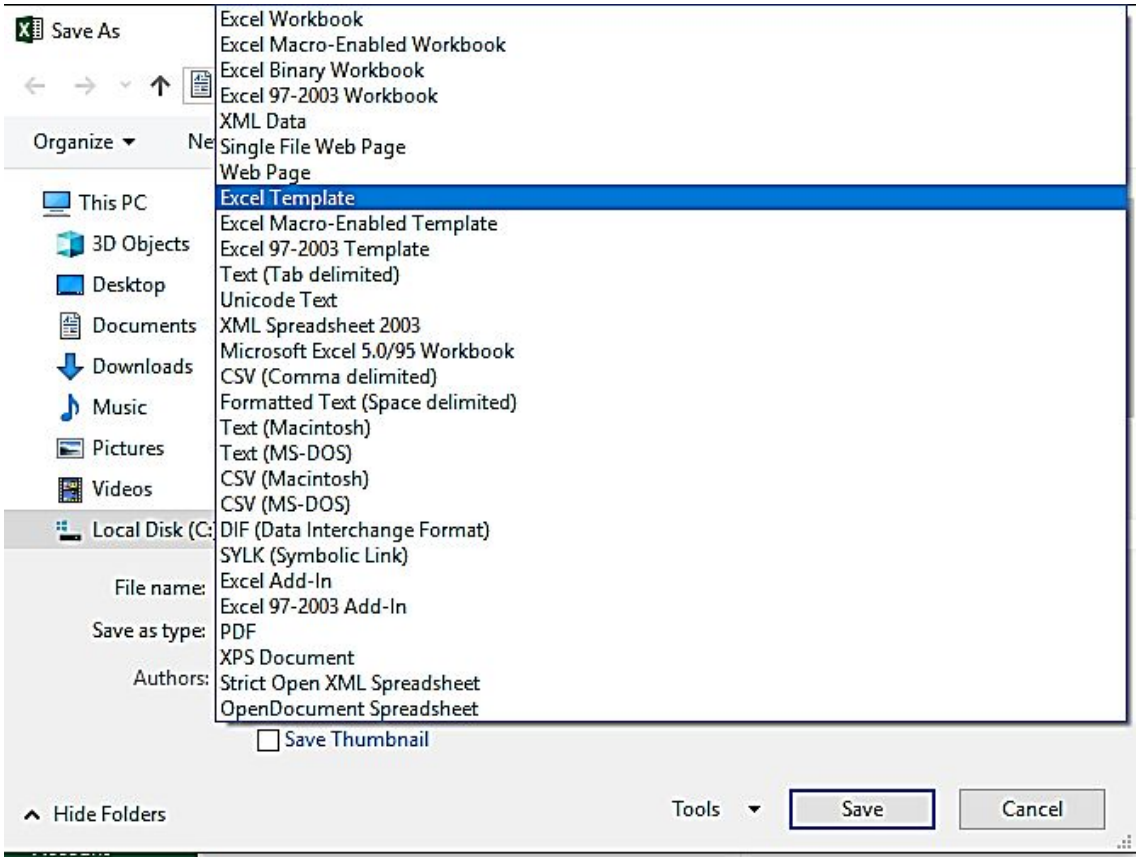
Open the Excel Template. Click File > Open > Browse. In the dialog box, open the location where the template is saved. When saved in the default save location, put this path in the Address box **C:\Users\%Username%\Documents\Custom Office Template**. Press **Enter**.

Click the file and select **Open**.



Creating a worksheet template

Create a blank workbook. Apply some data into it (if you want) then click on File > Save > Browse. Select a location where you want to save the file. On the Save as type box, click on the drop-down arrow and select Excel Template.



Click on Save to save the worksheet. By default, this file will be saved in the Template folder.

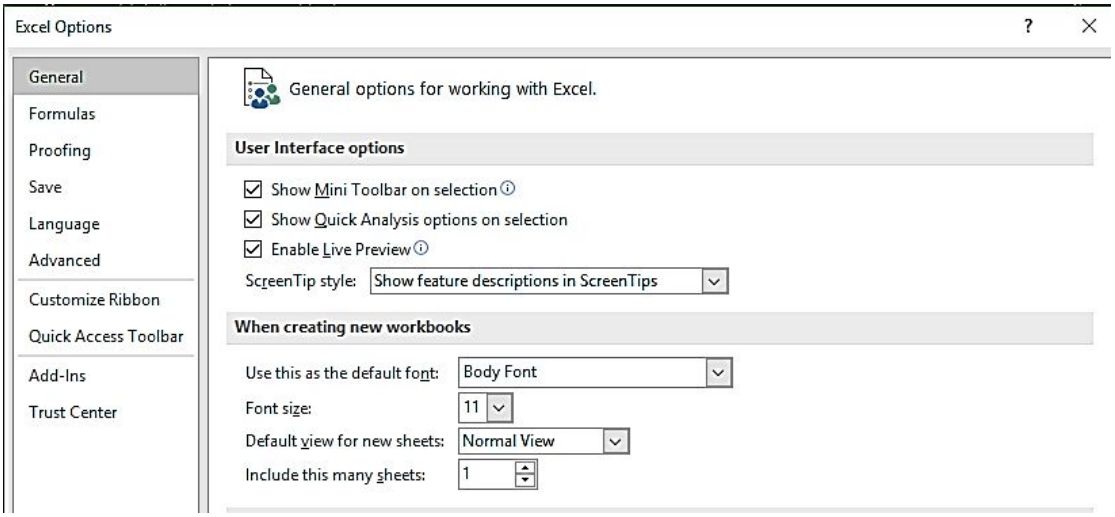
Editing your template

Click on File > Open > Browse. Click on Documents and select Custom Office Templates folder.

Select your Template, then click Open. apply the edits you want to your templates.

Resetting the default workbook

Click on File > Options. On the General tab, below When creating a new workbook option, choose the options best suitable for you. When you are done, click Ok.



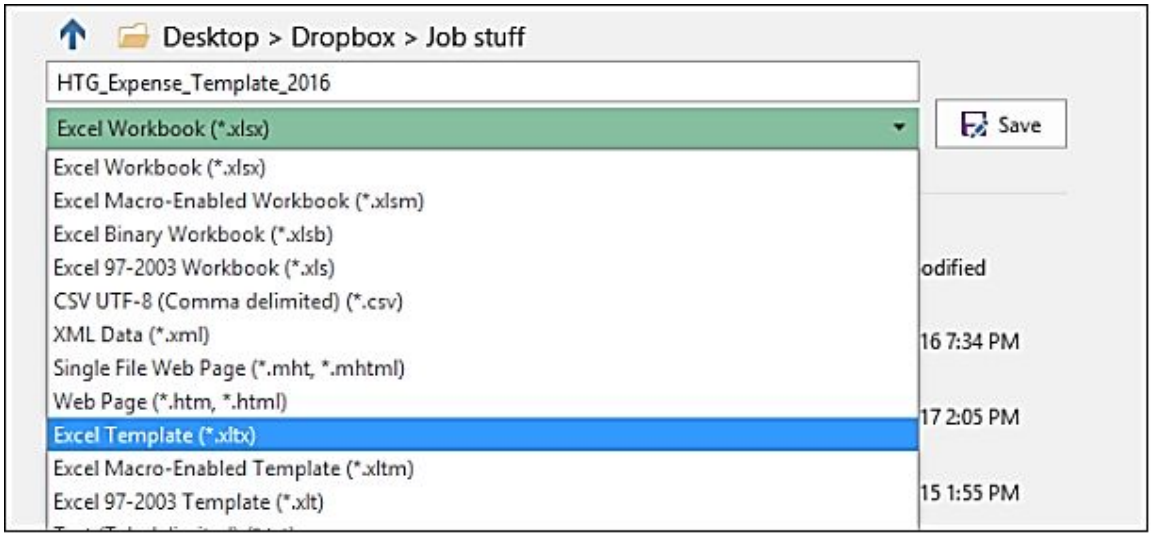
Using custom workbook templates

It's simple to create your own Excel templates. You begin by creating a workbook using the normal method, and the most difficult aspect is getting it to appear exactly how you want it to. Because whatever formatting, styles, text, and pictures you use in the workbook will appear in all subsequent workbooks based on this template, it's worth spending some time and effort in both the design and contents. You may save the following settings in an Excel template:

- The number of sheets and the kind of sheets
- Formats and styles for cells
- Each sheet's page layout and print regions
- To make particular sheets, rows, columns, or cells invisible, use hidden regions.
- Protected zones to keep some cells from changing.
- Text that should appear in all workbooks generated using the same template, such as column labels or page headers
- Formulas, hyperlinks, charts, photos, and other graphics are all examples of graphics.
- Drop-down lists, validation messages or warnings, and other data validation features are available in Excel.
- Options for calculations and window views, such as freezing the header row
- Custom forms using macros and ActiveX controls

Creating custom templates

After creating the workbook, click on File > Save as > select a location. In the dialog box, enter the name of the template. On the Save as type box, choose Excel Template **(*.xltx).** Select Excel Macro-Enabled Template **(*.xltm)** if the workbook consists of Macro. As you select these templates, the file extension in the **file name** field will change to the corresponding extension.



Saving your custom templates

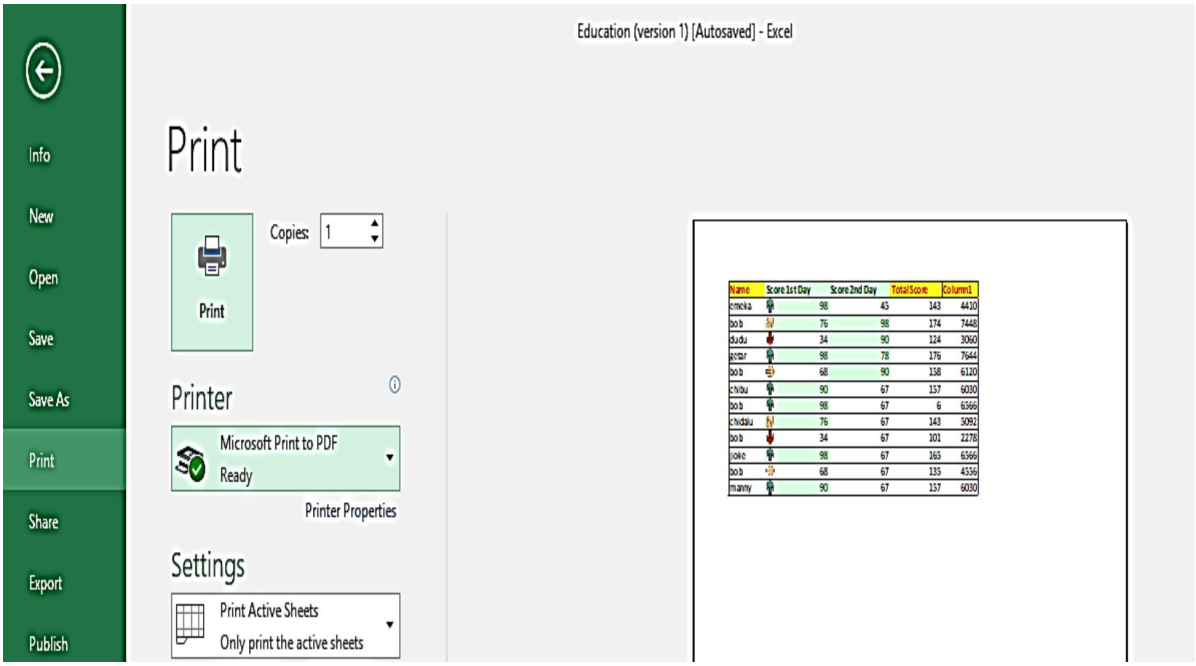
When saving your work as an Excel Template, the location will be changed by Excel. It will be saved to the default templates folder **(C:\Users\<User Name>\AppData\Roaming\Microsoft\Templates).** So, if you want another location for the file, try to change the location after choosing Excel Template **(*.xltx)** as a document type. Even though you choose another location, the copy of the file will be stored in the default template folder. So, click on **Save** to save your custom templates.

CHAPTER SEVEN

PRINTING YOUR WORK

Doing Basic Printing

Print in Excel is for printing the data in the worksheet, but only to the width that the printer option allows for chosen and available pages. The present worksheet, active sheet, whole workbook, any chosen table, or any specified range of worksheets may all be printed. To print your work, simply open the worksheet, click on **File** > **Print**. On the **Print setting** menu, click the arrow and pick **Print Entire Workbook**. Then, select how many copies you want. Click **Print**.

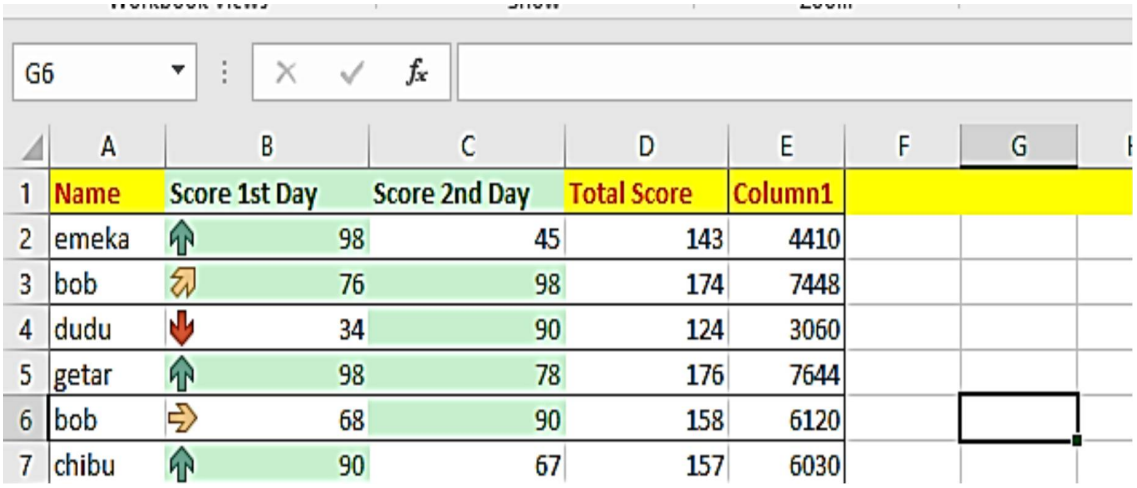


Changing your Page View

This is an excellent way of knowing how your worksheet appears when printed. On the page view, the functionalities of the normal view will be there but this time you will have a few more tools like header, footer, layouts, and more. This will help you complete your page perfectly.

Normal view

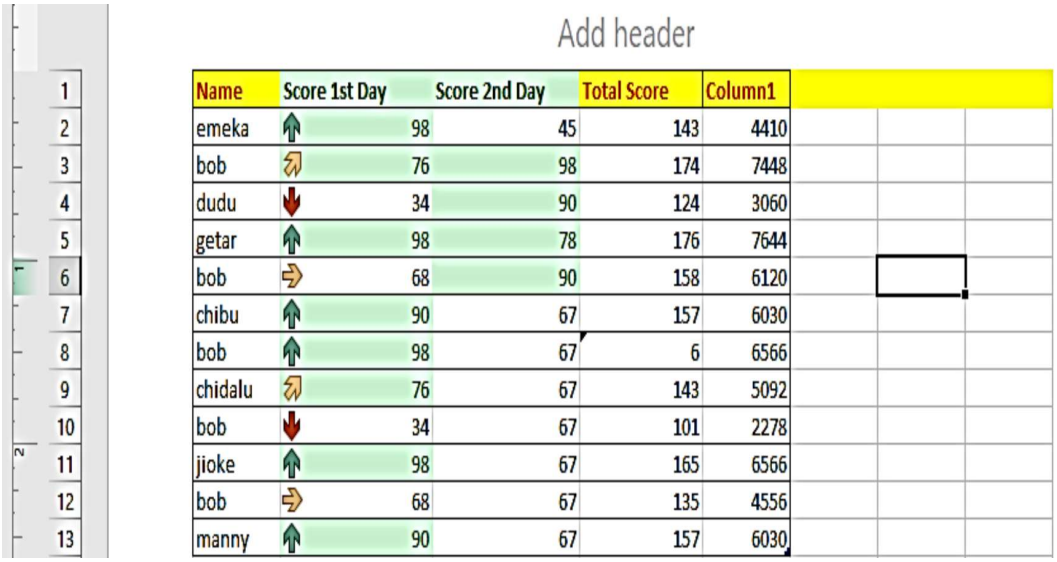
The standard view of your worksheet. How your worksheet looks when you've not made any view edit on it.



	A	B	C	D	E
1	Name	Score 1st Day	Score 2nd Day	Total Score	Column1
2	emeka	98	45	143	4410
3	bob	76	98	174	7448
4	dudu	34	90	124	3060
5	getar	98	78	176	7644
6	bob	68	90	158	6120
7	chibu	90	67	157	6030

Page layout view

Select the worksheet that you want to change the view. Click the View tab on the ribbon, then select **Page Layout View**. Your workbook will be displayed in the page layout view as you can see in the image below.

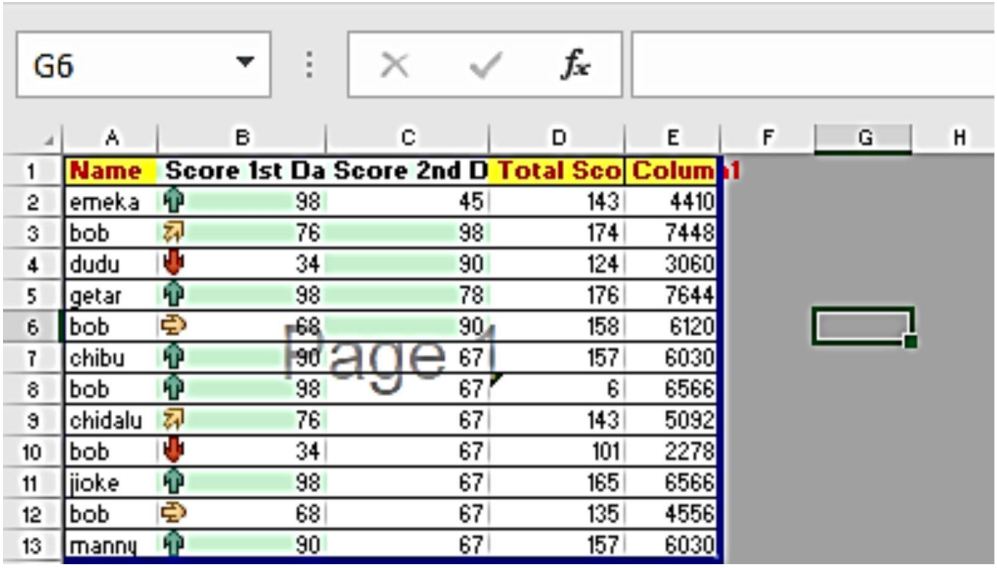


Add header

	Name	Score 1st Day	Score 2nd Day	Total Score	Column1
2	emeka	98	45	143	4410
3	bob	76	98	174	7448
4	dudu	34	90	124	3060
5	getar	98	78	176	7644
6	bob	68	90	158	6120
7	chibu	90	67	157	6030
8	bob	98	67	6	6566
9	chidalu	76	67	143	5092
10	bob	34	67	101	2278
11	jioke	98	67	165	6566
12	bob	68	67	135	4556
13	manny	90	67	157	6030

Page break preview

Select the worksheet. Click View, then **Page Break View**.

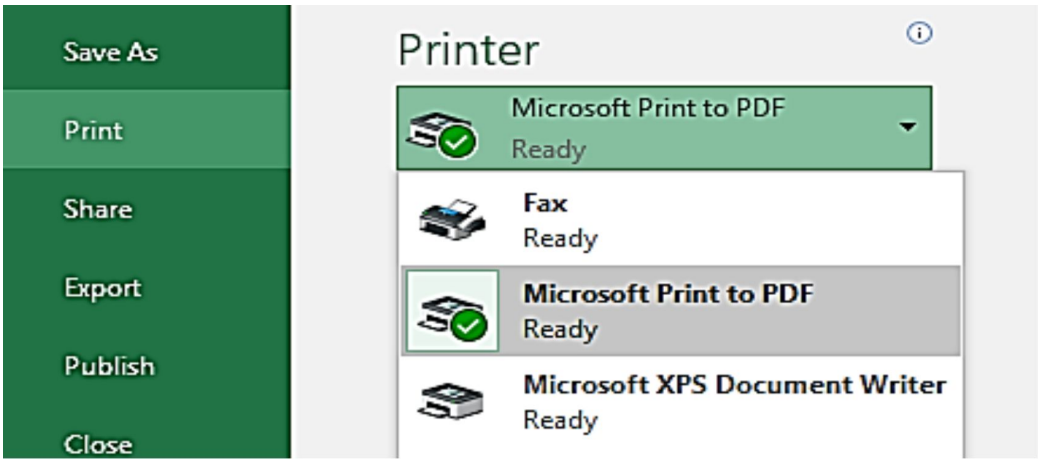


	Name	Score 1st Da	Score 2nd D	Total Sco	Colum
2	emeka	98	45	143	4410
3	bob	76	98	174	7448
4	dudu	34	90	124	3060
5	getar	98	78	176	7644
6	bob	68	90	158	6120
7	chibu	90	67	157	6030
8	bob	98	67	6	6566
9	chidalu	76	67	143	5092
10	bob	34	67	101	2278
11	jioke	98	67	165	6566
12	bob	68	67	135	4556
13	manny	90	67	157	6030

ADJUSTING COMMON PAGE SETUP SETTINGS

Choosing your printer

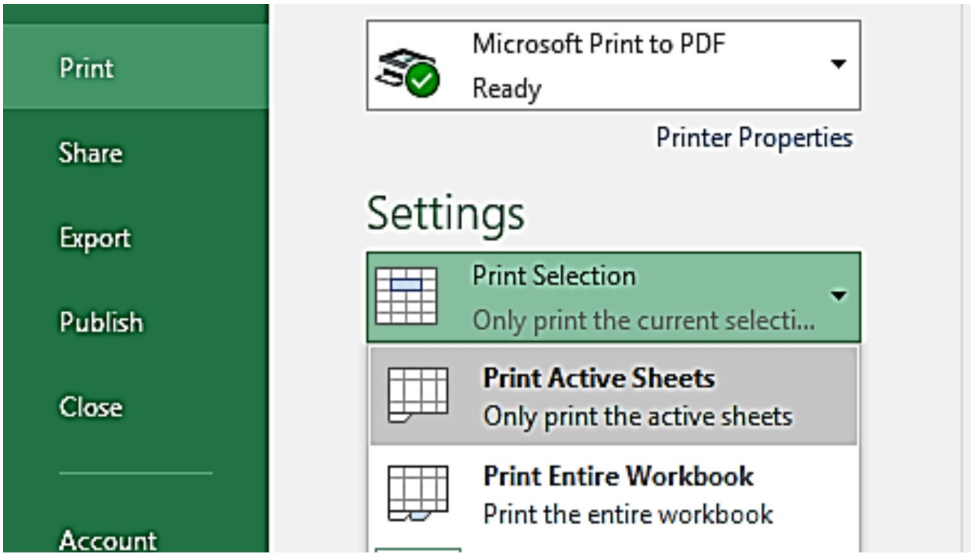
To print, your work, you need a printer. So, on the print page, click on the drop-down arrow below the Printer section. You will see a list of printers, select one from there. If you want to add a printer, click Add Printer.



Specifying what you want to print

When printing a workbook, you can decide what you want to print from that particular workbook. When you go to the print setting menu and click

on the drop-down arrow, you will see a list of options in which you can select how you want to print your workbook.

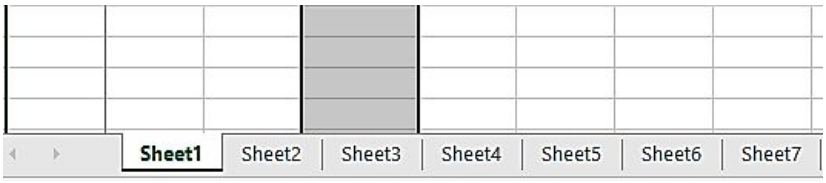


Below are the options you will see and what it means;

1. **Print Entire Workbook**: To print the whole workbook. If you have many sheets, use this option to print them all.
2. **Print Selection**: For printing just the current selection in your workbook. So, to print some portion of your worksheet, simply highlight the areas, then select this option.

SALES REPORTS 2022			
MONTH	SALES	DATES	TIME
JAN	100	12/10/2021	12:17 PM
FEB	200	12/11/2021	1:17 PM
MAR	300	12/12/2021	2:17 PM
APR	400	12/13/2021	3:17 PM
MAY	500	12/14/2021	4:17 PM

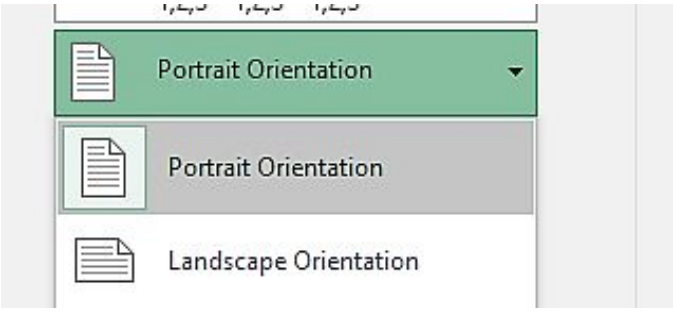
3. **Print Active Sheets**: To print just the active sheet i.e. the sheet that's being displayed on the screen. In the image below, the active sheet is Sheet 1. So that is what you will print.



4. **Print Selected Table**: This option is to print the selected table on your worksheet.

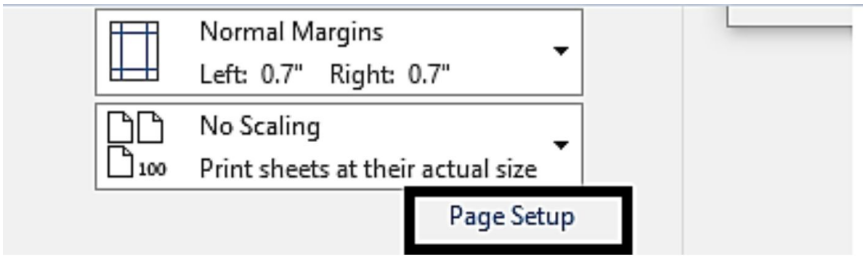
Changing page orientation

There are two types of page orientation in Excel which are Landscape orientation and Portrait orientation. The Portrait orientation is mostly used when you have more rows and lesser columns on your worksheet while Landscape orientation is used when you have more columns and lesser rows on the worksheet. You will find this page orientation on the Print setting menu.

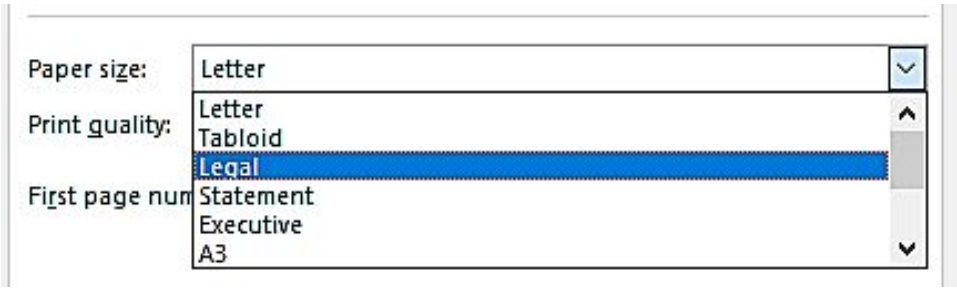


Specifying paper size

Click on Page Setup below the Print Setting option.

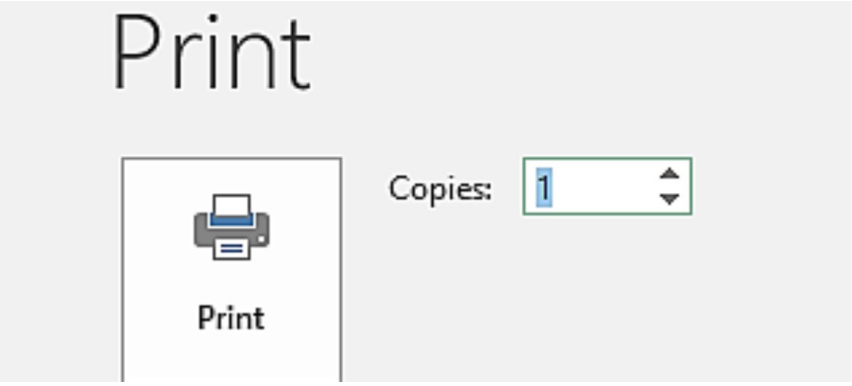


In the dialog box that opens, click on the drop-down arrow on the Paper Size option. Pick the paper size for your workbook.



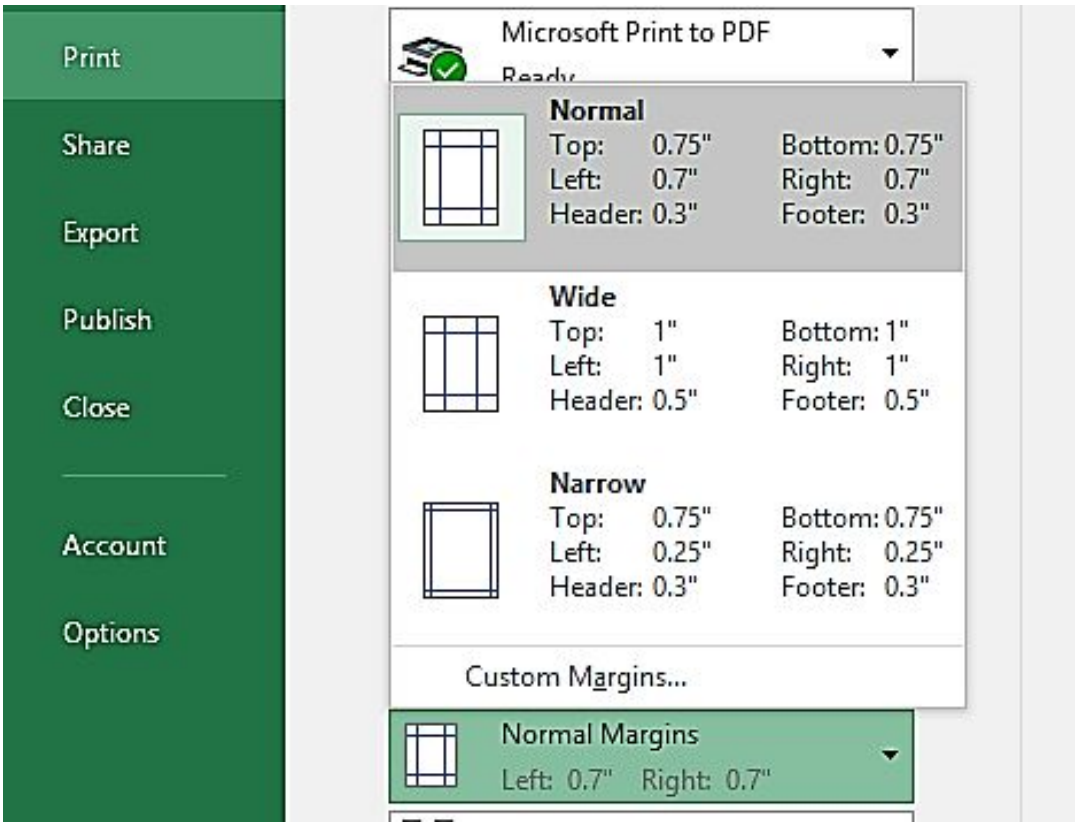
Printing multiple copies of your reports

If you want to print more copies, click on the arrow next to the Copies option. Type in the number of copies you want and then click Print.



Adjusting the page margins

to change the page margins of your worksheet, click on the arrow on the Normal Margin option. You will see different options for margins. Select the one you want to use.

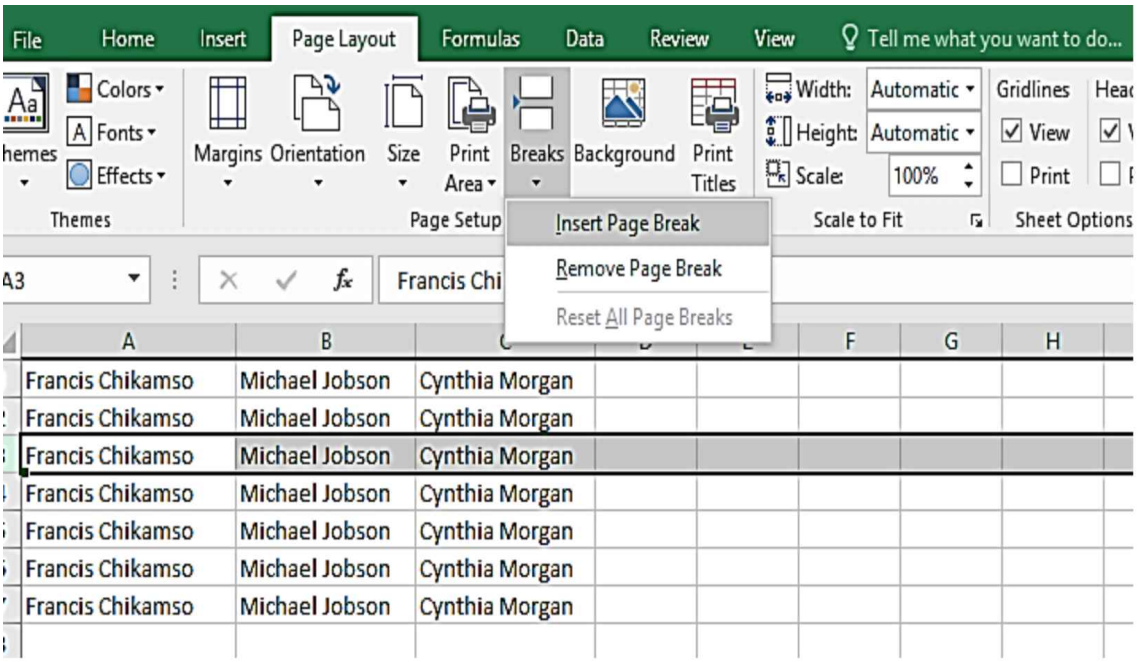


Understanding page breaks

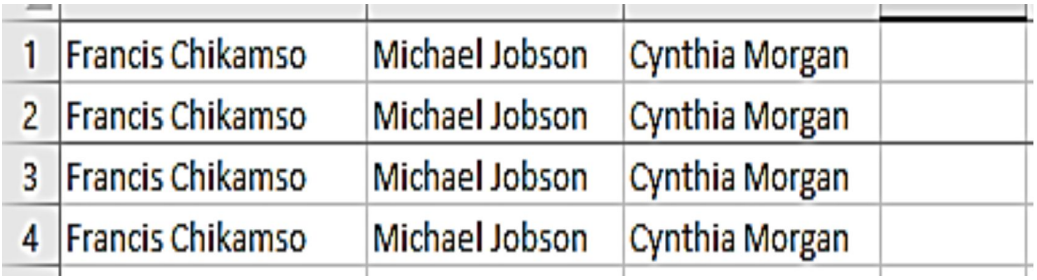
As the name sounds, Page Breaks is used to break pages into different forms. In Excel, it is used to reduce the length of a page to minimize data misalignment when printing the work.

Inserting a page break

First, choose the row or column for the page break. Click Page Layout. On-Page Setup, click Breaks and select Insert Page breaks.



This action will display a thick line on the worksheet to let you know where the new page starts from.

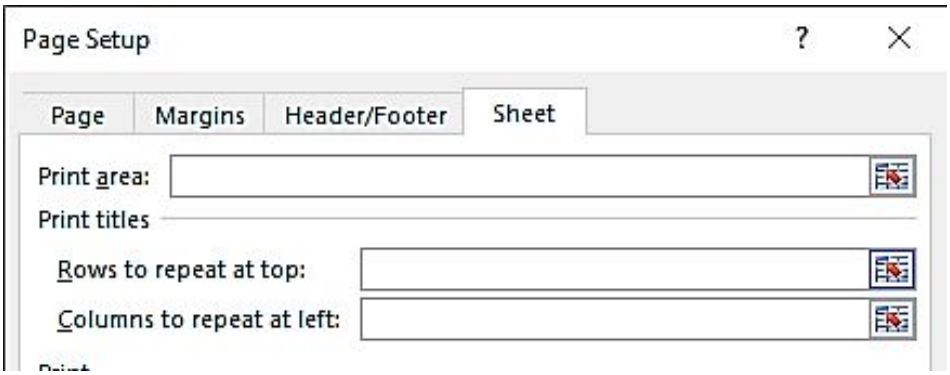


Removing manual page breaks

To remove the page breaks, click on a cell that is below the cell you inserted a page break, click on Breaks, then select **Remove Breaks**.

Printing row and column titles

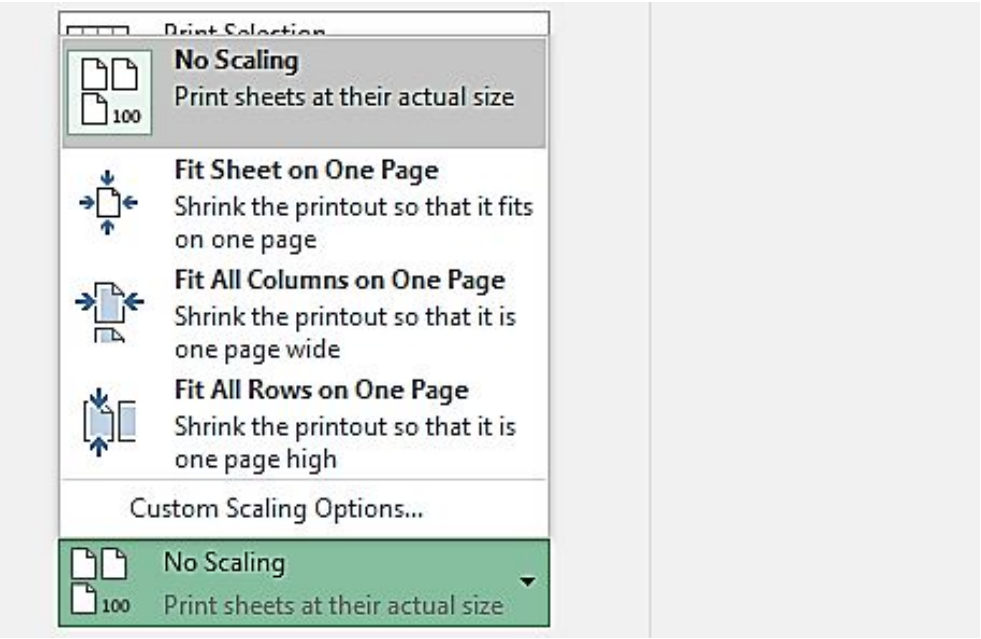
Click the Page Layout tab, select **Print Titles**.



On the Rows to repeat at the top and Columns to repeat at the left box, choose the row or column you wish to print. After that, click Ok.

Scaling printed output

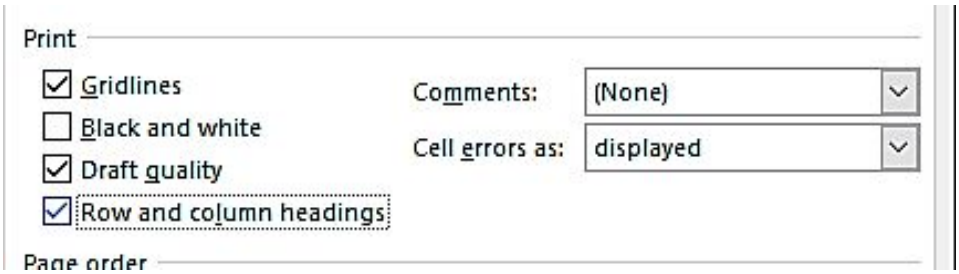
Scaling is used to determine how you want to print the sheets. Click on the Scaling arrow to see the list of options just as you can see in the image below. You can decide to print the actual size of the sheets, fit the sheets on one page, fit all columns on one page, or fit all rows on one page.



Printing cell gridlines

By default, the letters and numbers that function as row and column headings do not print. Neither do the gridlines on the worksheet. If you need to print them also while printing, then you can turn them on. So, on

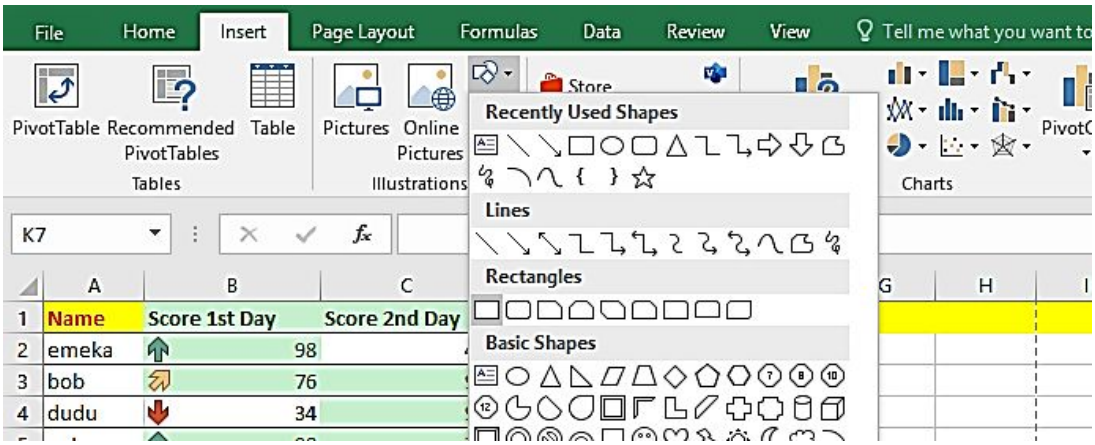
the ribbon, click Page Layout, then select Print Titles. On the Page Setup box, check the box next to Gridlines. If you also want to print the row and column headings, check the box close to the option. Once you are done, click Ok.



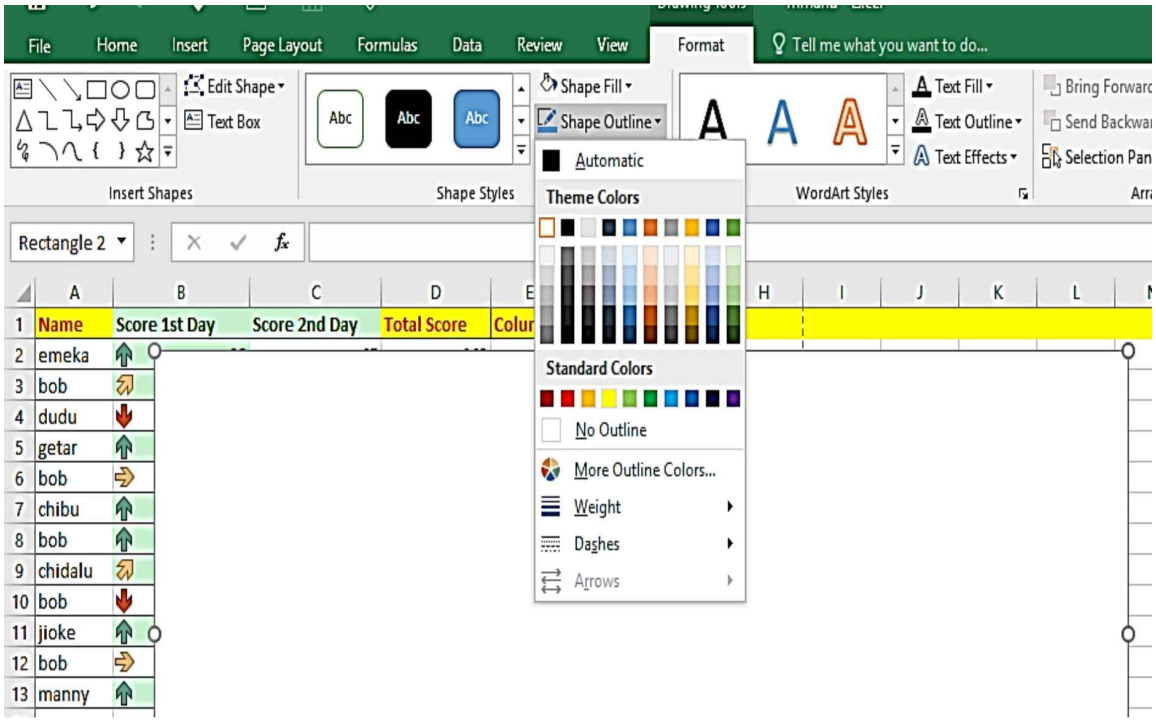
Using a background image

By default, when printing a worksheet, it only prints the cells which contain the data. If there is any other content on the worksheet, it won't be printed. However, you can add a background to your excel printouts. You can add a background by clicking on Page Layout, then, select Background. The issue with this step is that excel will not be able to print any backgrounds that have been added this way. So you can make use of shapes, images to work this out. So, let's insert a shape and use it as our background image.

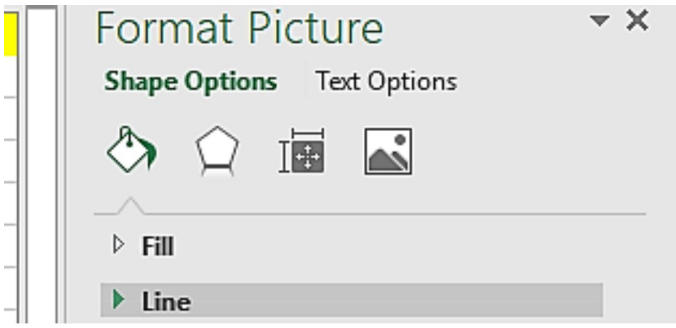
Click **Insert** and on the illustrations group, select the **Shape icon** and click on the arrow. Select any shape. Here, I choose a shape from the rectangles shape group.



Then, draw how you want the shape to be on the worksheet. The Drawing Tool tab will now be active. Click Shape fill. Select White. Then, click Shape Outline. Then, select White as the outline color.



Now, on the shape, right-click. Chose Format Shape. This opens up the Format Picture pane



On the pane, click on Fill. Then, choose the Picture or texture fill option. Click on File. This opens a menu where you will select the picture you want to use. Click on the picture and click **Insert**. Check the box next to the Tile picture as a texture option. On the transparency slide, set it to 75%.

Now, click on the size and properties icon (the third icon on the Shape Options). Click on Properties, check the box next to Move and size with cells, and also the box next to Print Object. Then, click **Close**.

Now, click File > Print. You will see the preview of the page with the background image on it.

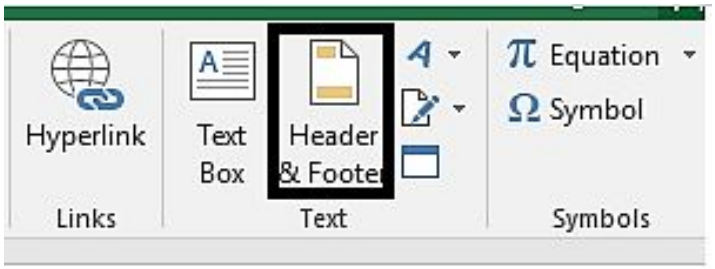
Adding a header or a footer to your reports

A document's header is a text or picture that appears at the top of every page. A header may make your content stand out. Including a header in your papers can save you time when it comes to creating templates since it will display on every page.

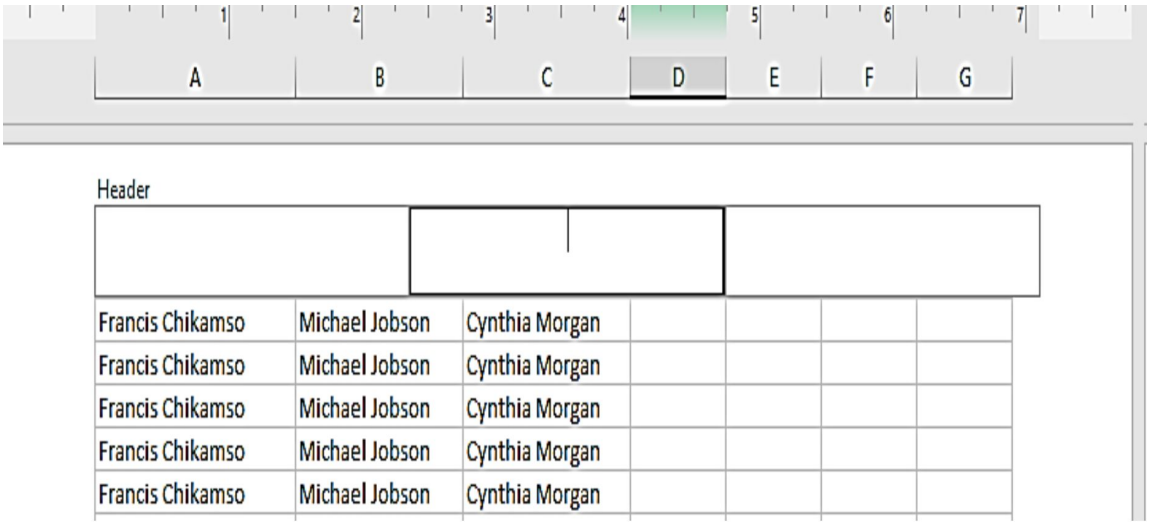
A well-crafted header may pique your audience's interest right away. If you want to be heard, you must first engage your reader. And having a terrific header in your reports and/or articles is one of the most effective methods to hook them.

Inserting a header

Open the Excel file. On the ribbon, click on the Insert Tab. Then, select Header and Footer from the Text Group.

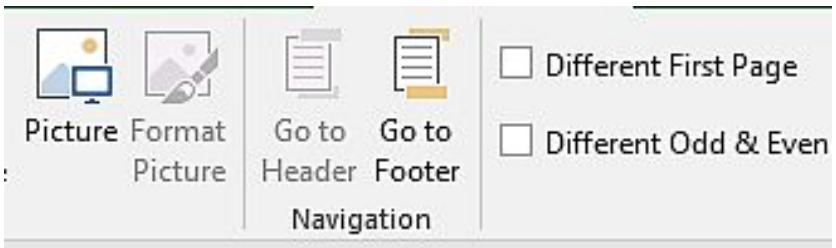


Your worksheet will be displayed in a **Page Layout View**. Now, on the box above the worksheet, enter in the header. By default, you write your header in the center box, but you can also write on the other boxes. Just click on them and write.



Inserting a footer

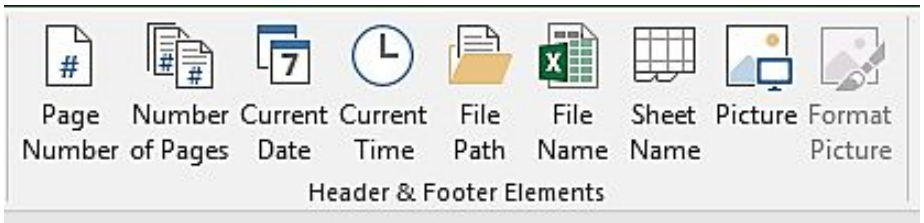
A footer is more like a header but this time it is located at the bottom of the page. It is as important as a header. You can add information like your contact address, page number, homepage link, and so on your footer. To insert footer, click on the Insert tab, select **Header, and Footer,** then go to the Navigation group and select **Go to Footer**.



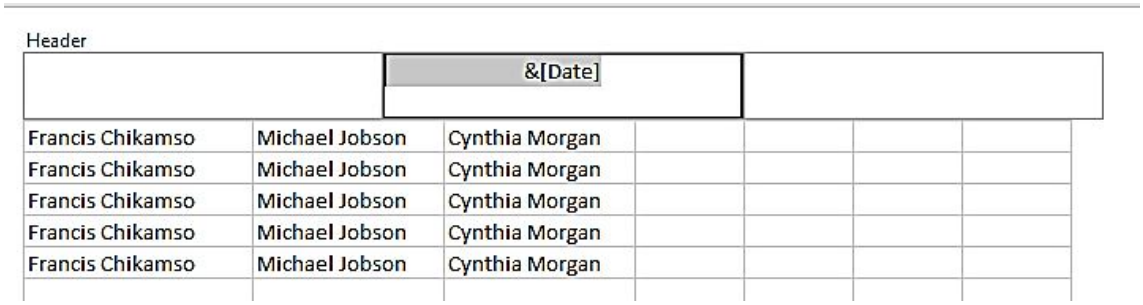
This will lead you to the footer below the page.

Understanding header and footer element codes

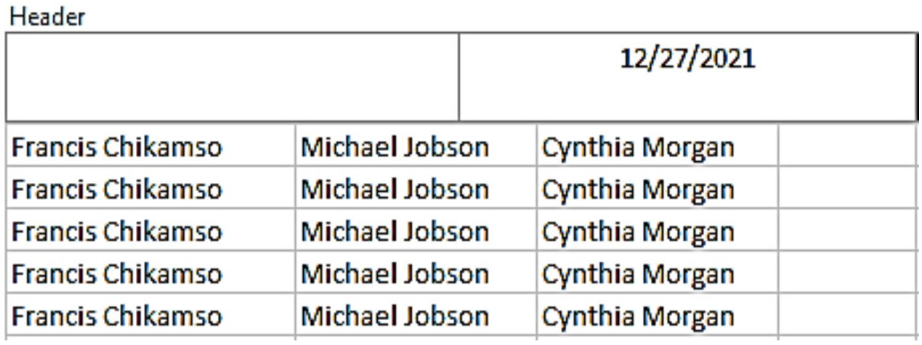
There are elements that you can apply to the header and footer of your page. Some of the elements are File path, Picture, Page Number, Current Date, File Name, Sheet Name, Current Time, and so on. To apply any of them, click on the icon of the elements you want to use.



Let's say you want to insert the current date on the header, just click on **Current Date**, you will see this **&[Date]** written on the header.

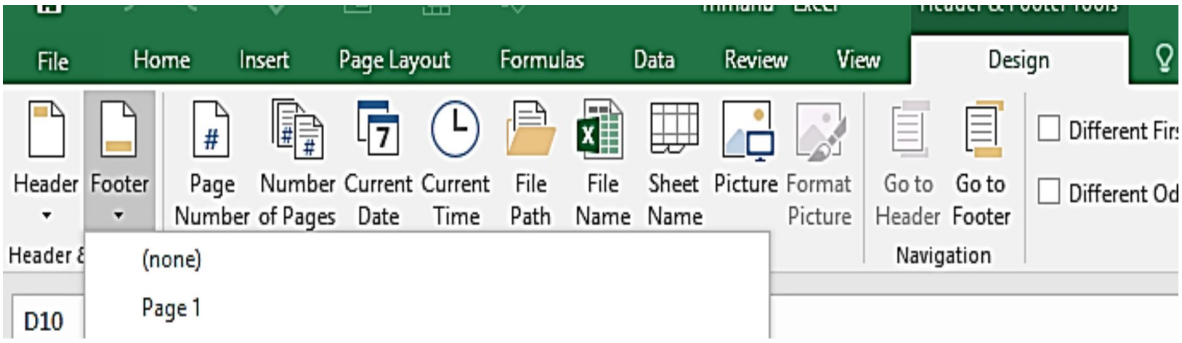


Click on any area on the worksheet to see the current date written there.



Exploring other header and footer options

There are also other options you can make use of. On the Design tab, hit the down arrow on the Header and Footer icons to see the list of headers or footer options.

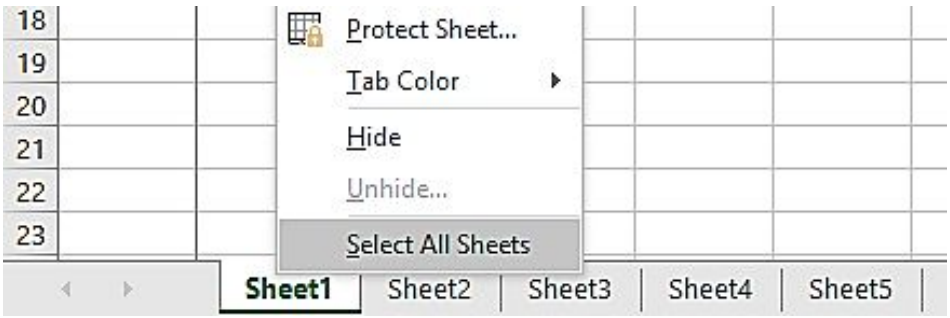


EXPLORING OTHER PRINT-RELATED TOPICS

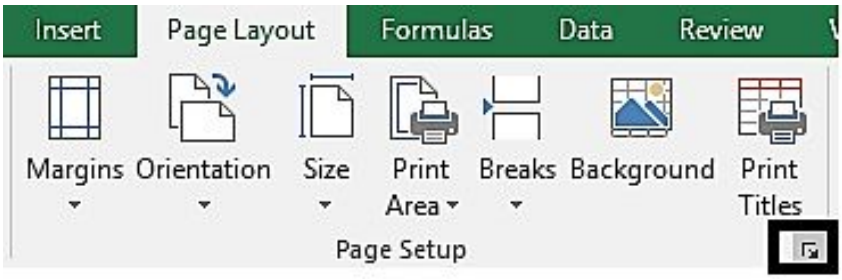
Copying page setup settings across sheets

Say you've got a workbook containing many worksheets, but you wish to make an identical page setup based on a sheet. If you simply have one worksheet, you may quickly set the page setting for it. Also, if you wish to create the same page configuration for additional worksheets in your workbook, doing so one at a time is not a smart idea. Follow the steps below to do so;

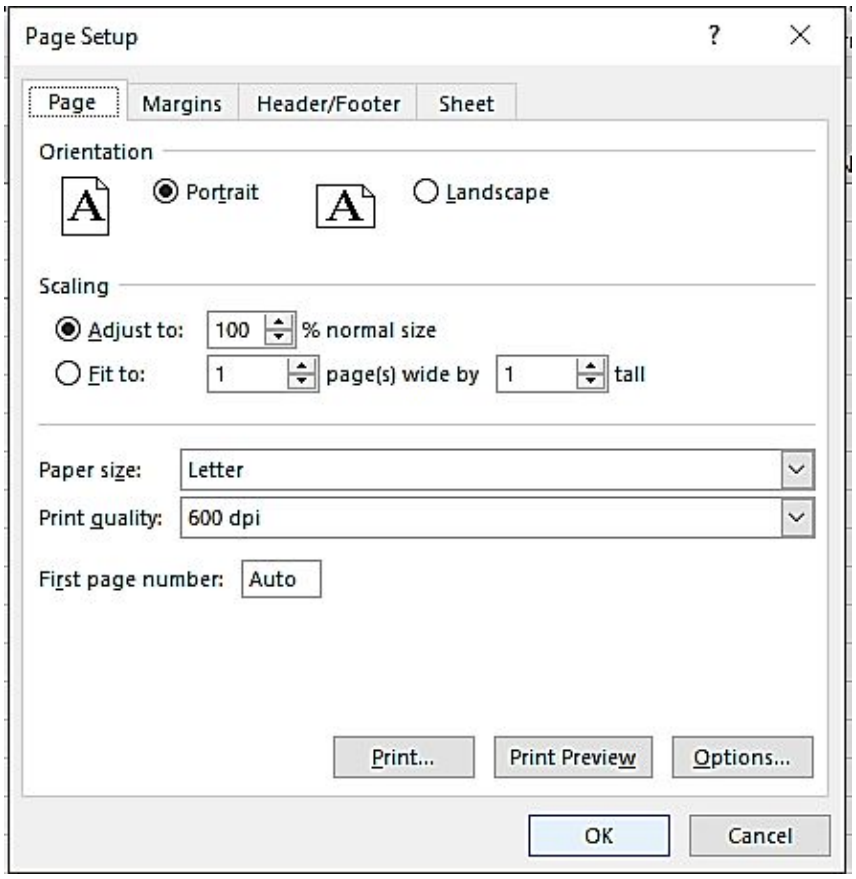
Click on the worksheet tab in which you want to copy the page setup. Right-click and click on Select **All Sheets**.



Click the Page Layout tab. On the Page Setup group, click on the small arrow located at the bottom right of the group menu.



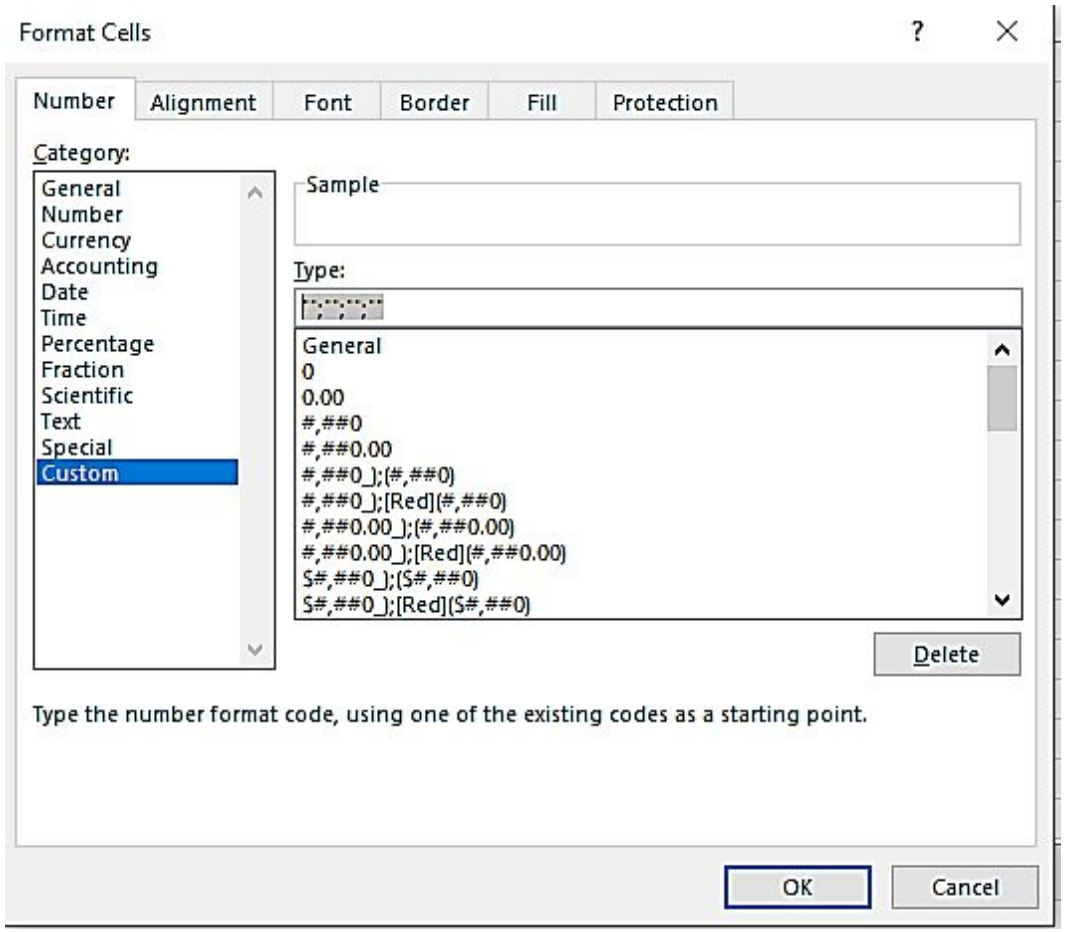
This will open up the Page Setup Dialog box. Then, click Ok. This will copy the page setup of the active worksheet to the selected worksheet.



To ungroup the worksheet, right-click on a tab, then, click Ungroup Sheets.

Preventing certain cells from being printed

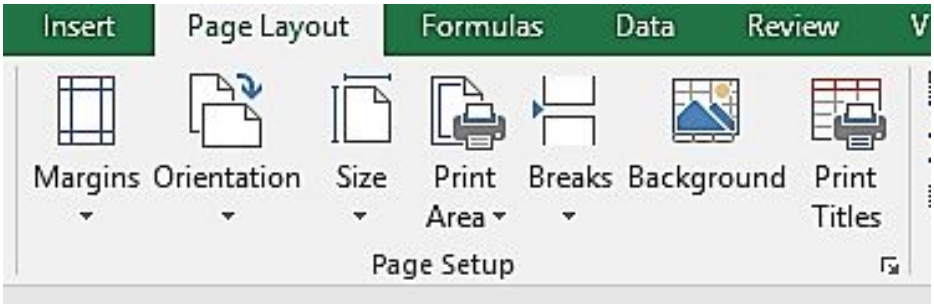
First, click on the cells. Right-click and select Format Cells. You will see the Format Cell dialog box, then click on the Number tab and select Custom. In the type option box, type in this **"";"";"";""**. Then, click Ok. This will hide the contents of that cells.



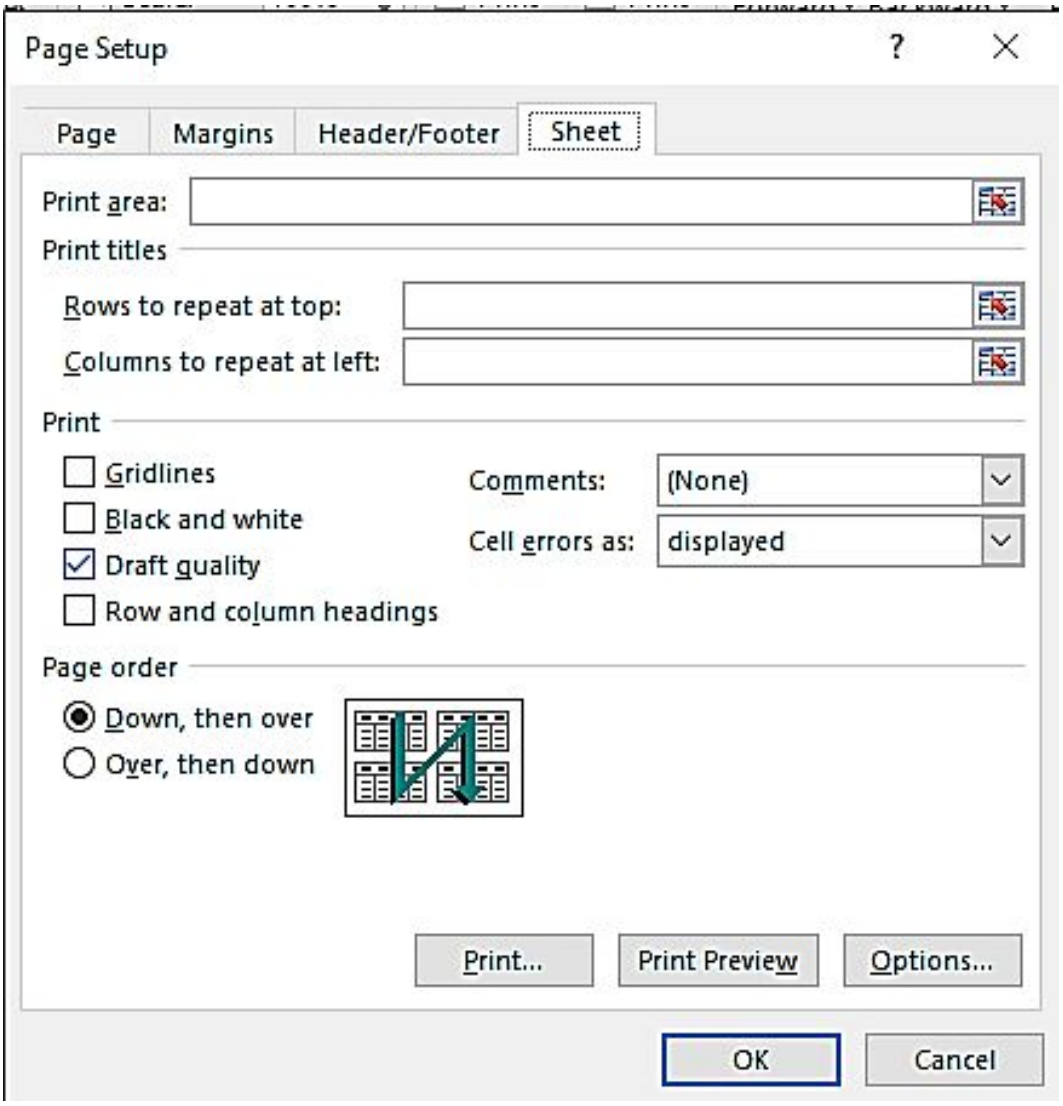
Preventing objects from being printed

You may have objects like boxes, pictures, shapes, etc. on your workbook but don't want to print them alongside other data.

To prevent them, first, click on Page Layout and select **Print Titles**.



Click on the Sheet tab and check the box on the Draft quality option. Click on **Print Preview** to see if the object is on the preview. It will not be available. Then, click Ok.

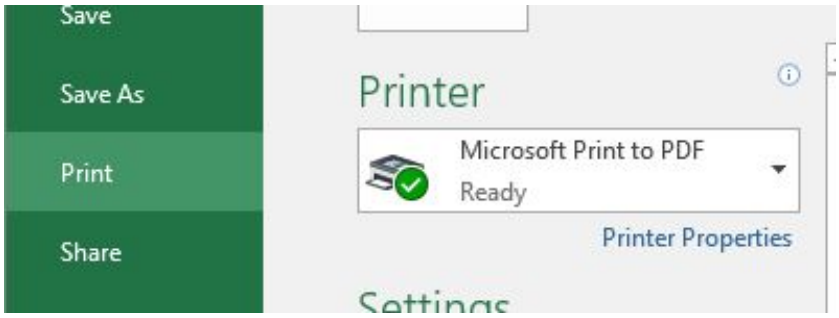


Creating custom views of your worksheet

The custom view helps in making your presentations smooth. To create custom views, simply choose the area on your worksheet for the view. Click View, then select Custom Views. Click Add, enter the name for the custom view. Then, select Ok. To navigate to a view, click on the down arrow on Custom View, then pick a view.

Creating PDF files.

Click on **File** > **Print**. On the Printer option, click the down arrow and select Microsoft Print to PDF. Then, click Print. A menu will appear where you will choose the location for the file and the file name.



Excel print's Limitations

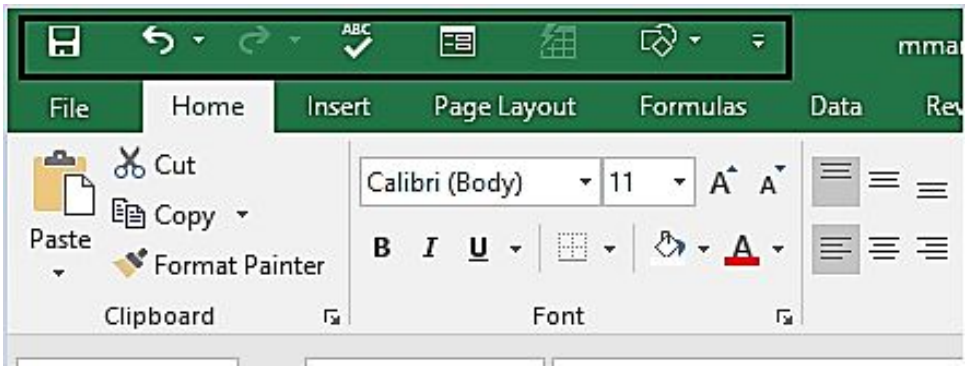
- When your printout is illegible, Excel does not notify you.
- Adjusting the margins from the Preview Pane is difficult.
- It will be difficult to discern cell borders when a user produces a worksheet or a table without gridlines.

CHAPTER EIGHT

CUSTOMIZING THE EXCEL USER INTERFACE

About the Quick Access Toolbar

The Quick Access Toolbar is located at the top left-hand side of the Excel window (above the ribbon) by default. You easily access some tools from there. It saves you time.

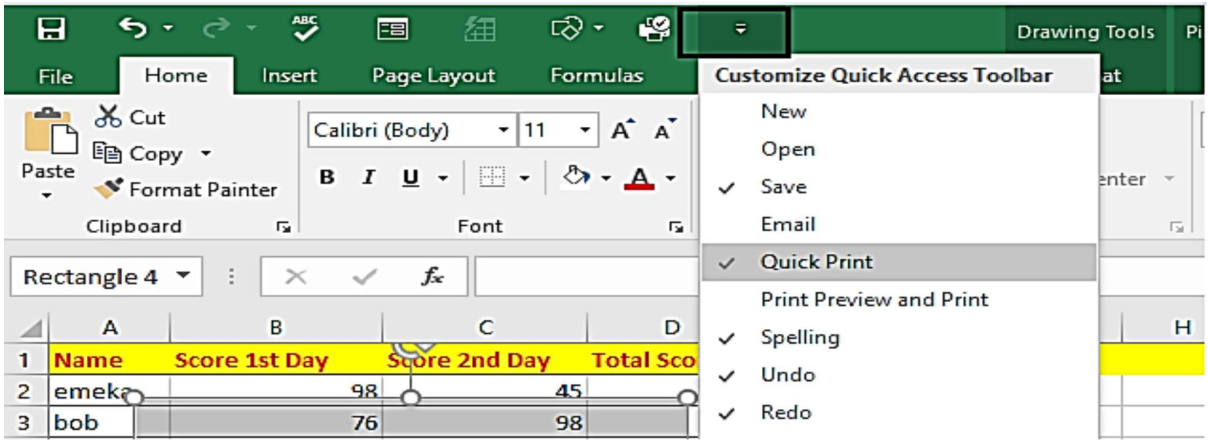


Customizing the Quick Access Toolbar

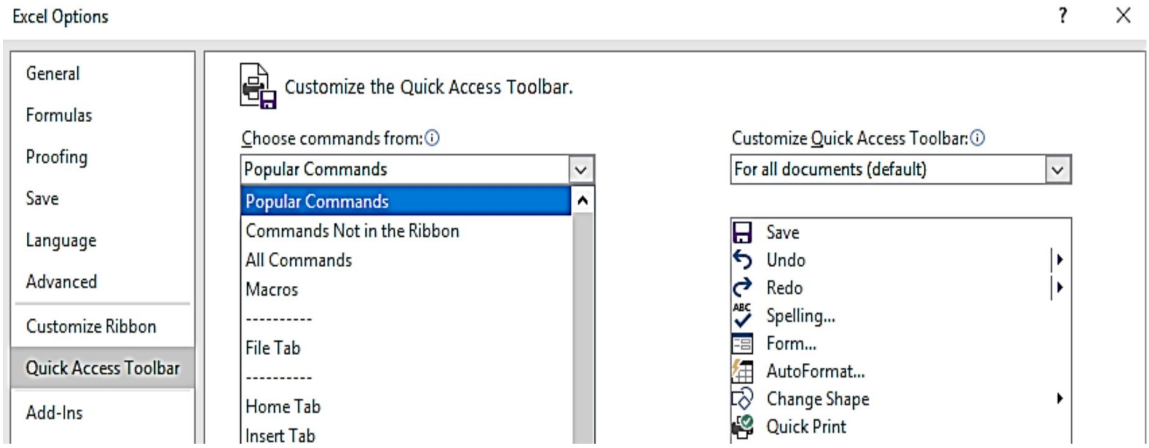
You can make some changes to the default settings of the Quick Access Toolbar. You can add more tools, delete, and even change the position.

Adding new commands to the Quick Access Toolbar

On the Quick Access Toolbar, click the down arrow to see the list of commands. Click on any to add it to the toolbar.

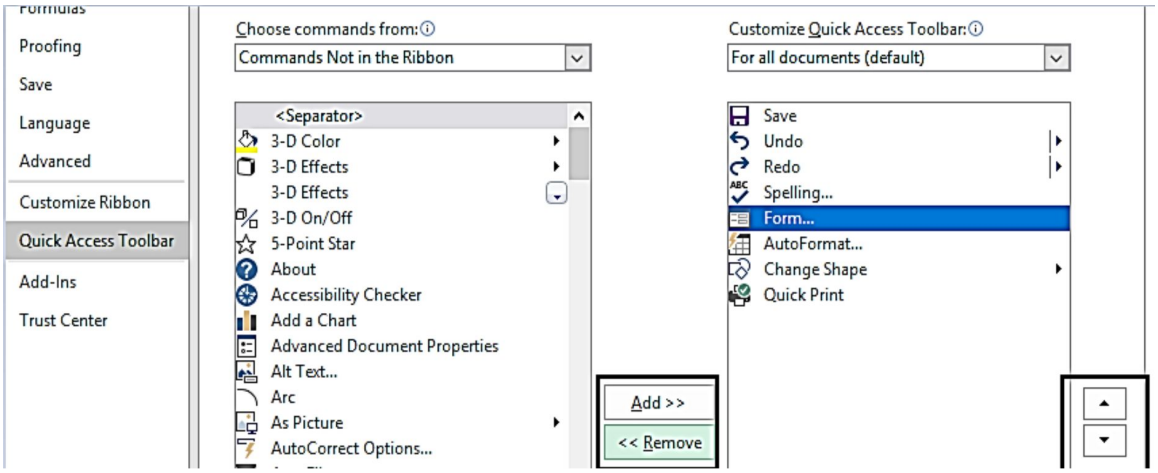


If the command you want to add to the toolbar is not on the list, click on More Commands. This will open up the Excel Options window. On the Quick Access Toolbar menu, you will be the Popular commands listed for you. You can also find other commands. Simply click on the arrow below the Choose Commands from option and select any of the options such as Commands Not in the Ribbon, All Commands, Macros, and others.

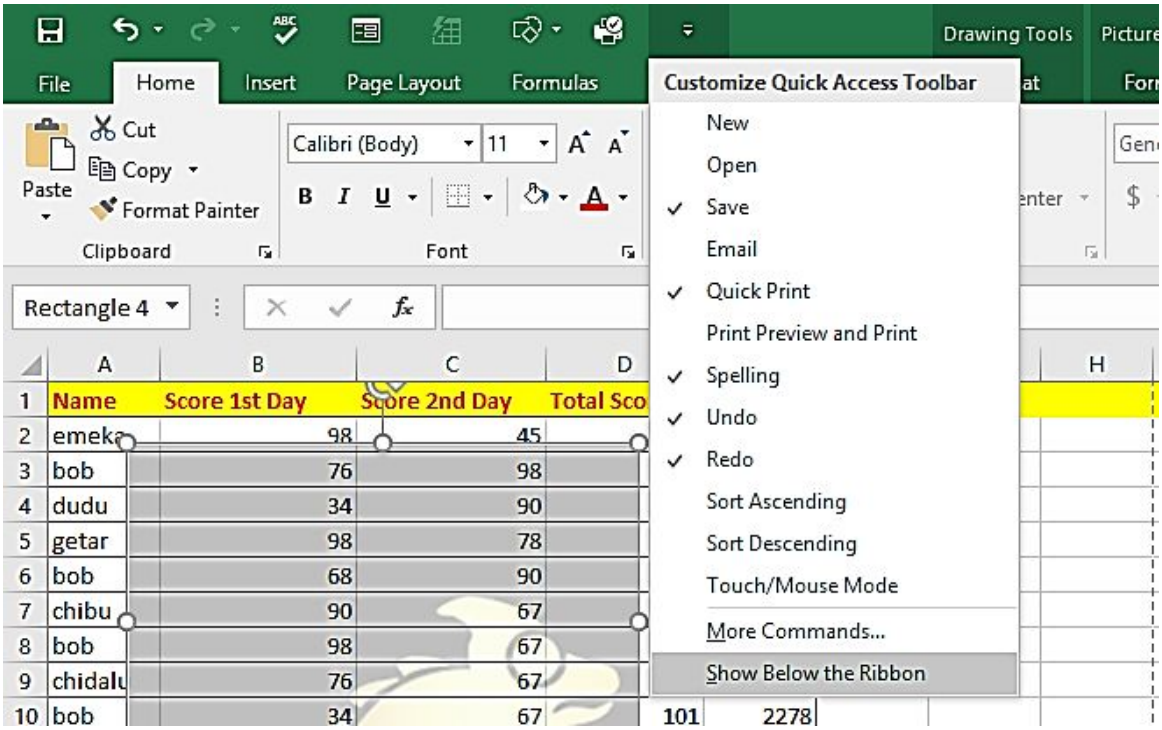


Any of the options you select has a list of commands that you can choose from. Choose the command, then click on **Add>>.** The command will be displayed on the right side of the menu. After you have clicked **Add>>,** click **Ok**. To remove a command, click on the command and then click **Remove**.

You can also rearrange the order of the commands. Simply click on a command, then click the up or down arrow at the right-hand side to move the command above (to the left) or below (to the right).

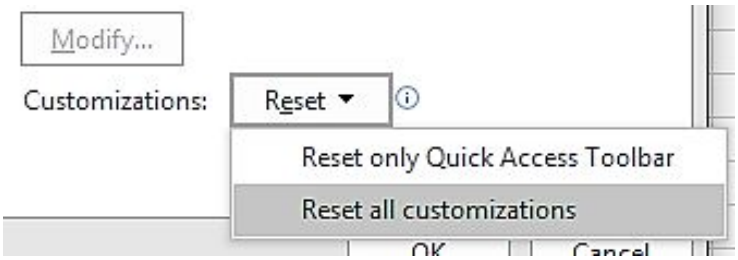


You can also change the position of the Quick Access Toolbar. Simply click on the drop-down arrow and click on Show Below the Ribbon. The Quick Access Toolbar will go down below the ribbon.

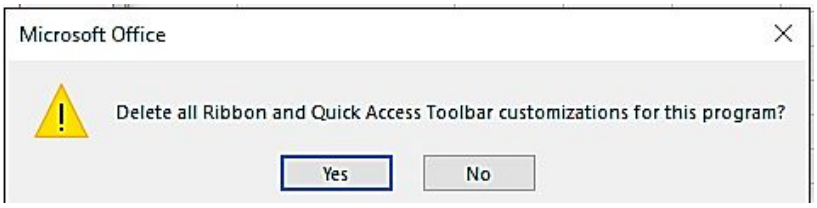


Other Quick Access Toolbar actions

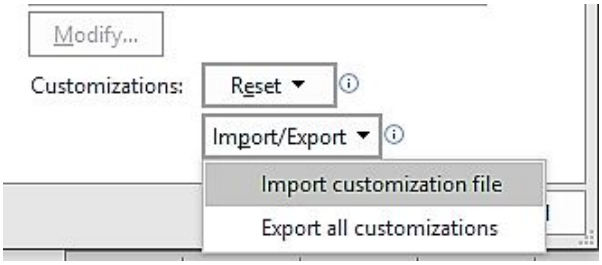
You can reset the customizations you made on the Quick Access Toolbar. When you reset it, all the commands you added will be gone. To do this, right-click on the Quick Access Toolbar and select customize the ribbon. Below the menu, at the right-hand side, click on the drop-down arrow on the Reset option and select **Reset All Customizations**.



A dialog box will appear for you to confirm your action. Click Yes. Then, click Ok.



You can also Import or Export customization files. Simply click on the **Import/Export** option and select an option. When you click Import, it opens up a menu where you will choose the customization file you want to import.



Customizing the Ribbon

This is where you get access to all the commands you are to use when working on your workbook. You can change the settings of the ribbon. You can hide the tabs or show them, add your tab or group to the ribbon, rename groups and rearrange them, and lots more.

Why you may want to customize the ribbon

You may like to have your tab or group on the ribbon. You will like to include those commands that you often use in the ribbon by adding them to a group and building a tab for them so that you can easily access them. You

may also want to not display some tabs that you rarely use. Whatever the reason may be, I will guide you on how to do all these.

What can be customized

Yes, the ribbon is customizable but it is not everything on the ribbon that you can customize. Things you can customize in the ribbon are: Showing and Hiding tabs, renaming tabs, adding and removing groups from the ribbon, exporting and importing your customized ribbon, rearranging tabs, custom commands, and groups, and creating a new tab and group.

What cannot be customized

The color of the ribbon cannot be customized, however, customizing the color scheme of the whole Office is possible. Ribbon size, text size, and default icons are not customizable but it is possible to hide the ribbon or customize it to display just the names of the tabs. You cannot change the names, icons on the ribbon. You cannot remove the built-in commands.

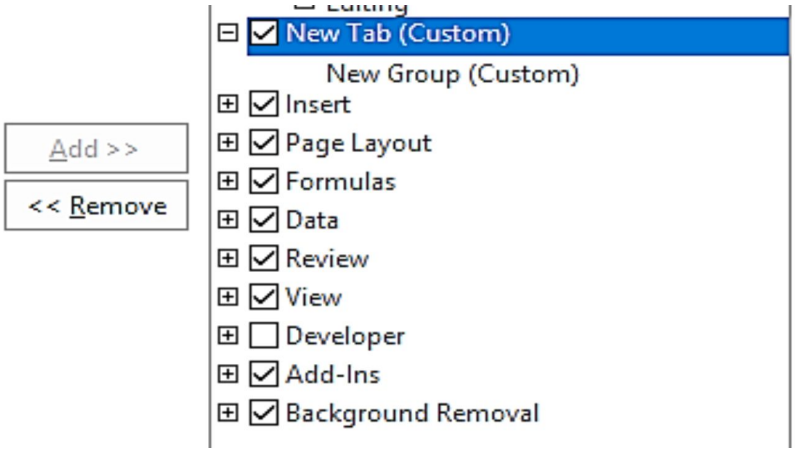
How to customize the ribbon

There are many ways you can customize the ribbon. You can do so using the Customize the Ribbon window. You can create a new tab on the ribbon, create a new group, add commands to the ribbon, and also add commands to the new group you have created.

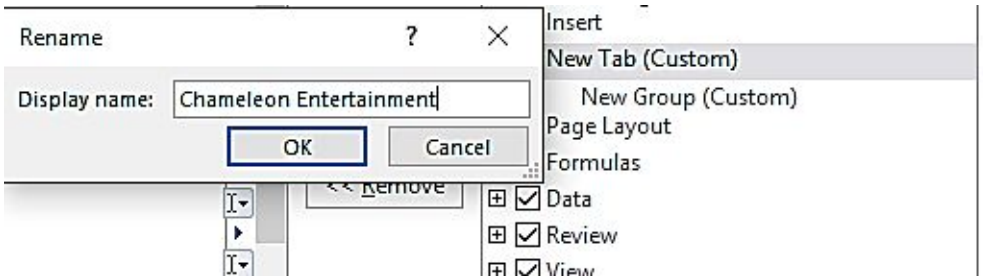
Creating a new tab

To create a new tab, simply right-click on the Quick Access Toolbar and select customize the ribbon. This opens up the Excel Options menu. on the Customize Ribbon option, on the bottom right-hand side of the window, click on **New Tab**.

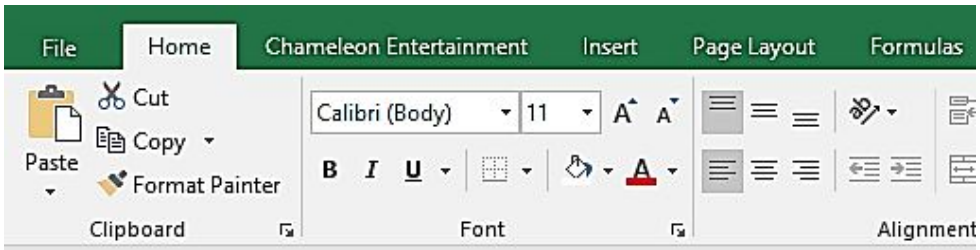
A New Custom tab and a Custom group will be added. The Custom group was added because you can only add commands to custom groups.



Click on the New tab you just created, then select **Rename** to give the tab a name of your choice.

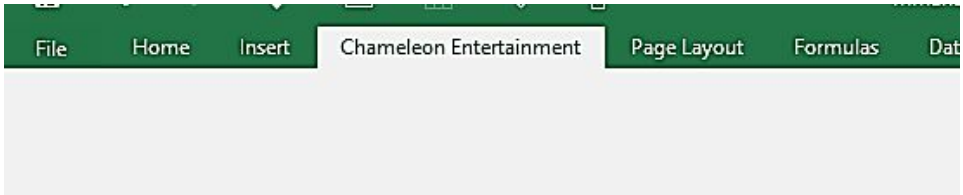


Then, click Ok. You will see the newly created tab on the ribbon.



Creating a new group

As you can see in the image below, the new tab we created has no group in it. Let's create a group on it.

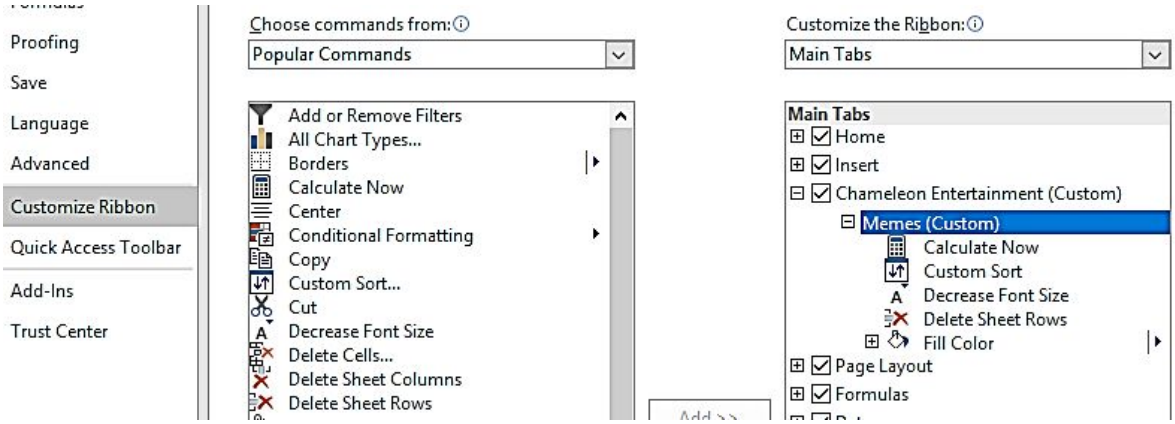


Right-click on the Quick Access Toolbar and select Customize the Ribbon. On the right side of the window, click on the tab for the group (Here, I clicked on Chameleon Entertainment). Click New Group. Click on the Custom Group and select Rename to give it a name and symbol to represent the group when the Excel window is in Restored mode (narrow). Click Ok.

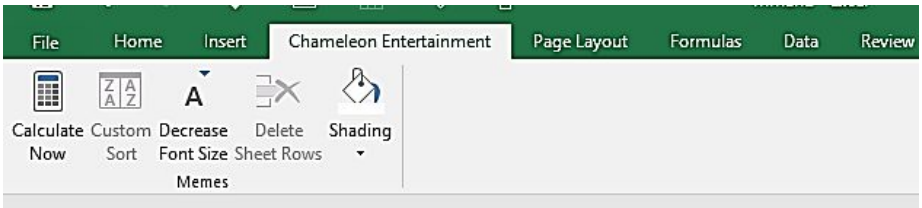
After creating the group, you will first add some commands to the group.

Adding commands to a new group

From the **Choose command**, click on any of the commands you want to add. Click the Add>> button after selecting each command.

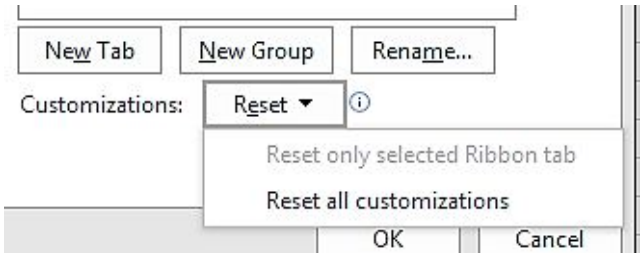


Click Ok when you are done. Now, you will see the new group and the commands in it on the tab.



Resetting the ribbon.

After making some customizations, you can change back the ribbon to its default settings. Simply navigate to the Customize Ribbon Window. At the bottom left side, click the down arrow on the **Reset** option and select **Reset all Customizations.**


New Tab
New Group
Rename...
Customizations:
Reset
Reset only selected Ribbon tab
Reset all customizations
OK
Cancel

CHAPTER NINE

GETTING STARTED WITH EXCEL CHARTS

What's Chart

The chart is commonly referred to as a graph in Microsoft Excel. It's a visual depiction of data from a spreadsheet that could help you comprehend the information better than simply looking at the numbers.

A chart is a tool for graphically displaying data in different chart layouts like Line, Pie, Surface, Bar, Scatter, Column, etc.

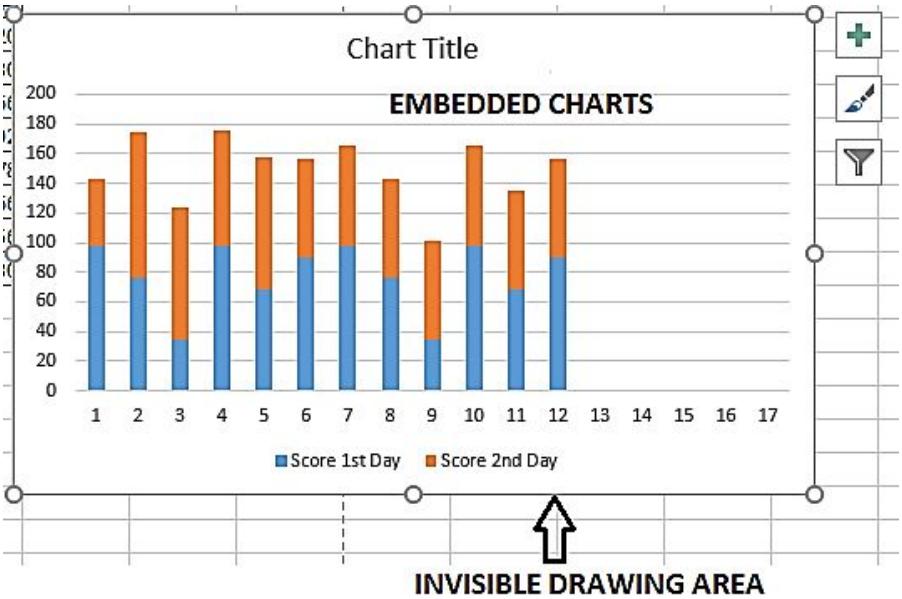
How Excel Handle charts

Charts provide a pictorial depiction of any data collection. A chart is a visual description of data that uses symbols like columns in a column chart to describe the data. You may pick from the list of chart kinds in Excel, or utilize the Excel Recommended Charts option to see charts that have been created for your data.

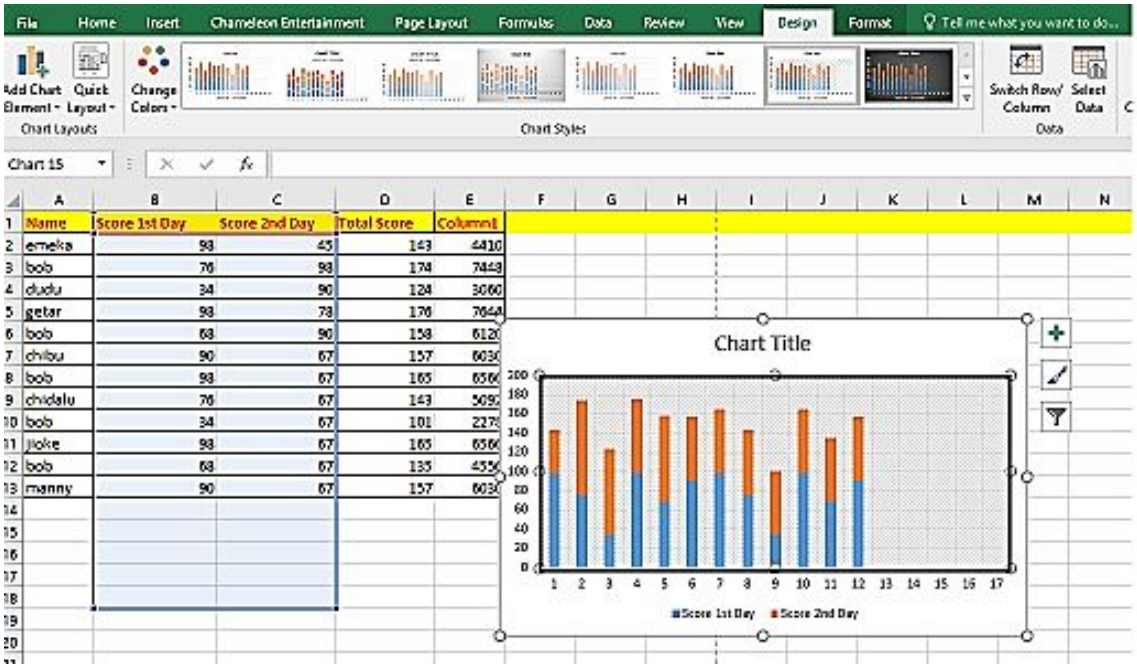
In Excel, the data which you are to use in creating a chart is the one in your worksheet. However, you can use data from other worksheets or another workbook. The Charts in Excel are not static i.e. you can make changes to them anytime and anyhow you want.

Embedded charts

The charts you make in an Excel Worksheet are embedded charts. It stays on the worksheets. On a worksheet, is see an invisible drawing layer, which is where embedded charts are displayed.



Just like other objects, you can change the position of an embedded chart, resize an embedded chart, change the properties, make changes to the borders, and so on. To make changes to the chart, simply click on the chart. The chart will be activated, then on the ribbon, the Design and Format tab comes up. With those tabs, you can make changes to the embedded chart.

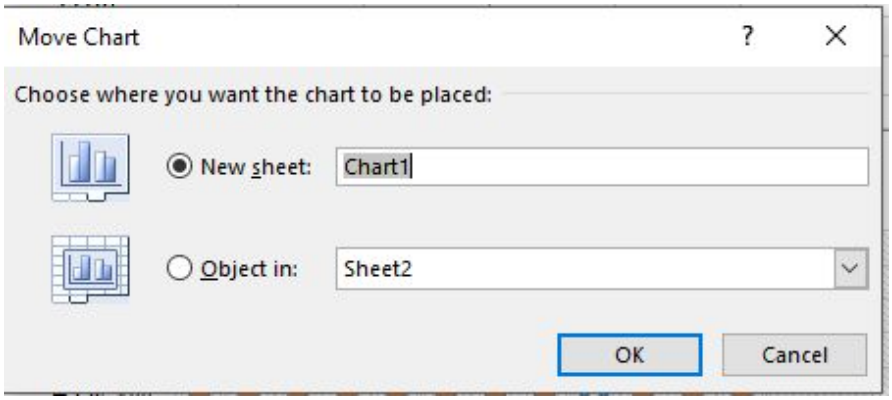


When you create a chart in Excel, by default, it is created as an embedded chart.

Chart sheets

Chart Sheet is the sheet that holds a chart in your worksheet. It is just like a worksheet just that worksheets contain both the data and your chart while chart sheets contain just a chart. An embedded sheet is always on the chart sheet. Just like how worksheets are called Sheet 1, Sheet 2, so are chart sheets called Chart 1, Chart 2, etc.

You can change the position of an embedded chart to a chart sheet. A chart sheet can be an embedded chart. Simply click on the embedded chart, click on the Design tab and select Move Chart. A dialog box will appear. Check the New Sheet option. Put in a name for the chart sheet if you want. Then, click Ok.



Parts of a chart

A chart is made up of different parts. When you create a chart in Excel, you will see the different parts of it located on the right side of the chart.

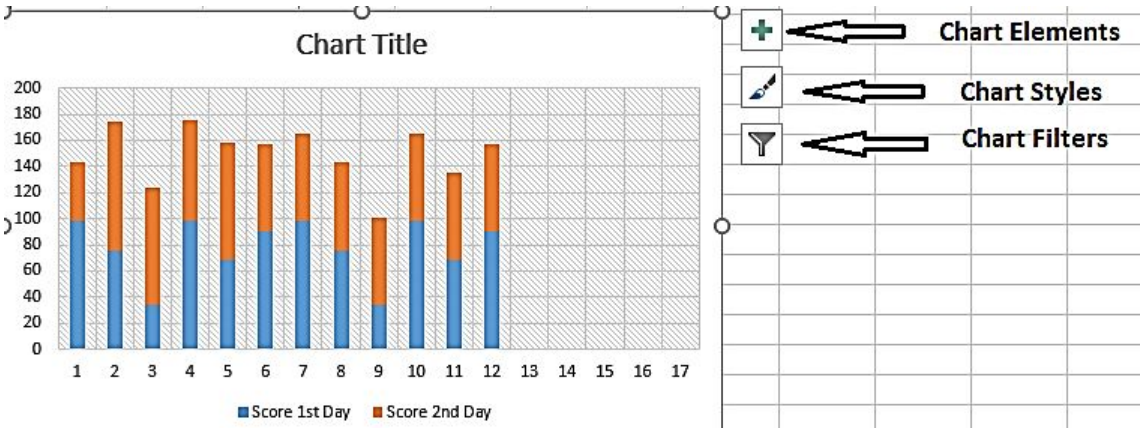
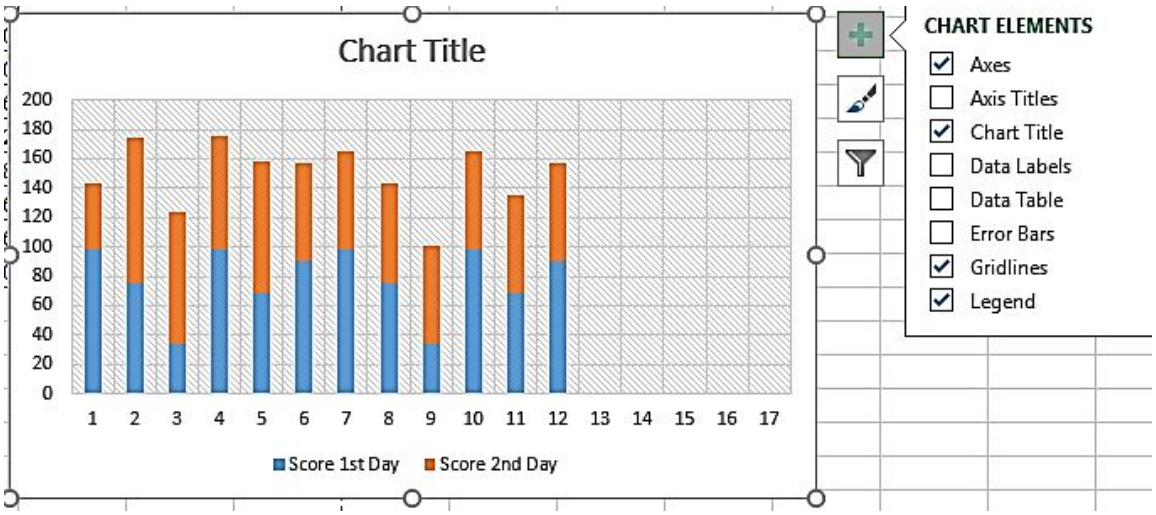
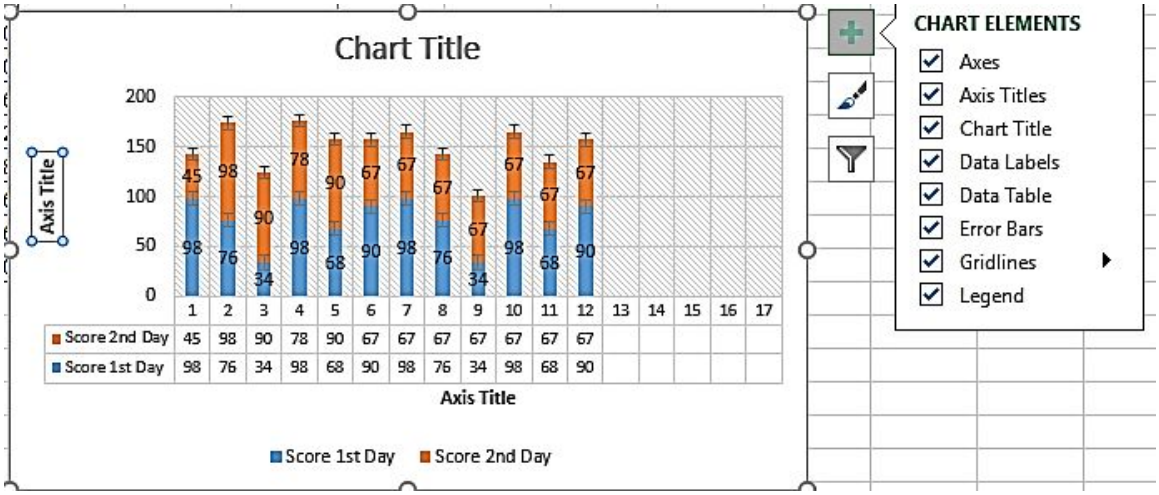


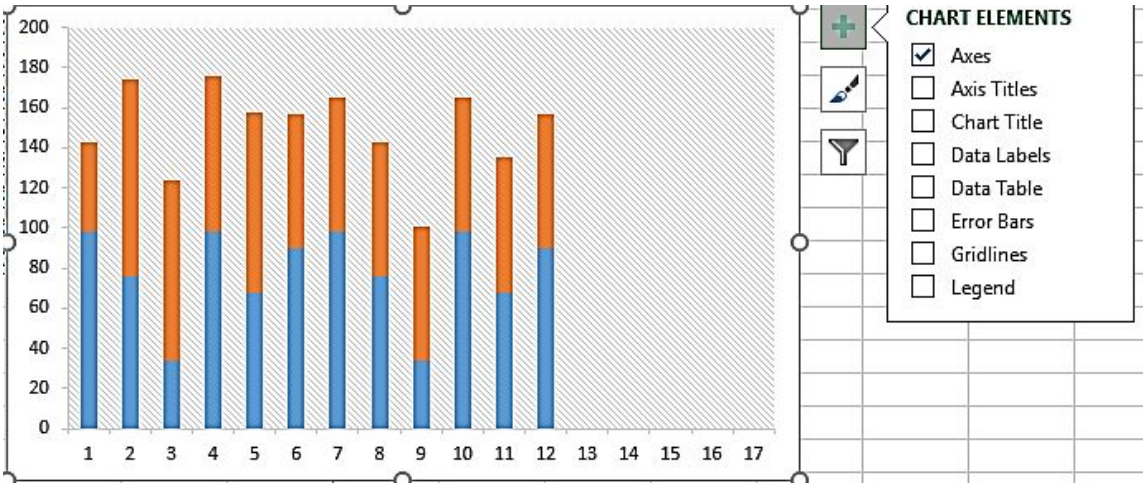
Chart Elements: These are parts of a chart that give more description to your chart. They make your data have detailed meaning. When you click on the chart element icon, you will see a list of different elements such as Axes, Axis title, Chart title, Gridlines, Legend, etc.



When you check the box beside each of the elements, the preview of the element will be displayed on the chart. As you can see in the image below, I checked all the boxes and the preview of it is displayed on the chart.



Axes: A chart has two which are the **Vertical axis** (**Y-axis**) and **Horizontal axis** (**X-axis**).



Axis Titles: This gives more understanding feature of the data in the chart. You can add them to any vertical, horizontal, or depth axes in the chart. You can't add them to charts that do not have axes like doughnut charts or Pie charts.

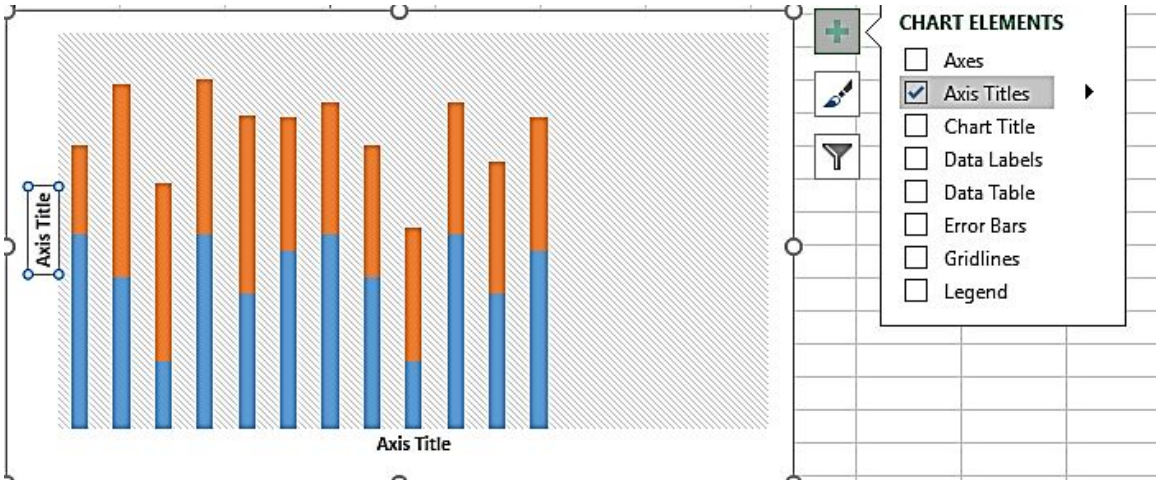
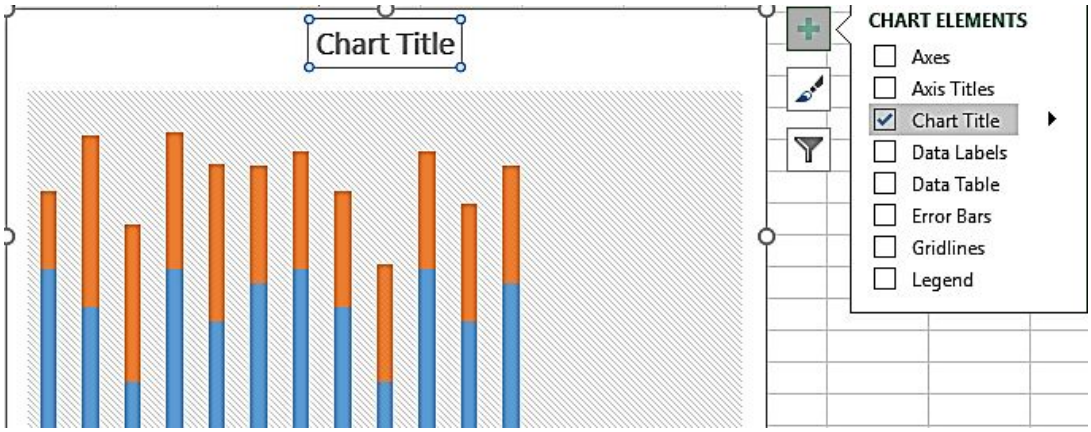
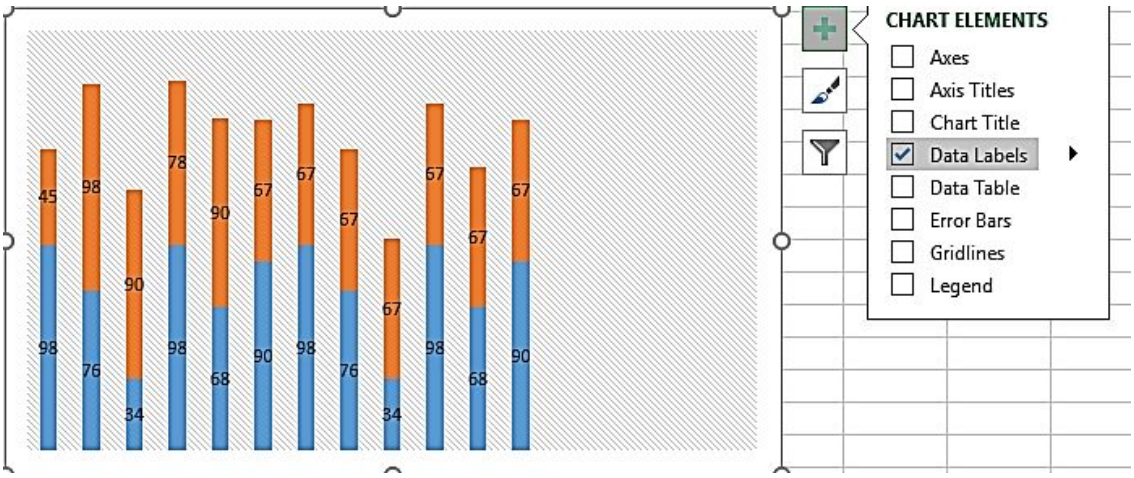


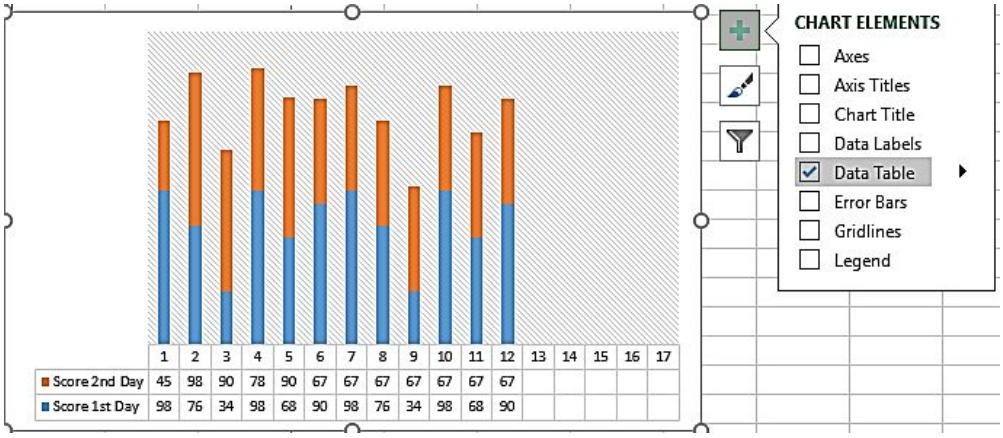
Chart title: This is the title of the chart you have added. It appears by default on top of the chart sheet. Click on the chart title to edit it.



Data labels: This shows the details of a data series or data points. It makes your chart to be easily understood by the readers or viewers.

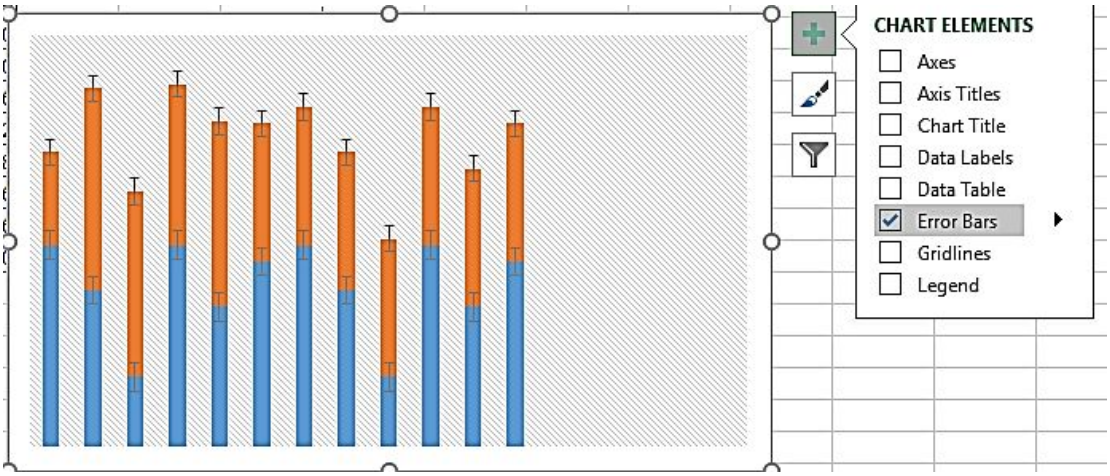


Data table: This displays the table of the data for the chart.

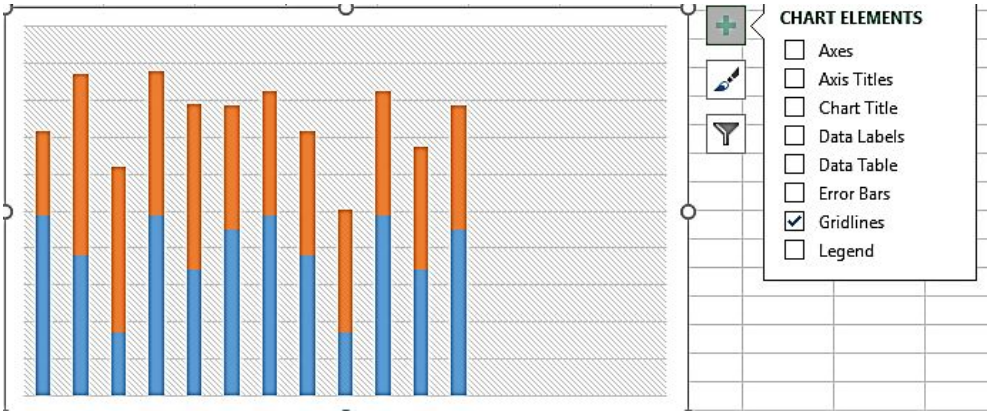


	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Score 2nd Day	45	98	90	78	90	67	67	67	67	67	67	67					
Score 1st Day	98	76	34	98	68	90	98	76	34	98	68	90					

Error Bars: Displays the possible error amounts comparatively to every data marker in a data series.



Gridlines: This makes the data easy to comprehend.



Legend: Displays the rows or columns on which the chart is created on. It also gives it a special representation with the use of different colors to describe them.

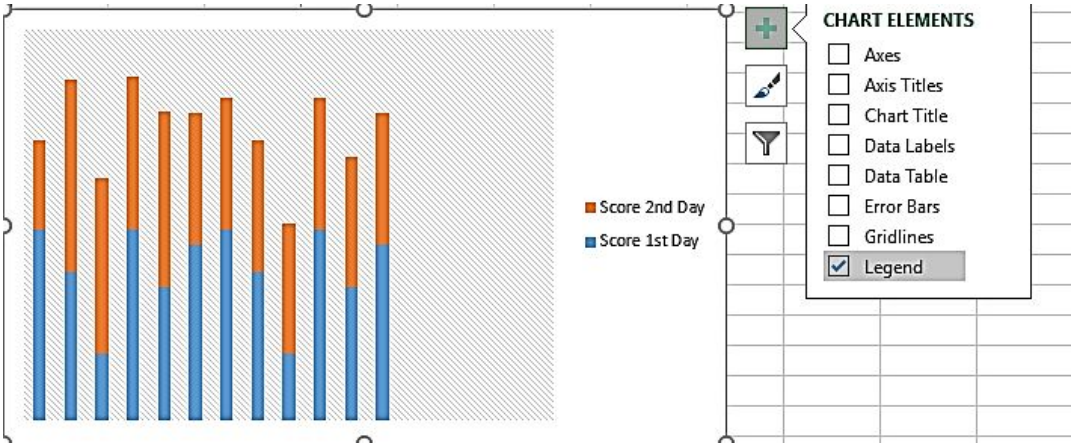


Chart limitations

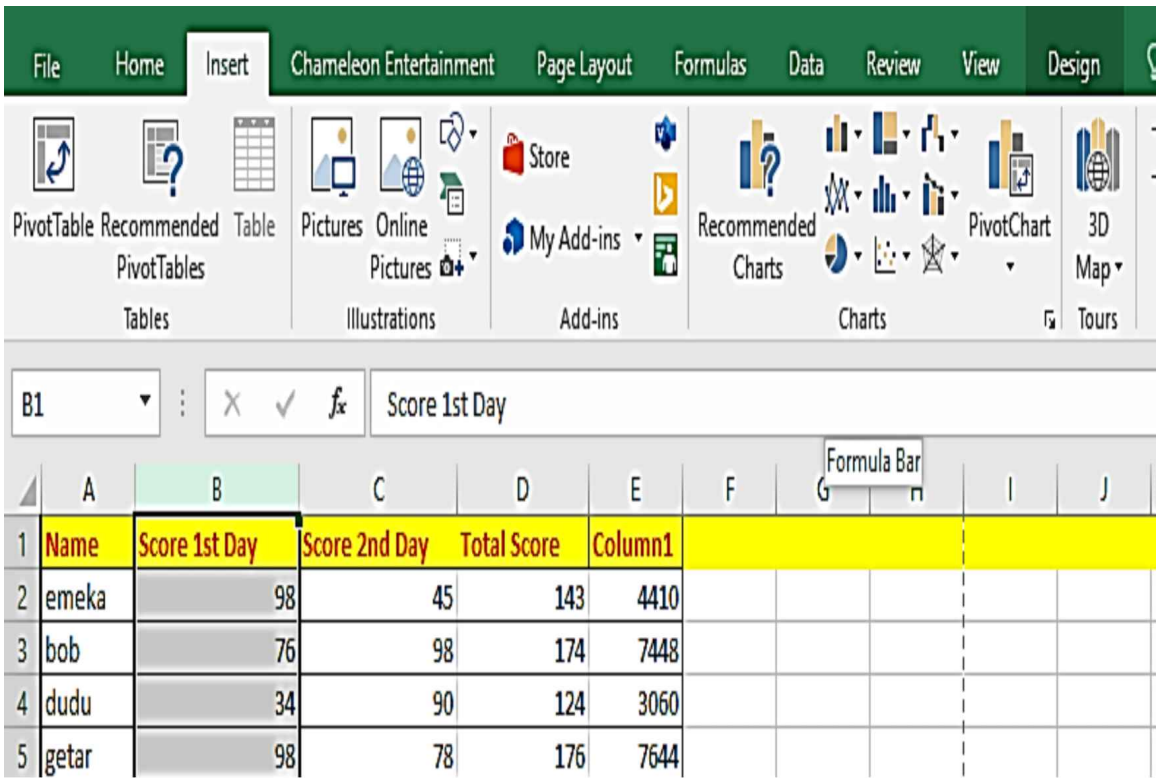
The amount of series available in a chart in Excel 2010 has stayed the same as in previous versions, 255, but the number of points in a series has expanded substantially, from 32,000 to 1,048,576, allowing whole columns in Excel 2007 and 2010 to be utilized as the source data for a chart series.

Because the prior restriction of 256,000 points is less than the new maximum of points per series, the total number of points permitted in a chart has risen. I didn't have time to test this limit since drawing a series with a million points takes over a minute. (Hmm, I'm not sure whether the help files have been updated with the new restrictions yet.

BASIC STEPS FOR CREATING A CHART

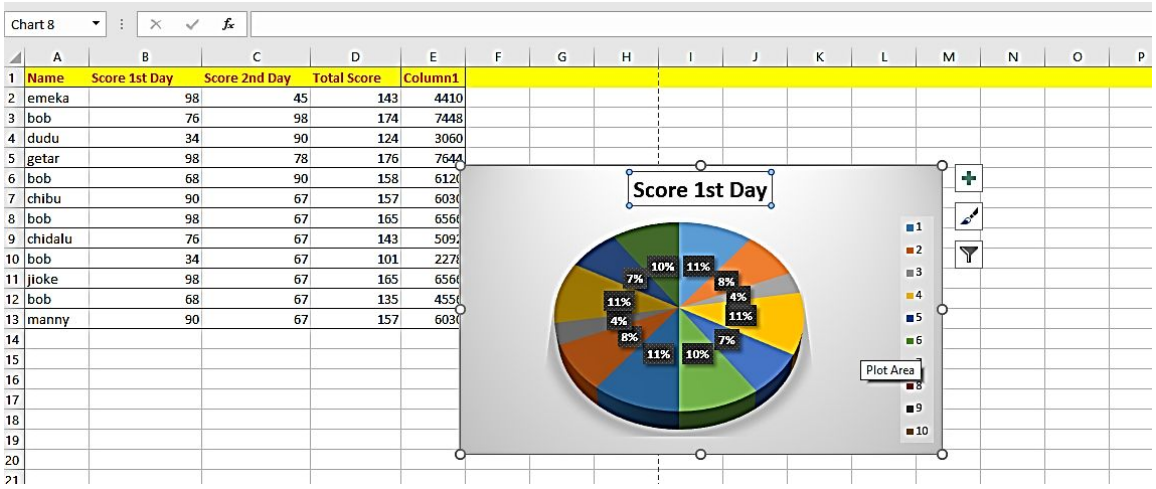
Creating the chart

To create a chart, simply select the cell (s), row, or column that you want to make a chart for. Then, click Insert on the ribbon. You will see the Chart group in the Insert tab.



So, select the type of chart you want to use from the list of charts there. Click on the drop-down arrow for each chart icon to see the different chart

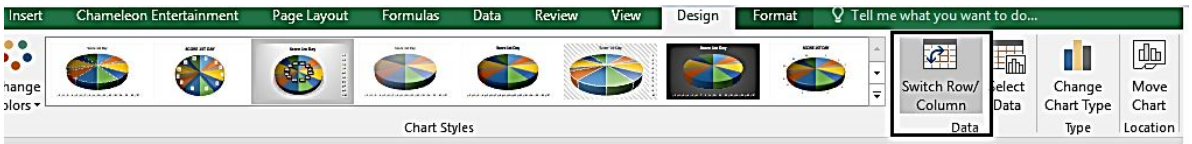
styles. You can also click on Recommended Charts to select another chart style. So, click on a chart and it will be displayed on your worksheet. The chart represents the data of the selected area in the worksheet.



On the ribbon, you can change the chart style for the chart on your worksheet.

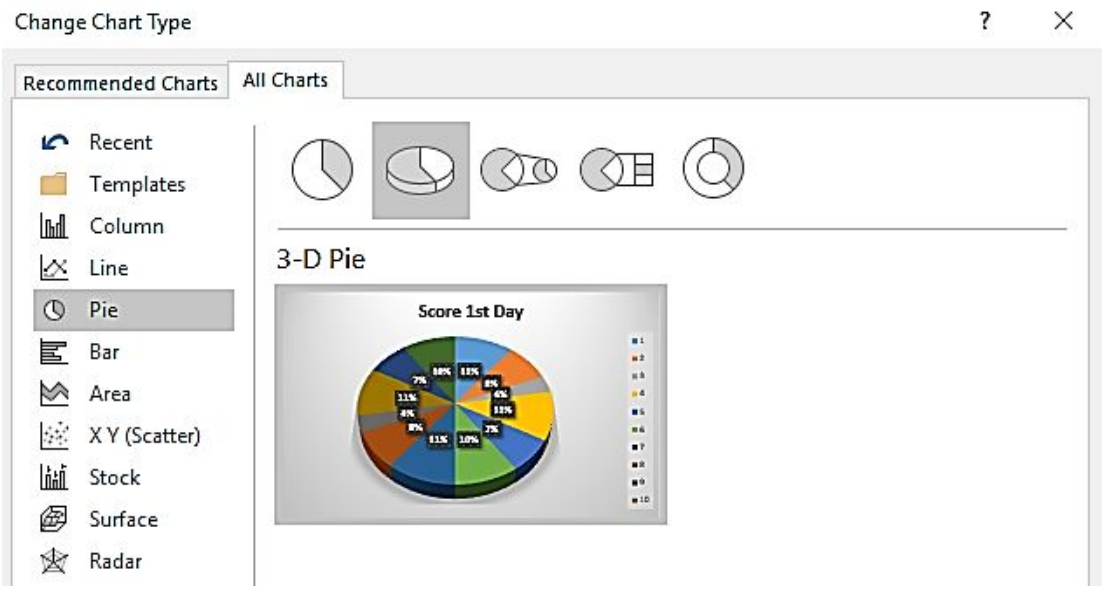
Switching the row and column orientation

After adding your chart, you can switch the row and column. Simply click on the Switch row and column icon on the ribbon.

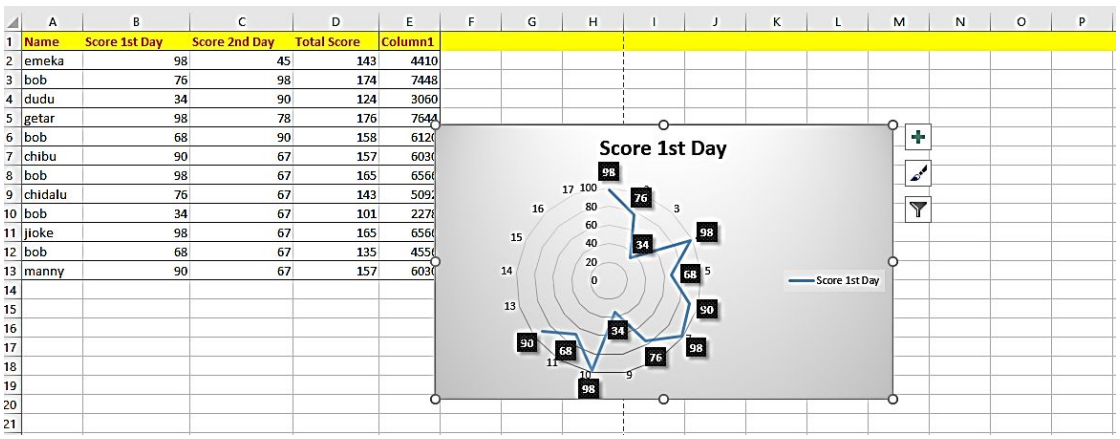


Changing the chart type

Click on Change Chart Type in the ribbon. This opens up the Change Chart Type menu. on it, you will see the list of different chart types.



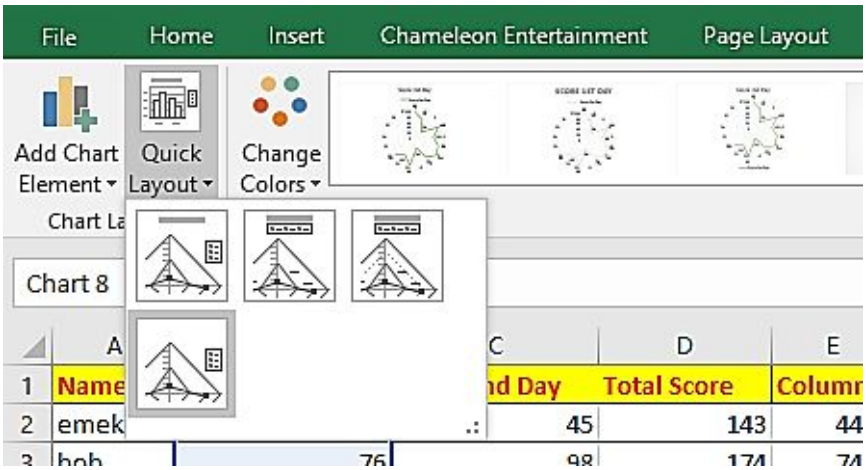
Click on the one you want to change the chart type to and select Ok. The chart will change on your worksheet.



Name	Score 1st Day	Score 2nd Day	Total Score	Column1
emeka	98	45	143	4410
bob	76	98	174	7448
dudu	34	90	124	3060
getar	98	78	176	7644
bob	68	90	158	6120
chibu	90	67	157	6030
bob	98	67	165	6560
chidalu	76	67	143	5092
bob	34	67	101	2278
jioke	98	67	165	6560
bob	68	67	135	4550
manny	90	67	157	6030

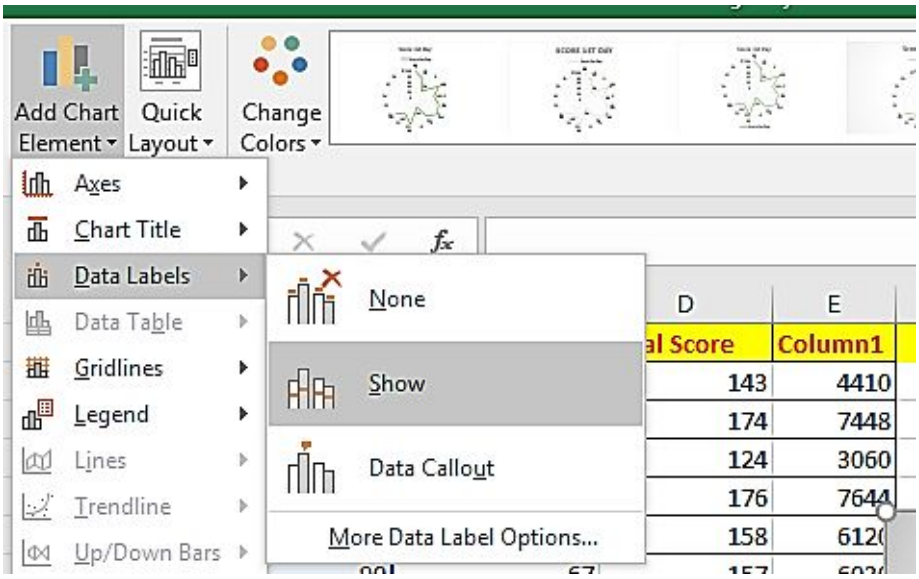
Applying chart layout

At the left side of the ribbon is the Chart Layout group. Click on Quick Layout, then select a layout.



Adding and deleting chart elements

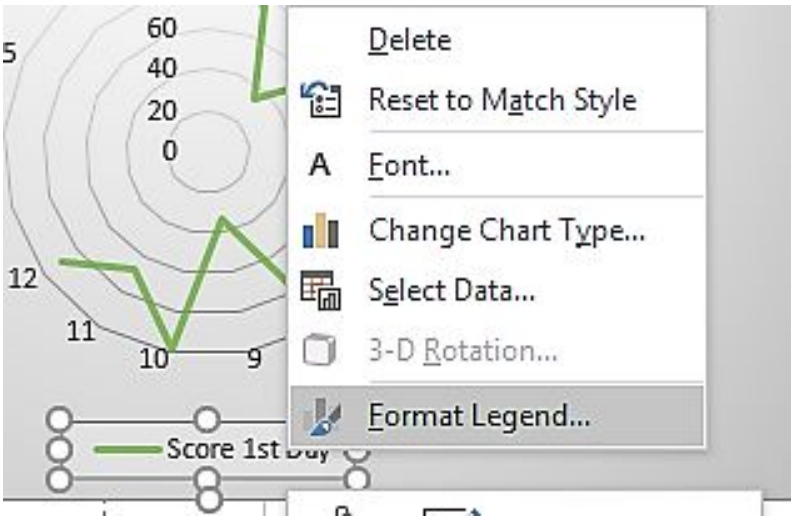
Chart elements provide extra information to your charts, making them more relevant and attractive to the eye. Click on **Add Chart Elements** and select an element.



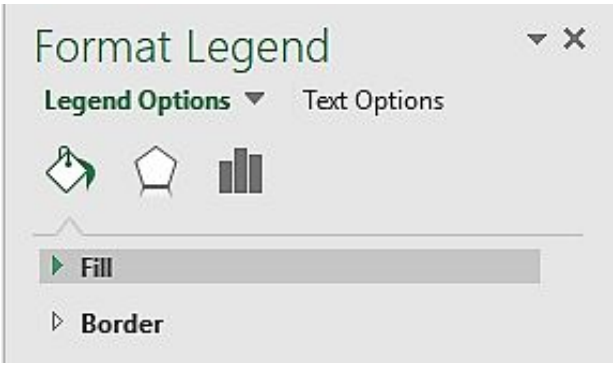
To delete, right-click and select **Delete**.

Formatting chart elements

To format the elements, right-click and select Format (the name of the element you added comes after Format).



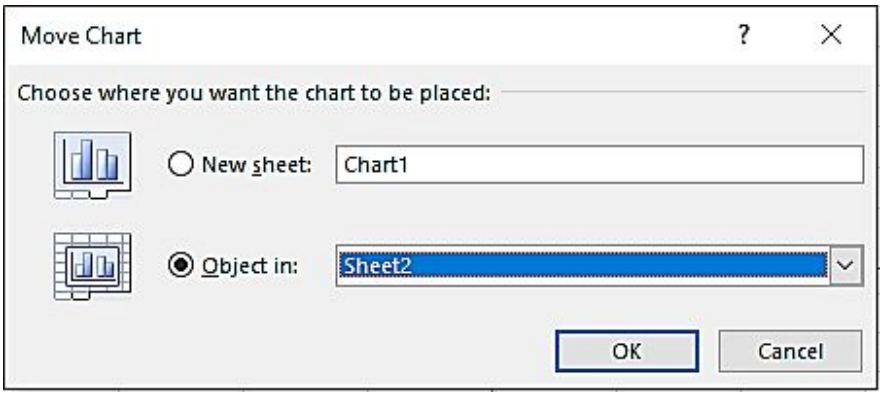
On the Format Pane menu, click on an option.



MODIFYING AND CUSTOMIZING CHARTS

Moving and resizing a chart

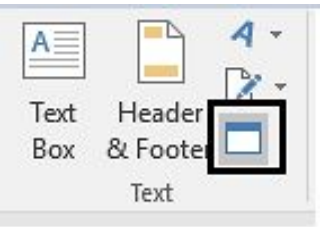
To move a chart, click the chart, then drag it to anywhere to want to place it. To resize it, put the cursor on the chart edge, then drag it up, down, or sideways. You can also right-click on the chart, then select **Move Chart**. This opens a dialog box.



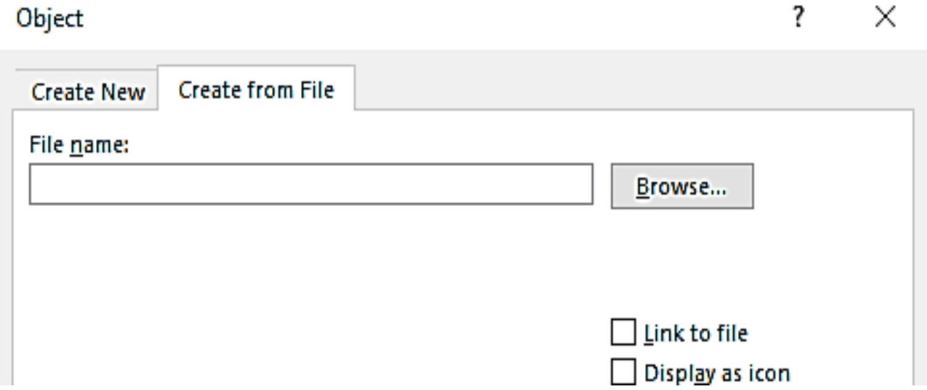
Converting an embedded chart

We can connect a chart in Excel and the data in a Word document together using Embed in Excel. When linking them, any changes you apply in the chart will also be applied on the Word document automatically only if they are saved in a similar folder or location. Follow the steps to do so.

On the Insert tab, then select **Object** from the Text group.



Click on **Create from file** tab and select **Browse**.



Find the file (chart) and choose Insert. Check the box on **Link to File**. Then click **Ok**.

To edit the embedded chart, simply double-click on it. the Excel worksheet which contains the chart will open. make your edits and ensure you save them after editing in Excel.

Copying a chart

Simply right-click on the chart, select Copy. Then, navigate to where you want to paste it and right-click, then select **Paste**.

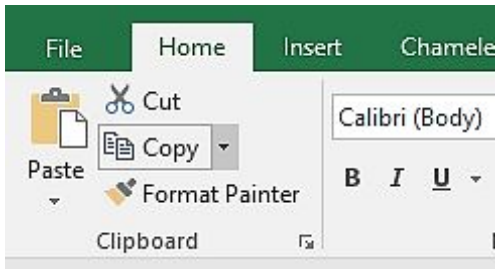
Deleting a chart

Click on the chart, then Press the **Delete key** on your keyboard.

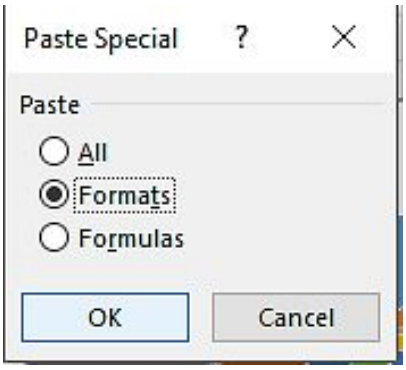
Copying a chart formatting

First copy the chart. You can click on the chart and press **Control key + C** or you right-click and select **copy**.

Then, click on the chart you want to format. On the clipboard group, click the down arrow on the Paste icon and select Paste Special.

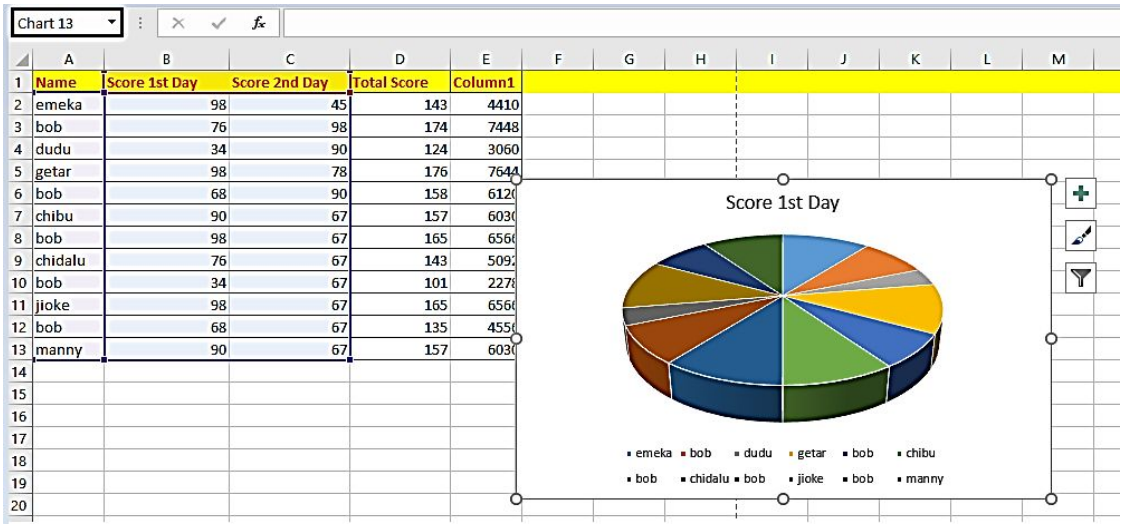


Check the **Format box**. Click Ok.



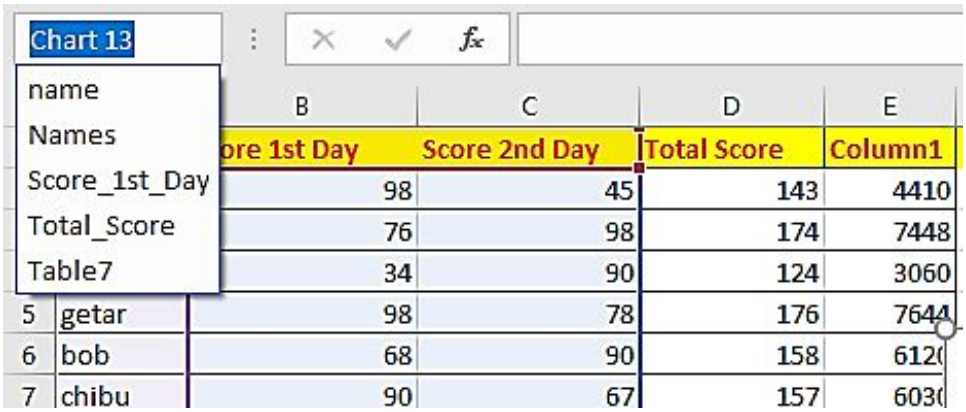
Renaming a chart

You might well have observed that when Excel generates a chart, it assigns it a specific number. It is found in the Name Box on top of the grid in the left corner. You have the option of changing the name to something more informative to you.



	Name	Score 1st Day	Score 2nd Day	Total Score	Column1
2	emeka	98	45	143	4410
3	bob	76	98	174	7448
4	dudu	34	90	124	3060
5	getar	98	78	176	7644
6	bob	68	90	158	612
7	chibu	90	67	157	603
8	bob	98	67	165	656
9	chidalu	76	67	143	509
10	bob	34	67	101	227
11	jioke	98	67	165	656
12	bob	68	67	135	455
13	manny	90	67	157	603

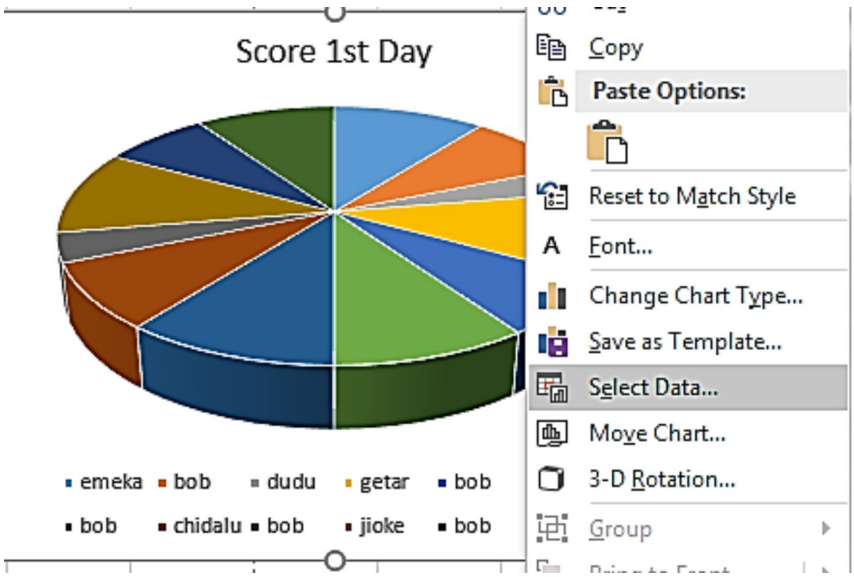
There are ways to rename a chart. First, click the **Name box**, then, type in the name for the chart.



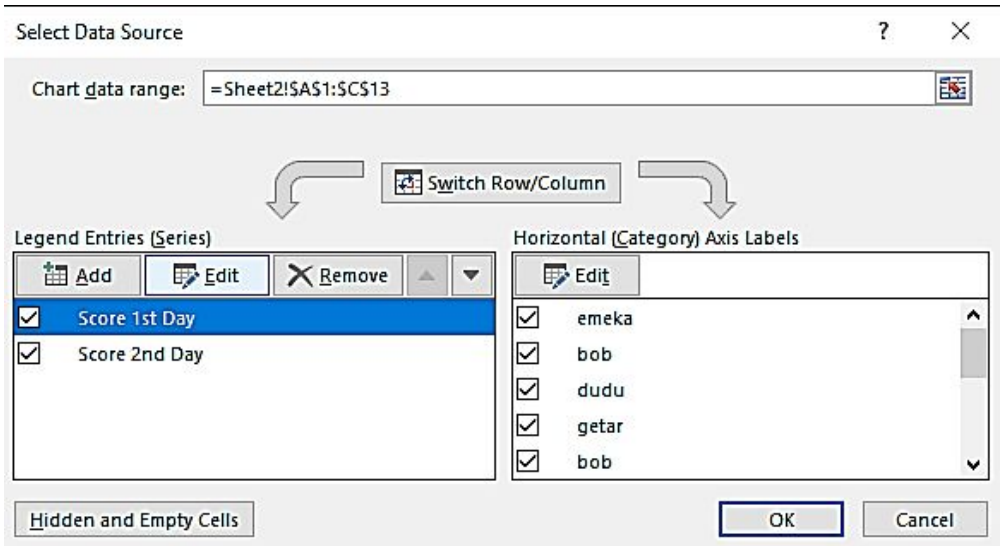
		B	C	D	E
		ore 1st Day	Score 2nd Day	Total Score	Column1
		98	45	143	4410
		76	98	174	7448
		34	90	124	3060
5	getar	98	78	176	7644
6	bob	68	90	158	612
7	chibu	90	67	157	603

Renaming a data series in a chart

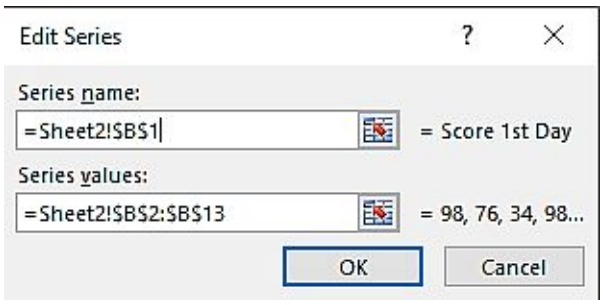
Simply right-click on the chart and click on Select Data.



This opens up the Select Data window. So, highlight the data series you want to rename. Click Edit.



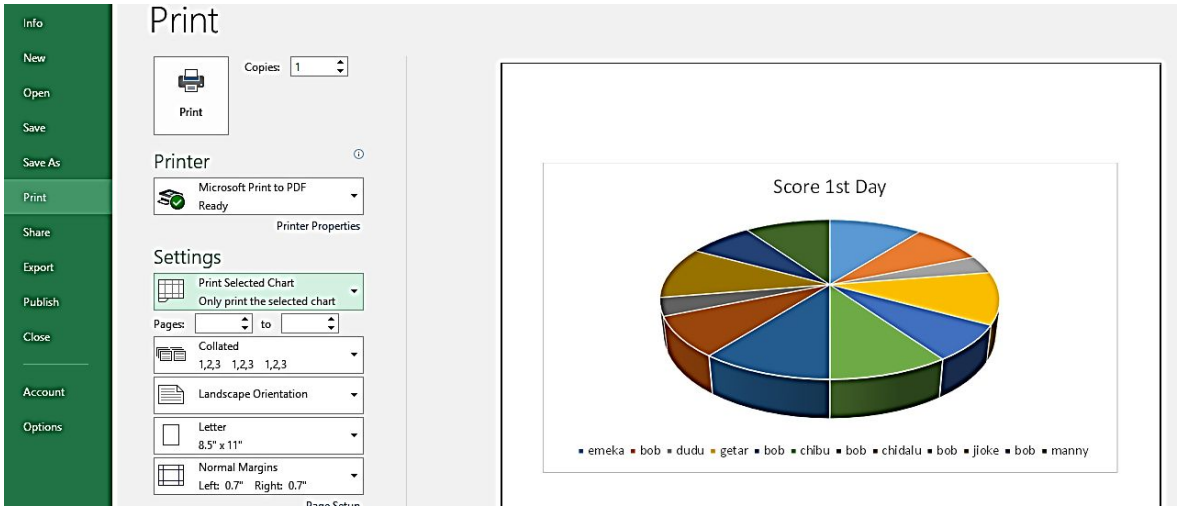
The Edit Series dialog box will appear. On it, remove the names on the type-in box and put in the name you want for the chart. Click Ok.



Click Ok again.

Printing charts

Choose the chart. Click on File and select Print. On the **Printer** option, select a printer. Then, on the **Print Setting option**, make sure it is set to Print Selected Chart, though it will be there by default. Click **Print**.



UNDERSTANDING CHART TYPES

Choosing a chart type

In Excel, there are different kinds of charts. You have a list of charts that you can use when working on your worksheets. There are also sub-types of these charts. Below are the charts;

Column charts

In a Column Chart, the horizontal (category) axis is used to show the categories, while the vertical (value) axis is used to display the values. Arrange the data in columns or rows on the spreadsheet to make a column chart. The sub-types of the column chart are;

- 3-D Column
- 3-D 100% Stacked Column
- Clustered Column
- 100% Stacked Column
- 3-D Clustered Column

- 3-D Stacked Column
- Stacked Column

Bar charts

Individual item comparisons are shown using bar charts. The data are grouped along the horizontal axis and the categories are arranged along the vertical axis in a Bar Chart. Organize the data in columns or rows on the Spreadsheet to Make a Bar Chart. The sub-types are

- Clustered Bar
- Stacked Bar
- 100% Stacked Bar
- 3-D Stacked Bar
- 3-D Clustered Bar
- 3-D 100% Stacked Bar.

Line charts

Line charts are used to show trends over time. It can be over years, months, and days. It is also used to display categories when the order is not important. You can utilize this chart when you have lots of data points on your worksheet and the order is important. The sub-types are

- Line
- Stacked Line
- 100% Stacked Line
- Line with Markers
- Stacked Line with Markers
- 100% Stacked Line with Markers
- 3-D Line

Pie charts

This is a circular chart. It is a sort of graph that depicts the information in a circular graph. The slices of pie illustrate the data's apparent size and are a sort of graphical representation of data. A list of categories and numerical variables is required for a pie chart. The phrase "**pie**" refers to the entire, whereas "**slices**" refers to the individual components of the pie.

It is divided into different sectors in which each of them represents a part of a whole. The number of elements in one data series is equivalent to the total of the elements in a pie chart. In a pie chart, the data points are shown as a proportion of the whole pie. Arrange the data in one column or row on the spreadsheet to Make a Pie Chart. The sub-types are

- Pie
- 3-D Pie
- Pie of Pie
- Bar of Pie

XY (scatter) charts

XY (Scatter) charts are often used to display and compare quantitative quantities, such as data from science, statistics, and engineering. There are two Value Axes in a Scatter chart.

- Axis of Value Horizontal (x)
- Axis of Vertical Value (y)

It merges x and y values into a singular data point and shows them in clusters of irregular intervals. Organize the data in rows and columns on the spreadsheet to make a Scatter chart. The X values should be in one row or column. The y values should be in the adjacent rows or columns.

When in doubt, use a scatter chart when:

- You wish to adjust the horizontal axis scale.
- You should use a logarithmic scale for that axis.
- The horizontal axis values are not equally distributed.
- On the horizontal axis, there are a lot of data points.
- To expose additional information about data that comprises pairs or grouped sets of values, you wish to modify the independent axis scales of a scatter chart.
- Instead of showing disparities between data points, you want to illustrate commonalities across big amounts of data
- You wish to compare a large number of data points over a long period.
- The more data you put in a scatter chart, the more accurate your comparisons will be.

Area charts

Area charts are useful for plotting changes over time and highlighting the entire value throughout a trend. An area chart displays the connection of parts to a whole by displaying the total of the plotted data. Arrange the data in columns or rows on the spreadsheet to make an Area Chart. The sub-types are

- Area
- Stacked Area
- 100% Stacked Area
- 3-D Area
- 3-D Stacked Area
- 3-D 100% Stacked Area

Radar charts

The average values of many data series are compared using radar charts. Organize the data in columns or rows on the worksheet to create this chart.

Surface charts

A surface chart comes is helpful when you want to combine two sets of data. Colors and patterns, much as on a geographical map, identify regions with similar values. To make a Surface chart, make sure that the categories and data series are both numeric values and organize the data on the spreadsheet in columns or rows.

Bubble charts

A Bubble chart is like a Scatter chart, only that it has a third column that specifies the size of the bubbles that indicate the data points therein the data series.

Stock charts

Stock charts, as the name indicates, may depict price movements in stocks. A Stock chart is used to display changes in other data, such as rainfall intensity or yearly weather.

Organize the data in columns or rows in a specified arrangement on the spreadsheet to make a stock chart. To make a basic high-low-close Stock chart, for example, organize your data with High, Low, and Close as Column headers in that sequence.

NEW CHART TYPES FOR EXCEL

Histogram charts

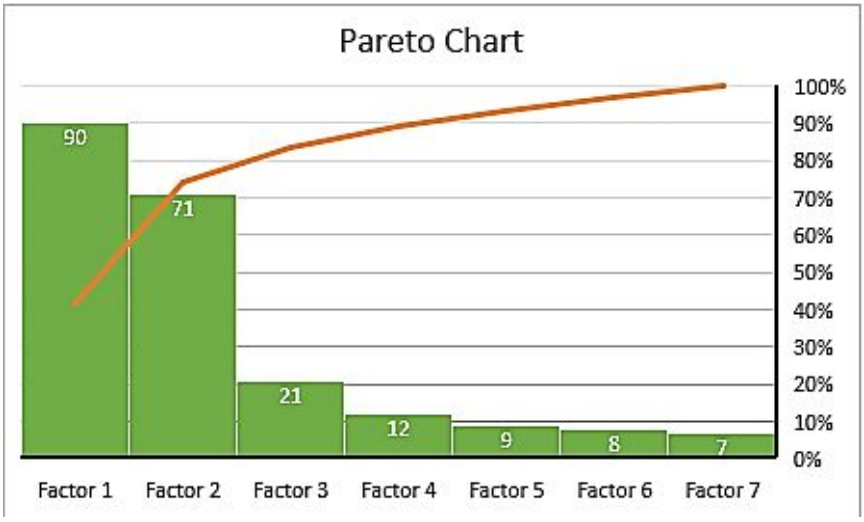
A histogram is a graphical illustration of numeric values distribution. A histogram is a kind of column chart that displays the frequency of data in a certain range in a more straightforward manner. It uses the number of data points that fall inside a specific range of values to visualize numerical values. It uses vertical columns to display the frequent increase and fall in data. In Excel, a histogram chart is divided into five sections which are **Title**, **X-axis, Y-axis, The bars,** and **Legend.**

The **title** of the histogram describes the information contained inside it. The **X-axis** is a clustered interval that depicts the range of values in which the measurements are taken. The **Y-axis** is a scale that displays the number of times the values happened inside the intervals defined by the X-axis.

The **bars**: There are two dimensions to this parameter: height and width. The number of times the values happened inside the interval is shown by the height of the bar. The interval, distance, or area covered is indicated by the width of the bars.

Pareto charts

A Pareto chart, also known as a Pareto diagram, is a graph that uses the Pareto principle as its foundation. It's a kind of sorted histogram in Microsoft Excel that includes both vertical bars and a horizontal line. The relative frequency of values is represented by the bars, which are drawn in decreasing order, while the line shows the cumulated percentage.



Pareto graph emphasizes the main pieces in a data collection and displays their relative relevance to the whole.

Waterfall charts

A waterfall chart is a kind of graph that is often used to visualize financial information, compare profits, and analyze sales or product value over time. It's also used to visualize inventories and analyze profit and loss. They originally gained popularity in the late twentieth century, when McKinsey & Company used them in a client presentation.

Box & whisker charts

A box and whisker chart, also known as a box plot, is a statistical analysis tool in Excel that shows you how values are dispersed in a collection of data. For example, you may use a box and whisker chart to illustrate statistical information on test results across topics to determine which subjects need greater focus from pupils.

Treemap charts

A treemap chart is a style of data representation that excels at portraying hierarchical data. Each element is displayed as a rectangular shape on a treemap, with smaller rectangles representing sub-groups. The color and size of rectangles are usually associated with the tree structure, making the groups and sizes simpler to perceive. Treemap charts are excellent for emphasizing each object's contribution to the overall hierarchy.

Sunburst charts

A sunburst chart, like treemap charts, is a style of visualization that works well for visualizing hierarchical data. A sunburst chart is a circular diagram in which each circle symbolizes a group hierarchy level. The high-level groups are plotted in the inner circle, while the sub-categories are plotted in the outer rings. The segments' sizes are proportionate to the values they represent. A sunburst chart is divided into three sections: Plot Area, Chart Title, and Legend.

Plot Area: The plot area is where the graphic expression occurs. Like pie and donut charts, a sunburst chart illustrates parts of the full data set. A top-level group is represented by each hue. **Chart Title:** Make an effort to be detailed and succinct. The **legend** is an indication that aids in the differentiation of data sets. Each color denotes a category at the top level.

Funnel charts

Funnel charts are comparable to their name in that they are used to display data behavior at each step specified, and when the numbers decrease, the chart takes on the form of a funnel, thus the term funnel chart.

Map charts

These are used to depict a certain Key Performance Indicator (KPI) and demonstrate its representation over different geographical locations for a given category, such as a business, sector, or commodity.

CHAPTER TEN

USING ADVANCED CHARTING TECHNIQUES

SELECTING CHART ELEMENTS

When you are done creating a chart, you can add some chart elements to your chart. You can select the chart elements in different ways.

Selecting with the mouse

Simply click on the chart element. Also, click directly on a bar in your chart to choose the data series. Double-click on an element for it to display.

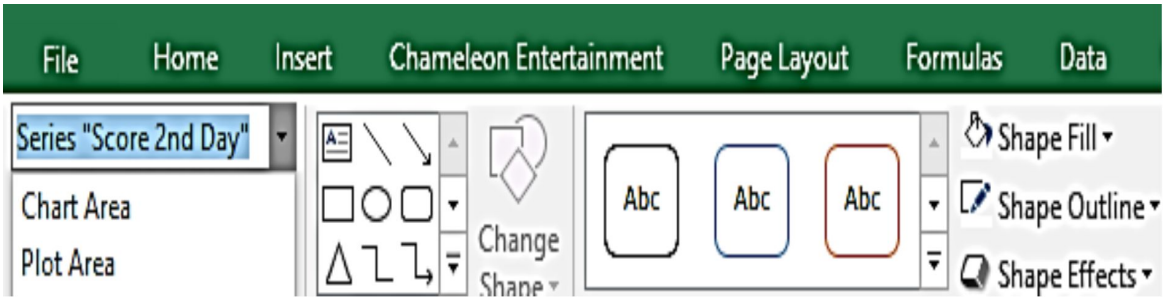
Selecting with the Keyboard

You can use the up and down keys to select chart elements in your worksheet. Simply, click on the chart, press down the Control key, then use the up and down keys to navigate through the main chart elements.

Some chart elements have sub-elements. To access those sub-elements, use the right and life arrow keys. Click the chart, use the up arrow key to pick the element, use the right/left arrow keys to pick the sub-elements.

Selecting with the chart element control

You can select chart elements from the chart element control on the Format tab. When you click on a chart, the list of the main Chart Elements will be displayed on the menu.



With this menu, you can go to the chart title, plot area, and so on. When you click on an element, the name will show there.

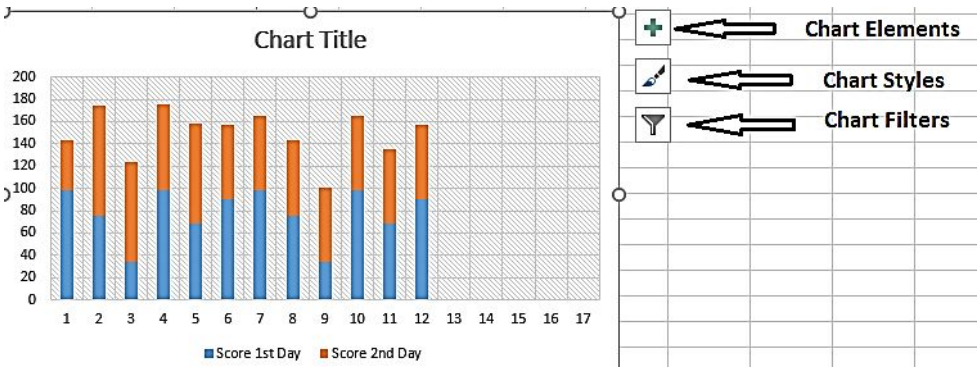
EXPLORING THE USER INTERFACE CHOICES FOR MODIFYING CHART ELEMENTS

Using the format task pane

Pick the chart element that you want to modify, then right-click on it and select Format (the name of the chart element comes after format). This will open up the Format pane. On it, you will see a list of options for the selected chart element.

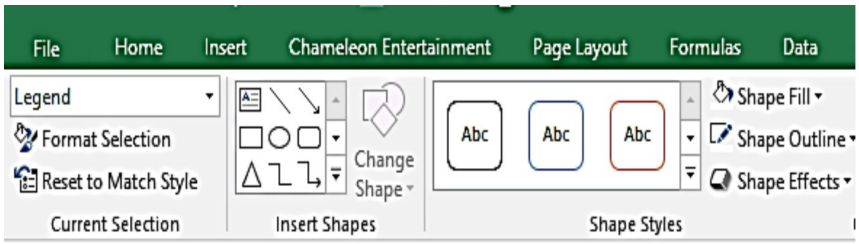
Using the chart customization buttons

Click the chart you have created on your worksheet, then select a customization button on the right side.



Using the ribbon

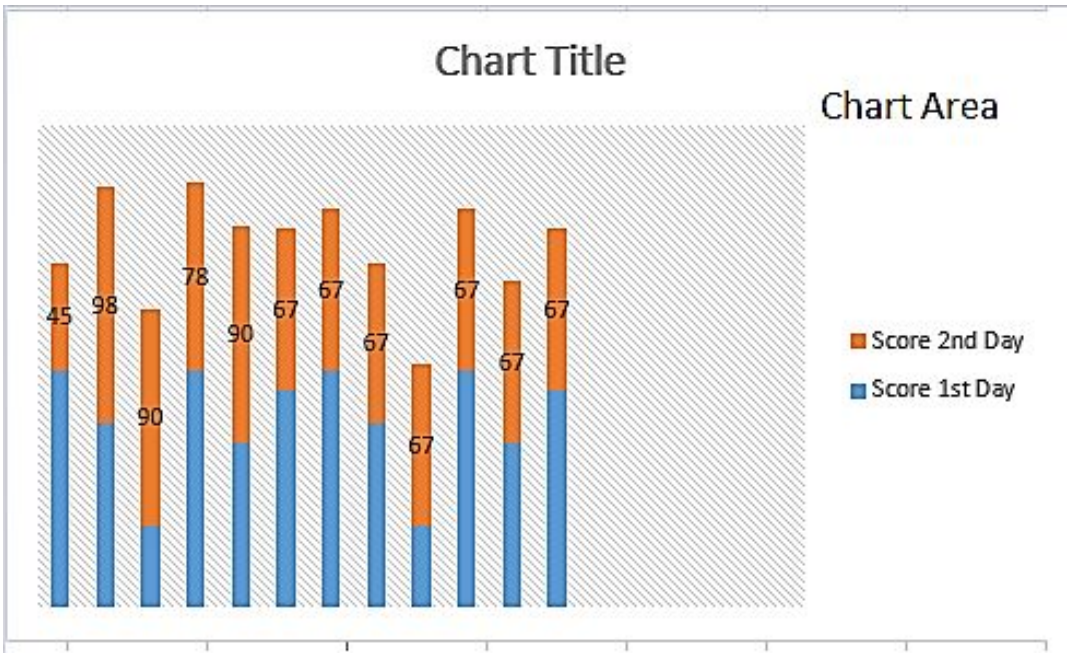
First, pick the chart element, navigate to the Format tab which is located below the Chart Tools. You will see options for modifying your chart elements.



Using the Mini toolbar

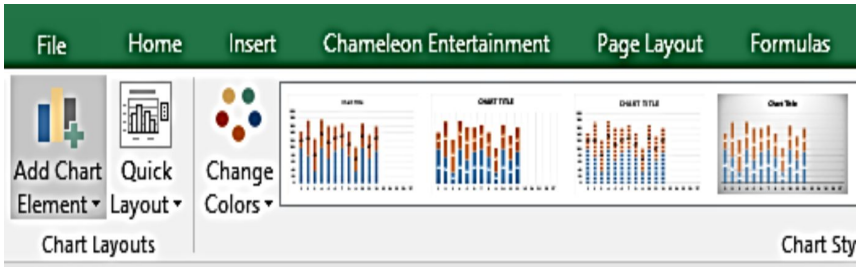
Right-click on the chart element to see the mini toolbar. On it, you will see some chart modifying options like fill color, style, and outline. Click on any of the options to modify your chart.

Modifying the chart area

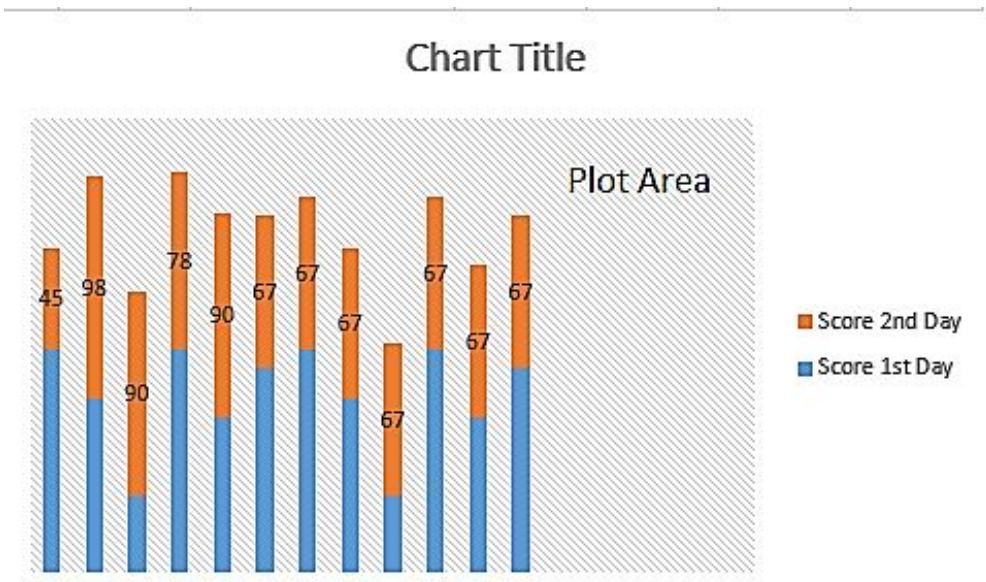


The chart area is the part of a chart that encompasses all elements of a particular chart. You may change the appearance and position of your chart. A few options are shown here, but there are many more! To access **Chart Tools** in any situation, you must first pick the chart. When you click on the chart, you can use the Design tab and the Format tab to modify it.

To add labels such as title, axes, etc. Select the **Add Chart Element option** and select a label. The **Chart Tool tab** contains many modifying options. You can change colors, chart styles, move charts, add borders, add shapes, etc.

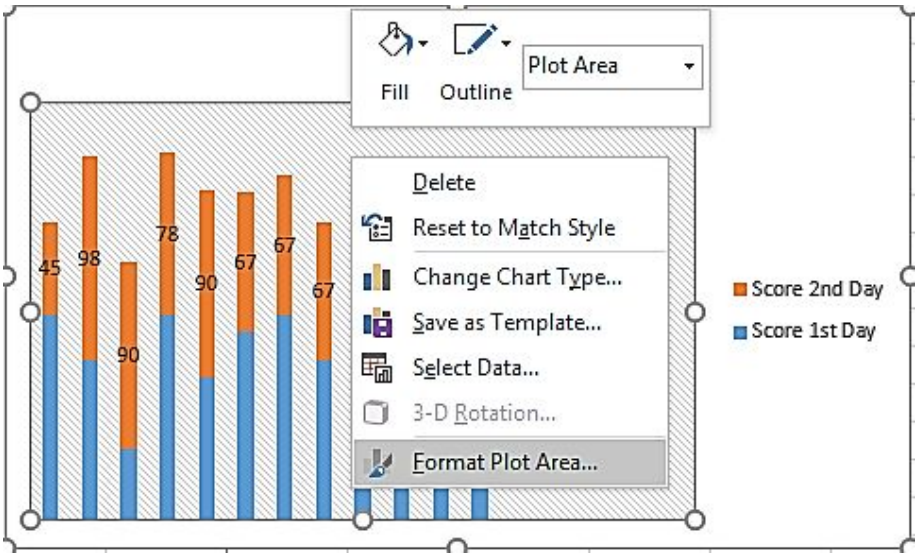


Modifying the Plot area

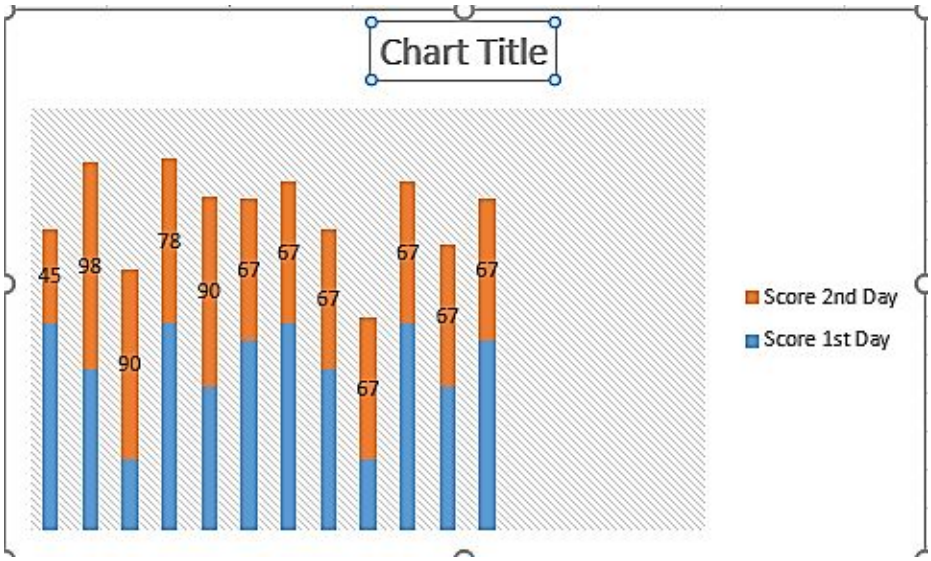


The plot area of a chart is found inside of a chart. It consists of the actual chart. Just like the chart area, you can change the border and fill the plot area. When you add elements to a chart, it changes the plot area size.

When you right-click on the plot area, you will see some options for modifying the plot area.

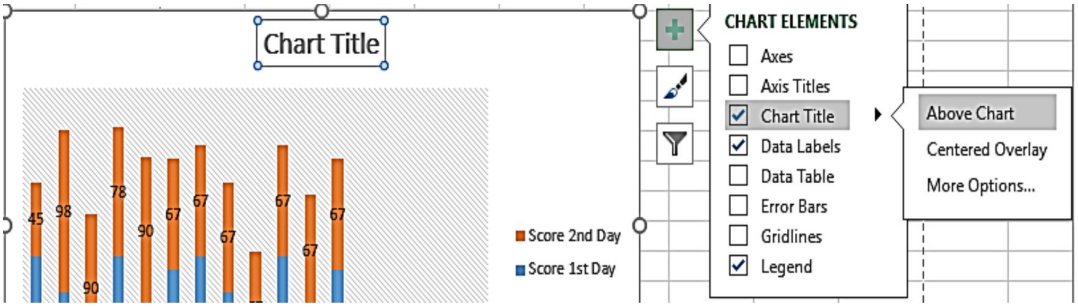


Working with Titles in a chart



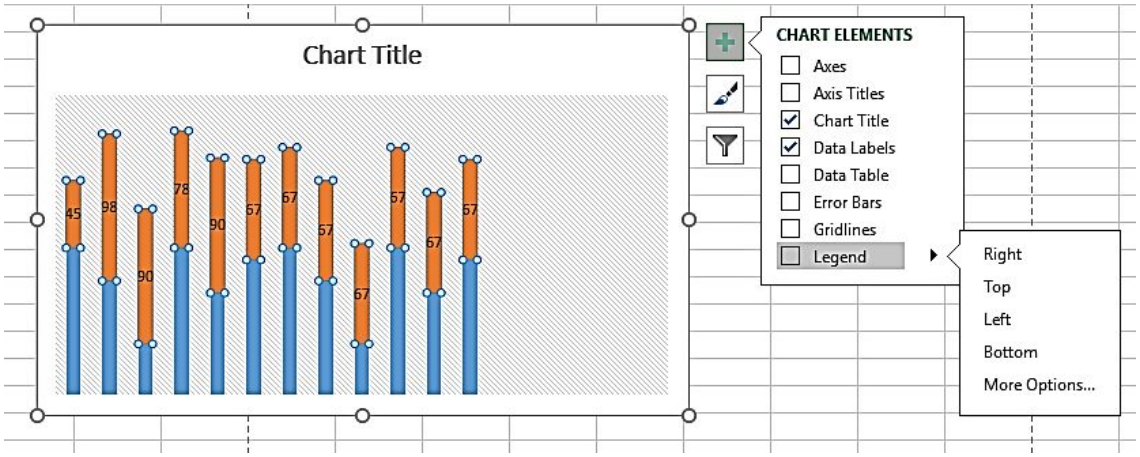
The chart title is located at the top. When creating a chart with just a column, the column heading becomes the title of the chart. When you create a chart with a group of columns or rows, the title is **Chart Title**. Click on it to edit the name.

You can add or delete the chart title if you want to. Simply click on the chart, select the chart element icon, then uncheck the Chart title box. You can also change the position of the chart title.

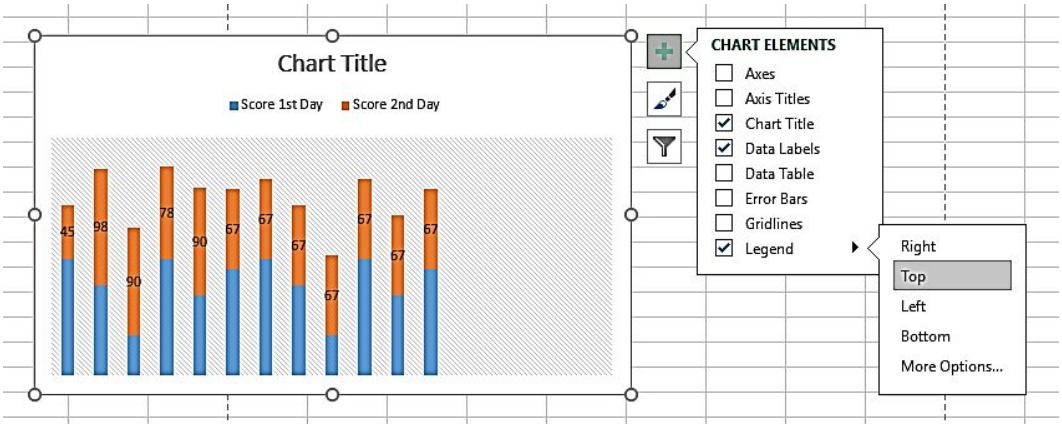


Working with Legends

As said in the previous chapter, the legend is displayed by default at the right side of the chart when you create a chart. If you want to hide it, click on the **Chart Elements** icon, then uncheck the box beside the Legends option.

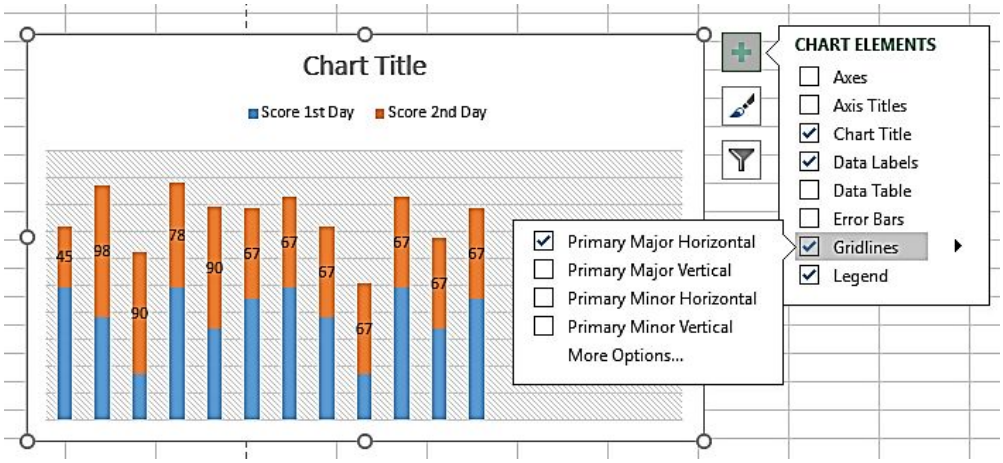


To change the position of the legend, simply click on the chart element icon, then, click on the arrow next to **Legend**, then select where you want to move it to.



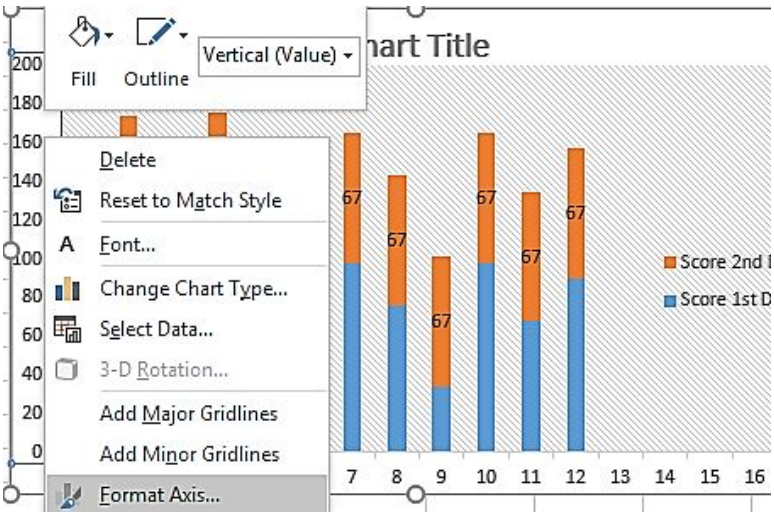
Working with Gridlines

Click the Chart Element icon on the chart and check the box beside Gridlines. You can select the type of gridlines you want to use on your chart. Click on the arrow next to Gridlines and select an option from the box.

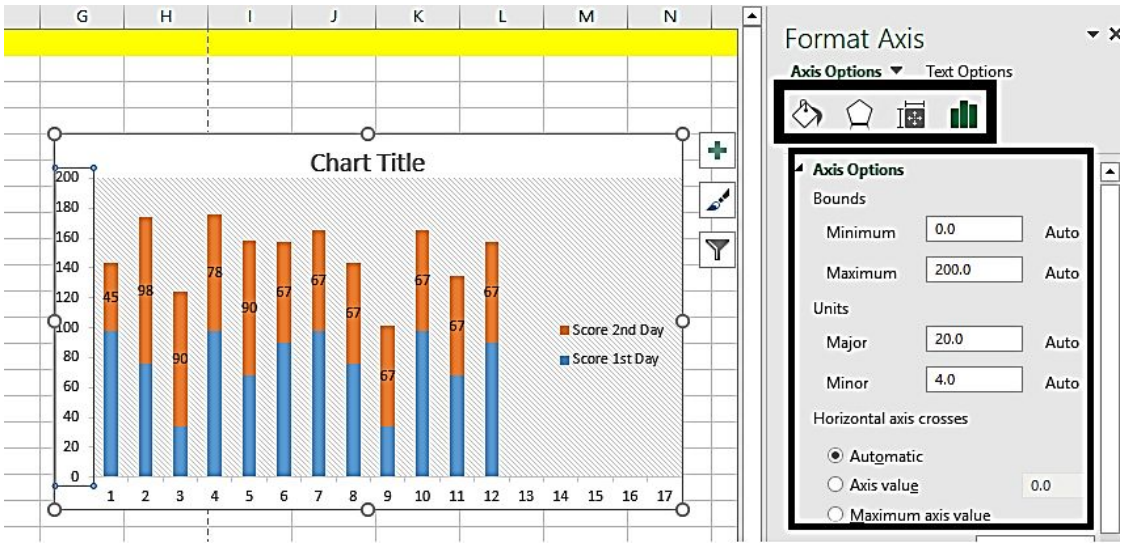


Modifying the Axes

You may have added an axis on your chart but the scale of the axis is small or too big to display the units in the chart. You can modify it to your choice. Simply right-click on the axis you want to modify and select Format Axis.



This will open up the Format Axis pane. On the pane, select any icon to modify the axis. Each of the icons has its modifying options.



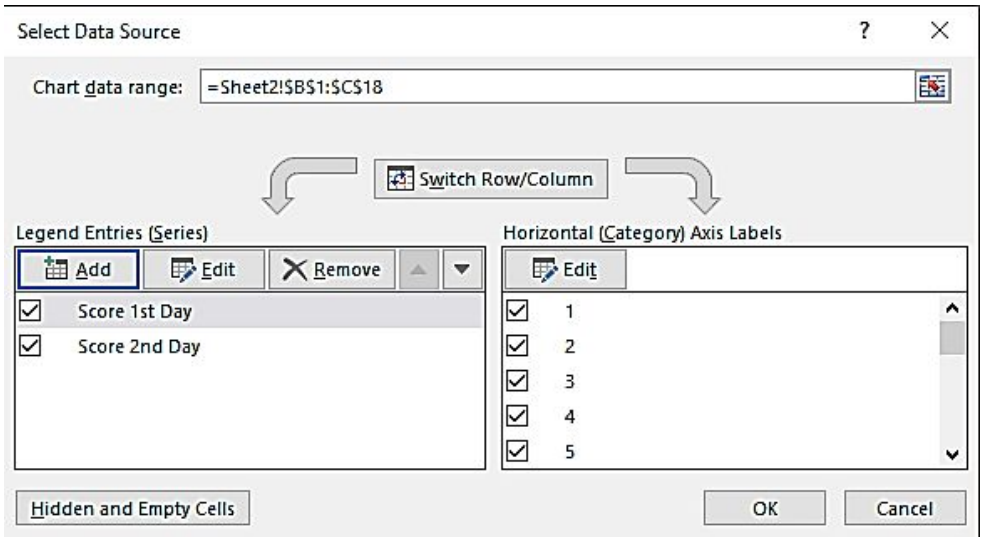
WORKING WITH DATA SERIES

Deleting or hiding a data series

You might want to delete some data on your worksheet. Simply click on the Chart Filter icon, then uncheck the box beside the data series you want not to display.

Adding a new data series to a chart

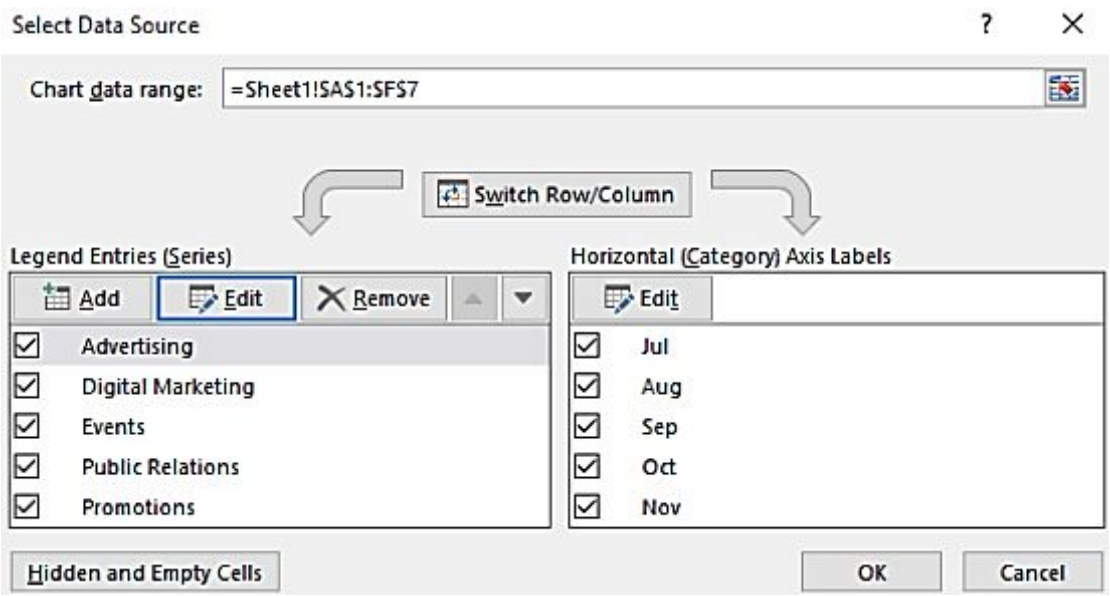
Right-click on the chart, then click on **Select Data**. The Select Data Source box will open. On the left side is where the data series are listed, such as Add, Edit, and Remove buttons. So you can add, remove and edit data series with these buttons.



Click on the **Add button**. The Edit Series box opens, then enter the name of the series and its value. Then, click Ok.

Changing data used by a series

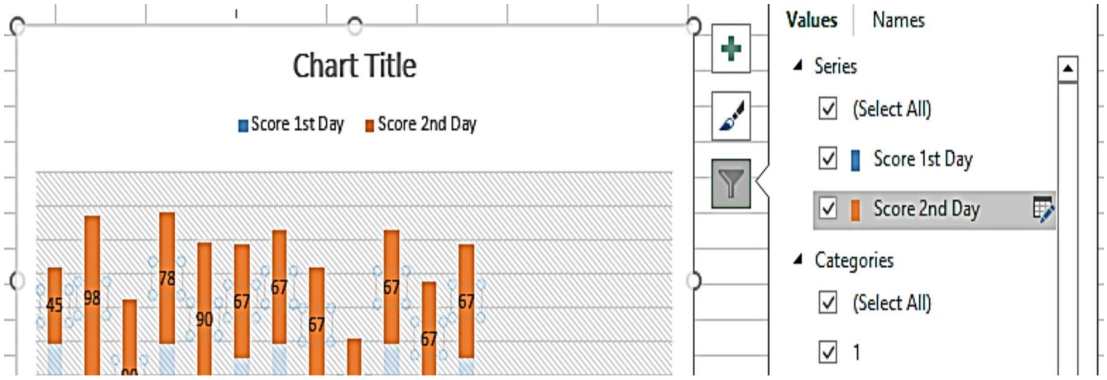
To change the data in a series, go to the **Select Data Source menu** using the steps above. In the data series box, select the series that you wish you change, then click on the Edit button. Then, apply your changes.



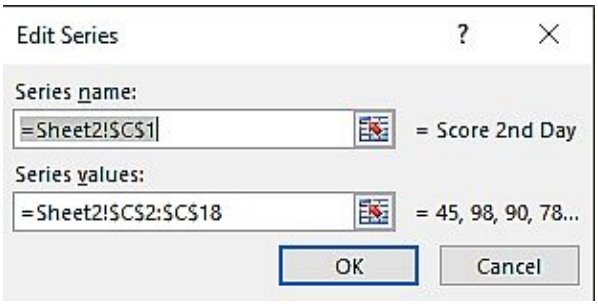
Note that these changes are likely to break connections to the source data in your spreadsheet.

Using the Edit series dialog box

If you want to edit a data series, select the Chart Filter icon. This opens a box containing data series. Click on the Edit series icon at the right side of the data series you want to edit. You will see the icon when you hover your cursor on the data series.

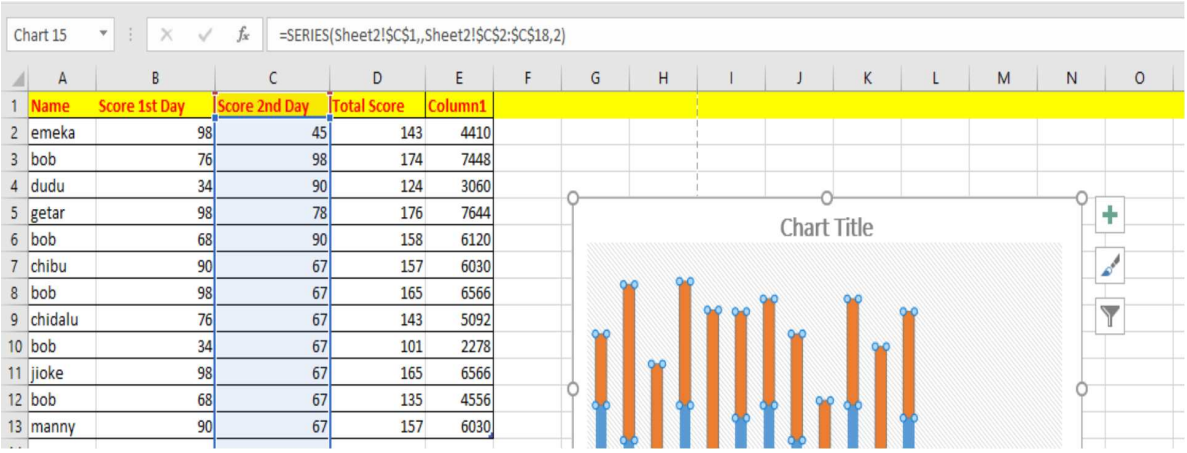


When you click on it, it opens the **Edit series** dialog box. You can now edit the series name and value from the box.



Editing the Series formula

The data in your chart is connected with the series formula. This formula is only available for a chart. When you click on a series in your chart, you will see the series formula on the formula bar. The formula is generated by default. It is written by Excel after creating a chart or adding a series.



	Name	Score 1st Day	Score 2nd Day	Total Score	Column1
2	emeka	98	45	143	4410
3	bob	76	98	174	7448
4	dudu	34	90	124	3060
5	getar	98	78	176	7644
6	bob	68	90	158	6120
7	chibu	90	67	157	6030
8	bob	98	67	165	6566
9	chidalu	76	67	143	5092
10	bob	34	67	101	2278
11	jioke	98	67	165	6566
12	bob	68	67	135	4556
13	manny	90	67	157	6030

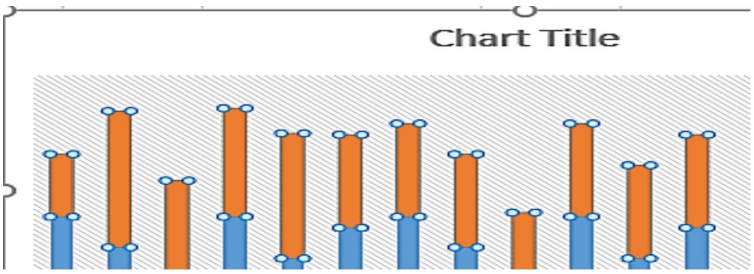
The formula for the data series I just selected is written in the formula bar as **=SERIES(Sheet2!$C$1, Sheet2!$C$2:$C$18,2).**

So, you can add a new formula. You can change the "**C**" in the series formula and add another alphabet like "G". The chart will apply the series name and Y values in Column G.

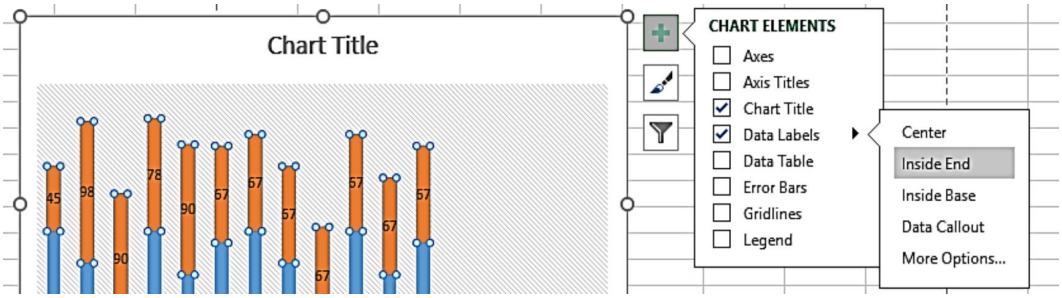
Displaying data labels in a chart

You may add data labels to your Excel graph to highlight information about the data series, making it simpler to interpret. You may add labels to one data series, all data series, or individual data points, based on where you'd like to concentrate your users' attention.

Simply select the data series. If you want to add a label to just a data point, select the data point after choosing the series.

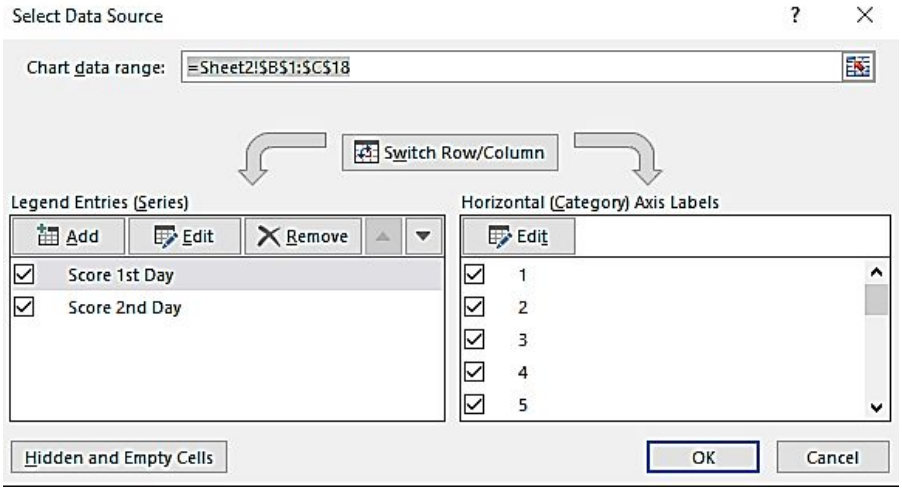


Then, click on the Chart Elements icon, then, check the box beside Data Labels. You can click on the arrow to decide the location where you want to place the data series.

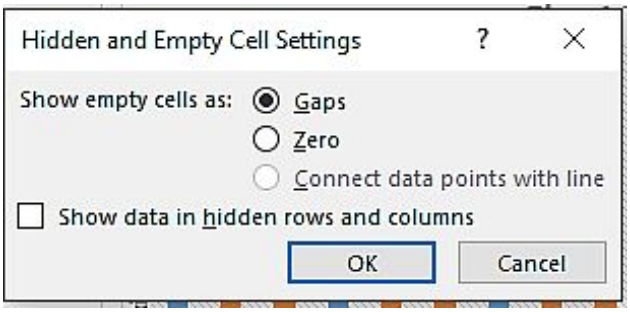


Handling missing data

The data you're graphing may be missing a data point or more. Excel has some solutions for dealing with missing data, including the ability to chart concealed data in a range. Right-click on the chart and choose **Select Data**. Click on Hidden and Empty Cells.



The Hidden and Empty cells box will open. Then, decide how to handle the missing data.



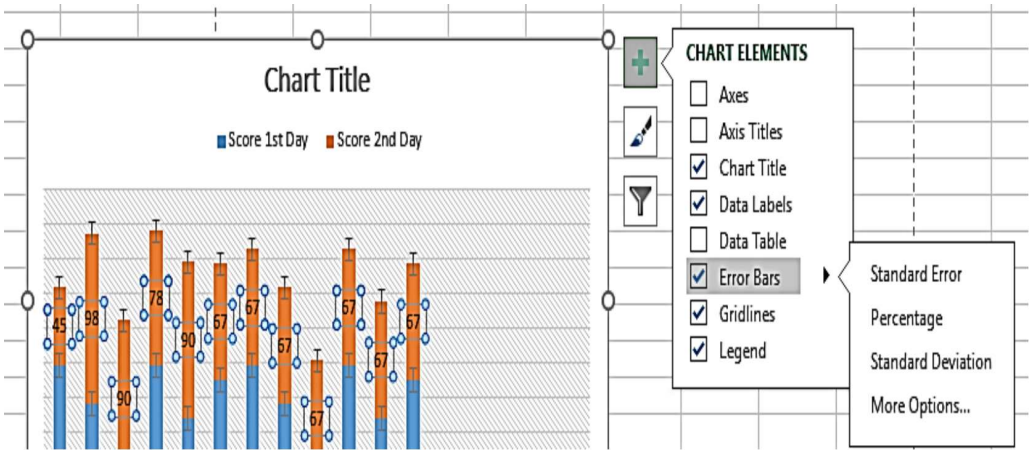
Gaps: This is the default option of Excel. The missing data is not included in Excel. A gap is given by the data series for every missing data point.

Zero: The missing data is seen as zero.

Connect Data missing data as zero: The missing data is calculated with the data on either side of the missing point(s). This only works for some of the X Y scatter subtypes and line charts.

Adding error bars

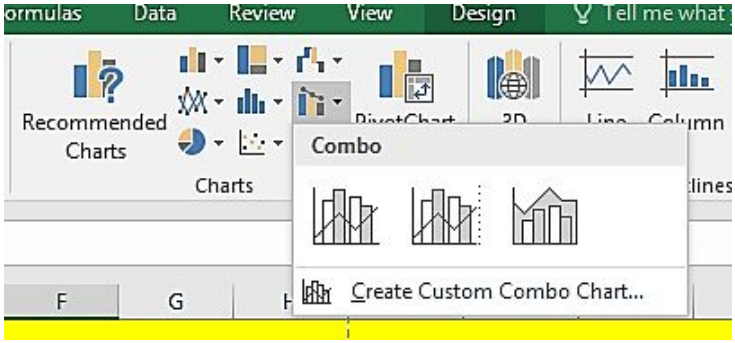
To add error bars on your chart, simply click on the chart, then select the Chart Element and check the Error bars box. You can click on the arrow to select the kind of error bar you want to add.



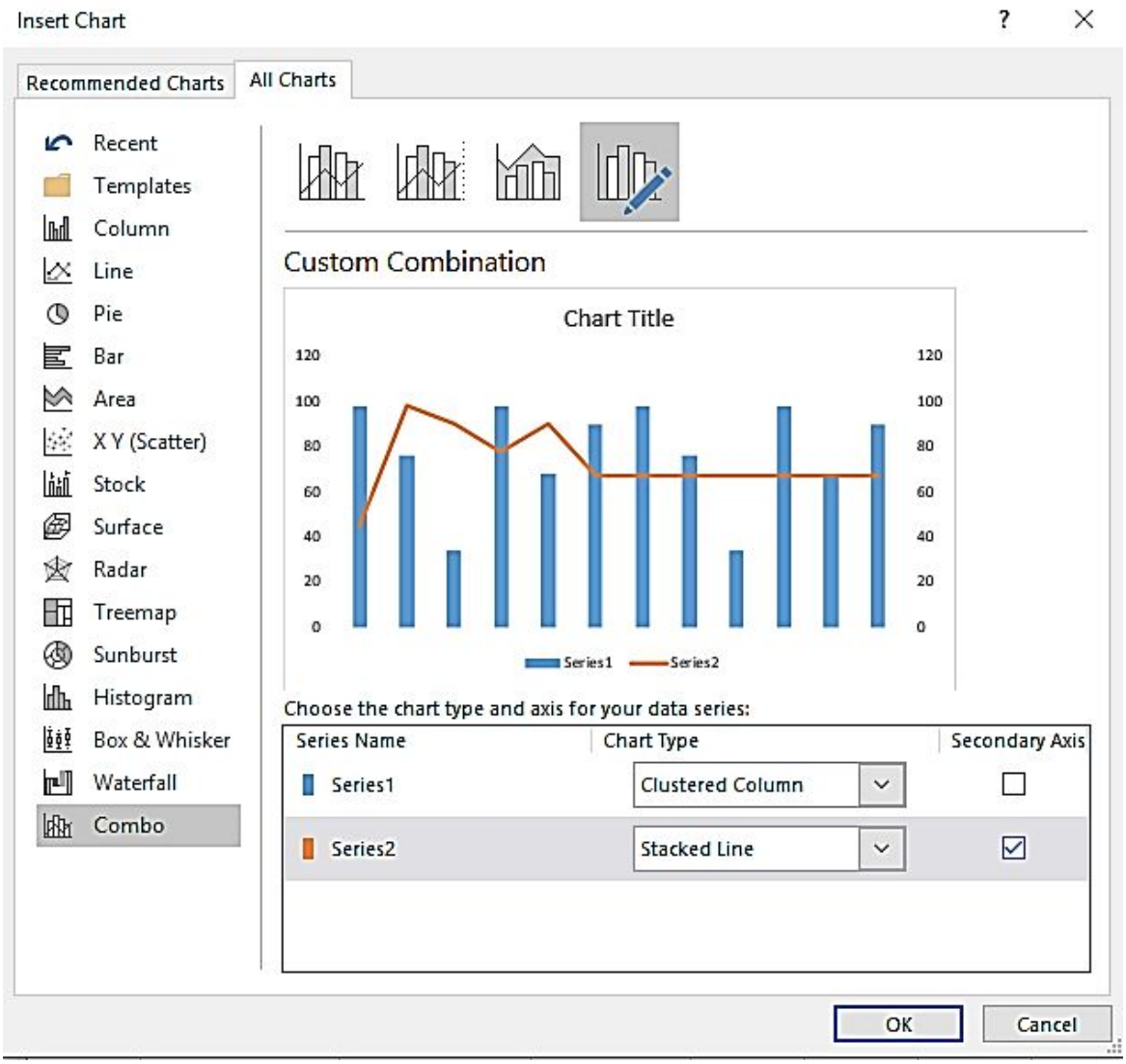
Creating combination charts

A chart that consists of two or more chart types in a chart. Follow the steps below to do so;

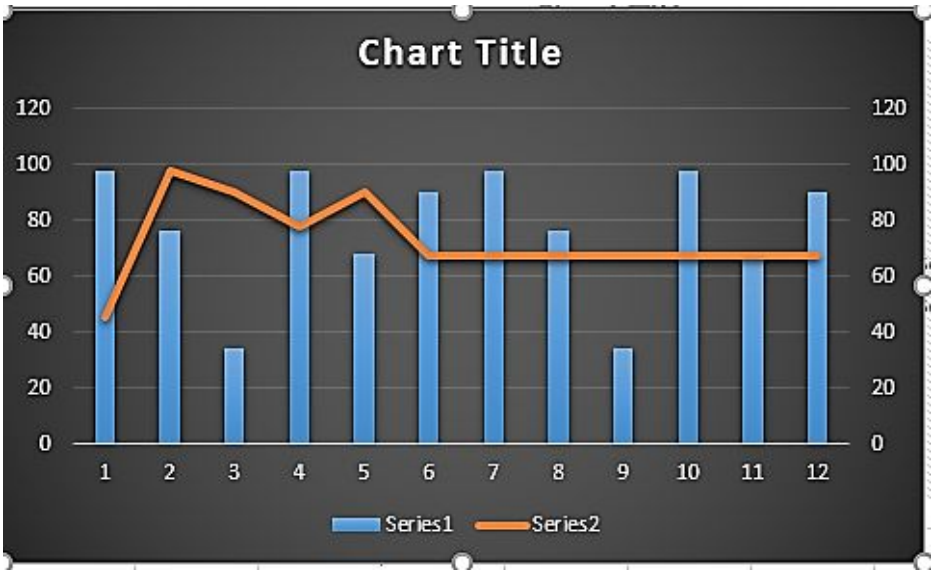
Simply select the cells/range. Click the Insert tab and select the Combo symbol.



Select Create Custom Combo Chart. This opens the Insert Chart menu. Below the menu, select the chart type for the series name you have selected. You can select two different types of chart types. You can check the box on the secondary axis options. Then click Ok.



You will get the chart on your worksheet.



Displaying a data table

Select the chart you would like to display its data table. Click on the **Chart Element** icon, then check the **Data Table** box. Click on the arrow beside it to choose if you want to display it with legend keys or not.

Creating Chart Templates.

After creating a chart, right-click on it and select Save as Template. The Save Chart Template dialog will open. Type in the name of the template then selects Save. Chart Templates are saved in the Charts folder. They are included in the Templates folder in the Insert Chart and Change Chart Type dialog.

CHAPTER ELEVEN

CREATING SPARKLINE GRAPHICS

What is a Sparkline

Sparklines are small charts that stay inside a cell. They serve as the background of that cell. Sparklines make your look better. They display trends over time.

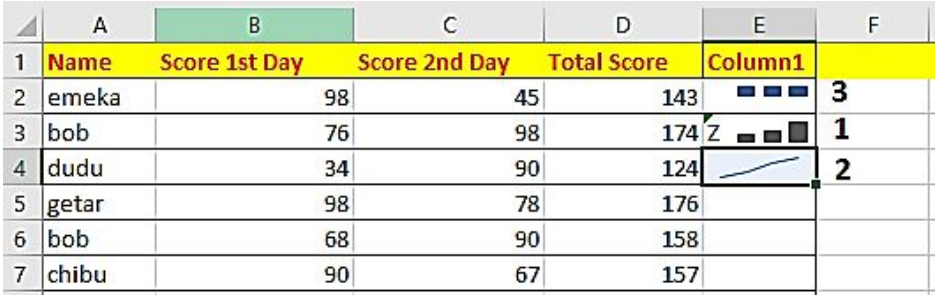
Sparklines are changeable and reliant on the dataset they're based on. The sparkline would update automatically as the underlying dataset changed. As a result, it's a great tool for producing Excel dashboards.

The size of the sparklines is determined by the cell size. The sparkline will alter in response to changes in cell height or breadth. You may type in a text when sparkline is active in a cell.

Sparkline Types

The types of sparklines are **Line**, **Column**, and **Win-Loss**.

1. **Column Sparkline**: This sparkline comes in form of a column chart or bar chart.
2. **Line Sparkline**: This comes in form of lines.
3. **Win or Loss Sparkline**: To display negative values. For example, it displays the ups and downs of the floated costs.



	A	B	C	D	E	F
1	Name	Score 1st Day	Score 2nd Day	Total Score	Column1	
2	emeka	98	45	143		3
3	bob	76	98	174		1
4	dudu	34	90	124		2
5	getar	98	78	176		
6	bob	68	90	158		
7	chibu	90	67	157		

A win-loss sparkline is more like a column sparkline, except that it does not display the degree of the value. It's best for scenarios with binary outcomes, such as Yes/No, True/False, Head/Tail, 1/-1, and so on. For instance, if

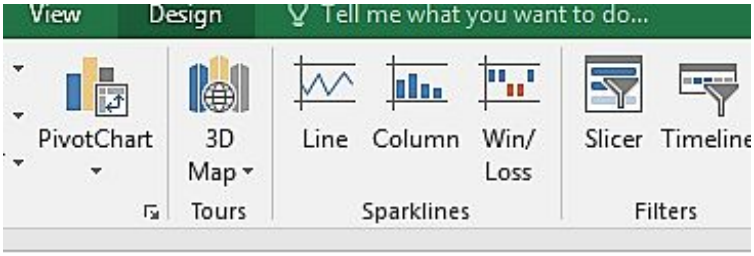
you're trying to figure out if there was rainfall in the last seven days or not, you may use a win-loss chart with 1 for rainy days and -1 for dry days. Everything discussed throughout this chapter for column sparklines could equally apply to win-loss sparklines.

Importance of Using Sparklines

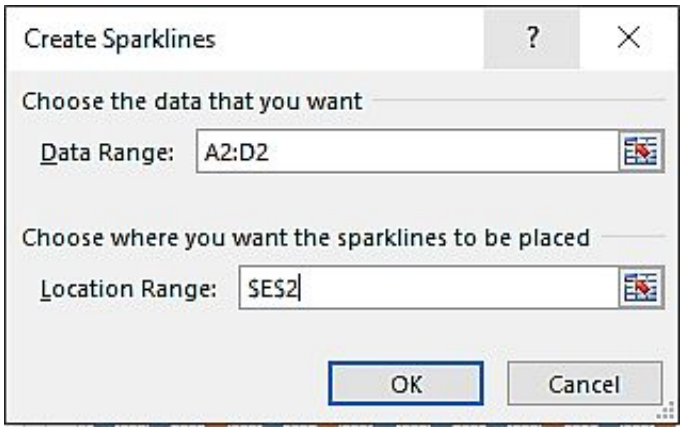
- When the cell width is altered, Sparkline automatically switches its size.
- Evaluate data patterns over a certain period
- For a limited period, data reports are being generated.
- Data compression is the process of converting data into a smaller format
- The data variations are simple to comprehend.
- Data representation, such as temperature and stock market price
- A better comprehension of data points with high and low values.
- Sparkline may efficiently float negative numbers.

Creating Sparklines

Choose the cell for the sparkline. Then, click **Insert** on the tab. On the right, is the Sparkline group. Click anyone.



The Create Sparkline dialog box shows. Choose the data range for sparkline. Here, my data range is A2:D2. Also, put in the location for the sparkline. You can do so by clicking on the cell.

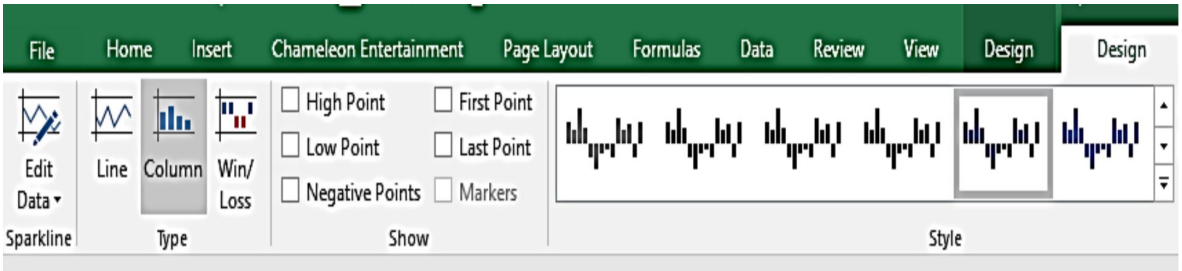


Then, click **Ok**.

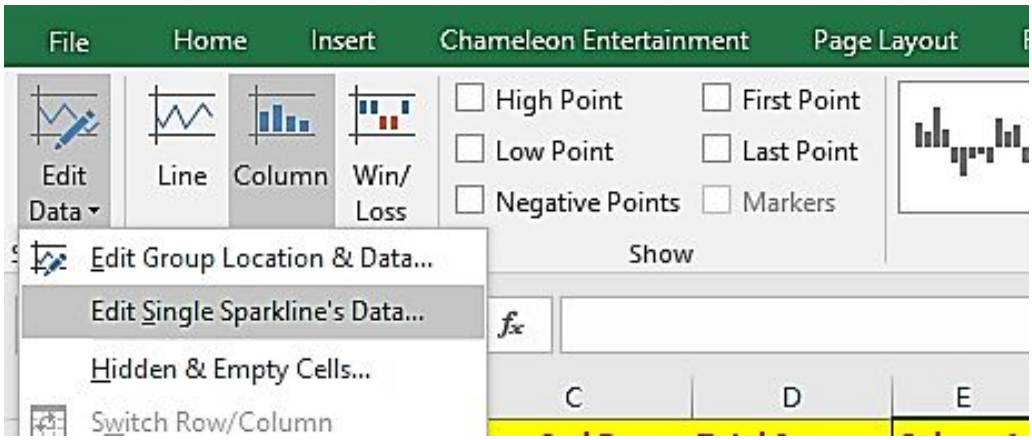
	A	B	C	D	E	F
1	Name	Score 1st Day	Score 2nd Day	Total Score	Column1	
2	emeka	98	45	143		
3	bob	76	98	174		
4	dudu	34	90	124		
5	getar	98	78	176		
6	bob	68	90	158		

Customizing Sparklines

You can make some customization to the sparkline you have just created. Simply click on the cell which contains a sparkline. The sparkline tool design will display on the tab.



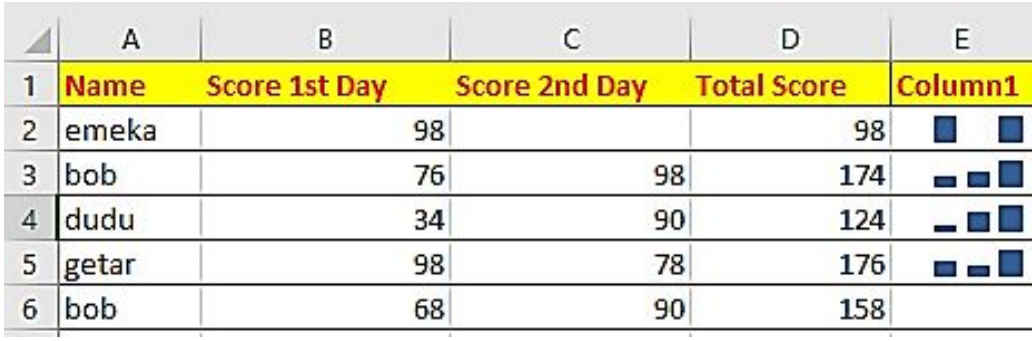
On the tab options, you will see a lot of customization options for the sparkline. You can change the color, change the style, add axis, show negative, positive, low points. If you want to edit the data of the sparkline, click on the **Edit data** option. You will see two options; **Edit Group Location & Data and Edit Single Sparkline only.**



Use the Edit Group Location & Data option to edit grouped sparklines. Use the other option to edit single sparkline data.

Handling hidden or missing data

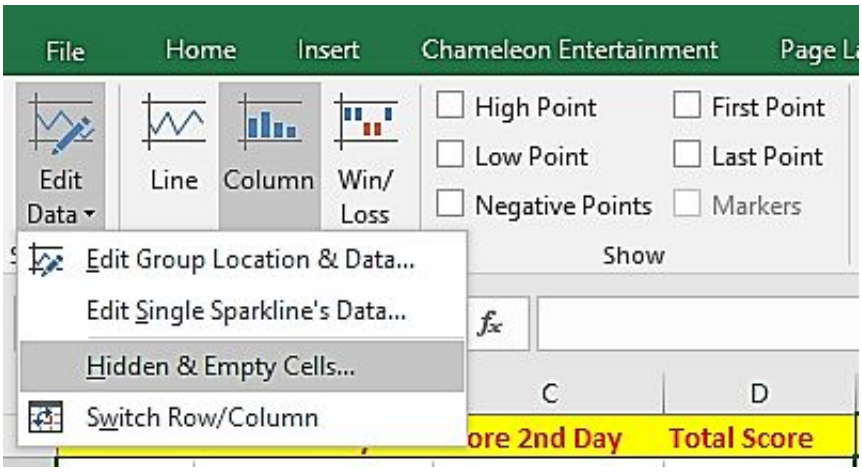
The sparklines display a gap for an empty cell.



	A	B	C	D	E
1	Name	Score 1st Day	Score 2nd Day	Total Score	Column1
2	emeka	98		98	
3	bob	76	98	174	
4	dudu	34	90	124	
5	getar	98	78	176	
6	bob	68	90	158	

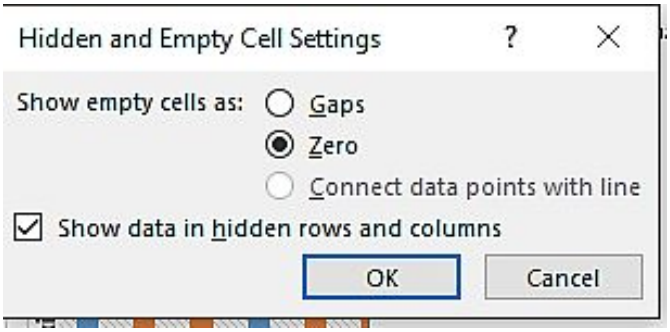
In the image above, the value of Emeka's score on the second day is missing and this created a gap in the sparkline. Look at the other sparklines and see how there is no gap on them. You can decide how you want to handle these empty cells.

Simply, select the cell which contains the sparkline. Click on the Design tab, click on Edit data and then, click **Hidden & Empty Cells**.



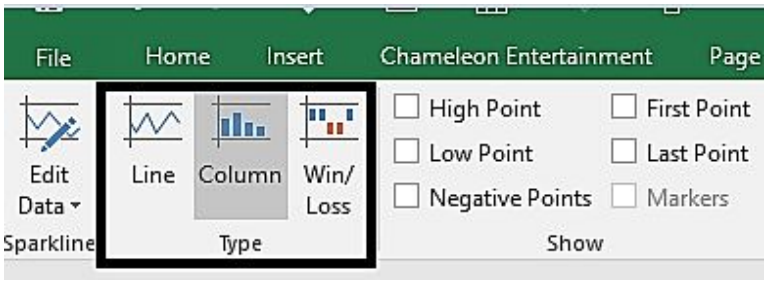
This opens up a dialog box. Choose how the empty cells will show either as **Zero**, **Gaps**, or **Connect the before and after data points with a line (as said earlier, this is only for line sparklines)**.

Check the box on Show data in hidden rows and columns to show the data.



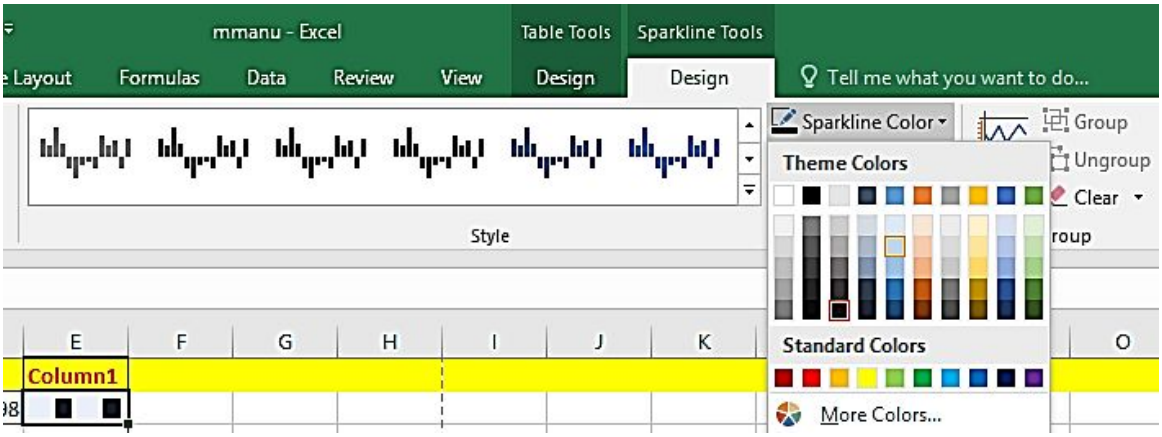
Changing Sparkline types

Click the sparkline, then, on the **Types** group and click on any sparkline type.

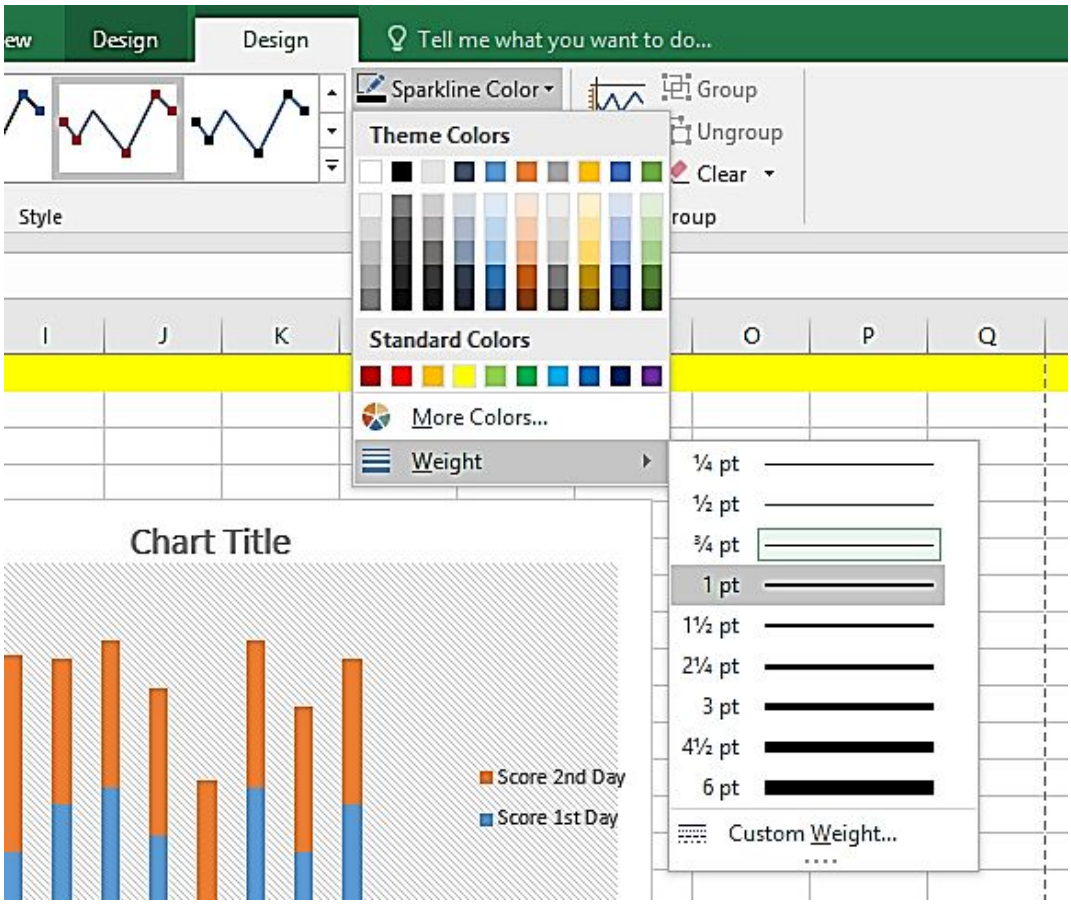


Changing Sparkline colors and line width

Click the sparkline. On the **Sparkline Tools Design tab**, on the Style group, choose Sparkline color. Then, select a color



To change the width, click on Weight, below the Sparkline color option drop-down menu. Then, select the line width you want from the displayed options. This will apply changes to the thickness of the sparkline. This is just for line sparkline.



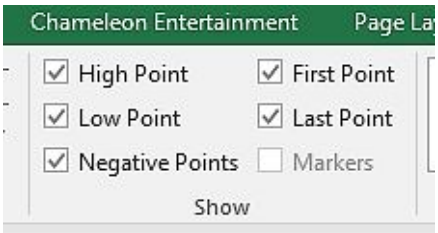
Merging and Sizing Sparklines cells

The sparkline adjusts to the new cell size when you adjust the width or height of a cell that has a sparkline. To merge cells, highlight the cells, choose **Merge & Center**.

If you combine cells that span more than a row or column, Excel will not allow you to insert a collection of sparklines into certain merged cells. Rather, place the sparklines into a regular range (one that does not include any merged cells), then merge the cells.

Highlighting certain data points

You can highlight some data points in your sparkline to make it more understandable and meaningful. You can decide to highlight the last data points, maximum points, negative data points, etc. Simply click on the cell that has the sparkline, then on the Design Tools tab on the Show group, which are different highlighting options.



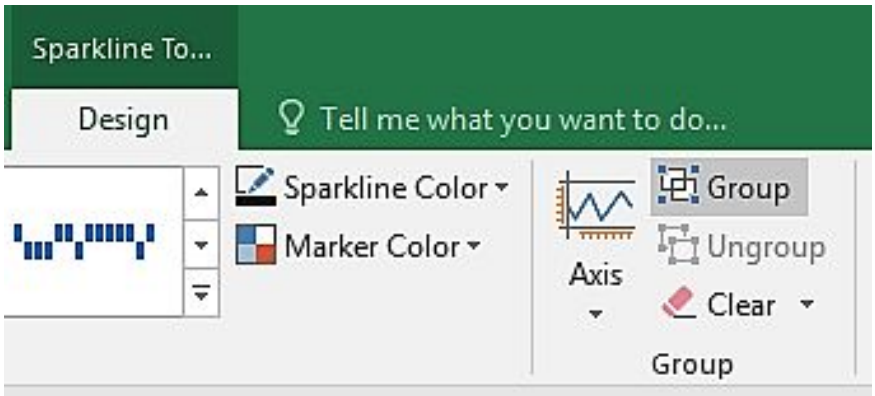
- **High Point;** for the maximum data point.
- **Low point;** for the minimum data point.
- **First point**; for the first data point.
- **Last point;** for the last data point.
- **Negative point;** for negative points if you have any.
- **Marker;** just for line sparklines. When you tick the box, it highlights the data points using a marker.

Grouping and Ungrouping Sparklines

You may have many sparklines. You can decide to group them. When you group them, it makes it easier to make changes to them once rather than

doing it each.

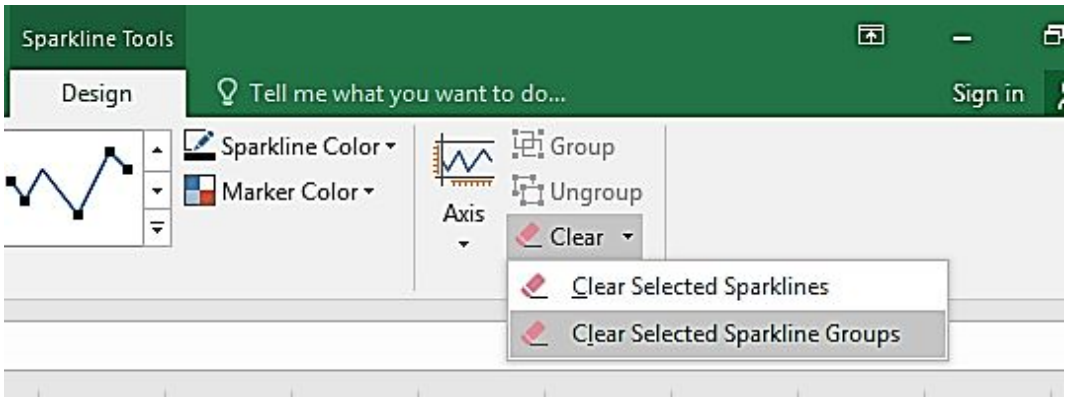
To group them, first select the sparklines, then click on **Group** on the Sparklines Tools Design tab.



To ungroup them, select the cells, then click on the Ungroup option.

Deleting Sparklines

The Delete key doesn't delete a sparkline. Use the Clear option on the ribbon. Select the cell, then on the Sparkline Design tool tab, on the **Group**'s group, and click on **Clear**. You can decide to **Clear Selected Sparklines** or **Clear Selected Sparkline Groups**.

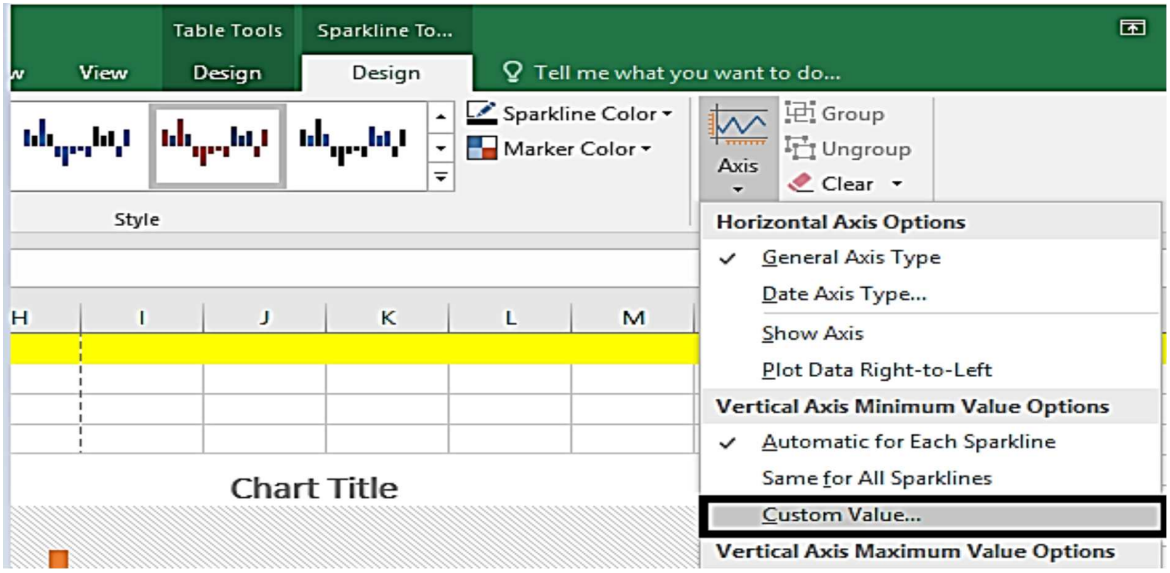


Adjusting Sparkline axis scaling

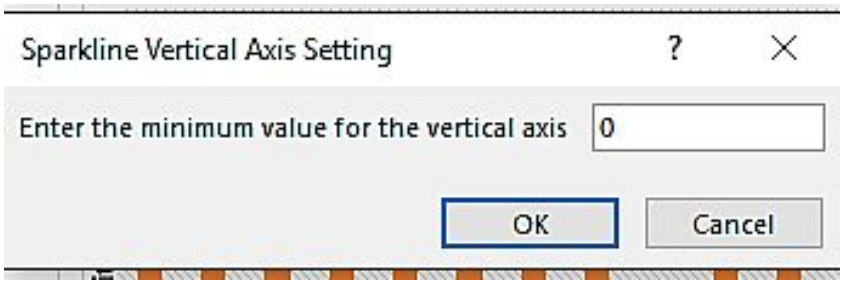
A sparkline displays the least data point at the bottom and all subsequent data points are linked to it.

You might not want it to be the case in certain circumstances since it seems to exhibit a lot of variances. To adjust this, follow the steps below;

Click on the cell containing the sparkline. On the Design tab, select the **Axis option**. From the drop-down menu, from the **Vertical Axis Minimum Value Options,** or the **Vertical Axis Maximum Value Options**, click on **Custom Value**.

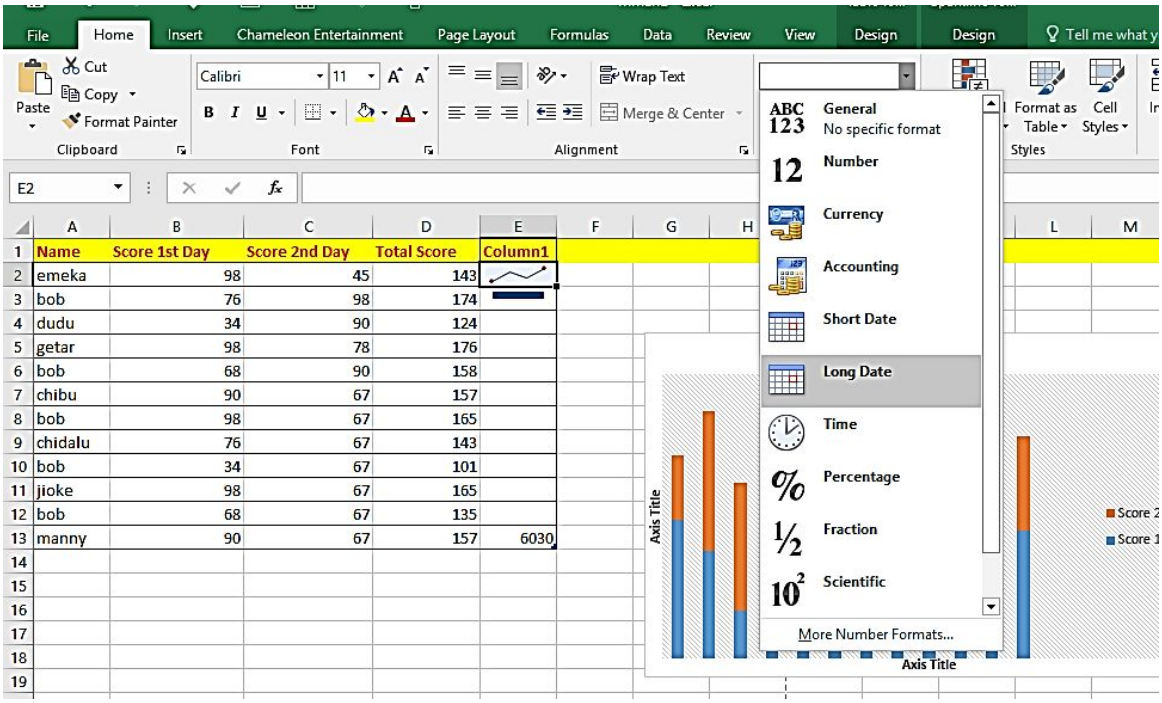


Type in the minimum value you want for the vertical axis, click Ok.

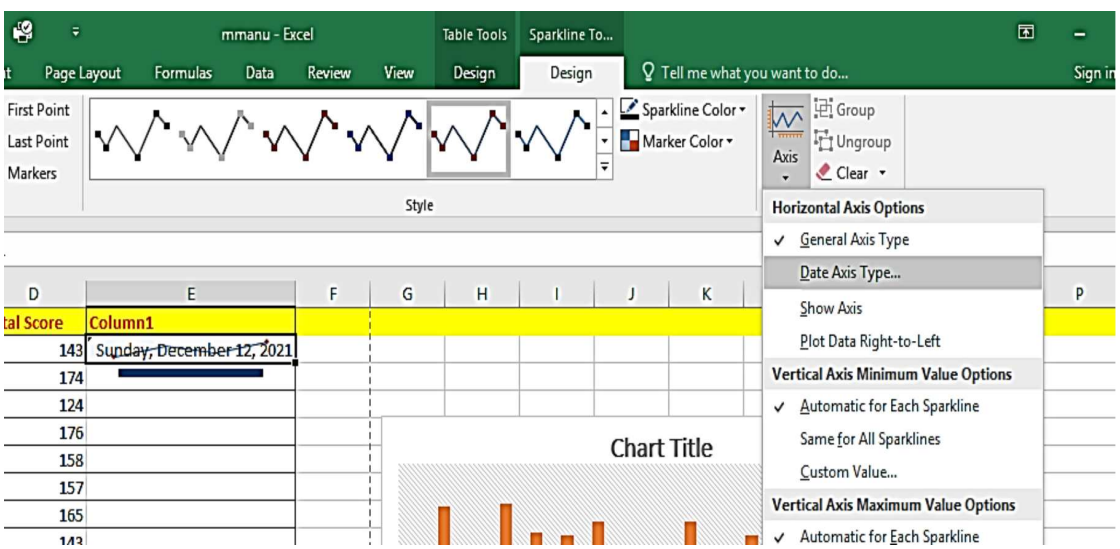


Specifying a date axis

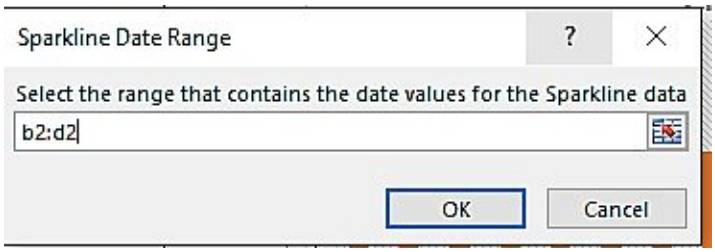
Click on the cell for putting the date values. On the Number section, click the down arrow.



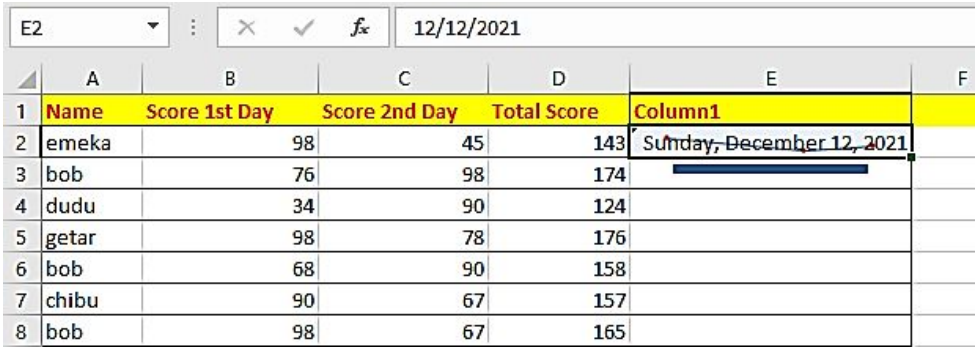
So, select **Long Date** or **Short Date**. Now, in the cells, put in the date values. Click on the cell, then on the Design tab, navigate to the Group's group and click on Axis. This will display a drop-down. Select **Date Axis Type.**



The Sparkline Date Range dialog will open. On it, choose the data cells. Then, click Ok.



You will notice that the graph on the cell changed. It has been re-plotted and has been sorted by date.



E2 | 12/12/2021

	A	B	C	D	E	F
1	Name	Score 1st Day	Score 2nd Day	Total Score	Column1	
2	emeka	98	45	143	Sunday, December 12, 2021	
3	bob	76	98	174		
4	dudu	34	90	124		
5	getar	98	78	176		
6	bob	68	90	158		
7	chibu	90	67	157		
8	bob	98	67	165		

Auto-Updating Sparklines

A common problem people have with Excel and sparklines is that sometimes people add more data to the worksheet and will forget to include the new data in the sparkline. By default, as you modify the data in the cells, the sparklines updates to the new data added.

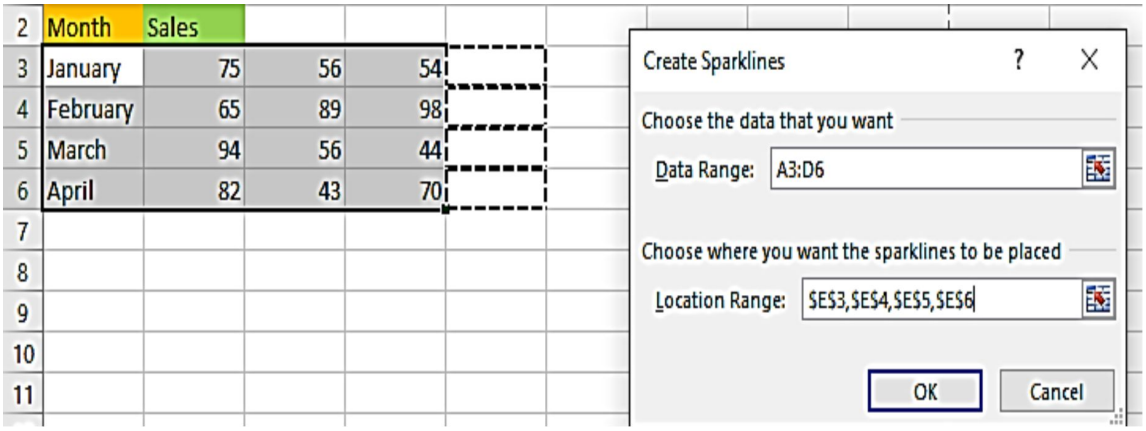
Displaying a Sparkline for a Dynamic Range

The term "dynamic range" refers to a range that is selected automatically when new data is supplied to an existing range.

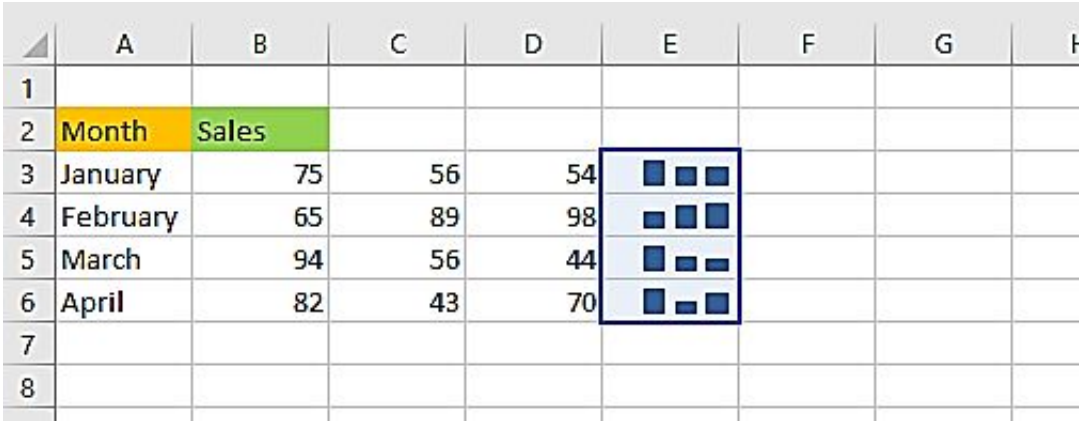
When a new set of lines is added to the data, Dynamic Range in Excel enables us to always utilize the freshly updated range. When we add more cells or rows, it just updates itself. We've utilized a static range with fixed value cells, but with a dynamic range, our range will vary as the data is added. First, you have to format your data as a table. As you enter data in the cells, it is automatically updated in the chart or sparkline.

To display a sparkline for dynamic range, simply select the range of cells, then move to the Sparkline group on the Insert Tab. Select the sparkline you want to add. On the Create Sparkline box, put in the location range. To do

this, select the cells you want the sparklines to display. You can hold down the **Control key** while you select them.



Then, click Ok.



SUMMARY

Sparkline is a short graph that doesn't have any axes or coordinates. Sparkline may be used to analyze a single column or row of data. For the Sparkline, there are a variety of formatting options. A micrograph that fits within a single cell is called a Sparkline. The delete key will not erase a Sparkline that has been formed. In a Sparkline, distinct data points may be highlighted.

CHAPTER TWELVE

VISUALIZING WITH CUSTOM NUMBER FORMATS AND SHAPES

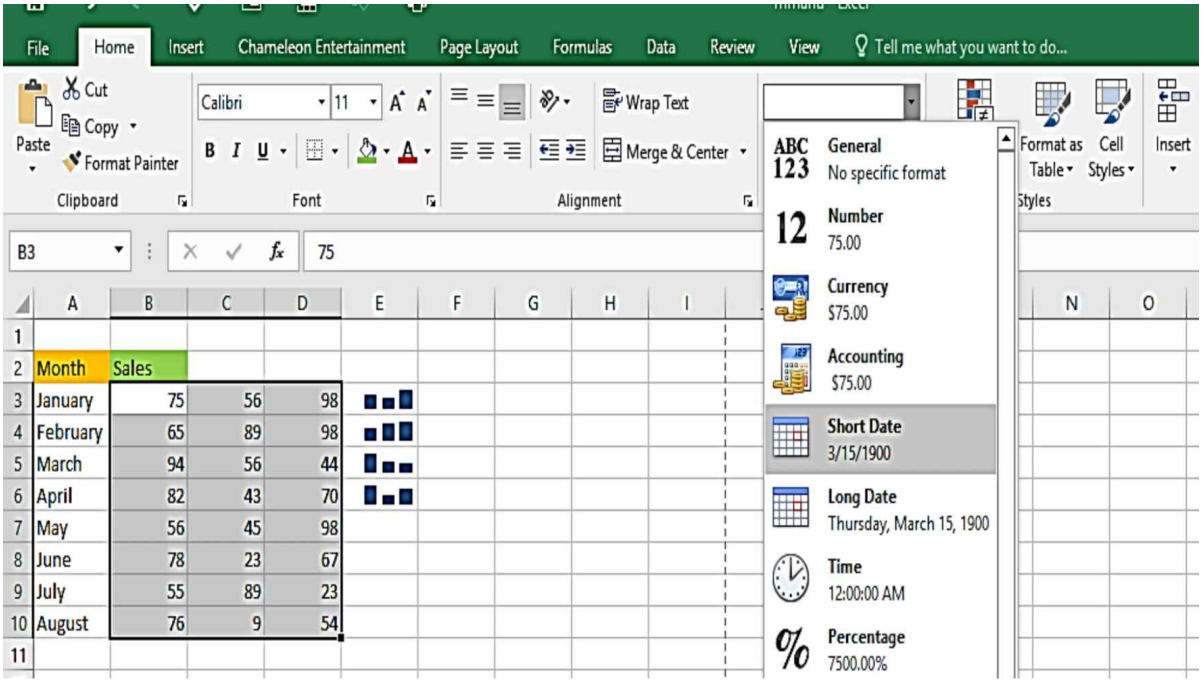
Visualizing with Number Formatting

Number, currencies, proportion, accounting, dates, and times are all designed formats in Microsoft Excel. However, there are times when you need something quite special. You may develop your number format if none of the built-in Excel formats satisfy your requirements.

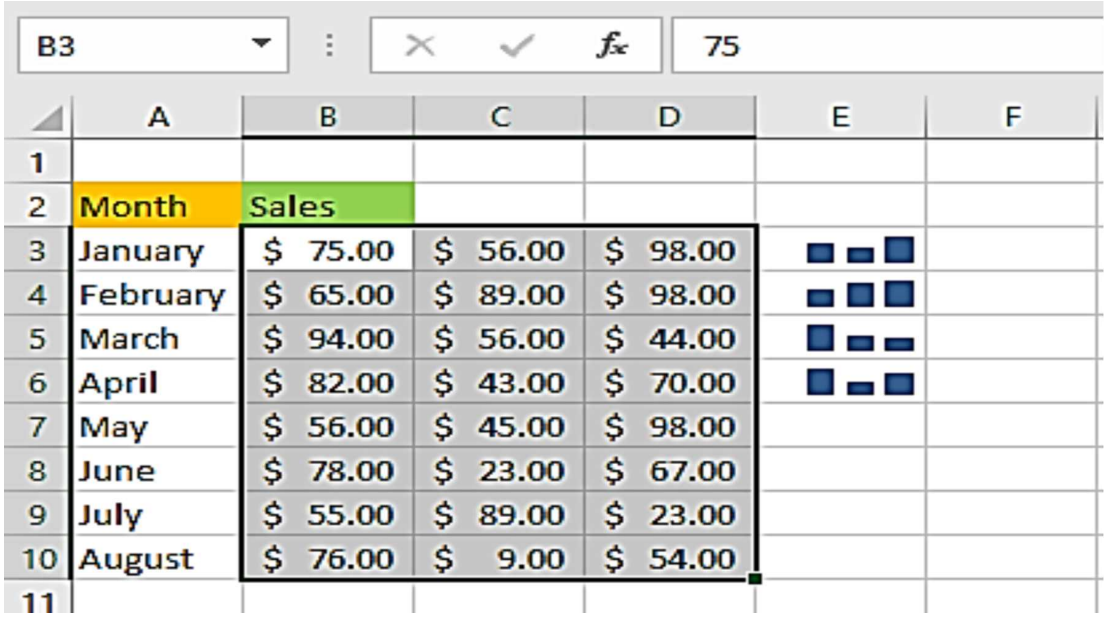
Number Formatting is a tremendously effective technique. The goal of this lesson is to walk you through the components of Microsoft Excel number formatting so you can understand custom number formatting.

Doing basic number formatting

So, highlight the cells containing the numbers for formatting. On the Number group, the default format for your number is General format. So, click the down arrow close to General and select the format you want.



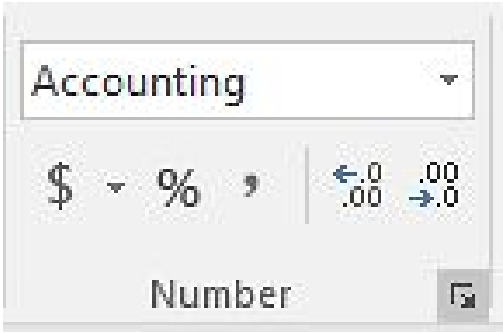
I formatted the numbers using the **Accounting** format option.



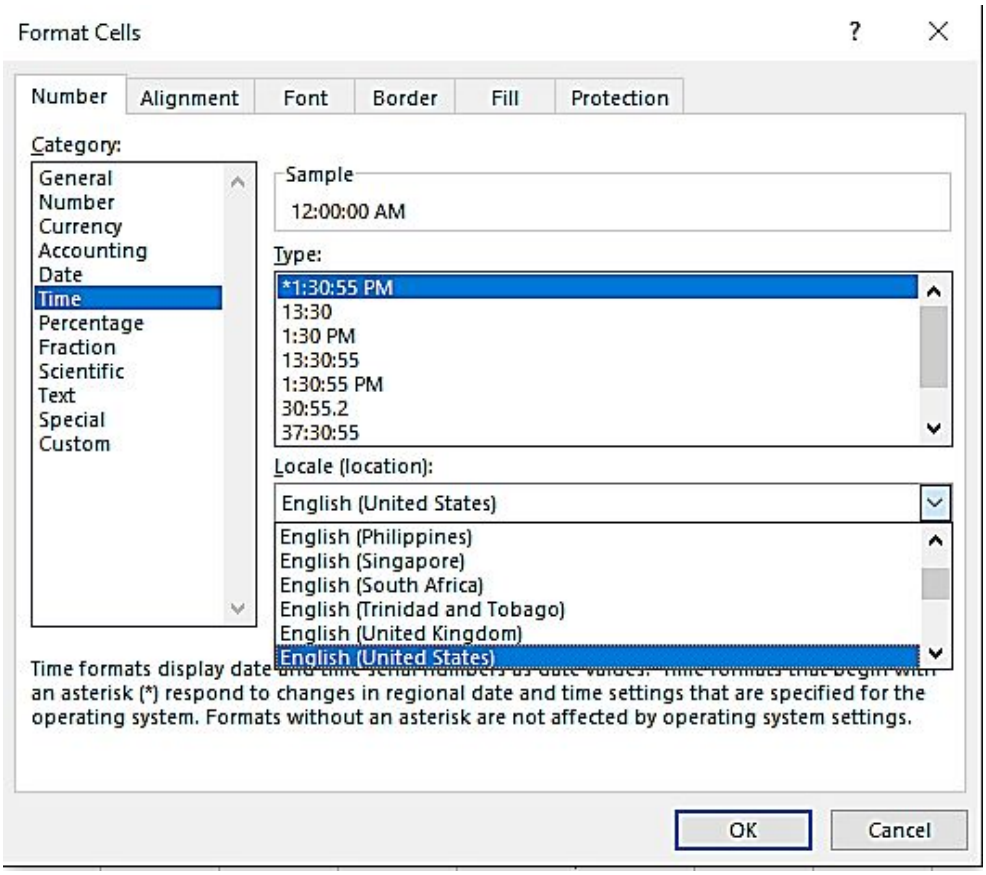
	A	B	C	D	E	F
1						
2	Month	Sales				
3	January	$ 75.00	$ 56.00	$ 98.00		
4	February	$ 65.00	$ 89.00	$ 98.00		
5	March	$ 94.00	$ 56.00	$ 44.00		
6	April	$ 82.00	$ 43.00	$ 70.00		
7	May	$ 56.00	$ 45.00	$ 98.00		
8	June	$ 78.00	$ 23.00	$ 67.00		
9	July	$ 55.00	$ 89.00	$ 23.00		
10	August	$ 76.00	$ 9.00	$ 54.00		
11						

Using the formal cell dialog box to format numbers

You may not find the formatting option on the menu. So, to find them, simply highlight the cells containing the numbers, then on the Numbers group, click on the down arrow which is the dialog box opener.



This will open up the Format Cell dialog box. On the Number Tab, you will see lots of number formatting options. Click on the one you want to use, then click Ok.



Using shortcuts keys to format numbers

With shortcuts, you can easily format the numbers in your worksheet. Use **Control + Shift + Number key**. With it, you apply some formatting to your numbers.

Simply select the cell(s), then press the keys below;

Control + Shift + ` = **General**	Control + Shift + 5 = **Percentage**
Control + Shift + 1 = **Number**	Control + Shift + 6 = **Scientific**
Control + Shift + 2 = **Time**	Control + Shift + 7 = **Border**
Control + Shift + 3 = **Date**	

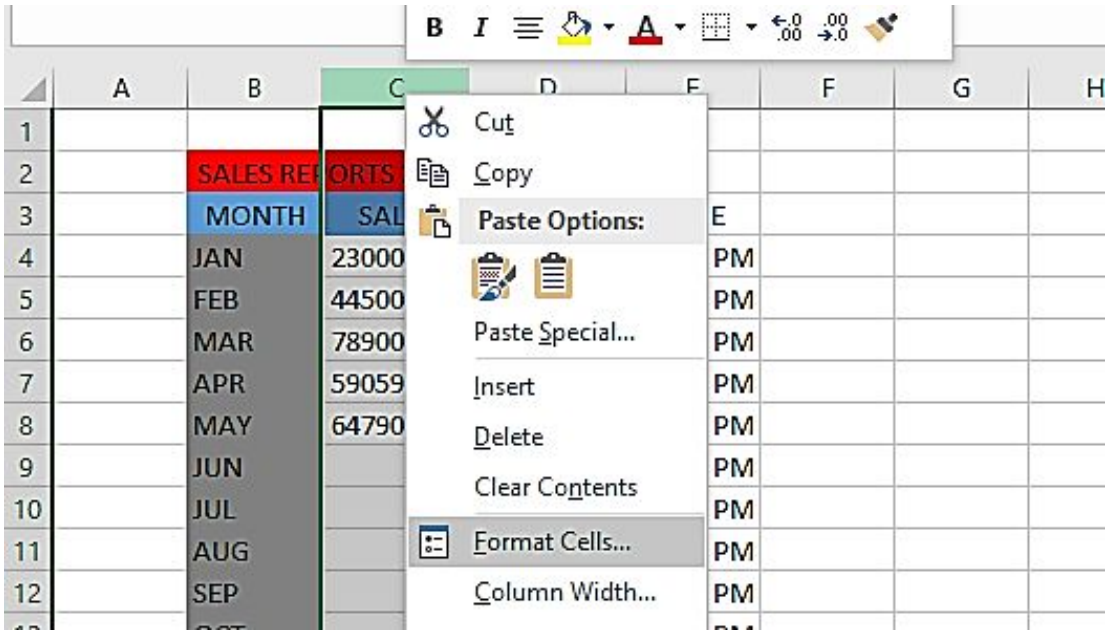
So, press and hold down the Control key and Shift key, then press any of the numbers on your keyboard.

GETTING FANCY WITH CUSTOM NUMBER FORMATTING

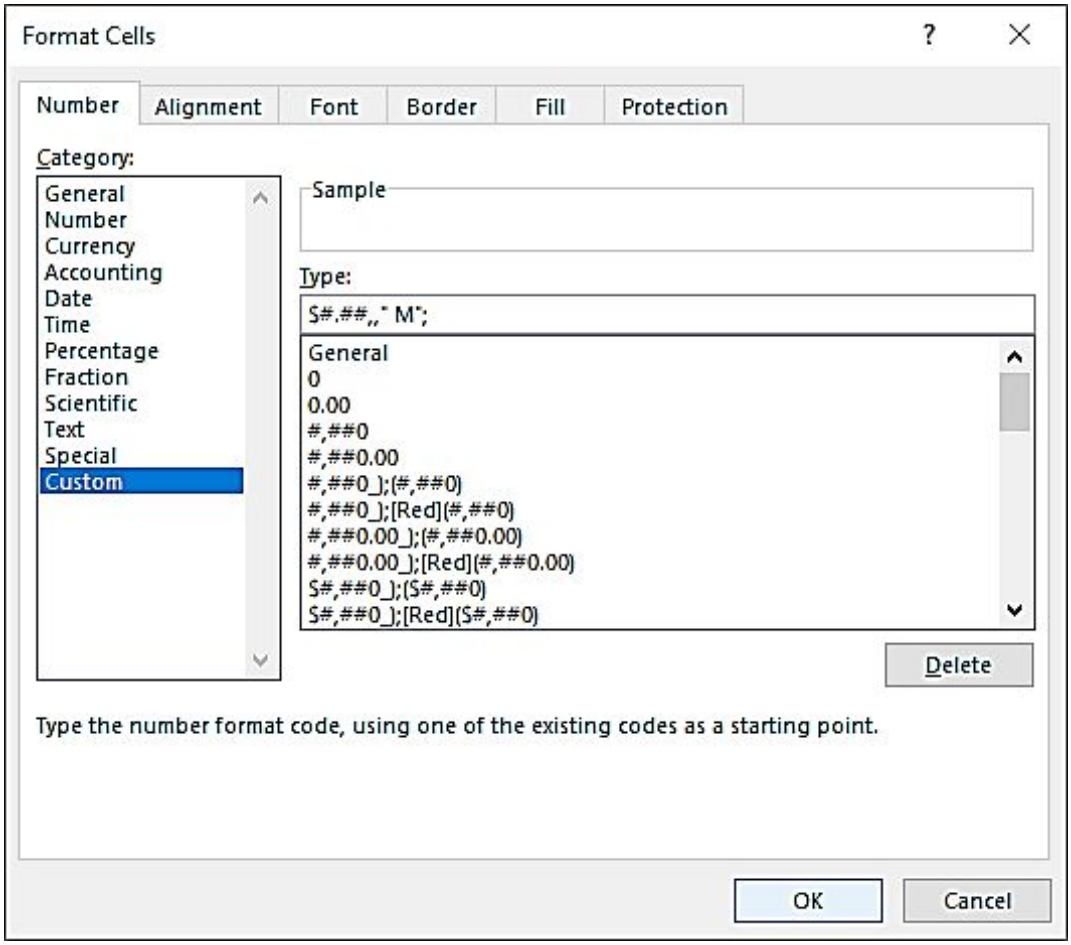
Formatting numbers in thousands and millions

In Excel, you may wish to format a number in a custom manner, such as formatting 421020000 as $421.02 M, and then store this for future use. You can also apply it to multiple cells. To do this, follow the steps below.

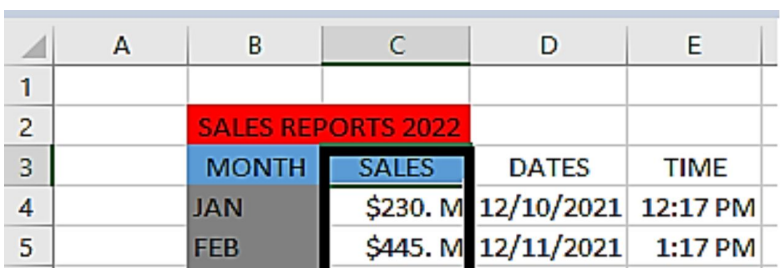
Select the cell that has a number value in it, right-click on it, then click on **Format Cells**.



Click on the **Number tab** on the Format cell box, then click on Custom. On the box below the Type option, type in the format code $#.##,," M";



Then, click OK

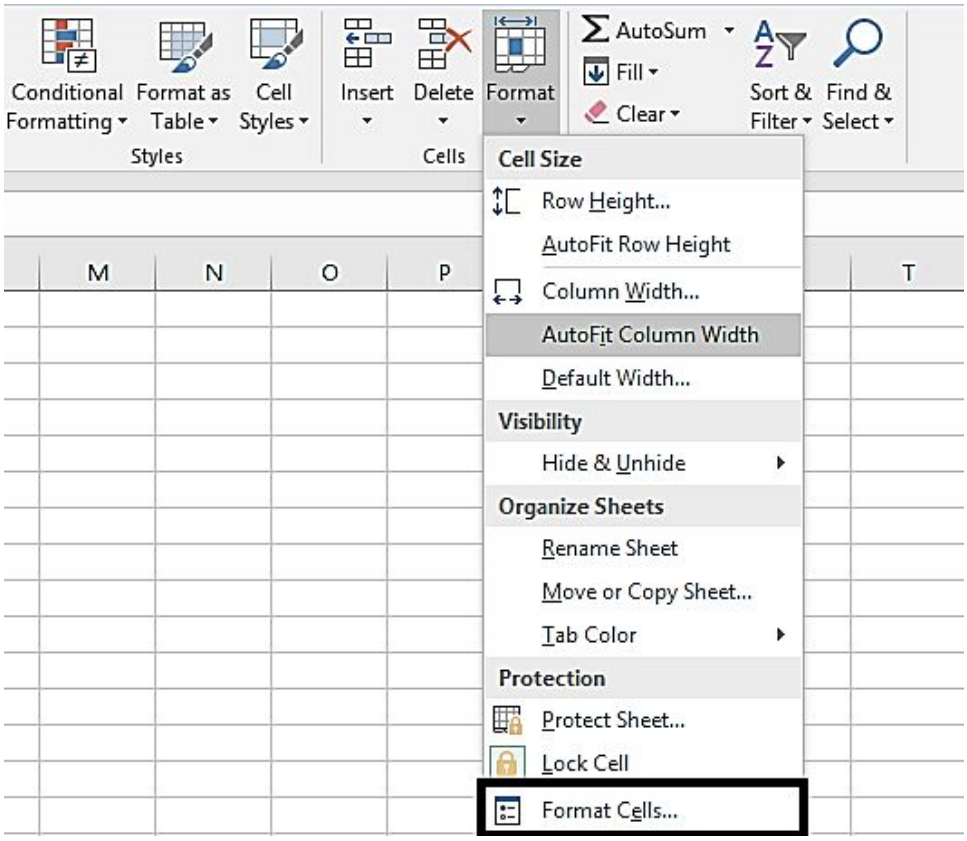


	A	B	C	D	E
1					
2		SALES REPORTS 2022			
3		MONTH	SALES	DATES	TIME
4		JAN	$230. M	12/10/2021	12:17 PM
5		FEB	$445. M	12/11/2021	1:17 PM

Hiding and suppressing zeros

The number format can hide the zeros in the values of the cells. The hidden values are shown in the formula section. When any number in the cells changes to a nonnegative value, the value will be displayed in the cell with a format similar to that of a general format. Follow the steps to do hide zeros;

Click on the cells that have zero value in them. On the Home tab, select Format then select Format Cells.

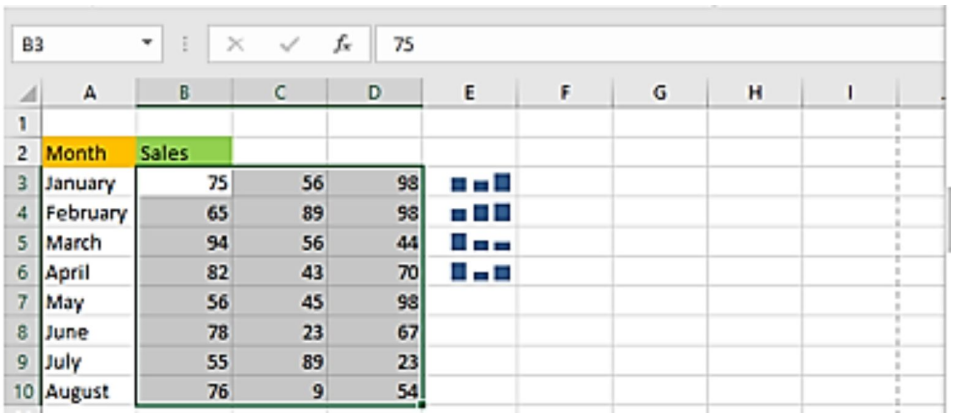


On the Format Cell box, on the Number Tab, click on Custom. On the Type box, put in this format code **0;-0; @**. Click Ok. The Zeros will be hidden.

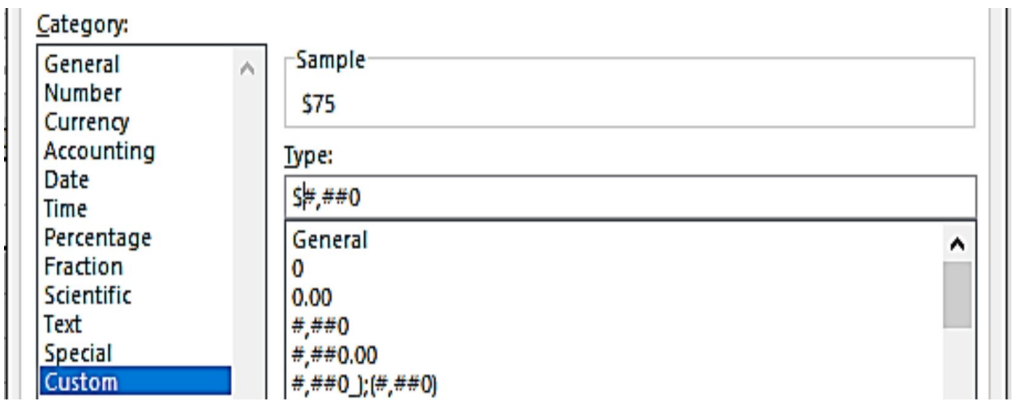
To display them again, select the cells, navigate to the Format cell box, then on the Number tab, click General, and click Ok.

Applying custom format colors

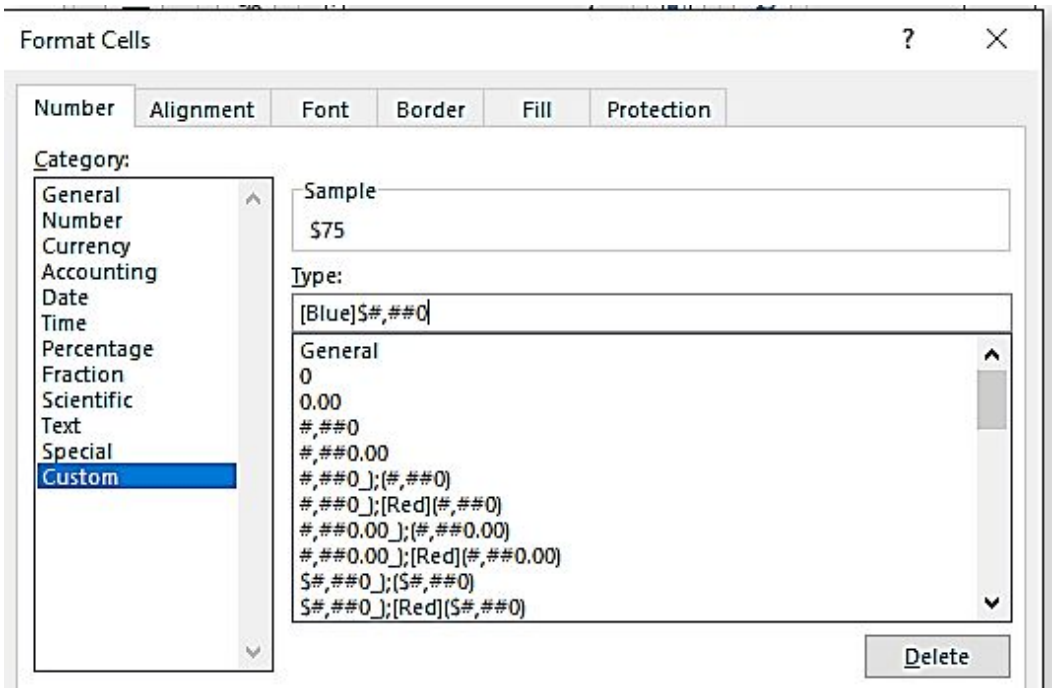
So to apply custom format colors, simply highlight the cells, then open up the Format dialog box with the steps we explained before.



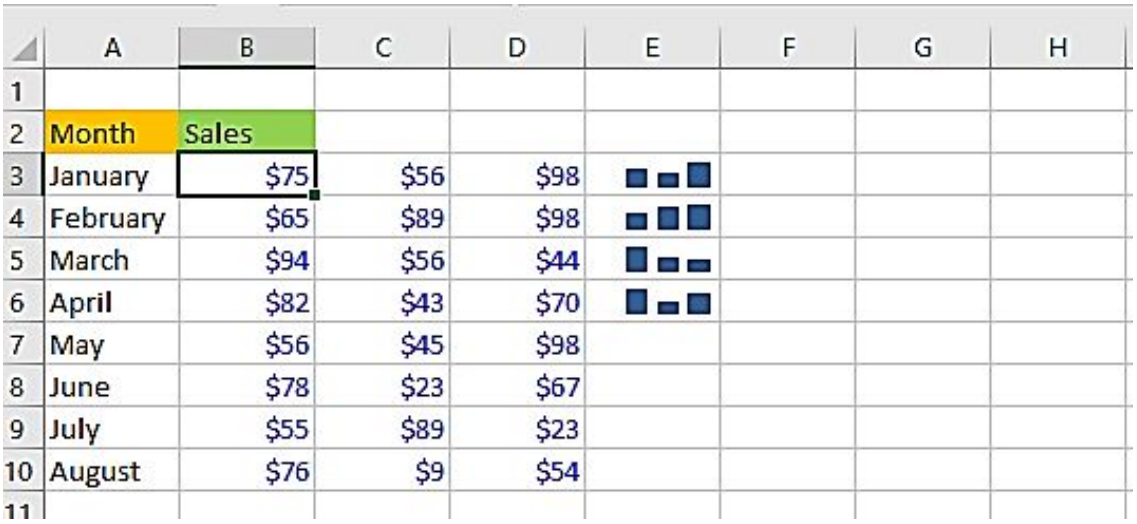
Then, on the Formal cell box, click **Custom**. On the Type box, click any format option there. In my case, I go with **"#,##0".** So, I want to create a custom currency format. So we add a dollar sign. You can see the preview of what you are doing in the **Sample** box.



So, to apply color to the custom format, type in the color name at the front of the format and it should be written inside a square bracket.



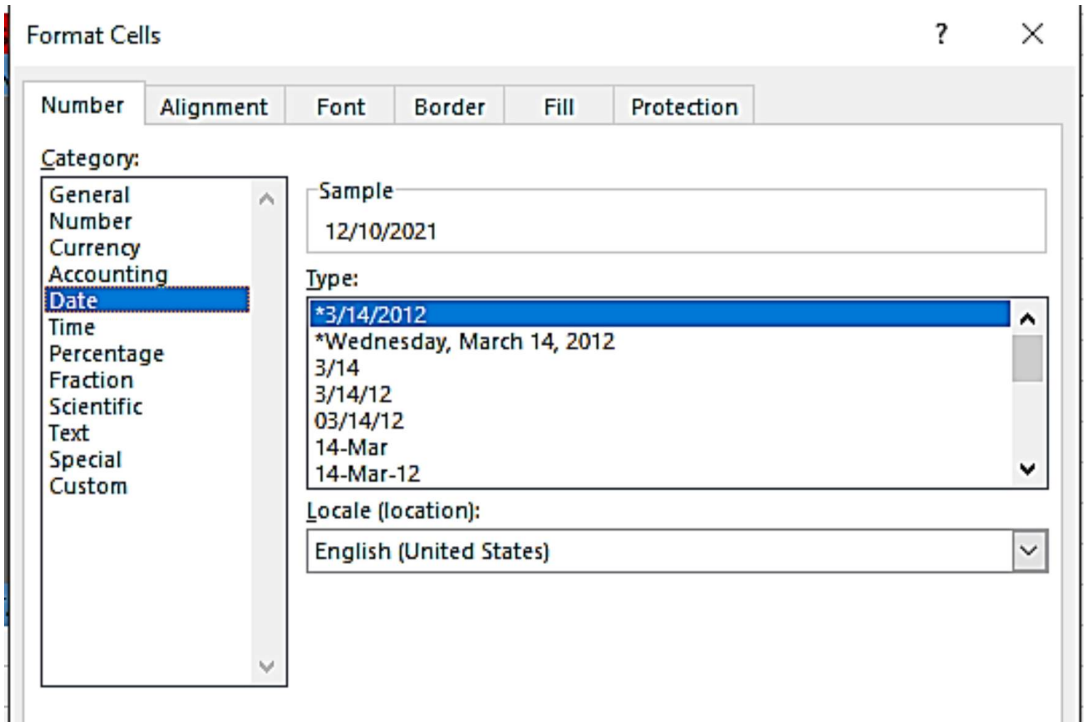
You cannot see the color preview in the Sample box. Click **Ok**. It displays on your worksheet.



	A	B	C	D	E	F	G	H
1								
2	Month	Sales						
3	January	$75	$56	$98				
4	February	$65	$89	$98				
5	March	$94	$56	$44				
6	April	$82	$43	$70				
7	May	$56	$45	$98				
8	June	$78	$23	$67				
9	July	$55	$89	$23				
10	August	$76	$9	$54				
11								

Formatting dates and time

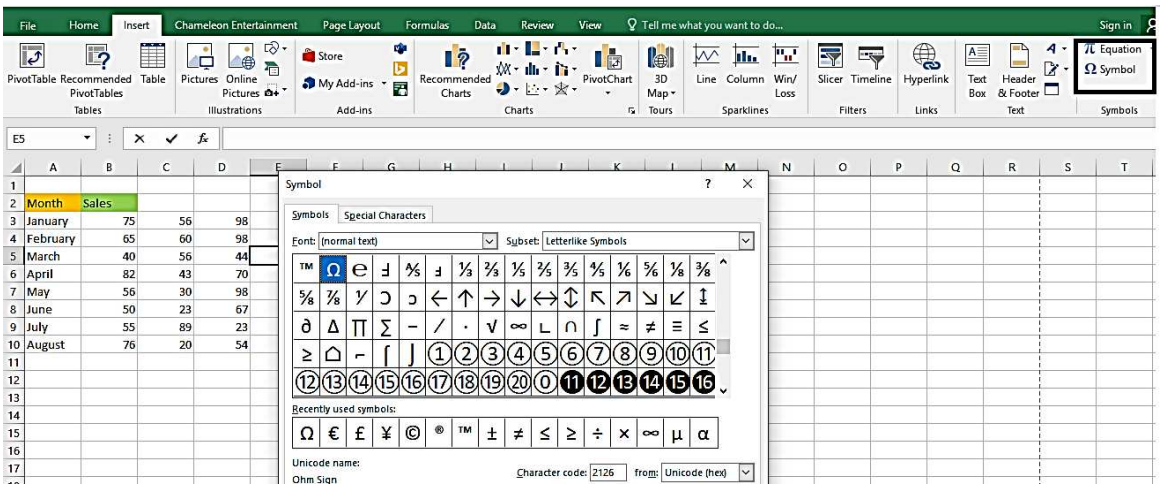
Right-click on the cell, then pick **Format Cells**. On the Number tab, pick Date or Time. Select an option. Then, click **Ok**.



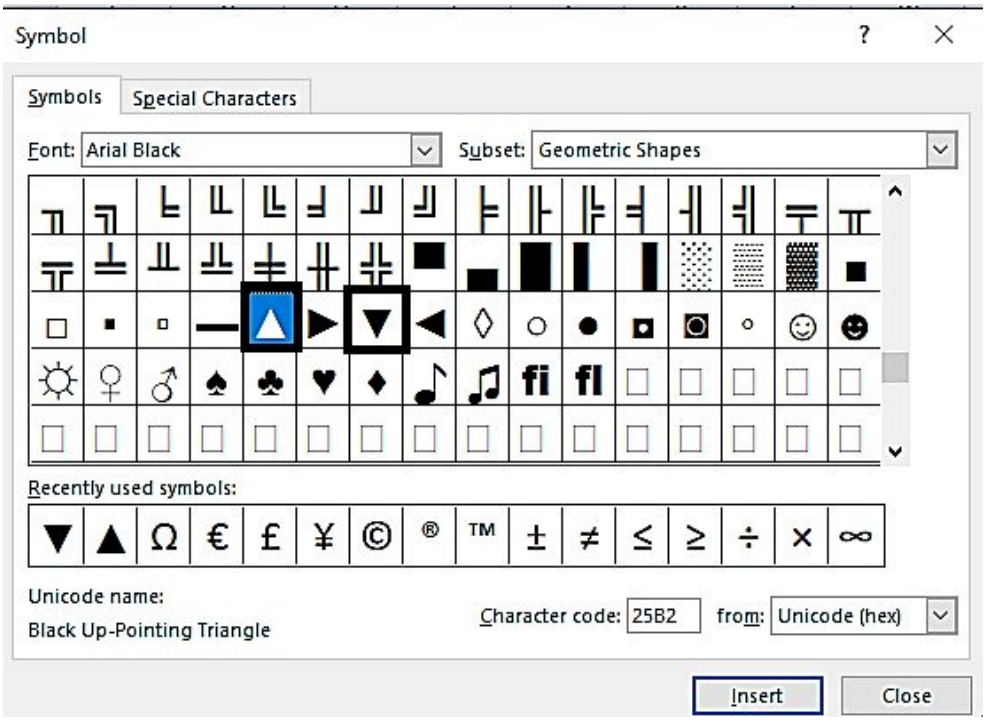
Using a symbol to enhance reporting

Including symbols in your worksheet may help you visualize your data. Here, I will go with the up and down arrows in our number formatting to indicate the increase and reductions in our data. The symbols we'll employ are Unicode symbols, which are a platform-agnostic standard that may be found on any language PC.

First, we will access the symbols by inserting them. So, click on a cell that has no data in it. Click Insert and select the Symbol icon on the Symbols group. This opens up the Symbol menu.

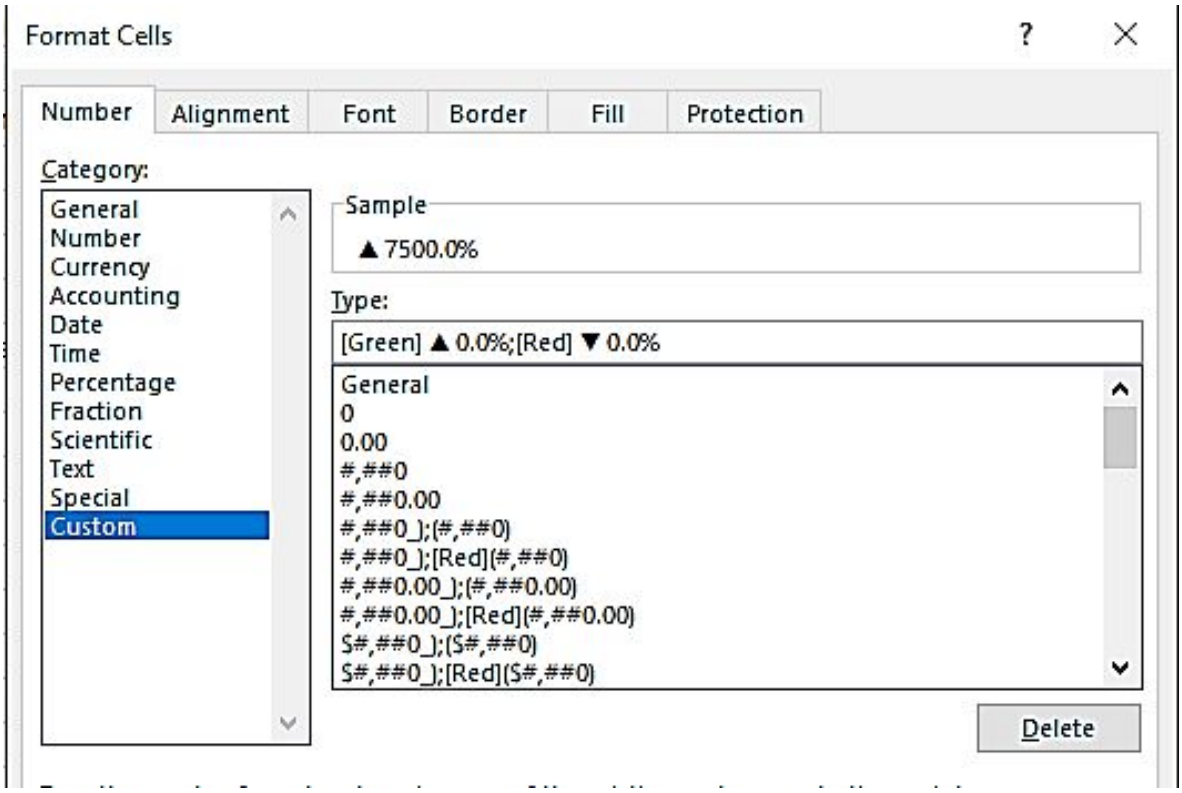


Select the font you want from the **Font box**. On the **Subset box**, choose **Geometric Shapes**. From the list of shapes, choose the **up arrow** shape and click **Insert**. Choose the **down arrow** shape and click **Insert**. Then, close the menu.

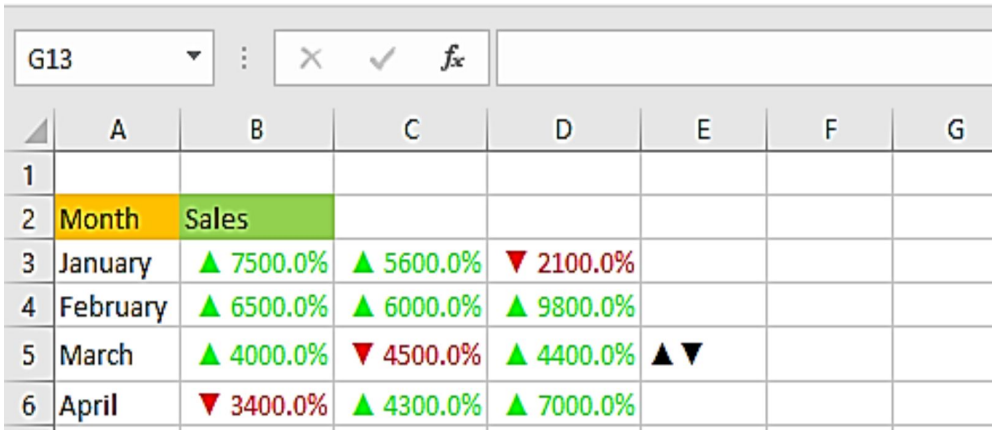


Now let's use the symbols in our formatting

Choose the data to include the symbols. Then, right-click and choose Format Cells. Select Custom on the Insert tab. In the type box, type in this format code **[Green] ▲ 0.0%;[Red] ▼ 0.0%.** Click **Ok**.



The positive numbers will change to green and the up arrow will be there. The negative numbers will change to red and the down arrow will be there.

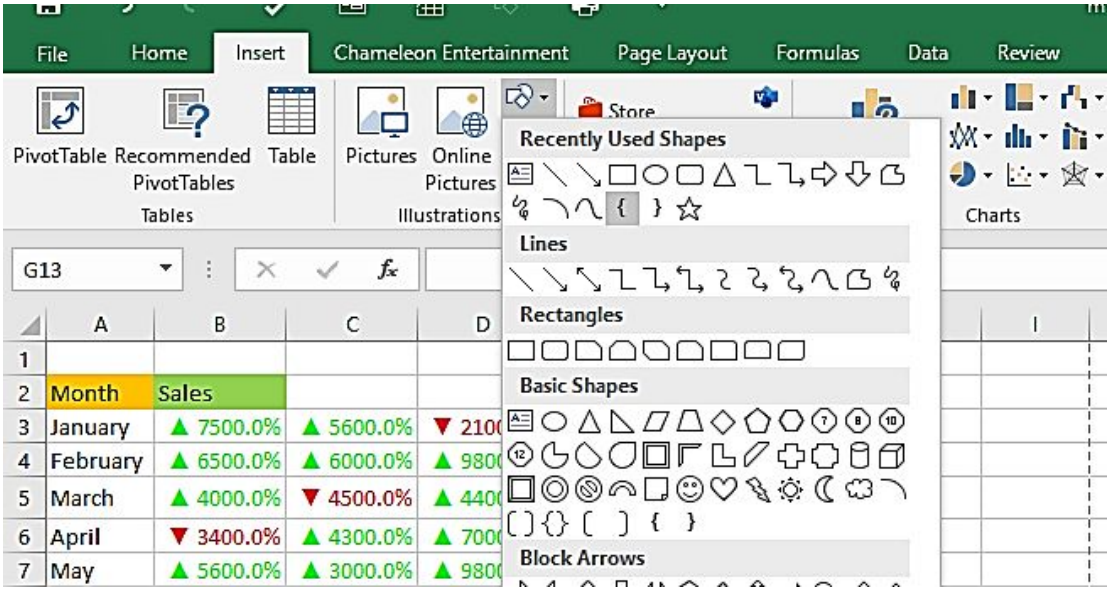


	A	B	C	D	E	F	G
1							
2	Month	Sales					
3	January	▲ 7500.0%	▲ 5600.0%	▼ 2100.0%			
4	February	▲ 6500.0%	▲ 6000.0%	▲ 9800.0%			
5	March	▲ 4000.0%	▼ 4500.0%	▲ 4400.0%	▲▼		
6	April	▼ 3400.0%	▲ 4300.0%	▲ 7000.0%			

USING SHAPES AND ICONS AS VISUAL ELEMENTS

Inserting a shape

Using shapes in your worksheet helps to make your work neat and understandable. To insert a shape, click on the Insert Tab. Click on the **Shape icon** on the illustration group. Select a shape.



Inserting SVG icon graphics

SVG means Scalable Vector Graphics. To insert them, click Insert Tab. Click on Icons. This will display different icon categories. Click on any category and select an icon. Then, click **Insert**.

You can insert more than one icon at the same time by clicking on them. You can also search for icons. Click **Insert**, the icon displays on your worksheet.

Use the Graphic Format tab to modify the icons.

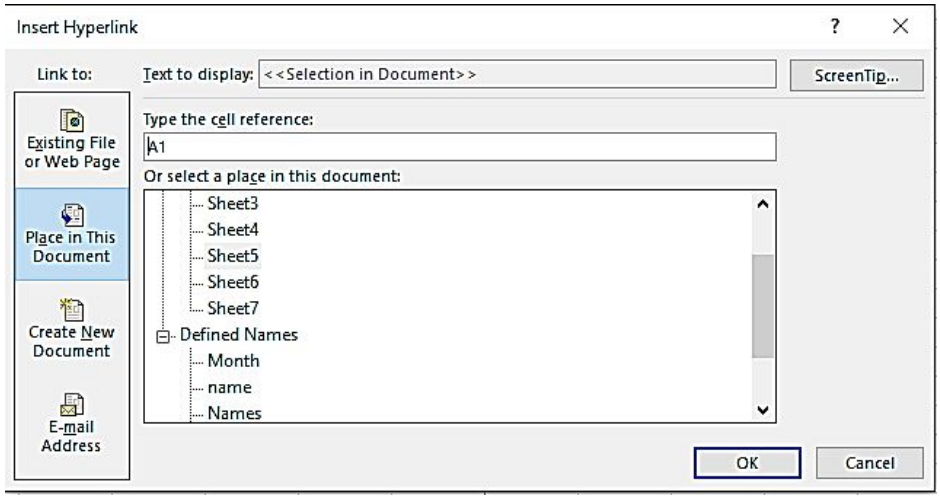
Enhancing Excel reports with shapes

With Shapes, you display a perfect presentation of your work. You can use shapes to show any common chart in Excel. Excel shapes are used to enhance the appearance of your dashboards and reports, as well as for realistic and efficient applications. We'll look at ways to make your worksheets more appealing with shapes.

Creating Custom Button Links: Creating custom button links with shapes is a wonderful way to move across worksheets, connect to reports on shared servers or just link to a webpage.

To create a Hyperlink out of a shape, simply insert the shape. After adding the shape to your worksheet, add text to it by right-clicking on the shape, then, select **Edit Text**.

Once you have added a text, press **Control key + K**.



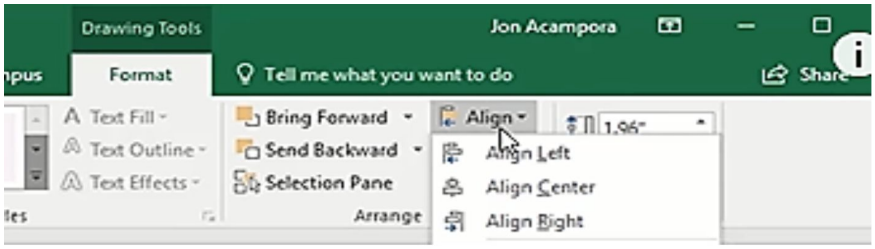
Here, I use the Place in this document option. We will choose the sheet for linking. So, choose the "**existing file or web page**" option. Then, get the location of the document or you put the address on a website.

Building Dashboards: Excel shapes most times, are used to enhance and update the appearance of data in a worksheet. Flow charts and aesthetically pleasing spreadsheets are often the first things that spring to mind when people think about shapes in Excel. Smaller forms and other shape attributes may be used to create some nice-looking dashboards.

Layering shapes to save space

The image below has different shapes on my worksheet like text box images, charts slicers, etc.

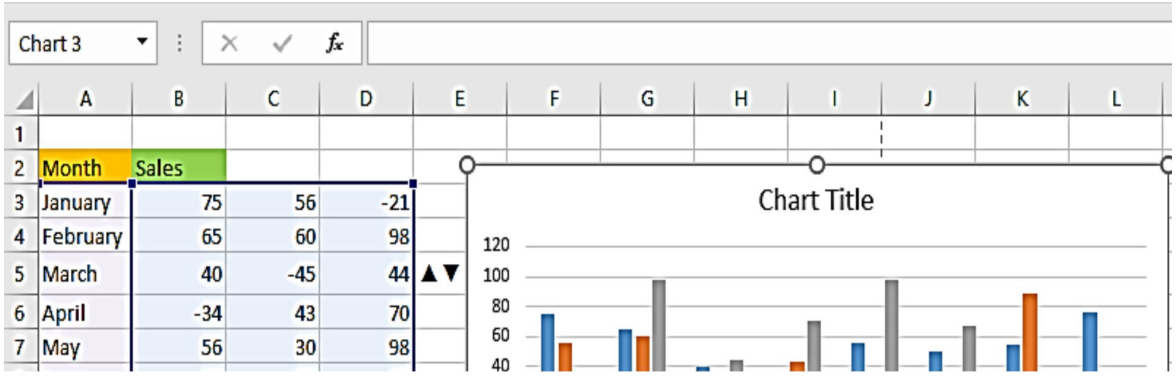
To align your shapes, use the **Align command** to align them to the top, bottom, right, or left to save some space on the worksheet. Simply select the shapes by holding down the Control key and clicking on the shapes. Then, on the Format tab, click **Align**, select an option.



Constructing your infographic widgets with shapes

Infographic is a method of presenting data or summary reports using appealing charts and pictures. They are the ability to employ external objects or visuals to visualize images. They are not like dashboards in that they demand an architectural mindset to create your infographics.

So, to create them, first select the cells, then on the Insert tab, click on Bar chart, then choose 2D Clustered Chart. we will have a chart like the one below.



Right-click and select Format Data Series. On the series option, set the Gap width to 0%. Make the chart background to be light white using the Shape Fill icon. Adjust the chart size for the image to fit in.

Creating dynamic labels

To progress beyond your basic worksheet abilities, creating dynamic charts can enhance it. The idea is to pick dynamic range as the source data. Changes and additions to the source data will be instantly reflected in the chart.

We will first create a table. So, select the data range, then, on the Insert tab, navigate to the Tables' group and select **Table**. Select the table. If your data has headers, check the box next to **My Table Has Header.** Then, click Ok.

The chart built on the table is going to be dynamic. Now, let's create a chart. Highlight the table. Then on the Insert tab, on the Chart group, click on **Column Chart** and select **2-D column chart**. When you update the table. It will reflect on the chart automatically.

Creating linked pictures

Picture link makes an image of grouped cells in form of a picture. You can move it around the worksheet as well as resize them. The picture will update as the source cells changes.

First, pick the cells and copy them by pressing **Control + C**. Pick the cell for creating the link picture. Click **Paste** (Ribbon) > select **Paste Special,** and pick **Picture Link**. The picture link will display on your worksheet.

Some do ask, the importance of creating a linked picture and when is it needed?

At first glance, picture links may appear to be a pointless function. They are, nonetheless, rather strong. Here are a few examples of how picture links may be used:

In dashboards and reports, we usually need to mix charts, tables of data, conditional formatting, and other elements on a single page. Build the different dashboard components in different spreadsheets first. Then, in the final dashboard, provide picture links to these sections. Resize and position them as desired.

In Dynamic Charts: Because picture links are just photos with a formula applied to them, you can quickly create dynamic charts and dashboards with them.

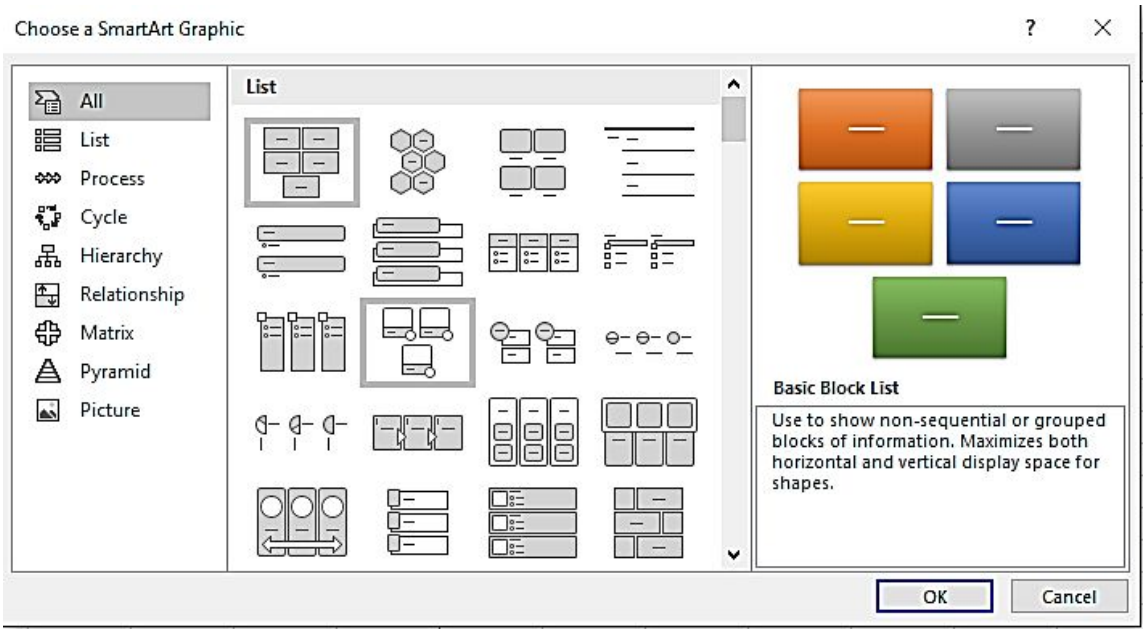
Picture link helps as proof to your data just in case someone makes some changes to the data.

USING SMARTART AND WORDART

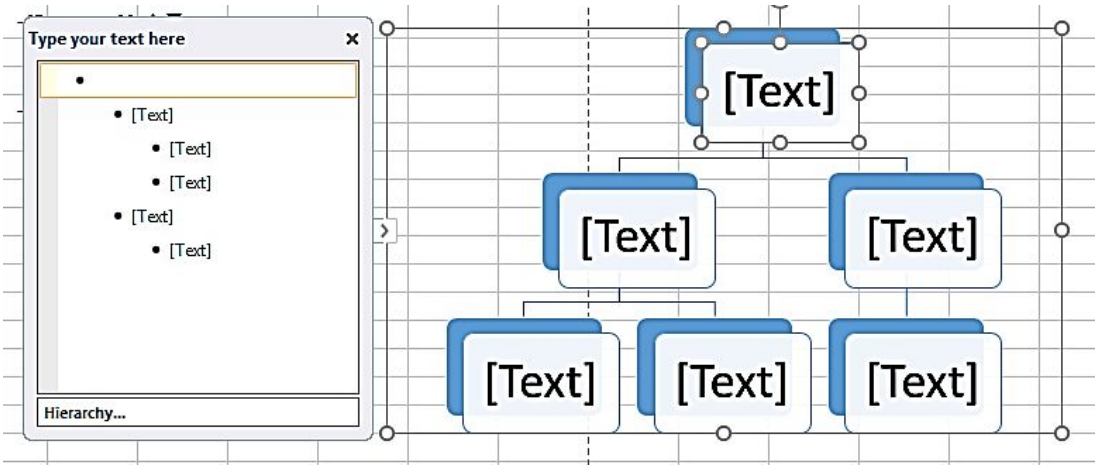
SmartArt basics

SmartArt helps you to add diagrams, captioned pictures, and visual lists in your work presentation. It comes in different forms, colors, arrangements, etc. To insert a SmartArt, click on the Insert tab, then on the Illustration group, click on SmartArt.

This will open up the SmartArt dialog box. On it, you will see different SmartArt options.



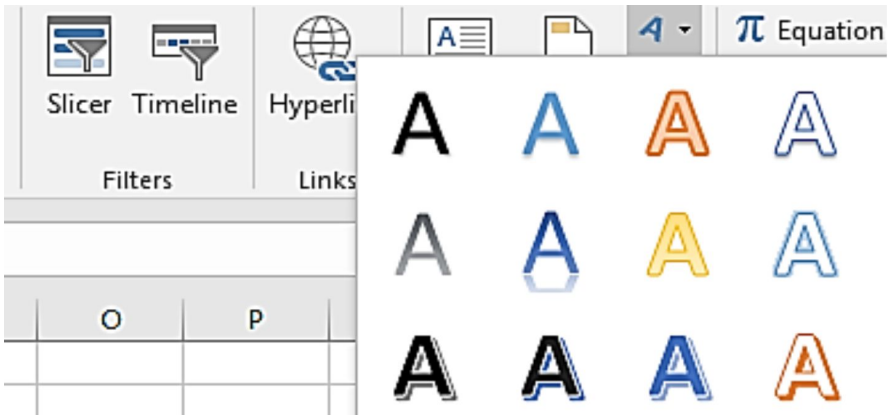
Pick any SmartArt graphics, then click Ok. Check for the image in your worksheet. On the [Text} placeholders, you can type in titles, captions, pictures.



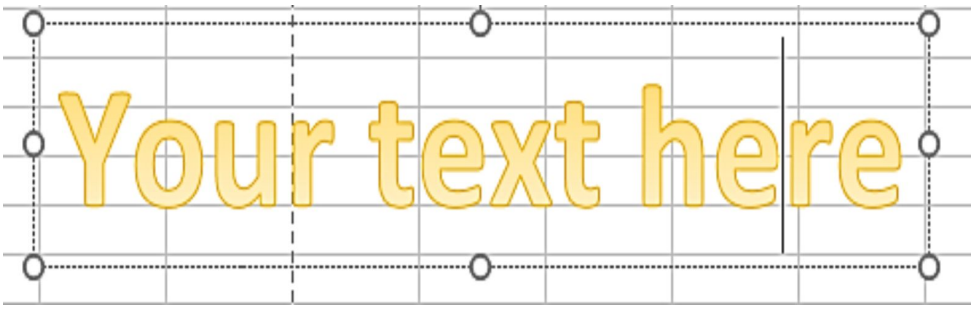
Modify the SmartArt Graphics such as changing the layout, styles, color, etc. using the SmartArt tab.

WordArt basics

Select WordArt from Insert Tab. Select a style.



Click and type in your text.



Modify WordArt with the Format menu. You move it by dragging the edges.

WORKING WITH OTHER GRAPHICS TYPES

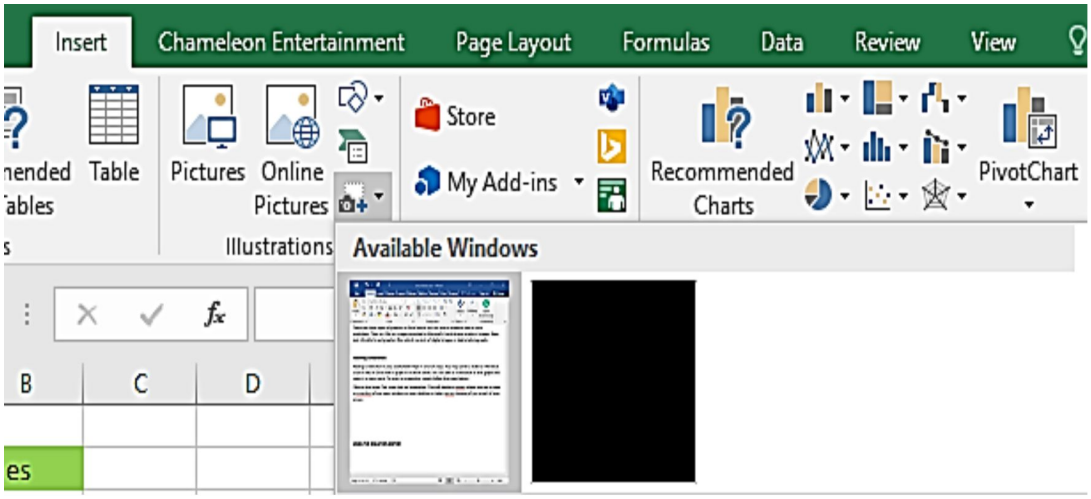
About graphic files

When most people think about worksheets, the last thing that springs to mind is art. Graphic images, when utilized with care, will not only draw attention to otherwise dull tables and lists of statistics but also improve the readability of their material. Hand-drawn visual shapes that you may add to the spreadsheet to bring attention to unusual data points.

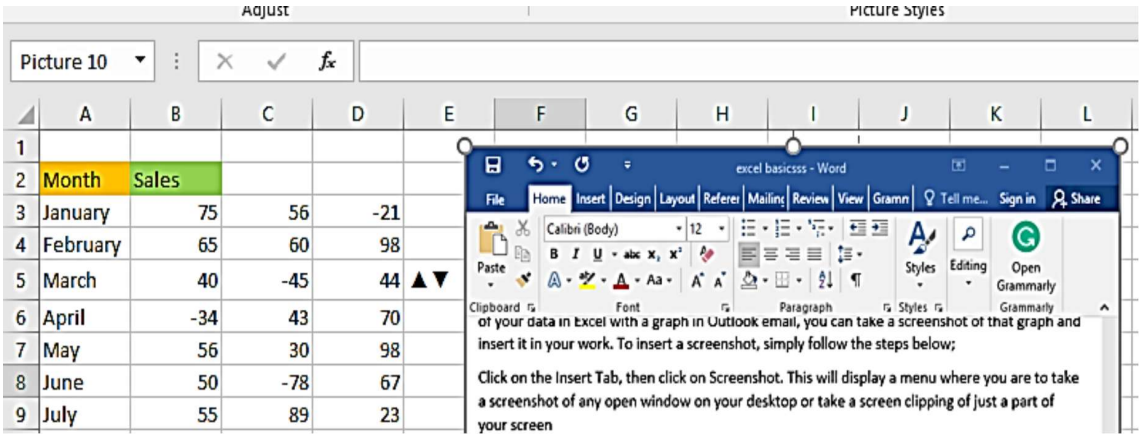
There are types of graphics in Excel for enhancing your worksheet. They are Clip art images provided by Microsoft, hand-drawn graphics (shapes, lines, text, WordArt), and graphics files that consist of digital images or digital photographs.

Inserting screenshots

Click Insert, then click on Screenshot. This will display a menu where you are to take a screenshot of any open window on your desktop or take a screen clipping of just a part of your screen



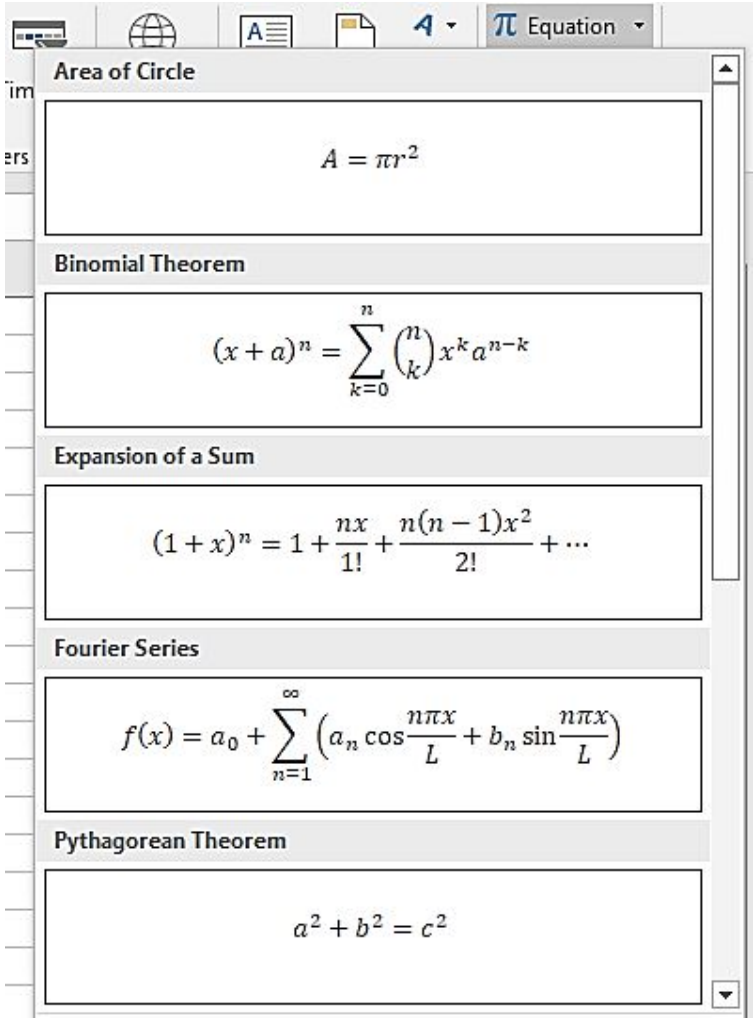
Choose any of the options and the screenshot will display. You can modify the screenshot using the Format tab.



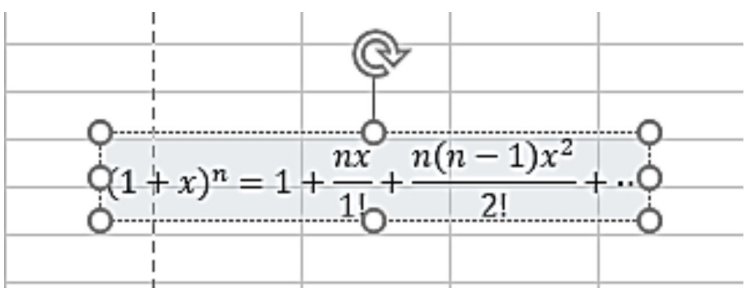
USING THE EQUATION EDITOR

The Equation editor puts in equations or format equations. To insert equations with the Equation editor, simply;

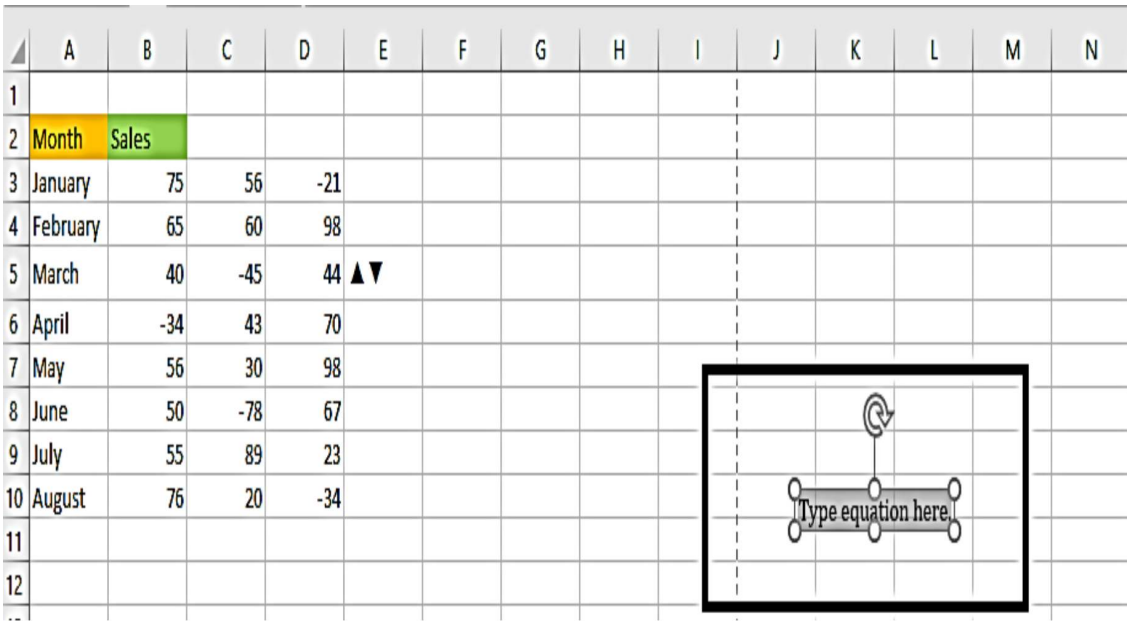
Click Insert, under the Symbols group select **Equation** and a drop-down menu will appear. This will display some of the preinstalled equations in Excel. Click on any of the equations.



Here, I selected the Expansion of a Sum Equation. Then click Ok.



You have just inserted an Equation. You can also make your equation. To do this, click on Equation (not the arrow). A text box will appear with a caption of **Type Equation here**. Modify the equation with the Drawing too and Equation tool tab.



You can right-click on the box, then select Format Shape for more modifying options.

CONCLUSION

Number formatting, like all of Microsoft Excel's tools, has a multitude of options. This chapter just skims the surface of what's possible. Number formatting may be something you're already familiar with.

This chapter looks at how users may utilize formatting methods to construct layers of visualizations and transform their data into useful representations. It explains how to develop custom number formats and gives several examples that users may use as-is or modify to meet their requirements.

Shapes are configurable graphical pictures that are available in Microsoft Office, including Excel. Scalable Vector Graphics (SVG) icons are included in Excel 2019's new icon collection. Without sacrificing picture quality, SVG graphics may be resized and formatted.

BOOK 2:

EXCEL TIPS AND TRICKS

CHAPTER ONE

EXCEL TIPS

Why Excel?

Excel is a component of the Microsoft Office suite and is the world's most extensively used spreadsheet program. There are other spreadsheet programs available, but Excel is by far the most popular and has long been the industry standard.

Excel's versatility accounts for a large part of its popularity. Excel is most known for its numerical computations, but it may also be used for non-numerical tasks.

Here are a few examples of Excel applications:

- **Financial analysis:** Create budgets, tabulate spending, evaluate survey data, and just about any other sort of financial analysis you can think of.
- **Creating charts:** Create a range of very customizable charts.
- **Organizing lists:** To store lists effectively, use the row-and-column arrangement.
- Clean up and standardize text-based data via text manipulation.
- **Importing data from other sources:** Import data from several sources.
- **Creating graphical dashboards:** Condense a big quantity of data in a manageable manner.
- **Creating graphics and diagrams:** Create professional-looking diagrams using Shapes and SmartArt.
- **Automating complicated tasks:** Using Excel's macro features, you can automate a time-consuming activity with a single mouse click.

What Excel Version do I have?

Select Account from any Office program, such as Word or Excel.

Note: If Account is not available or you already have a file or document open, pick File from the menu, then Account or Help from the list on the left.

Your Office product name and, in certain situations, the entire version number may be found under Product Information.

1 - The name of the product, for example, Microsoft 365 ProPlus or Office Home and Student.

2 - The version number, which comprises the version, build number, and installation type (such as Click-to-run or Windows Store).

Choose About Excel for further information, such as the bit-version. The whole version number and bit version are shown in a dialog box (32-bit or 64-bit).

Ten Excel Double Mouse Clicks

In Excel, the mouse often outperforms the keyboard in terms of efficiency. For Excel Power Users like you, here are the Top 10 Double Click Cells in Excel Tricks! With these tips below, you'll have a lot of fun enhancing your productivity!

Show or hide the Excel Ribbon

There are times when we just need more room in our Excel window, and hiding the Ribbon is a simple solution.

To hide the current tab on your Excel Ribbon, double-click it.

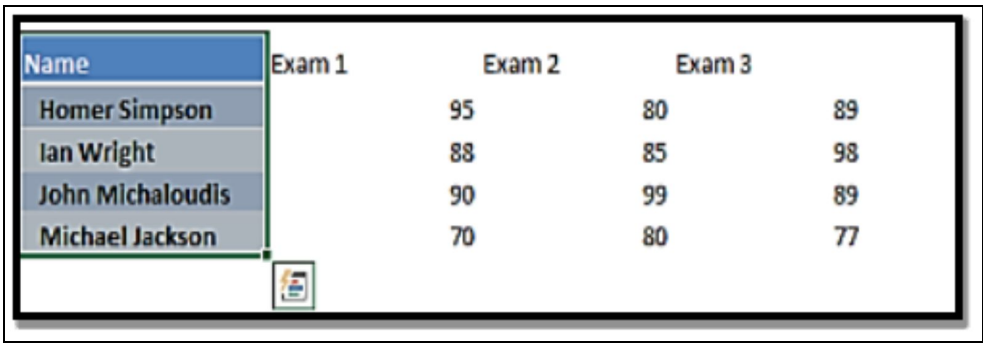
After that, double-click in Excel to bring up the Excel Ribbon.

Use Format Painter as much as you'd like.

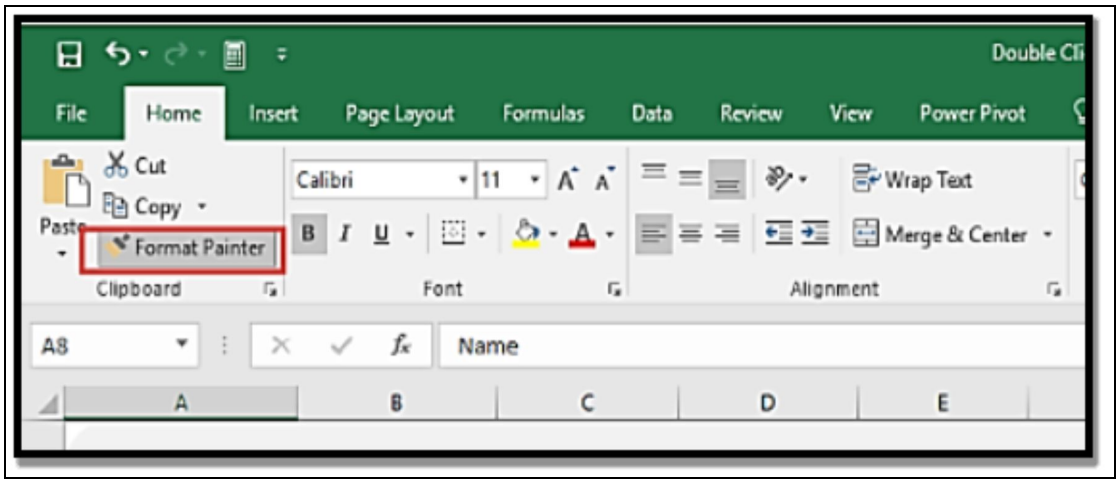
This is a fantastic tip that has saved me a lot of time! I needed to click the Format Painter many times to duplicate the formatting.

It was inconvenient! It turns out there's a way to save your Format Painter so you can utilize it again and over!

Select the cells from which you wish to replicate the format.



To use the Format Painter, double-click it.



You may now apply it repeatedly without having to use the Format Painter button!

Rename Worksheets

Before I discovered this trick, I had to rename spreadsheets by right-clicking on the sheet name, selecting Rename, then typing my name.

That's quite a few steps!

A simpler method is to double-click a cell on the sheet name in Excel and rename it straight away!

Vertically fill the formulas

Assume you have a table and you want to add a new column depending on the result of a calculation.

With a simple double-click, you can apply the same formula to the remainder of the column.

Select the cell containing your formula.

To copy the formula to the remainder of the column, double-click the cell's bottom right corner.

Your formula has now been applied to the whole column!

Quickly Edit a Shape

If you have shapes, you can easily alter them by double-clicking them.

You may rapidly alter the text of your form by double-clicking on it.

Auto-Adjust Column Widths

I've had several instances when I got data in a column but couldn't see all of it because the columns were too small!

There is a nice double-click tip that may be used instead of manually altering the columns.

Double-click on the right border of the column header you want to resize, and the column will resize itself!

Moving Your Data Across Cells

I had to scroll painfully up and down, left to right, to navigate over a vast amount of data whenever I had one...And wow, scrolling to the end of the data took a long time!

It turns out that using multiple clicks to fast traverse around your data is possible!

- Choose a cell to work with first.
- Double-click on the edge of the location you want to visit.
- If we double-click on the cell's bottom border, for example, we'll travel all the way down to the bottom of the data.

Formatting Options for Charts Quickly

When I wanted to style a chart, I had to right-click the chart and choose the formatting choices. It turns out that you can get to it by double-clicking!

To access the formatting choices, double-click on the chart's border.

Data from a Pivot Table

Have you ever been handed a Pivot Table but wanted to go deeper into the underlying data to acquire a better understanding?

This is also something that a double click can assist you with!

Prepare your Pivot Table.

Select a cell to which you wish to dig down. Quarter 1 Total Sales, in our case.

Double-click on the cell in question.

Excel will create a new worksheet with the data from that cell. This is how to utilize Excel's double-click to source feature.

(This data is for demonstration purposes only; any changes made here will not appear in the Pivot Table.)

Close Workbook

- You may also end your Excel Workbook with a double click!
- Go to the Excel application's top left corner.
- Your Excel Workbook will shut down when you double-click it.

Power Users' Excel Keyboard Hints

1. Create a table using a shortcut

For data in consecutive columns and rows, tables are one of Excel's most valuable tools. Tables make it simple to sort, filter, and display data, as well as to add new rows with the same formatting as the rows above them. Furthermore, if you create charts from your data, utilizing a table ensures that the graphic will immediately update when new rows are added.

There's a simple keyboard shortcut for generating tables from your data by heading to the Excel ribbon, choosing Insert, and then Table: After selecting all of your data with Ctrl-A (command-shift-spacebar on a Mac), use Ctrl-T to transform it into a table (Command-T on Mac).

Bonus tip: Instead of using the default names Table1 or Table2, change your table to anything that relates to your unique data. If you need to retrieve that information from a new, more sophisticated worksheet in the future, you'll be grateful.

2. Create a table with a summary row.

By clicking "Total Row" on the Design ribbon on Windows or the Table ribbon on Mac, you may add a summary row to a table. Despite the name, you may choose from a range of summary statistics rather than simply a total sum: count, standard deviation, average, and so on.

While you could obviously manually enter this data into a spreadsheet using a formula, placing it in a Total Row means it's "connected" to your table and will always be at the bottom row, regardless of how you arrange the data. If you perform a lot of data exploration, this might come in handy.

Note that you must construct a total row for each column separately; adding a sum to one column will not immediately add sums to the rest of your table (since not all columns may have the same sort of data — a sum for a column of dates, for example).

3. Select columns and rows with ease

Click on the column name if your data is in a table and you need to refer to a full column in a new calculation. This will give you a name-based reference to the whole column, which will save you time if you later add additional rows to the table since you won't have to modify a more precise reference like B2:B194.

Before you click on the column name, make sure your cursor is in the shape of a down arrow. If your cursor changes to a cross when you do so, you'll obtain a reference to that single cell rather than the whole column.

There are a few useful selection shortcuts you may use whether your data is in a table or not: Ctrl + spacebar (or control +spacebar on a Mac) picks an

entire row, whereas Shift + spacebar selects an entire column. If your data isn't in a table, these options will include any empty cells beyond the available data. The options for table data come to an end at the table's boundaries.

Put your cursor in a column adjacent to it, use the Ctrl-down arrow, use the right or left arrow key to travel to your target column, and then hit Ctrl-Shift-up to pick the full column that isn't in a table with only the cells that contain data in it (use Command instead of Ctrl on a Mac). If your data column is particularly lengthy, this might come in helpful.

4. Use slicers to filter table data

Drop-down arrows next to each column heading in Excel tables make sorting, finding, and filtering a breeze. When you have a huge number of items, though, filtering data with that narrow drop-down might be difficult. Instead, slicers, according to many speakers at the Data Insights Summit.

"Anyone who provides you a pivot table without slicers should be able to teach them in 30 seconds." "People adore slicers," said Indiana University professor Wayne Winston, who also consults on basketball statistics for Dallas Mavericks owner Mark Cuban.

Slicers were initially designed for pivot tables; however, they may now be used with "normal" tables as well (and have since Excel 2013 on Windows). Winston argued, "This is really more helpful." (In Excel for Mac 2016, slices are available for pivot tables but not for ordinary tables.)

To add a slicer to a table, go to the **Design ribbon**, pick **Insert Slicer**, and then specify whatever column(s) you want to filter.

The slicer will display on your worksheet as a single column with just a few things visible. You can resize a slicer to be much wider than the default if you have a long, narrow spreadsheet with a lot of space to the right of your data. Within the slicer choices on the Ribbon, you may add columns to the slicer layout.

Ctrl-click in a slicer if you wish to filter by more than one item. A clear button is located at the top right of the slicer and may be used to remove all filters.

5. Make a summary cell that updates as a table is filtered.

A standard SUM formula won't work if you construct a cell outside of a table that summarizes data inside a table — the sum of a column, for example — and you want that cell to show an updated sum if you filter the table by anything.

Instead of using the SUM function in that cell, use the AGGREGATE function, and then connect that cell to your table filters.

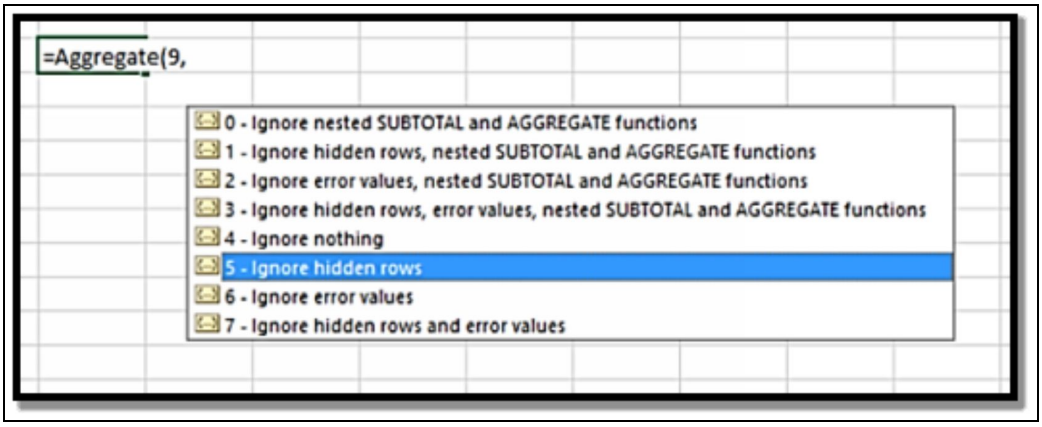
The AGGREGATE function in Excel asks for three inputs, two of which must be integers. Excel for Windows provides a number of choices.

AGGREGATE takes three arguments: **a function number, the desired option number, and the range of cells** to work with. You may view the available functions and options by typing **=AGGREGATE** (in Excel for Windows; in Excel for Mac, you must click on the AGGREGATE help function to see the available function and option numbers.

SUM is the ninth function, and option 5 is to disregard hidden rows. As an example, consider a cell containing the following code:

=AGGREGATE (9,5, Table1[Expenditures])

only returns the total of all visible rows. If you use a filter to modify which rows are shown, your total will change as well.



6. Use a pivot table to sort data.

In a pivot table, you may want to arrange data by a certain column, just as you would in a standard table. However, unlike conventional tables, pivot tables do not have sorting options in the dropdown menus for each column. If you choose the lone dropdown arrow on the first column, though, you'll be presented with a menu that allows you to sort by any column.

7. Unpivot data This is regarded as restructuring data from "wide" to "long" by some. It's known as "fold" in the database world: Taking data from different columns and putting it into rows. It's essentially the inverse of making a pivot table, in which you drag categories from one column up into their own columns.

In Excel 2016, you must use the Query Editor to unpivot columns. The Query Editor is accessed via the Data ribbon:

Select from Table from the Get & Transform section.

Select the columns you want to unpivot in the Query Editor (if your data isn't already in a table, you'll be asked to confirm a data range first), then click the Transform tab and choose Unpivot Columns.

8. Create numerous pivot tables for a single category column.

If you have a pivot table with categories in one column and add a filter for that column, you may make duplicates of that pivot table, one for each category in your filter, by heading to Analyze > Options > Show Report Filter Pages and choosing the filter you wish. This is more convenient than individually clicking through each category in your filter.

9. Use INDEX MATCH to look up information.

While VLOOKUP is a common method for retrieving data from one Excel table and inserting it into another, INDEX paired with MATCH may be more powerful and versatile. Here's how to put them to good use.

Assume you have a lookup table with computer model names in column A, pricing information in column B, and the name of a computer model to which you wish to add price information in column D.

Create a formula in the following format:

=INDEX(ColumnToSearchForValue, MATCH) =INDEX(ColumnToSearchForValue, MATCH) =INDEX((CellWithLookupKey, ColumnToSearchForLookupKey, 0)

As an example, consider the following:

=INDEX(B2:B73, MATCH(D2, A2:A73, 0)) =INDEX(B2:B73, MATCH(D2, A2:A73, 0)

This is how/why INDEX MATCH works (go to the next tip if you don't need to know): INDEX picks a cell based on its numerical position. You give it a range of cells to work with, either inside a single column or a single row, and then the cell number you desire.

You might, for example, choose the 6th item in column B with.

INDEX= (B2:B19, 6).

The following is the format you'd use:

INDEX=(ColumnOrRowToSearch, temNumberInThatColumnOrRow)

However, if you want to discover a value based on a condition in another column, INDEX alone isn't much assistance. For example, you don't want the 6th item in Price Column B; instead, you want the item in Price column B that corresponds to anything in column A, such as a certain computer model.

MATCH is the solution to this problem.

MATCH looks for a value in a range of cells and returns the matched value's location in the following format:

=MATCH(SearchValue, RangeToSearch,MatchType)

(The match type may be 0 for precisely equal, 1 for the greatest value less than or equal to the value you're looking for, or -1 for the smallest value more than or equal to your lookup value.)

So, if you wanted to locate a cell in column B that was precisely 999, you might use the following formula:

MATCHING (999, B2:B79, 0).

As a result, MATCH delivers a cell location when searching for a particular value based on a search phrase, while INDEX requires a location as its second formula input.

10. Use Excel to import and update data from the internet.

When you have well-formed HTML tables on a Web page, this works best; if you have more free-form text (or even badly structured tables), you'll need to perform some further editing to get your data into a form you can evaluate.

With that in mind, if you wish to bring an HTML table into Excel via the Web, go to the Data tab in Excel for Windows and select: From Other Sources > From Web > New Query

Enter the proper Web page's URL. Excel will search for and list any HTML tables that are accessible on that page. To get a preview of a table, click on it; after you've found the one you want, click Load.

Why not simply copy and paste an HTML table into Excel that is already formatted? If the data changes regularly, rather than copying and pasting new data, you may quickly refresh it by right-clicking in the table and choosing Refresh.

Auto Recover in Excel

You've probably lost some work if you've used computers for any length of time. You may have forgotten to save a file, or the power may have gone out, resulting in the loss of your unsaved work. Perhaps you were working on something and decided it wasn't essential, so you closed it without saving it - only to discover later that it was.

As you work in Excel, your work is automatically saved at regular intervals. It occurs in the background, so you are completely unaware of it. You may retrieve these autosaved versions of your work if required. This includes workbooks that you haven't saved expressly.

The Auto Recover function is made up of two parts:

- Workbook versions are automatically stored and may be seen.
- Draft versions of workbooks that you closed without saving are preserved.

Recovering versions of the current workbook

Choose **File > Info** to determine whether any prior versions of the current workbook are available. The Versions section lists any previous versions of the current worksheet that are still accessible (if any). There may be more than one autosaved version displayed in certain circumstances. There will be no autosaved versions accessible in other circumstances.

By clicking the name of an autosaved version, you may access it. Remember that accessing an autosaved version of your worksheet does not immediately overwrite the current version. As a result, you may choose whether the autosaved version or the current version is preferred. Alternatively, you may just copy and paste some information that was perhaps mistakenly erased into your existing worksheet. **NB*:*** The autosaved versions are destroyed when you close the worksheet.

Recovering unsaved work

Excel asks whether you're sure you want to end a worksheet without storing your modifications. The Are You Sure dialog box notifies you whether that unsaved worksheet has an autosaved version.

Choose **File > Info > Manage Versions** to restore a worksheet that you closed without saving. Unsaved Workbooks may be recovered. You'll get a list of all your -workbooks' draft versions. You can open them and (hopefully) find what you're looking for. It's worth noting that unsaved workbooks are saved in the XLSB file type and are read-only. You must give one of these files a new name if you wish to preserve it. **NB:** After four days, or when you change the file, draft versions are erased.

Configuring Auto Recover

Auto Recover files are saved every 10 minutes by default. In the Save tab of the Excel Options dialog box, you can change the Auto Recover to save

time. A saving interval of 1 to 120 minutes may be specified.

If you deal with important documents, you may prefer that prior versions aren't kept on your computer automatically. You may deactivate this function entirely or only for a single worksheet on the Save tab of the Excel Options dialog box.

Convert Excel to PDF and PDF to Excel

Choose an Excel file

Convert Excel to PDF quickly and easily. Drag and drop files into the PDF convert from Excel box, or upload a Microsoft Excel file straight from your computer, to choose the Microsoft Excel file you want to convert to PDF. You may also choose a file from a cloud storage provider like Google Drive or Dropbox to convert Excel to PDF online.

View & download your PDF file

Simply save the Excel to PDF converter file to your computer and open the new PDF in your browser to see your PDF conversion file. We can also send you an email with a link to your Excel to PDF file that you may view for 24 hours.

Using Shapes

Excel has a lot more than charts up its sleeve when it comes to visual display. As you may be aware, you can use several visuals to spice up an otherwise dull report by inserting them into your spreadsheet.

This section covers the Excel graphics tools that aren't connected to charts. Shapes, SmartArt, WordArt, imported photos, and more tools are included. Working with these things may be a fun distraction as well as an enhancement to your workbooks. When you need a break from crunching data, try utilizing Excel's graphics features to create an artistic masterpiece.

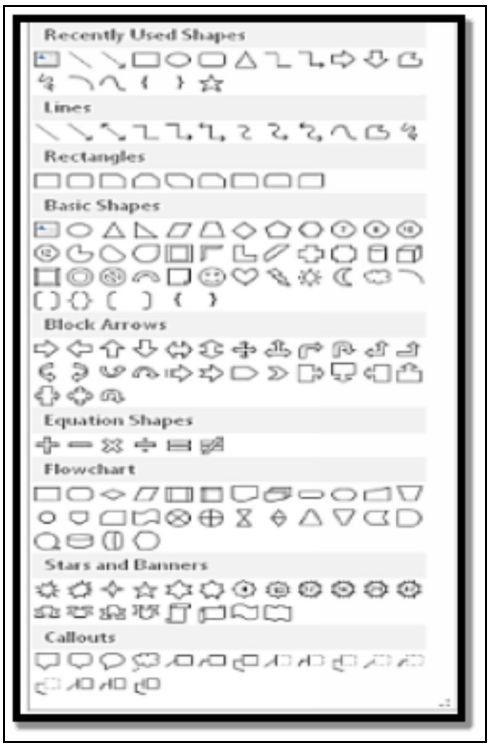
Shapes are a kind of configurable graphical picture available in Microsoft Office, including Excel. Shapes may be used to make basic diagrams, show text, or just add visual interest to a spreadsheet.

Keep in mind that Shapes might make a worksheet seem cluttered. Using Shapes sparingly is maybe the greatest advice. Shapes should ideally be used to bring attention to a certain feature of your worksheet. They should not be the center of attention.

Inserting a Shape

Insert Illustrations Shapes, which opens the Shapes gallery, may be used to add a Shape to a worksheet's draw layer. Shapes are divided into categories, and the top-level category shows the Shapes you've recently used.

You may use one of the following methods to insert a Shape into a worksheet:



- On the Shapes gallery, click the **Shape**, then click on the worksheet. Your worksheet now has a default-sized form.
- Drag the Shape into the worksheet after clicking it. This enables you to make a Shape that is bigger or smaller than the default, or one that has different proportions than the default.

A Shape may also be included in a chart. Simply choose the chart before selecting the Shape from the gallery, and then insert the Shape by clicking

within the chart. The chart has a Shape encoded in it. When you shift the chart around, the Shape follows. When you vary the size of the chart, the Shape adapts as well.

A few Shapes need a somewhat unique approach. You may, for example, draw lines by clicking repeatedly on a Freeform Shape (from the Lines category). Alternatively, click and drag to make a nonlinear form. To complete sketching and create the Shape, double-click. While drawing, the Curve Shape (in the Lines category) likewise necessitates multiple clicks. You just drag the mouse cursor over the spreadsheet to make your masterpiece if you pick the Scribble Shape. It will be a filled Shape if you join the ends.

Here are a few pointers to remember while making Shapes:

- Each Shape has a unique name. Some are given generic names like Shape 1 and Shape 2, while others are given more specific names like Shape 1 and Shape 2. (For example, Rectangle 1). To alter a Shape's name, select it and input a new name in the Name box before pressing Enter.
- Simply click a Shape on a worksheet to pick it.
- When dragging a Shape, keep the **Shift key** pressed to keep the object's default dimensions.
- The Advanced tab of the Excel Options dialog box lets you change how items display on screen. (Select **File > Options**.) This option is found in the Workbook Display Options section. Under For Objects Show, the **All option** is usually chosen. By selecting Nothing, you can conceal all things (Hide Objects). If your worksheet has complicated objects that require a long time to redraw, hiding items can help.

About the Drawing Layer

There is a drawing layer on every worksheet and chart page. Shapes, SmartArt, WordArt, graphical pictures, embedded charts, inserted objects, and so on may all be placed on this unseen surface.

Objects put on the drawing layer may be moved, resized, copied, and deleted without affecting any other components in the spreadsheet. When

underlying cells are moved and scaled, objects on the drawing layer have attributes that correspond to how they're moved and sized. Excel shows the Format task pane for a graphical item when you right-click it and pick Size and Position from the shortcut menu. To change how the item moves or resizes with its underlying cells, expand the Properties section. (For further information, see the following diagram.)

The following are your options:

- **Move and Size with Cells:** If you choose this option, the item seems to be connected to the cells underneath it. If you append rows above an object, for example, the object will shift down. The object becomes broader when the column width is increased.
- **Move but Don't Size with Cells:** If this option is chosen, the object will move whenever rows or columns are added, but it will never change size when row heights or column widths are changed.
- **Don't Move or Scale with Cells:** This option separates the item from the underlying cells.

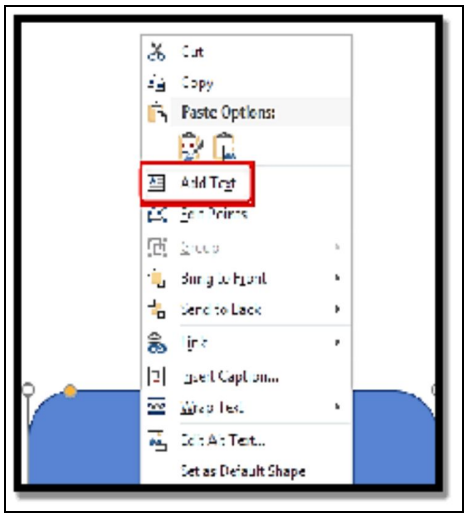
The preceding settings determine how an item is moved or enlarged concerning the cells underneath it.

You can also connect an item to a cell in Excel. Choose **File > Options** to open the Excel Options dialog box, then choose the Cut, Copy, and Sort Inserted Objects with Their Parent Cells checkbox on the Advanced tab. Graphic items on the drawing layer will then be joined to the underlying cells. When you replicate a set of cells that contains an object, the object gets copied as well. This is a global option that applies to all objects. This option is enabled by default.

Adding text to a Shape

Text can be shown on several Shape objects. To add text to such a Shape, just pick it and begin typing.

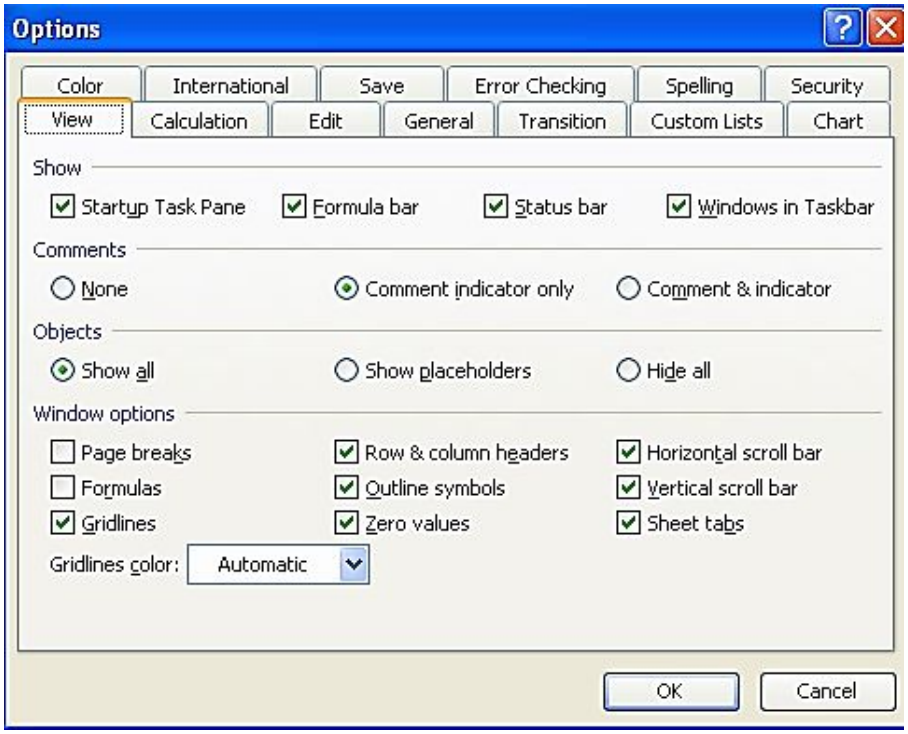
To alter the formatting for all text in a shape, select it with your mouse. The formatting instructions on the Font and Alignment groups of the home tab of the Ribbon may then be used. Select just the characters you want to modify the formatting of and use the Ribbon controls to make the changes.



Alternatively, right-click the chosen text and use the Mini toolbar to format it. Using the tools in the **Drawing Tools > Format > WordArt Styles category**, you can also drastically alter the appearance of the text.

Selecting and Hiding Objects

The Selection task pane is a convenient method to choose an item. Simply pick **Drawing Tools > Format > Arrange > Selection Pane** after selecting any Shape. You can also use the Home Editing Find & Select Selection Pane if a Shape isn't chosen.



You could undock this task pane from the side of the window and make it free-floating, just like all other task panes.

Formatting Shapes

The Drawing Tools Format contextual tab appears when you choose a Shape, and it contains the following groupings of commands:

- **Insert Shapes:** Add new Shapes or modify the Shape of an existing one.
- **Shape Styles:** Change a Shape's general style, as well as its fill, outline, and effects.
- **WordArt Styles:** Change the look of text inside a Shape.
- **Arrange:** Change the sequence in which Shapes are **"stacked,"** align Shapes, group several Shapes, and rotate Shapes.
- **Size:** Type measurements to change the size of a Shape.

The Shape's shortcut menu contains additional commands (which you access by right-clicking the Shape). You may also execute various actions directly with your mouse, such as resizing or rotating a Shape.

Use the Format Shape task pane as an alternative to the Ribbon. Format the Shape by right-clicking it and selecting Format Shape from the shortcut menu. The task pane has several formatting choices that aren't available on the Ribbon. Changes are instantly visible, and the Format Shape task window may remain active while you work.

You could write 20 pages explaining how to format Shapes, but that would be a waste of paper and certainly not an effective way to learn. Experimentation is by far the greatest approach to learning about formatting Shapes. Create some forms, then experiment with the instructions to see what occurs. The instructions are quite self-explanatory, and you can always use Undo if anything doesn't go as planned.

Stacking Shapes

Shapes (along with other items on the drawing layer) are stacked one on top of the other. Each new item is stacked on top of the previous one. As a

result, a big Shape may be placed on top of a smaller Shape, obliterating it.

The items are listed in the order in the Selection task pane. (The top of the stack is occupied by the first thing mentioned.) To modify the stack order, drag and drop item names in the Selection task window.

Another approach to modifying a Shape's stack order is to right-click it and choose one of the following commands from the shortcut menu:

- **Move to the front Bring to Front:** This command moves the Shape to the front of the stack.
- **Move to the front Bring Forward:** Moves the Shape up a level.
- **Return to Sender Return to Top:** Returns the Shape to the top of the stack.
- **Send to Back Send Backward:** Lowers the level of the Shape.

These options are also accessible in the Ribbon's **Drawing Tools > Format > Arrange group**.

Grouping objects

You can merge two or more Shape objects into a single object in Excel. For example, if you build a design with four different Shapes, you may group them. Then you may treat this group as if it were a single object (move it, resize it, apply to format, and so on).

To group objects, hold down Ctrl while clicking the ones you want to include in the group. Then, from the shortcut menu, right-click any of the chosen Shapes and choose **Group > Group**.

You could even create a set of Shapes that are clustered together. The Selection task window presents grouped objects in an outline fashion, allowing you to quickly identify which Shapes make up a group.

A Shape can also be used to organize a chart. Simply drag a chart onto a Shape, select both objects, right-click, and pick **Group > Group** from the drop-down menu. If the chart is behind the Shape, you must modify the stack order. This is an excellent method to set your charts out from the others.

You may still operate with individual items while they're grouped. To pick the group, click once, then again to select the item.

Right-click the group object and choose **Group > Ungroup** from the shortcut menu to ungroup it. This command disassembles the item into its constituent parts.

Aligning and spacing objects

When you have a worksheet with multiple items, you may wish to align and space them equally. Of course, you can move things around with your mouse (though this isn't very exact). You may also move a chosen item one pixel at a time by using the navigation arrow keys. Allowing Excel to align and space items for you is the quickest method.

Begin by selecting all of the items you want to align. (Hold down Ctrl when clicking the items.) Then, from the **Drawing Tools > Format > Arrange > Align drop-down list**, choose the tools you want to use.

Unfortunately, you can't choose which item serves as the alignment's foundation. Objects that are aligned to the left (or right) are always aligned with the chosen leftmost (or rightmost) item. Objects are always aligned to the top (or bottom) with the topmost (or bottommost) item when aligning to the top (or bottom).

Aligning the centers (or middles) of objects along an axis halfway between the left and right (or top and bottom) extremes of the chosen forms will align them along an axis halfway between the left and right (or top and bottom) extremes of the selected shapes. The Shapes stay chosen once you align them, making it simple to drag them to the correct spot.

You may tell Excel to arrange three or more items horizontally or vertically so that they're evenly spaced. Select either Distribute Horizontally or Distribute Vertically from the Drawing Tools Format Arrange Align menu.

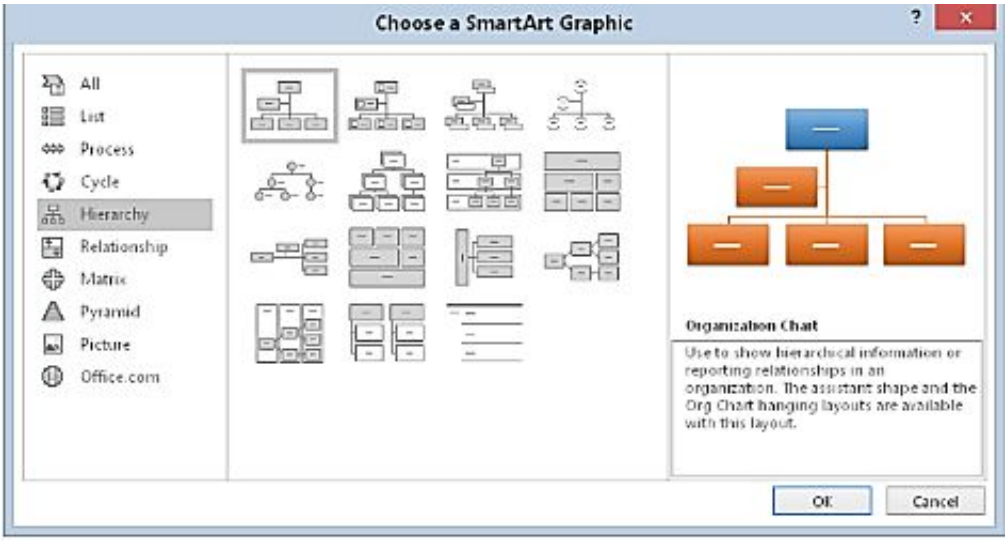
Reshaping Shapes

Although Excel offers a large number of Shapes to pick from, there are instances when the Shape you want is not available in the gallery.

In this instance, you may be able to use one of the following strategies to change one of the current shapes:

- **Turn the Shape.** A little circular arrow appears when you pick a Shape. To rotate the Shape, click and drag this arrow.
- **Assemble a collection of Shapes.** By mixing two or more Shapes and then grouping them, you may be able to construct the Shape you want.
- **Rearrange the Shape.** When a Shape is chosen, many of them show one or more little yellow squares. You may adjust the Shape's contour by clicking and dragging this square. The actual behavior changes depending on the Shape, so try it out and see what happens. When this form is chosen, it features two yellow squares, allowing for a wide range of possibilities.

Using SmartArt



The Shapes function in Excel is good, but the SmartArt feature is outstanding. You may insert several highly customized diagrams into a worksheet using SmartArt, and you can modify the overall appearance of the diagram with a few mouse clicks. This feature debuted in Office 2007, and it's most likely more beneficial for PowerPoint users. SmartArt, on the other hand, will be useful to many Excel users.

Inserting SmartArt

Select **Insert > Illustrations > SmartArt** to add SmartArt to a worksheet. The dialog box appears in Excel. Along the left, the diagrams are organized into categories. When you discover one that appears acceptable, click it to

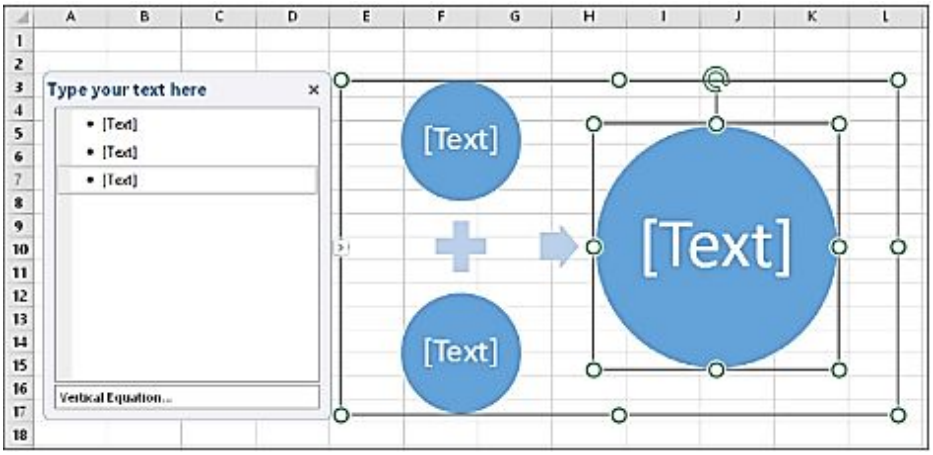
see a bigger version in the right-hand panel, which also includes some suggestions on how to use it. Then, to insert the image, click **OK**.

The number of components in the SmartArt visuals should not be a worry. You may change the number of items shown in the SmartArt to fit your needs.

Excel's SmartArt Tools contextual tab appears when you enter or select a SmartArt diagram, and it offers a variety of customizing choices.

Customizing SmartArt

The **Type Your Text Here box** makes it simple to add text to the image's components. If you want, you may put the text straight into one of the [Text] sections in the picture.



Keep in mind that each piece inside the design may be moved, resized, or formatted separately while working with SmartArt. Select the element and then use the SmartArt Tools Format tab's tools to format it.

Changing the layout and style

A SmartArt diagram's layout can be readily changed. Choose SmartArt Tools Design Layouts after selecting the item. Any text you've submitted will be preserved.

You could wish to investigate different styles or colors available in the SmartArt Tools Design SmartArt Styles category once you've decided on a layout.

The SmartArt styles accessible are determined by the workbook's document theme. Choose Page Layout Themes can modify the theme of a workbook. Changing the theme of your SmartArt diagrams may have a big influence on how they seem.

Using WordArt

WordArt is used to add graphical effects to text. Choose **Insert > Text > WordArt** and then a style from the collection to add a WordArt graphic to a worksheet. Excel creates a new object that contains the placeholder text. Here's where you put your text. Replace the text with your own, resize it, and add another formatting as desired.

Excel's Drawing Tools contextual menu appears when you pick a WordArt picture. To change the appearance of your WordArt, use the controls. To use the task pane, right-click and choose **Format Shape**.

The text and the Shape that houses the text are the two components of Word Art. There are two tabs in the Format Shape task pane (Shape Options and Text Options). The Drawing Tools Format Shape Styles group's Ribbon controls affect the Shape that holds the text, not the text itself. Use the controls in the Drawing Tools Format WordArt Styles group to apply text formatting. On the Home tab or the Mini toolbar, you may also utilize some of the usual formatting options.

Working with Other Graphic Types

Excel can import a wide range of visuals into a spreadsheet. There are various options available to you:

- **Using a file to insert a graphic image:** If the graphic picture you wish to enter is in a file, you can quickly import it into your worksheet. Select **Insert > Illustrations > Pictures** from the drop-down menu. The Insert Picture dialog box displays, enabling you to choose a file from your computer. You can't drag and drop a picture into a spreadsheet, but you can drag and drop an image from your web browser into one.
- **Incorporating a picture from the internet:** Select **Insert > Illustrations > Online Pictures** from the drop-down menu. The

Insert Pictures window displays, enabling you to find a picture to insert.

- **Copying and pasting:** If an image is in the Windows Clipboard, choose **Home > Clipboard > Paste** (or press Ctrl+V) to paste it into a worksheet.

About graphics files

There are two types of graphics files:

- **Bitmap:** A bitmap image is a collection of distinct dots. They normally seem nice at their initial size but lose clarity when the size is increased. BMP, PNG, JPEG, TIFF, and GIF are examples of popular bitmap file formats.
- **Vector:** Vector-based graphics, on the other hand, are made up of points and routes that are represented by mathematical equations, so they keep their sharpness no matter how big they become. CGM, WMF, and EPS are examples of popular vector file formats.

On the Internet, you can download millions of graphical files for free. However, keep in mind that certain graphical assets are subject to copyright limitations.

When you use bitmap images in a worksheet, the size of your workbook will grow substantially.

When you place a photo on a worksheet, the Image Tools Format contextual tab, which appears when you choose a picture object, allows you to change the picture in a variety of ways. You can change the hue, contrast, and brightness, for example. You can also apply borders, shadows, reflections, and other effects, similar to what you can do with Shapes.

Don't forget about the **Picture > Tools > Format Picture > Styles group** as well. These instructions can change your appearance in a variety of ways.

Note: You can also use the controls in the Format Picture task pane by right-clicking and selecting Format Picture.

Artistic Effects are an intriguing feature. This command can be used to create a variety of Photoshop-like effects on an image. To use this feature,

select an image and then choose Picture Tools Format Adjust Artistic Effects from the Picture Tools menu. If you don't like the default effect, play around with the settings.

Some of the picture upgrades offered, such as the option to eliminate the background from images, may surprise you. Digging in and experimenting is the best approach to understanding these features. Even if you don't require image improvement, you can find it to be a delightful distraction when you need to get away from statistics.

Fill Handle Tips

Simply dragging the Fill Handle in Excel enables you to automatically fill in a list of data (numbers or text) in a row or column. When inputting consecutive data in huge spreadsheets, this may save you a lot of time and help you be more productive.

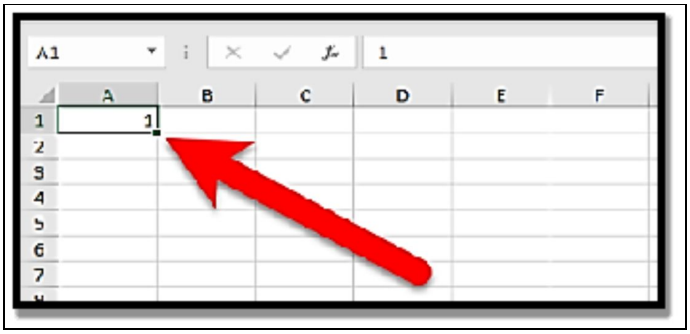
If your data follows a pattern or is dependent on data in other cells, you may use the AutoFill features (the fill handle or the Fill command on the ribbon) to fill cells instead of manually inputting numbers, timings, or even days of the week. We'll teach you how to use the AutoFill tools to fill different sorts of data series.

Fill Adjacent Cells with a Linear Series

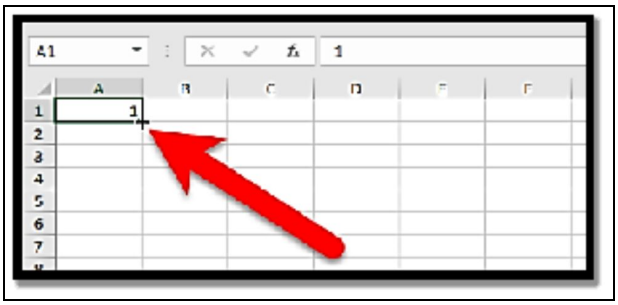
Entering a succession of linear data into a row or column of adjacent cells is one method to utilize the fill handle. A linear series is made up of numbers, each of which is produced by adding a "step value" to the previous number. A linear series might be as basic as 1, 2, 3, 4, and 5. A linear series, on the other hand, may be a series of decimal values (1.5, 2.5, 3.5...), two-digit integers (100, 98, 96...), or even negative numbers (-1, -2, -3). You add (or remove) the same step value in each linear series.

Let's imagine we wish to make a column of consecutive integers, with each cell rising by one. You may input the first number, then click Enter to go to the next row in that column, where you can type the second number, and so on. Very time-consuming and tiresome, particularly when dealing with big volumes of data. Using the fill handle to populate the column with the linear sequence of integers will save us time (and boredom). To do so, start by typing a 1 in the first cell in the column, then selecting that cell. Notice

the green square in the chosen cell's lower-right corner? That's the handle for filling the container.

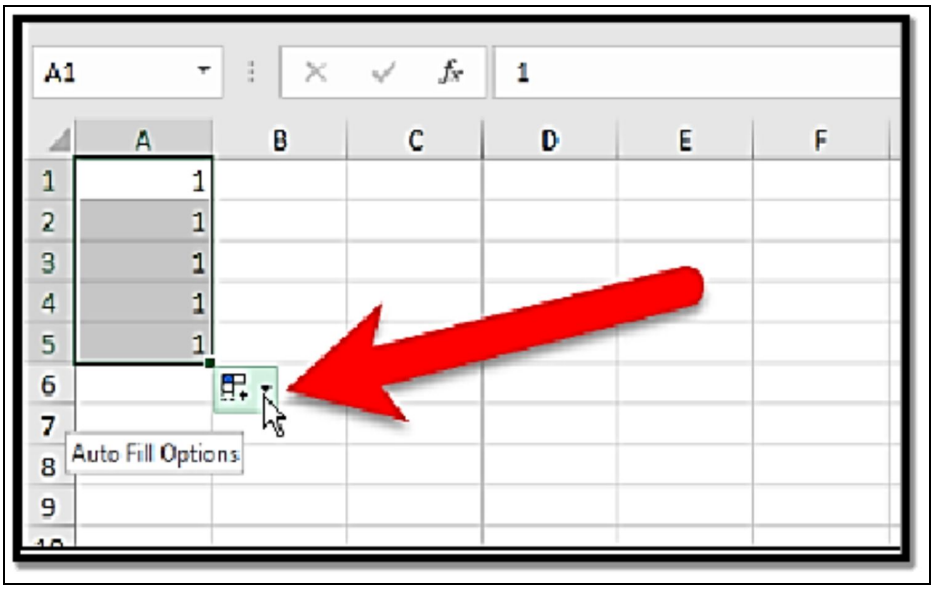


The fill handle changes to a black + sign as you move your cursor over it, as illustrated below.



Click and drag the fill handle down the column (or right across the row) with the black + symbol above it until you reach the number of cells you wish to fill.

You'll see that the value has been copied into the cells over which you moved the fill handle when you release the mouse button.

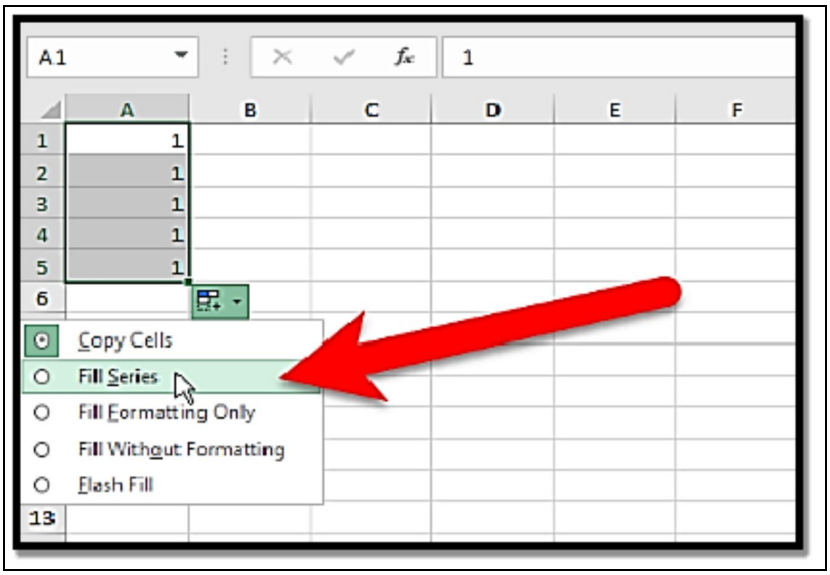


Why didn't it complete the linear sequence (1, 2, 3, 4, 5, in our example)? When you input a number and then use the fill handle, that number is transferred, not incremented, to the subsequent cells by default.

NOTE: Press **Ctrl+D** to rapidly copy the contents of a cell above the currently chosen cell, or Ctrl+R to quickly copy the contents of a cell to the left of the currently selected cell. Please keep in mind that copying data from a neighboring cell will overwrite any data present in the targeted cell.

When you're through pulling the fill handle, click the "Auto Fill Options" button to replace the copies with the linear series.

Copy Cells is the first choice, and it is the default. That's why we ended up with five 1s instead of the usual 1–5. Select "Fill Series" from the popup menu to fill the linear series.



The remaining four 1s are substituted with 2–5 to complete our linear sequence.

Using the Fill Command, fill a Linear Series into Adjacent Cells.

If you're having problems using the fill handle, or just prefer using ribbon commands, you may fill a series into neighboring cells using the Fill command on the home tab. As you'll see in a moment, the Fill command is also beneficial for filling a big number of cells.

To utilize the Fill command on the ribbon, type the first value in a cell and then select that cell as well as any surrounding cells to fill (either down or up the column or to the left or right across the row). Then, under the Editing area of the home tab, select the "Fill" option.

From the drop-down option, choose "**Series**."

Select whether you want the Series in Rows or Columns in the Series dialog box. For the time being, pick "Linear" in the Type box. The Growth and Date choices will be discussed later, and the AutoFill option simply transfers the value to the other cells. Enter the "Step value," or the linear series' increment. We're going to increase the numbers in our series by one in our example. "OK" should be selected.

You may utilize the Stop value on the Series dialog box to fill a very lengthy column or row with a linear series. To do so, type the first value in the first cell in the row or column you wish to use for the series, then click

"Fill" on the home tab again. In addition to the settings listed above, type the value you want as the series' final value into the "Stop value" box. Then press "OK."

Double-click the Fill Handle to fill a Linear Series.

By double-clicking the fill handle, you may rapidly fill a column with a linear sequence of data. Excel only fills the cells in the column depending on the longest adjacent column of data on your worksheet when you use this strategy. In this case, an adjacent column is any column that Excel meets to the right or left of the column being filled until it reaches a blank column. You can't use the double-click approach to fill the cells in the column if the columns immediately on either side of the chosen column are blank. By default, only the empty cells above the first cell having data are filled if any of the cells in the range you're filling already have data. Because there is a value in cell G7 in the figure below, when you double-click the fill handle on cell G2, the formula is only copied down through cell G6.

Insert a Watermark

A watermark is a graphic (or text) that appears on every page of a book. A watermark might be anything from a faint corporate logo to a phrase like DRAFT. Although there is no official function in Excel for printing a watermark, you may create one by placing a photo in the page header or footer.

Here's how to do it:

1. Find a picture that you wish to use as a watermark on your hard disk.
2. Select **View > Workbook Views > Page Layout View** from the drop-down menu.
3. Select the header's middle part.
4. Select **Header and Footer Tools Picture of Header and Footer Elements**. The dialog window for inserting pictures appears.
5. Select the picture from step 1 and click Browse (or locate a suitable image from other sources listed).

6. To view your picture, click outside the header.
7. Click the center portion of the header and add some carriage returns before the &[Picture] code to center the picture in the center of the page. You'll have to experiment to figure out how many carriages returns you'll need to get the picture inside the document's body.
8. If you need to change the picture (for example, to make it lighter), go to **Header & Footer Tools** and click the middle portion of the header. Elements for the Header and Footer Picture format. To edit the picture, go to the Picture tab of the Format Picture dialog box and use the Image controls. To ensure that the worksheet text is readable, you may need to play around with the settings.

Adding a Header or a Footer to Your Reports

The information that appears at the top of each printed page is referred to as a header. A footer is a section at the bottom of each printed page that contains information. New workbooks are created without headers or footers by default.

The **Header/Footer tab** of the **Page Setup dialog box** allows you to set headers and footers. Switch to the **Page Layout view** and click the box labeled Click to **Add Header or Click to Add Footer** to ease the job.

You can pick Insert **Text Header & Footer** if you're working in **Normal view**. Excel goes to the Page Layout view and activates the page header's center portion.

The information may then be typed and formatted in any way you like. There are three portions in headers and footers: left, center, and right. You may, for example, make a header with your name on the left margin, the worksheet name in the middle, and the page number on the right.

Create a **book.xltx template** with your headers and footers set if you want a uniform header or footer for all your papers. For new workbooks, a book.xltx template is utilized as a starting point.

The Ribbon shows a new contextual tab: Header & Footer Tools Design when you activate the header or footer section in the Page Layout view. To interact with headers and footers, use the controls on this tab.

Selecting a predefined header or footer

Using one of the two drop-down boxes in the **Header & Footer Tools > Design > Header & Footer group**, you can choose from a selection of premade headers or footers. Some of the things in these lists have numerous portions, each separated by a comma. Each component is placed in one of the three header or footer sections (left, center, or right).

Understanding the header and footer element codes

When a header or footer section is active, you can fill it with any text you like. You may also use the **Header & Footer Tools > Design > Header & Footer Elements group** to input variable information by clicking a button in the **Header & Footer Tools > Design > Header & Footer Elements grou**p. Each button adds a code to the part you've chosen. Click the Current Date button, for example, to input the current date.

NB: You can mix and match text and codes, and you can add as many codes as you like to any part.

If the text you're entering contains an ampersand (&), you'll have to type it twice (because Excel uses an ampersand to signal a code). Type **Research && Development** into a part of a header or footer, for example, to insert the text Research & Development.

In your headers and footers, you may also utilize multiple fonts and sizes. Simply choose the text you wish to edit and then utilize the home Font group's formatting tools. Alternatively, you may utilize the controls on the Mini toolbar, which displays when you select text.

Important: You are free to use as many lines as you like. For multiline headers or footers, press **Enter** to force a line break. If you use multiline headers or footers, you may have to alter the top or bottom margin to ensure that the text does not overrun the worksheet data.

Unfortunately, the contents of a particular cell in a header or footer cannot be printed. You could want Excel to utilize the contents of cell A1 as a heading, for example. To do so, manually input the contents of the cell — or build a VBA macro to conduct this process before printing the page.

Other header and footer options

The Header & Footer > Design Choices group comprises controls that enable you to define further options when a header or footer is chosen in the Page Layout view:

- **Different First Page:** You may define a different header/footer for the first printed page if this option is selected.
- **Separate Odd & Even Pages:** You can provide a different header/footer for odd and even pages if this box is ticked.
- **Scale with Document:** If this option is selected, the font size in the header and footer will be scaled when the document is printed. By default, this option is turned on.
- **Align with Page Margins:** If this option is selected, the left header and footer will be aligned with the left margin and the right header and footer with the right margin. By default, this option is turned on.

Macros: How to Use Macros

Build a VBA application to input certain statistics, then prepare and publish your month-end sales report, for instance. After you've finished writing and evaluating the program, you may run it with a unified program, which will have Excel do several moment tasks for you. Instead of struggling through a long list of instructions, you can just press a button and then go to Facebook to pass time while your macro works.

Below are the things you can do with macros

Inserting A Bunch of Text

You may develop a macro to type your firm name, address, and phone number into your spreadsheets if you need to do so often. You may take this idea as far as you want. For example, you might create a macro that automatically writes a list of all of your company's salesmen.

Automating a task, you perform frequently

Assume you're a sales manager who has to write a month-end sales report in order to please your employer. If the work is simple, you may write a VBA program to do it for you. Your manager will be pleased by the continuously

high quality of your reports, and you will be promoted to a new position for which you are grossly underqualified.

Automating repetitive operations

If you need to conduct the same action on 12 distinct Excel workbooks, you may record a macro while doing the activity on the first workbook and then have the macro repeat the action on the others. Excel never complains about being bored, which is a wonderful feature. The macro recorder in Excel works similarly to a video recorder when capturing live activity. It does not, however, need the use of a camera, and the battery never has to be charged.

Making your own command

Do you have a habit of using the same Excel menu commands again and over? If that's the case, create a macro that combines these instructions into a single custom command that you can run with just a single keystroke or button click. You won't save much time, but you'll almost certainly be more accurate. And the person in the cubicle next to you will be blown away.

Creating a custom button

You may add your own buttons to your Quick Access toolbar that run the macros you create. Buttons that do magic are often quite impressive to office employees. You may even add additional buttons to the Ribbon if you truly want to amaze your coworkers.

Developing new worksheet functions

Despite the fact that Excel comes with hundreds of built-in functions (such as SUM and AVERAGE), you may develop custom worksheet functions to make your formulae easier. I promise you'll be astonished at how simple it is. Even better, your own functions are displayed in the Insert Function dialog box, making them look built-in. It's all quite fancy.

Creating custom add-ins for Excel

Several of the add-ins that come with Excel are presumably recognizable to you. The Analysis Tool Pak, for example, is a popular add-in. You may create your own special-purpose add-ins using VBA. People from all

around the globe pay me actual money to utilize my Power Utility Pak add-in, which I created using just VBA.

Creating complete, macro-driven applications

You can utilize VBA to construct large-scale programs with a custom Ribbon tab, dialog boxes, on screen assistance, and a variety of other features if you're prepared to put in the effort. This book doesn't go nearly that far, but I'm just mentioning it to show you how strong VBA can be.

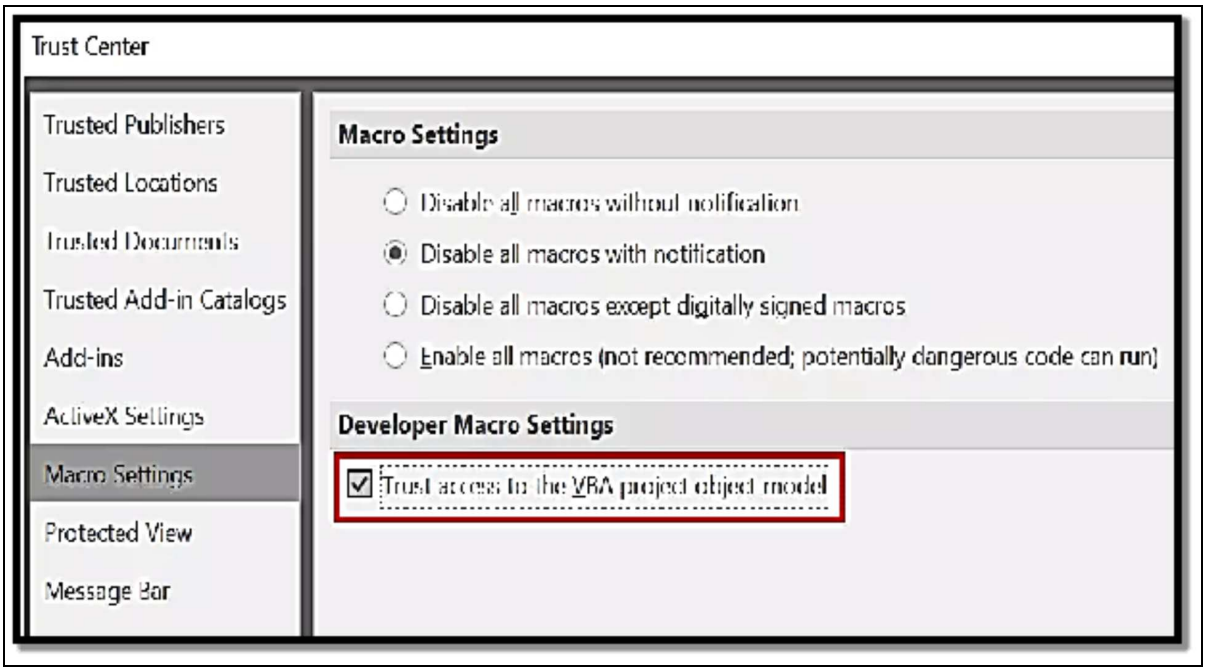
Macros: Enabling VBA in Excel

As a security precaution, Excel disables VBA access by default. Macro viruses may infect Microsoft Office, and if VBA is enabled, they can propagate to other documents. When used carefully and with caution, however, allowing VBA does not raise your chances of catching a computer virus.

To begin modifying data, you must first install the VBA add-in and grant access. To activate or disable the VBA tool, first launch Excel, then pick Add-ins from the Options menu. Find and pick the add-in Analysis Tool Pak - VBA from the list that appears. The VBA add-in is now activated. After that, make sure the VBA tool is turned on.

To activate or disable the VBA tool, go to Excel, Options, and then Trust Center. Select Trust Center Settings from the drop-down menu and look for Macro Settings.

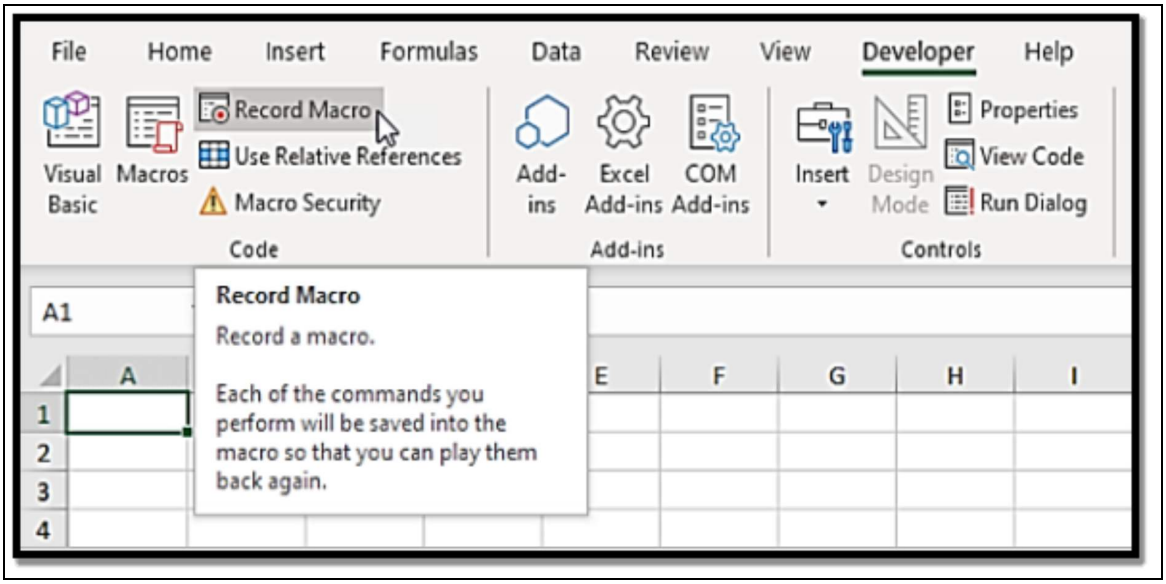
Check the checkbox Trust access to the VBA project object model to permit VBA access. Make sure the box is unchecked to turn it off.



Macros: Add Macros to Quick Access Toolbar

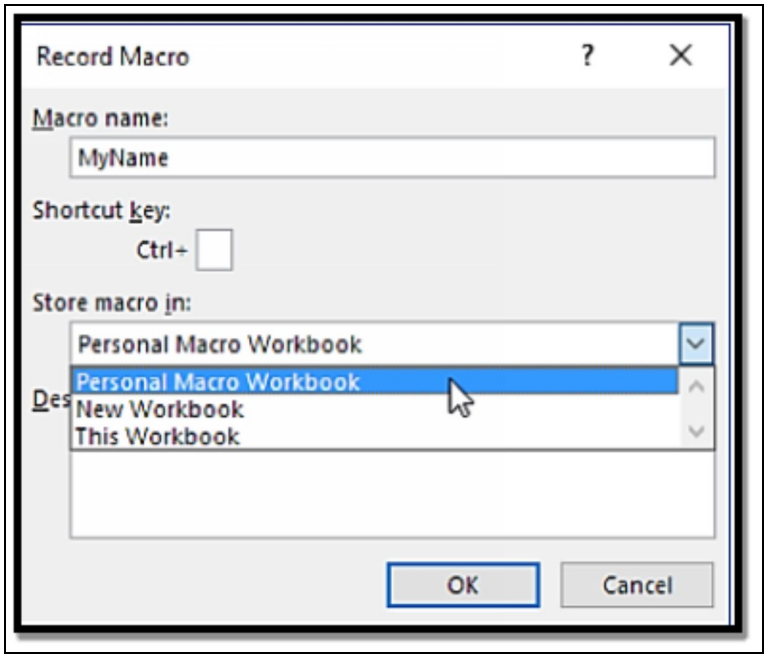
If you often use an Excel macro, you may save it to the Quick Access Toolbar. You'll be able to rapidly access your macro this way. We begin by recording an empty macro.

1. Select **Record Macro** from the Developer tab.



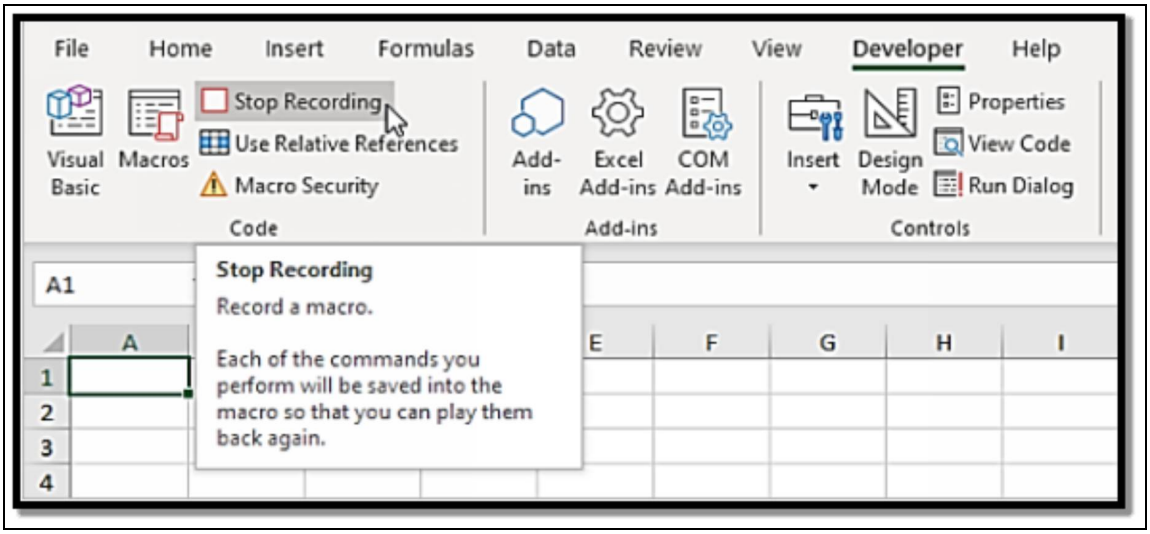
2. Give the macro the name MyName. Select **Personal Macro Workbook** as the location for the macro. As a result, the macro will be accessible

across all of your workbooks (Excel files). Because Excel keeps your macro in a hidden workbook that opens immediately when Excel begins, this is possible.



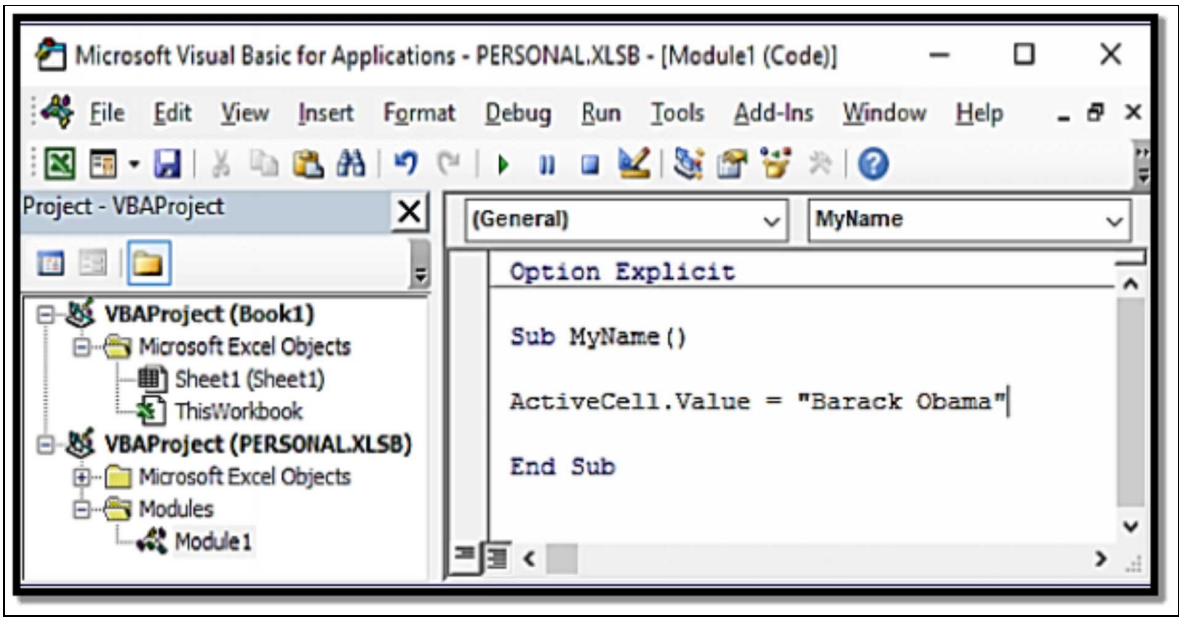
3. Select OK.

4. Press the **Stop Recording** button.



5. Go to the Visual Basic Editor and open it.

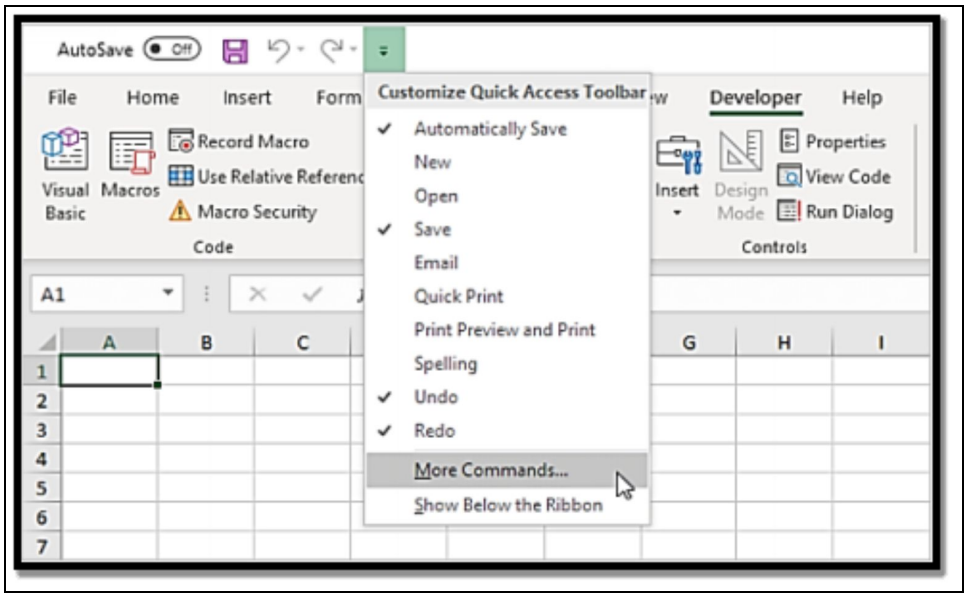
6. **Create the macro as follows:**



This macro changes the Active Cell to your name.

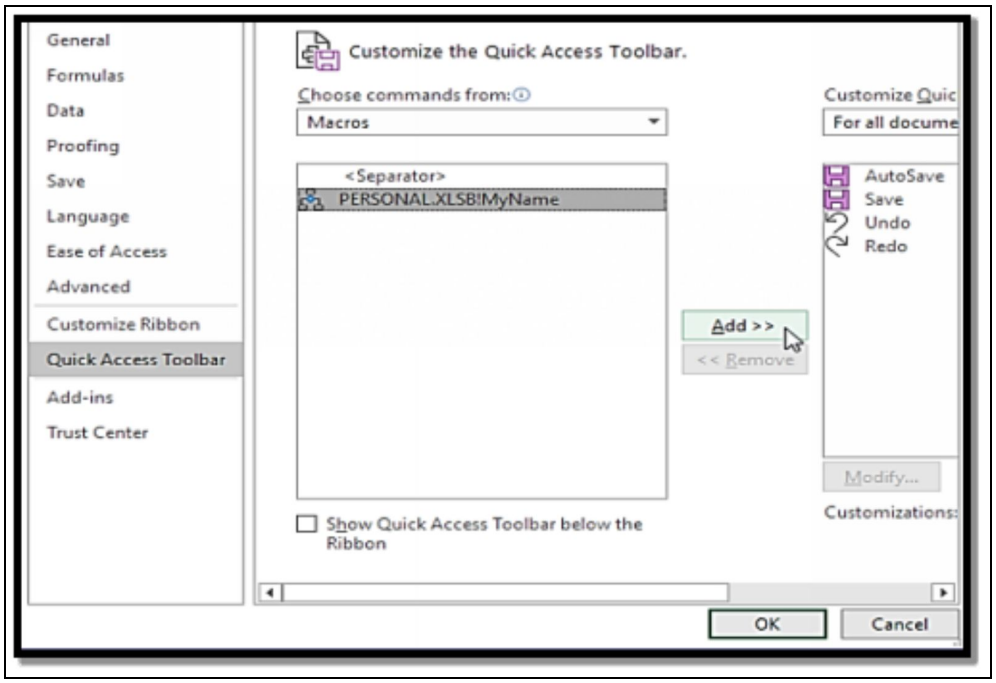
7. Save your work and exit the Visual Basic Editor.

8. This macro may now be added to the Quick Access Toolbar. More Commands may be accessed by clicking the down arrow.

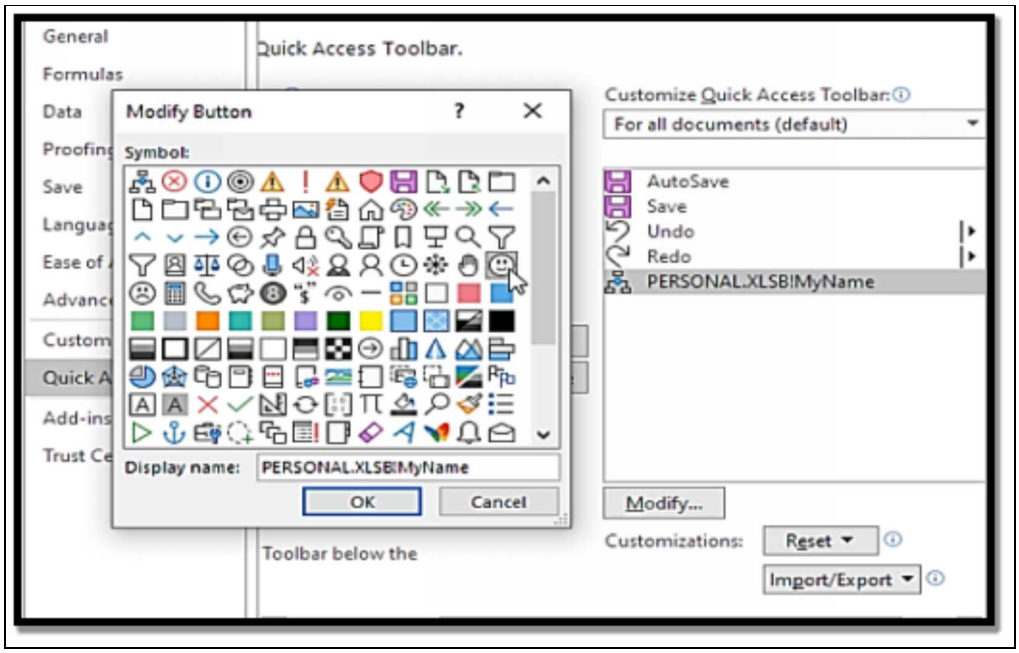


9. Select Macros from the Choose commands menu.

10. Click Add after selecting the macro.

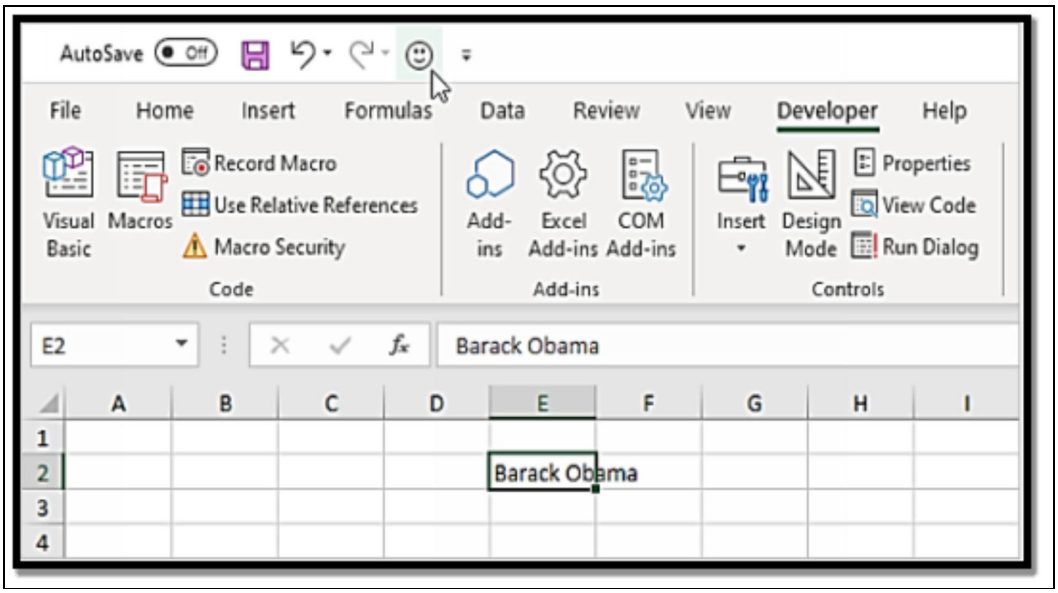


11. Click Modify to change the button that will be added to the Quick Access Toolbar. Choose a smiley, for example.



12. Press the OK button twice.

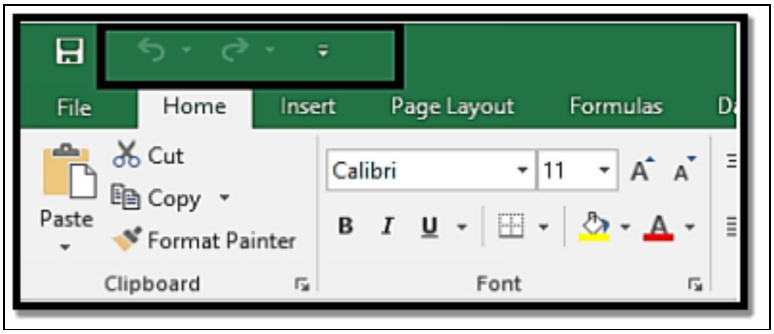
13. Now you may run the macro. Select cell E2 for example, and then click the smiling icon on the Quick Access Toolbar.



14. Excel prompts you to preserve the modifications you made to the Personal Macro Workbook when you close it. To save this macro in a hidden workbook that opens when Excel begins, click Save. As a result, the macro will be accessible across all of your workbooks (Excel files).

Quick Access Toolbar

The Quick Access Toolbar is a resizable toolbar that includes a collection of instructions that are not reliant on the current ribbon tab. You may add buttons that indicate instructions to the Quick Access Toolbar.

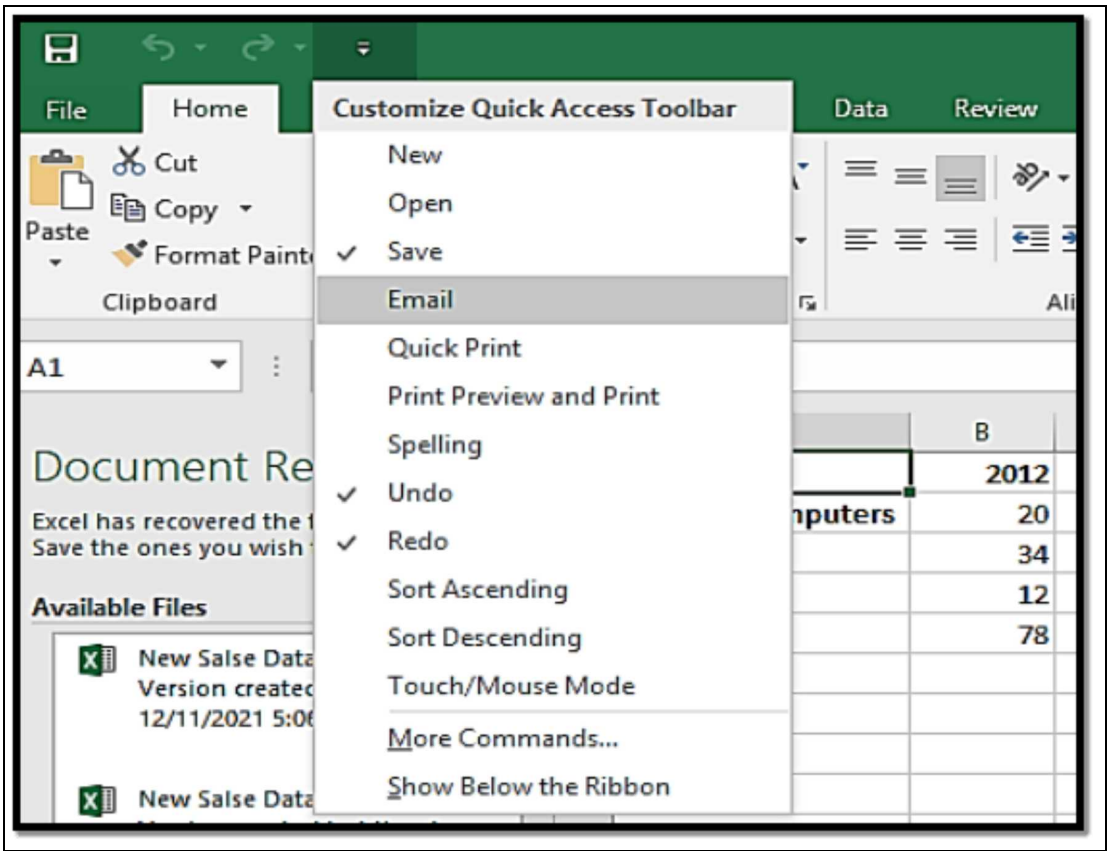


Although the Ribbon is useful, many users prefer to have certain commands available without having to click a tab. Customize your Quick Access toolbar as a solution. The Quick Access toolbar is usually found above the Ribbon, on the left side of the title bar. You can also opt to show the Quick Access Toolbar below the Ribbon by right-clicking it and selecting Show Quick Access Toolbar Below the Ribbon.

When you place the Quick Access toolbar below the Ribbon, you get a little more area for icons, but you also lose one row of your worksheet.

The Quick Access toolbar comes with three tools by default: **Save, Undo, and Redo**. You can add more commands to the Quick Access toolbar to make it more personalized. To add a Ribbon command to your Quick Access toolbar, right-click it and choose to **Add to Quick Access Toolbar** from the context menu. You'll notice a drop-down menu with several extra commands if you click the down arrow to the right of the Quick Access toolbar.

Select the drop-down arrow on the Quick Access Toolbar, it shows a list of commands that you can add to the toolbar. When you click on any of the commands, it will display in the Quick Access Toolbar.



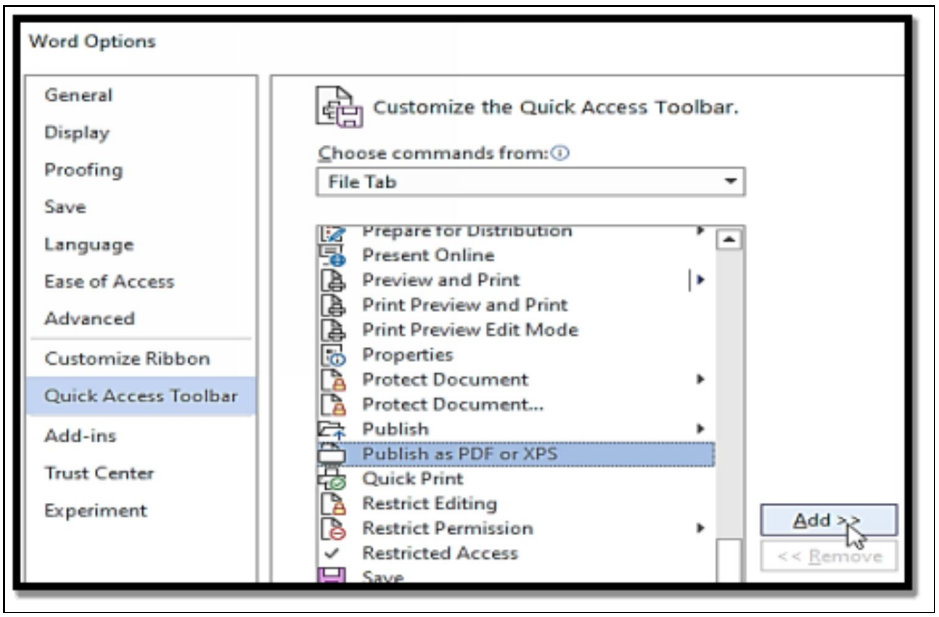
The Quick Access toolbar commands are always shown as tiny icons with no text. Drop-down controls that show text are an exception to this rule. When you add the Font control from the home Font group to the Quick Access toolbar, it displays as a drop-down control. The name of the

command and a short explanation appears when you hover your mouse cursor over an icon.

Adding additional commands to the Quick Access toolbar is how you customize it. If you find yourself using certain Excel commands regularly, you may add them to your Quick Access toolbar to make them more accessible.

There is no limit to the number of commands you can add. Only a single line of icons is shown on the Quick Access toolbar at all times. If the number of icons shown exceeds the width of the Excel window, an extra icon called **More Controls** appears at the bottom. The hidden Quick Access toolbar icons display in a pop-up window when you click the **More Controls button**.

Adding new commands to the Quick Access toolbar



You have three options or methods to add new commands to the Quick Access toolbar and they will all be discussed below:

- First of all, move to the right part of the toolbar then hit the Quick Access toolbar drop-down menu. Be aware that a few regularly used commands are included in the available list. Furthermore, Excel adds additional commands from the available list to the Quick Access toolbar whenever you select it from the available list itself.

- Choose to Add to the Quick Access toolbar from the context menu of any of the control options on the Ribbon. The available control is placed on the right side of the previous item.
- Move to the Excel Options dialog box, then select the Quick Access toolbar to proceed. From there, right-click any Ribbon control and select the option to Customize Quick Access toolbar to open the option quickly.

The listing of Excel instructions appear on the left side of the dialog package, while the instructions presently on your toolbar appear on the right side. The particular Choose Commands From your drop-down list is situated above the command list on the left, and it enables you to filter the list. If you choose a product from the drop-down menu, only the commands for that item appear in the list.

A few of the options in the drop-down menu are as follows:

- **Popular Commands:** Shows broadly used commands in Excel.
- **Commands Not really in the Ribbon:** This shows a listing of commands that aren't available via the Ribbon. Numerous, but not all, are out of date or inadequate.
- **All Commands:** This particular option shows a listing of all Excel instructions.
- **Macros:** Displays a listing of all macros that are accessible.
- **File Tab:** Displays the available instructions in the Backstage view.
- **Home Tabs:** When the House tab is triggered, it displays all possible commands.

In addition, almost every other tab, including the context tab, has access to the Select Commands From drop-down list (for example, the additional tab that is shown each time a chart is selected). Select an item from the list on the left and click **Add** to add it to your toolbar. The command may be found in the right-hand listing. The item entitled Separator > seems towards the top of each listing. Whenever you add this item to your toolbar, a vertical bar appears to help you organize activities.

The commands are arranged alphabetically. In order to find a certain command, you may have to make some educated guesses.

All documents have Quick Access toolbar modifications enabled by default. You are able to personalize the Fast-entry toolbar to be exclusive to the worksheet. To put it another way, the commands on the toolbar only screen when a certain worksheet is opened up. Activate the worksheet first, then open up the Excel Choice's dialog box and choose the Personalize Fast access Alexa plugin option. Make use of the drop-down list in the top right to choose the workbook when adding a command to the toolbar. (At the moment, the current workbook is the only option).

Excel offers all available macros if you choose Macros from the Choose Commands Through drop-down menu. Within the option of adding a macro to your Quick Accessibility toolbar, you can edit the textual content and select a new icon for this by clicking the Modify button.

Right after you have completed customizing the Quick Access toolbar, click OK to write off the Excel Choice's dialog box.

Heading further, the Toolbar tabs of the Exceed Options dialog container is merely used when you wish to add an order that isn't on the Ribbon, give a command that commences a macro, or alter the image order. In all other cases, really far quicker to get the order in the Bow, right-click it, and choose to boost the Fast Access Toolbar from the context menus.

The following are some of another Quick Access toolbar actions:

- **Changing the order of Fast Access toolbar symbols:** The Toolbar tab of the Excel Choice's dialog box allows you to piece together the toolbar icons. Choose the command, then move the image with the right-hand Down and upward arrow buttons.
- **Removing icons from the Quick Access toolbar:** To eliminate an image from your toolbar, right-click it and choose **Remove from Toolbar**. A person may even utilize the Excel Choice's dialog box's Quick access Toolbar tabs. Simply choose the command from the right-hand list and click **Remove**.
- **Resetting the Quick Accessibility toolbar:** To bring back the Toolbar to its default form, open the Exceed Options dialog container and

click the **Reset button** on the Quick Accessibility Toolbar tab. After that choose the Total reset Only Quick Accessibility Toolbar from the drop-down menu. The particular Quick Access toolbar's three default instructions are then shown.

Sharing User Interface Customizations

Both the Quick Access Toolbar tab and the Customize Ribbon tab in the Excel Options dialog box feature an Import/Export button. This button may be used to save and open files with user interface changes. You may, for example, create a new Ribbon tab and wish to share it with your coworkers.

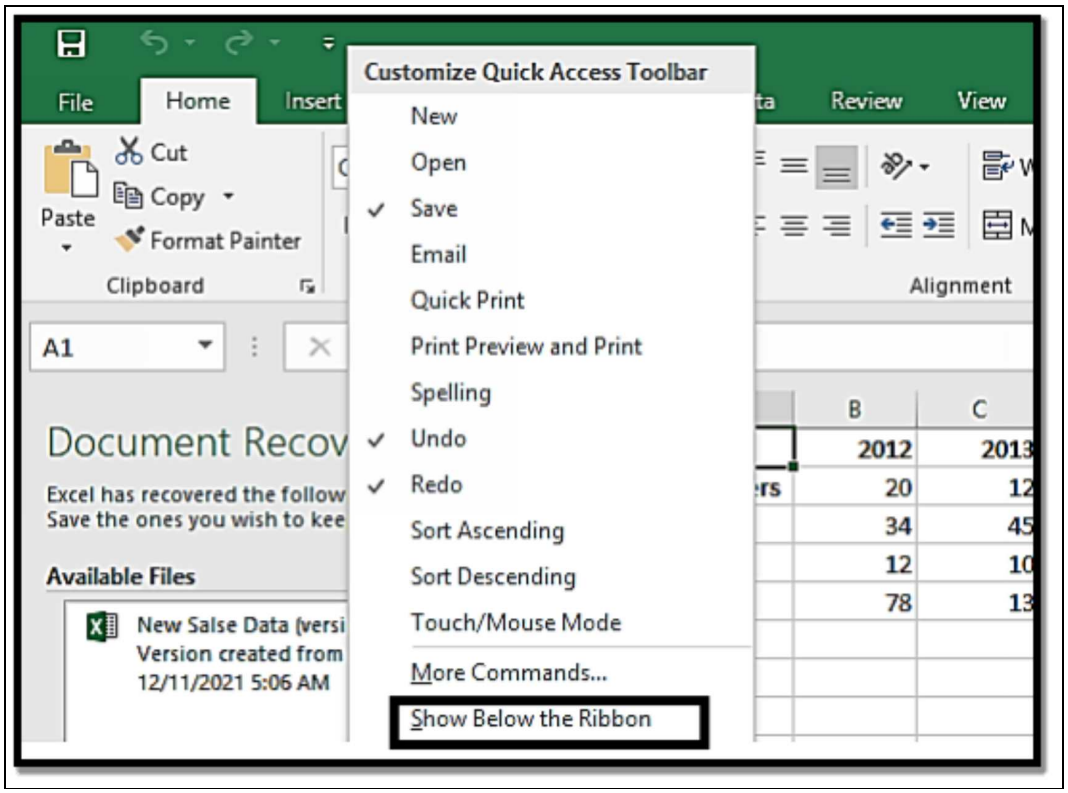
When you click the Import/Export button, you'll be given two alternatives.

- **Import Customization File:** You'll be asked where you want to save the file. You're asked whether you want to overwrite all current Ribbon and Quick Access toolbar modifications before loading a file.
- **Export All Customizations:** You'll be requested to give the file a name and a location. The information is saved in a file with the extension exported.

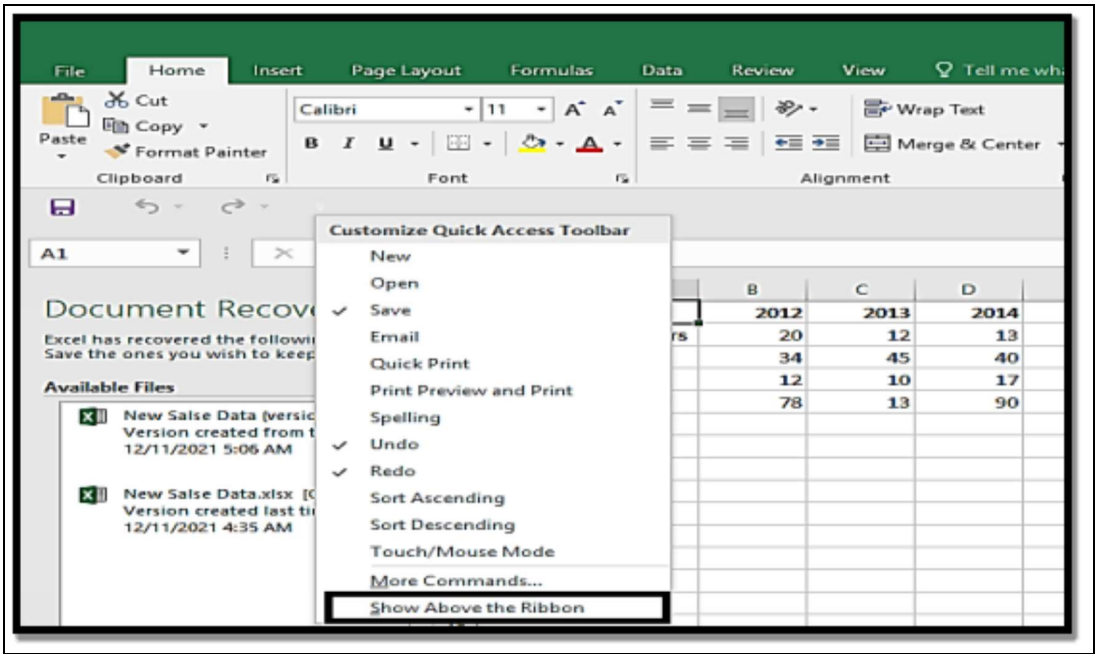
Importing and exporting are, however, not effectively implemented. Only the Quick Access toolbar modifications and the Ribbon customizations may be saved or loaded in Excel. Customizations of both categories may be exported and imported. As a result, you won't be able to share your Quick Access toolbar settings unless you share your Ribbon customizations as well.

Move the Quick Access Toolbar

You could relocate the Quick Access Toolbar below the Ribbon if you wish. To do so, right-click the **Quick Access toolbar** and choose **Show Below the Ribbon**. Moving the Quick Access Toolbar below the Ribbon frees up more screen real estate. In other words, if you relocate the Quick Access toolbar from its normal placement, you'll be able to view one fewer row of your spreadsheet. The Quick Access toolbar, unlike regular toolbars, cannot be made free-floating, so you can't relocate it to a more convenient spot. It displays above or below the Ribbon at all times.

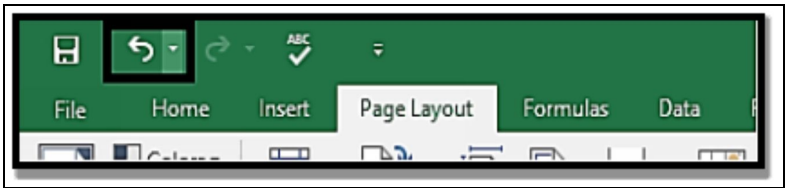


Follow the same steps above then select **Show Above the Ribbon**.



Replacing the contents of a cell

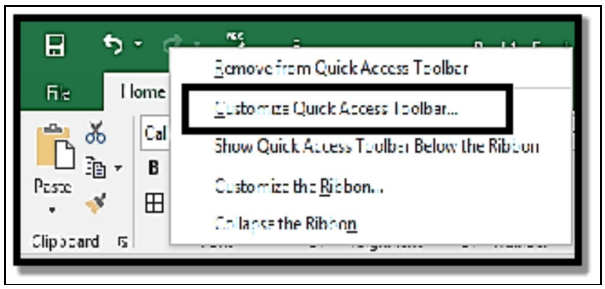
To replace the contents, you can use the Undo button on the Quick Access Toolbar. Click on it and the contents will be back. You can also press the Control key + Z to do this.



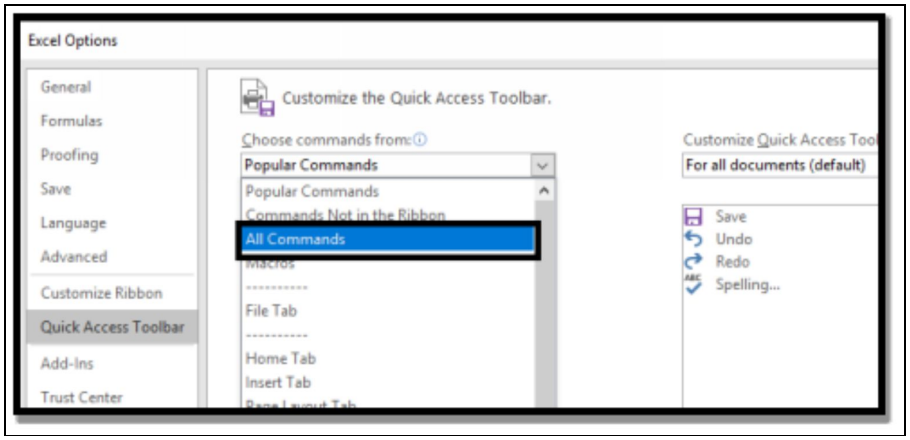
Using a form for data entry

A data entry form can assist the data entry process more efficiently and error-free. You use it to put data into your worksheet. By default, there is no data entry form option on the Excel Ribbon. So, you will have to add it to the Quick Access Toolbar so you can access it easily. Follow the steps below to add it;

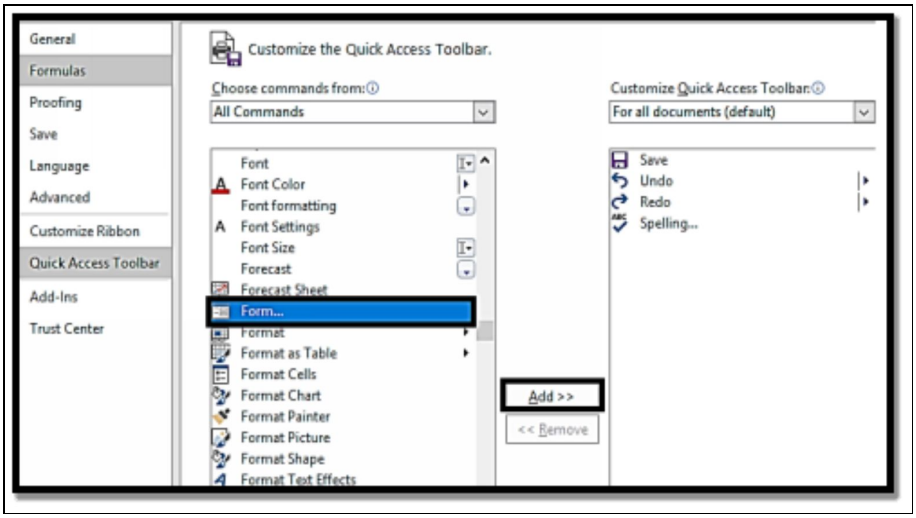
Right-click on any option on the **Quick Access Toolbar** and select **Customize Quick Access Toolbar.**



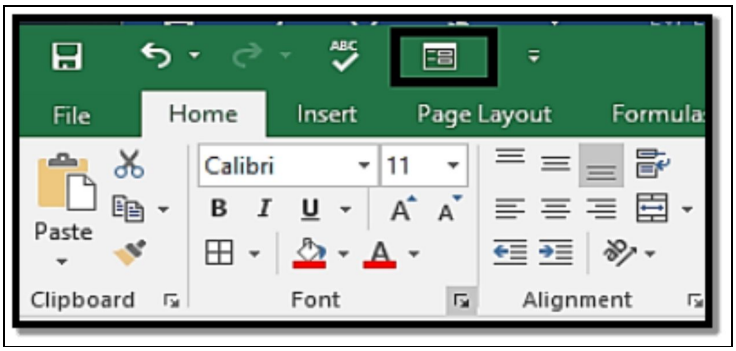
This will open up the Excel Options box. Click on the drop-down arrow on the Choose commands from and select All Commands.



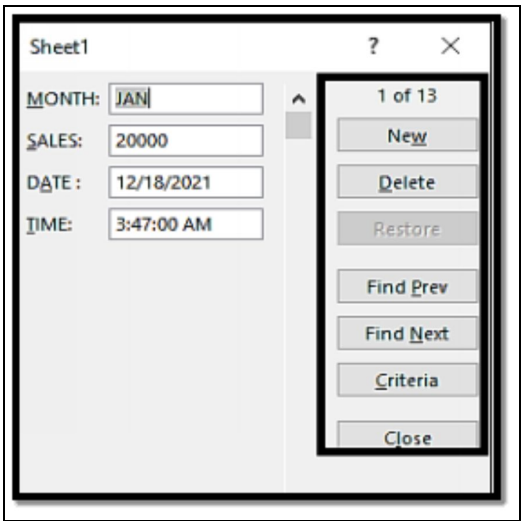
On the All-command list, click on Form, then click on the Add button. Then, OK.



You will see the Form Icon on the Quick Access Toolbar. So, you can easily access it now. Simply click on the cell you want to input data from, then click the Form Icon.



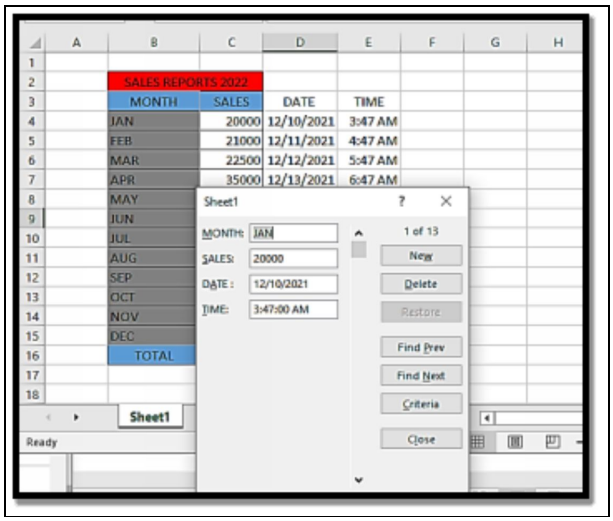
The Data Entry Form is made up of different options. Below is a brief explanation of what each option does.



- **New**: This clears any existing data in the form and enables you to start over with a new record.
- **Delete**: You may use this to get rid of an existing record.
- **Restore**: If you're updating an existing entry and haven't clicked New or pressed Enter, you may restore the old data in the form.
- **Find Previous**: This will locate the preceding entry.
- **Find Next:** This will take you to the next page.
- **Criteria**: You may use criteria to discover particular records.
- **Close**: This will bring the form to a close.
- **Scroll Bar**: The scroll bar may be used to navigate through the records.

Let's take a look at all you can accomplish with an Excel Data Entry form.

- Activate the cell for the data.
- Click on the Form Icon. This will open the data form box. Now type in the data in the fields. Then, press the Enter key. You can also click the new button.



Status Bar Metrics

You can immediately examine important metrics like the Sum, Count, Minimum, Maximum, and Average when you pick a range of cells.

To do so, just right-click on the Status Bar at the bottom of your worksheet and choose the metrics you wish to display. These options are retained for all subsequent workbooks once they are chosen.

To access the customization menu, right-click anywhere on the Status Bar.

Check the boxes next to the data you wish to see in your Status Bar.

These auto-computed metrics will now appear in your status bar when you choose and highlight numerical numbers!

Synchronous Scrolling

Did you know that Synchronous Scrolling allows you to compare two workbooks and scroll them at the same time? Excel allows you to organize many spreadsheets and see them all at the same time.

To do so, follow the instructions below:

Select the View tab from the ribbon area, then the view side by side option, followed by the synchronous scrolling option. This is not only simple, but it also improves the quality of your work.

Worksheet Navigator

There are different ways that you can navigate your worksheet. You can make use of the mouse, ribbon, or keyboard. Below are the explanations of how you can do that.

Using the Keyboard

To navigate a worksheet, use the conventional navigation keys on your keyboard.

NB: By turning on Navigate Lock, you may use the keyboard to scroll across the worksheet without altering the current cell, which is important if you need to quickly return to your initial spot after seeing another region of your worksheet.

To browse through the worksheet, just hit Scroll Lock and use the navigation keys. **Ctrl + Backspace** will take you back to the original place (the active cell). Then, to turn it off, tap Scroll Lock once again. When Scroll Lock is enabled, the status bar at the bottom of the window shows Scroll Lock.

The **Num Lock key** on your keyboard regulates the behavior of the numeric keypad's keys. The keys on your numeric keypad create numbers when Num Lock is turned on. To the left of the numeric keypad, many keyboards contain a distinct set of navigation (arrow) keys. These keys are unaffected by the status of the Num Lock key.

Up arrow key	Move up the next row (one row)
Left arrow key	Move to the next cell on the left
Right arrow key	Move to the next cell on the right
Down arrow key	Move down the next row (one row)
Control key + End	Moves to The cell that is located at the junction of the column on the right and the bottom-most utilized row.
Control key + arrow key	Moves to the last row or column in the worksheet
Page Up	Moves up one screen page
Page Down	Moves down one screen page
Control Key + Home	Moves to Cell A1

Using the Mouse

To use the mouse to change the active cell, just click another cell and it will become the active cell. If the cell you wish to activate isn't visible in the workbook window, you may scroll the window in either direction using the scrollbars. To navigate across a single cell, use any of the scrollbar's arrows. Click either side of the scrollbar's scroll box to scroll across the whole screen. You may also drag the scroll box to scroll more quickly.

Note: You can use the wheel on your mouse to scroll vertically if it has one. Additionally, if you click the wheel and move the mouse in any way, the worksheet will scroll in that direction automatically. The quicker you scroll, the more you move the mouse.

While zooming the worksheet using the mouse wheel, hold down Ctrl. If you'd rather zoom the worksheet using the mouse wheel rather than clicking **Ctrl**, go to **File > Options** and then to the **Advanced section**. Check the box next to **Zoom on Roll with IntelliMouse**.

The active cell is not changed by using the scrollbars or scrolling with the mouse. The worksheet is simply scrolled. After scrolling, click a new cell to change the active cell.

CHAPTER TWO

FORMATTING AND LAYOUT

Ways to merge cells in Excel

The ability to combine two or more cells is a useful formatting tool. When you merge cells, the contents of the cells are not combined. Rather, you merge many cells into a single cell that takes up the same amount of area.

Any number of cells in any number of rows and columns may be merged. In reality, you can combine all 17,179,869,184 cells in a worksheet into a single cell.

	Week 1							Week 2						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Group 1	29	57	91	47	33	97	35	56	40	45	67	97	12	92
	36	64	33	5	64	53	78	45	88	47	36	69	9	89
	26	46	9	67	53	60	91	37	70	6	4	68	48	16
	45	13	83	71	60	34	98	43	31	10	57	29	69	81
	87	84	57	39	51	28	79	48	84	46	78	14	32	92
Group 2	70	76	60	13	56	70	89	66	9	78	0	34	61	23
	77	67	16	96	83	57	42	92	78	22	20	62	73	45
	64	64	61	73	53	40	89	11	87	63	73	94	50	88
	40	49	23	42	63	57	13	58	54	25	58	6	15	75
	73	65	57	66	77	19	43	71	44	8	29	2	66	63

Except for the upper-left cell, the region you want to combine should be empty. Excel shows a warning if any of the other cells you want to combine are not empty. All data (except in the upper-left cell) will be removed if you continue.

To combine cells, you are expected to use the **Alignment tab** of the **Format Cells dialog box**, although the **Merge & Center option** on the Ribbon (or on the Mini toolbar) is more convenient. To merge cells, click the **Merge & Center button** after selecting the cells you want to merge. The information in the upper-left cells will be centered horizontally when the cells are

combined. The Merge & Center button toggles between two states. Select the combined cells and click the **Merge & Center button** again to unmerge them.

After merging cells, use the controls in the Home Alignment group to alter the alignment to anything other than Center.

A drop-down list with these additional choices is available in the **Home > Alignment Merge & Center control**:

- **Merge Across:** This command generates several merged cells — one for each row — when a multirow range is specified.
- **Merge Cells:** Combines the cells that have been chosen without using the Center property.
- **Unmerge Cells:** Unmerge the cells that have been chosen.

Potential problems with merged cells

Merged cells are something that many Excel users despise. They avoid utilizing this feature, and they advise everyone else to do the same. However, if you are aware of the restrictions and possible issues, there is no reason to avoid utilizing merged cells entirely.

Here are some things to remember:

Merged cells cannot be used in a table (made by selecting InsertTablesTable). This is understandable because the rows and columns in a table must be consistent. When cells of a table are merged, the consistency is lost.

Normally, double-clicking a column or row header autofits the data in the column or row, however, this functionality is disabled when the row or column includes merged cells. Instead, you must manually alter the column width or row height.

Sorting and filtering may be affected by merged cells. Another reason why merged cells aren't permitted in tables is because of this. If you're going to sort or filter a set of data, avoid utilizing merged cells.

Finally, merged cells may cause VBA macros to fail. If the cells in A1:D1 are merged, for example, a VBA command like this would actually pick four

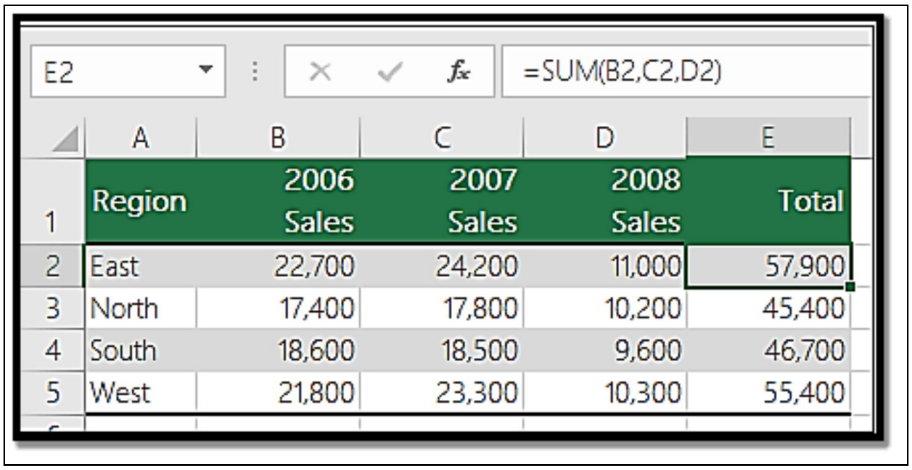
columns (which is not what the author intended):

Columns (“B: B”). Select

How to Fix a #REF Error in Excel

When a formula refers to a cell that isn't valid, the #REF! error appears. This occurs most often when formula-referenced cells are erased or copied over.

The formula =SUM (B2, C2, D2) is used in column E in the following example.



	A	B	C	D	E
1	Region	2006 Sales	2007 Sales	2008 Sales	Total
2	East	22,700	24,200	11,000	57,900
3	North	17,400	17,800	10,200	45,400
4	South	18,600	18,500	9,600	46,700
5	West	21,800	23,300	10,300	55,400

A #REF! error would occur if columns B, C, or D were deleted. We'll eliminate column C (2007 Sales) in this scenario, and the formula will now be =SUM (B2, #REF!, C2). When you use explicit cell references like this (where each cell is referred separately, separated by a comma) and then remove a referenced row or column, Excel is unable to resolve the reference and produces the #REF! error. This is the main reason why explicit cell references are not encouraged in functions.

D2 =SUM(B2,#REF!,C2)

	A	B	C	D	E
1	Region	2006 Sales	2008 Sales	Total	
2	East	22,700	11,000	#REF!	
3	North	17,400	10,200	#REF!	
4	South	18,600	9,600	#REF!	
5	West	21,800	10,300	#REF!	

Solution

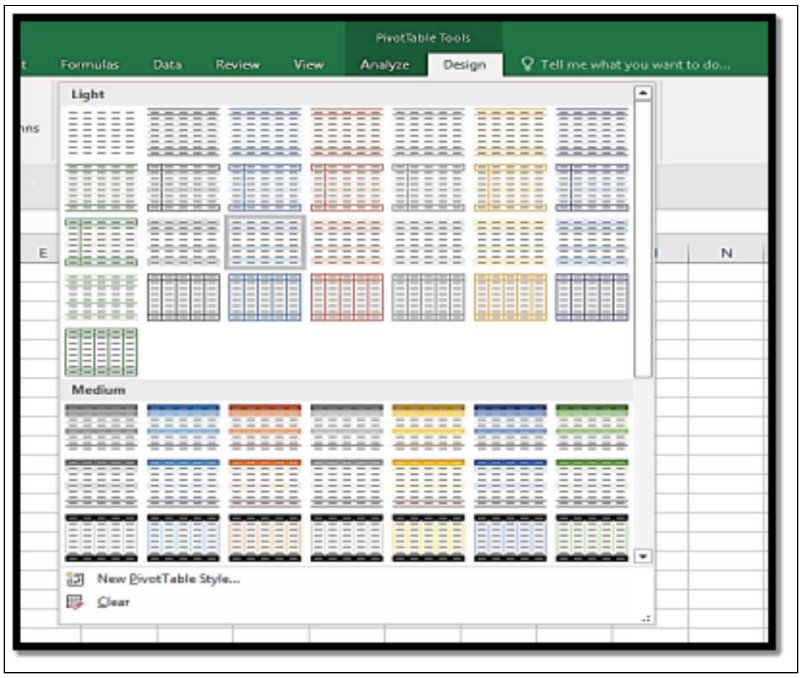
If you mistakenly erased rows or columns, you may restore them by using CTRL+Z or clicking the Undo button on the Quick Access Toolbar.

Make the formula, like =SUM, utilize a range reference instead of individual cells (B2:D2). You may now remove any column inside the sum range and Excel will change the calculation automatically. For a sum of rows, you might write =SUM (B2:B5).

Conditional Formatting: Adding to Pivot Tables

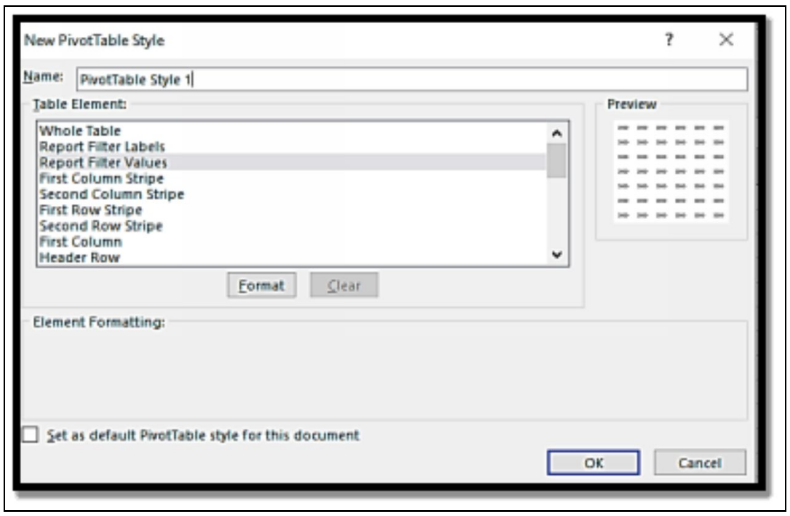
You can choose whether to improve the report structure and format after establishing a Pivot Table and inserting the fields you want to examine. This will make the data simpler to read and search for details. You may modify the PivotTable form, as well as the way fields, columns, rows, subtotals, empty cells, and lines, are shown to change the design of a PivotTable. You may use a predetermined style, banded rows, and conditional formatting to customize the PivotTable's format. so, let’s look at some of the formatting options for the Pivot Table.

Default style: You can change the default structure of your pivot table. On the Design tab, you will see the different styles. You can pick a color from the list of different colors displayed for you.

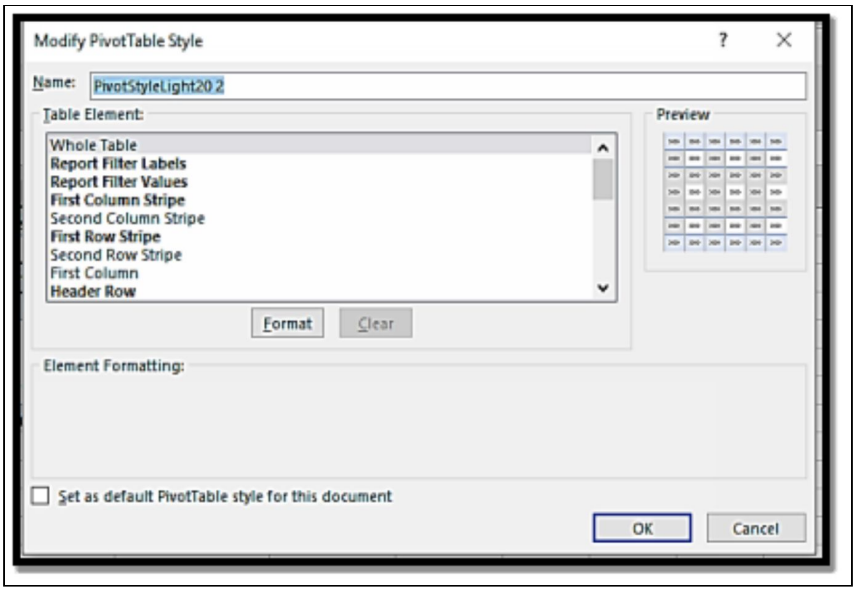


Simply right-click on the style you want. then, choose “Set as default”. the style you have selected will become your default style for the pivot tables.

Creating New Style: On the Design Tab, click the down arrow on the Pivot Styles menu. Click on the New PivotTable Style. On the New Pivot Table Style box, enter the name for the style. Pick an element for formatting and click Format. Click Ok.



Duplicate and Multiply: Right-click on the style you want to duplicate. Choose Duplicate from the list of options displayed for you. This will open up the Modify PivotTable Styles box.



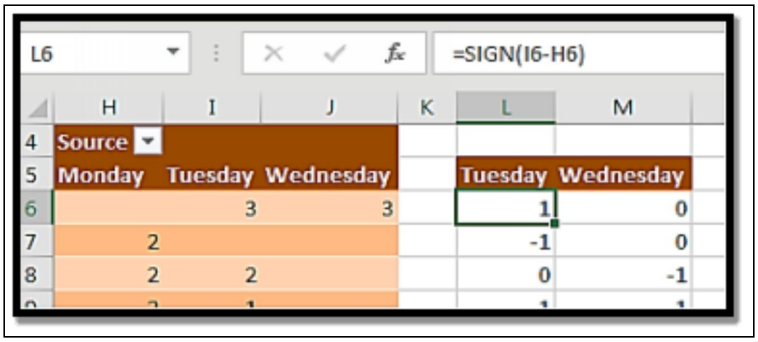
Copy Layout to a Different Worksheet: First open the workbook that has the custom layout. Then, open the new workbook to where the layout will be copied to. Put the two workbooks close to each other. To do this, use the Arrange all options in the View tab.

Then, hold the Control key and drag the layout sheet to the new workbook.

Performance Symbols (up/down arrows and other indicators)

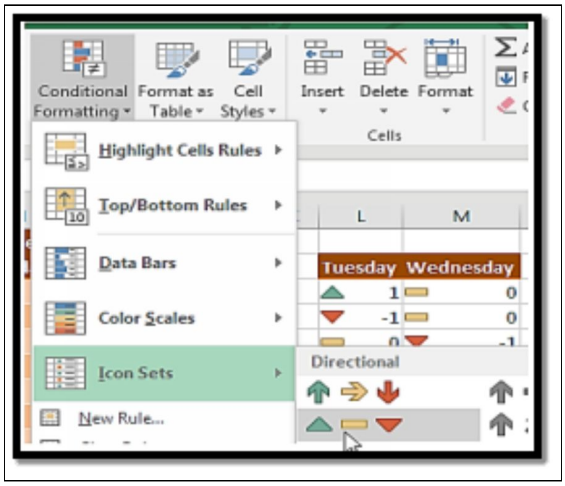
There is a super-obvious method to put up or down markers to a pivot table to show an increment or reduction.

Insert columns to illustrate increments or reductions beyond the pivot table. The disparity between I6 and H6 in the picture below is 3, but you only like to indicate it as a successful development. SIGN(I6-H6) returns one of three values: +1, 0, or -1.

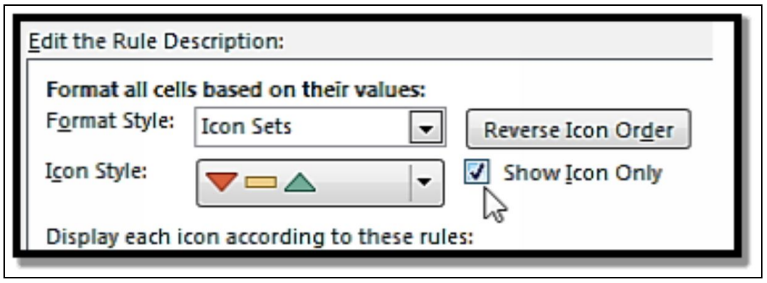


Choose Home, Conditional Formatting, Icon Sets, 3 Triangles from the two-column range that shows the indication of the change. (I'm not sure why

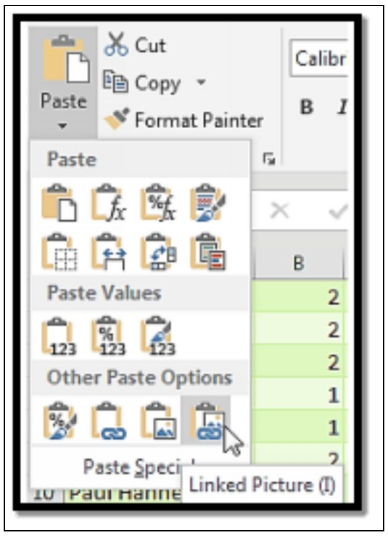
Microsoft named this selection Three Triangles when it's obviously Two Triangles and a Line.)



Choose **Home**, **Conditional Formatting**, **Manage Rules**, and **Edit Rule** with the same range selected. Select the Show Icon Only option.



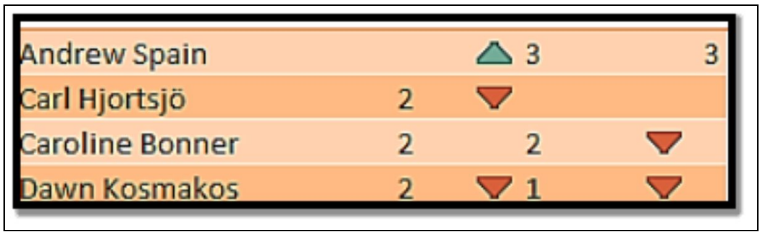
To copy, hit **Control key +C** while keeping the same range chosen. In the pivot table, choose the first Tuesday cell. Click the Paste Dropdown from the Home menu and select Linked Picture. Over the table, Excel displays a live image of the icons.



Modify the column dimensions of the additional two columns displaying the icons at this stage so that the icons align with the values in the pivot table.

Name	Monday	Tuesday	Wednesday
Andrew Spain		3	3
Carl Hjortsjö	2		
Caroline Bonner	2	2	
Dawn Kosmakos	2	1	
Jean-Yves Hemlin			1

Having viewed this, I'm not a fan of the broad yellow dash used to denote "no change." Select Home, Conditional Formatting, Manage Rules, and Edit if you don't like it. Pick No Cell Icon from the selection for the bright yellow line.



Andrew Spain		3	3
Carl Hjortsjö	2		
Caroline Bonner	2	2	
Dawn Kosmakos	2	1	

Conditional Formatting: Cell's value

To apply a conditional formatting rule to a single cell or a range of cells, select them and then specify the rule using one of the commands from the **Home > Styles > Conditional Formatting** drop-down list.

There are several alternatives:

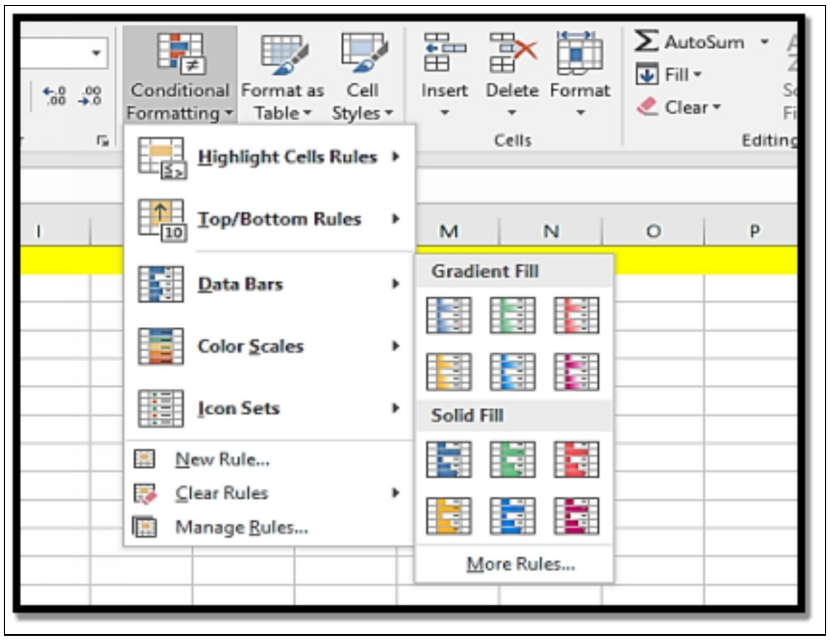
- **Highlight Cell Rules:** Cells that are greater than a defined value, between two values, include a specific text string, contain a date, or are repeated are highlighted.
- **Emphasizing the top ten items:** The bottom twenty percent of items, and items that are above average are all instances of top-bottom guidelines.
- **Data Bars:** Directly in the cells, displays graphic bars proportional to the cell's value.
- **Color Scales:** Uses a background color according to the cell's value.
- **Icon Sets:** Directly displays icons in cells. The icons change in response to the cell's value.
- **New Rule:** Enables the declaration of new conditional formatting rules, such as those based on logical formulas.
- **Delete All Conditional Formatting Rules:** This command deletes all conditional formatting rules from the cells selected.
- **Manage Rules:** This option displays the Conditional Formatting Rules Manager dialog box, which allows you to create, modify, or delete conditional formatting rules.

Conditional formatting: Data Bars, Color Scales, and Icon sets

Data Bars

Horizontal bars are shown directly in the cell using the conditional format for data bars. The bar's length is defined by the value of the cell concerning the other values in the range.

In Excel, the **Home > Styles > Conditional Formatting > Data Bars** menu provides quick access to 12 distinct data bar styles. By selecting the More Rules option, you'll open the New Formatting Rule dialog box, which has further possibilities.



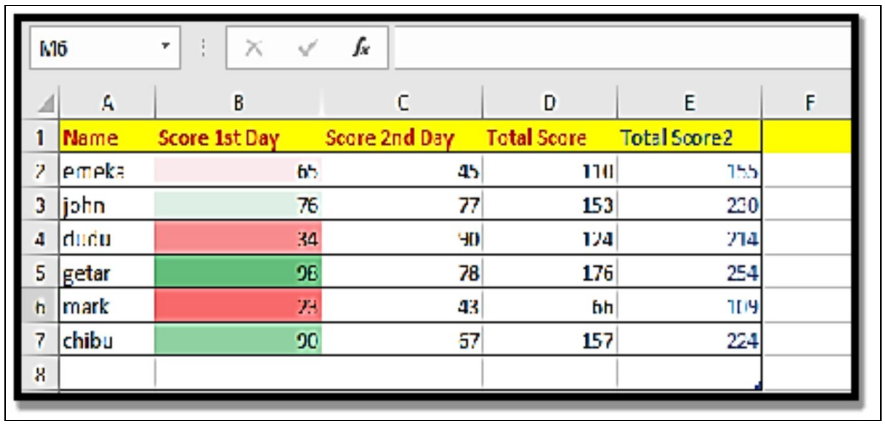
This dialog box may be used for a variety of purposes such as:

- Display just the bar. (Contain the figures.)
- Configure the scaling's Minimum and Maximum values.
- Personalize the appearance of the bars.
- Specify the treatment of negative values and the axis.
- Determine the direction of the bar.

Surprisingly, if you choose one of the 12 data bar kinds, the colors used for data bars are not theme colors. When you change the document theme, the data bar colors remain the same. However, if you add the data bars using the New Formatting Rule dialog box, the colors you pick are theme colors. Using conditional formatting on the data bars rather than constructing a chart may be a time-saving solution.

Color scales

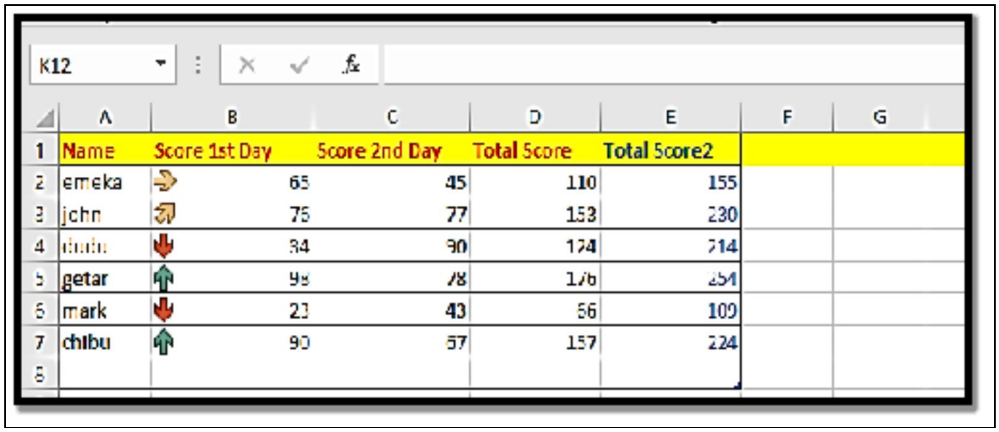
Select the column or row. Click on **Conditional formatting** and select Color Scales which will display a list of different color scales for you to select from. Select one and it will be applied to your worksheet.



	A	B	C	D	E	F
1	Name	Score 1st Day	Score 2nd Day	Total Score	Total Score2	
2	emeka	65	45	110	155	
3	john	76	77	153	230	
4	dudu	34	90	124	214	
5	getar	98	78	176	254	
6	mark	23	43	66	109	
7	chibu	90	57	157	224	
8						

Icon sets

Select the column or row. Click on **Conditional formatting** and select **Icon Sets** which will display a list of different icon sets for you to select from. Select one and it will be applied to your worksheet.



	A	B	C	D	E	F	G
1	Name	Score 1st Day	Score 2nd Day	Total Score	Total Score2		
2	emeka	65	45	110	155		
3	john	76	77	153	230		
4	dudu	34	90	124	214		
5	getar	98	78	176	254		
6	mark	23	43	66	109		
7	chibu	90	57	157	224		
8							

Conditional formatting: Drop-Down List

When you choose a conditional formatting rule, Excel displays a dialog box specific to that rule. All of these dialog windows have one thing in common. they all provide a drop-down list of common formatting suggestions.

This rule applies the formatting if the value in the cell falls between two specified values. In this case, you enter the two values (or cell references) and then use the drop-down box to select the type of formatting to use when the condition is met.

The drop-down menu's formatting choices represent just a fraction of the hundreds of conceivable variations. If none of Excel's recommended formats are what you want, select the Custom Format option to display the Format

Cells dialog box. Customize the format using any or all of the four tabs (Number, Font, Border, and Fill).

The formatting is conditional. The Custom Format Cells dialog box is a subset of the standard Format Cells dialog box. The Alignment and Protection tabs have been removed, and some Font formatting options have been deactivated. Additionally, the dialog box includes a Clear option that deletes any previously defined formatting.

Making your own rules

Excel offers a dialog box for creating new formatting rules. To access this dialog box, go to **Home > Styles > Conditional Formatting > New Rules**.

The New Formatting Rule dialog box allows you to recreate all of the conditional format rules available through the Ribbon, and also new rules. To begin, select a general guideline type from the dialog box's top-level drop-down menu. The bottom portion of the dialog box changes concerning your top-level selections. Once the rule has been set, click the Format button to specify the formatting that will be applied if the condition is met. Only the first rule type (Format All Cells Based on Their Values) lacks a Format button. (Rather than formatting cells, it makes use of graphics.)

The following table summarizes the various rule types:

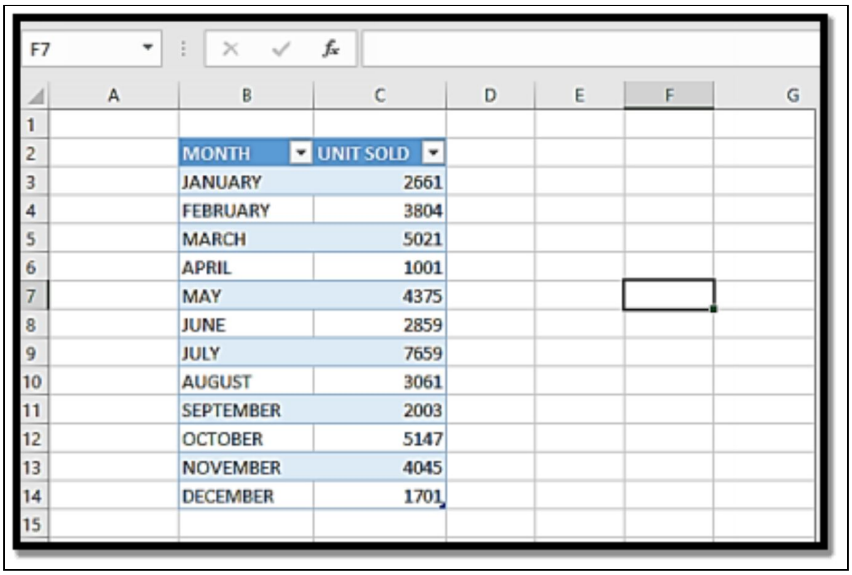
- **Format each cell following its contents:** Utilize this rule type to create rules that display data bars, color scales, or icon sets.
- **The format is just cells that include the following:** Utilize this rule type to create formatting rules for cells based on mathematical comparisons (greater than, less than, greater than or equal to, less than or equal to, equal to, not equal to, between, not between). Rules may be defined using text, dates, blanks, non-blanks, and errors.
- **Display just the highest or lowest-ranked values**: Utilize this rule type to create rules that detect cells in the top n, top n percent, bottom n, and bottom n percent.
- **Only format values that are more than or equal to the average:** This rule type may be used to build rules that identify cells that are greater than, equal to, or equal to a specified standard deviation above or below the average.

- **Format unique or duplicate values:** Using this rule type, create rules that format unique or duplicate values within a range.
- **Using a formula, determine which cells to format:** This rule type is used to create rules based on a logical formula.

Conditional formatting: Highlighting Cells

Highlighting cells that meet certain criteria

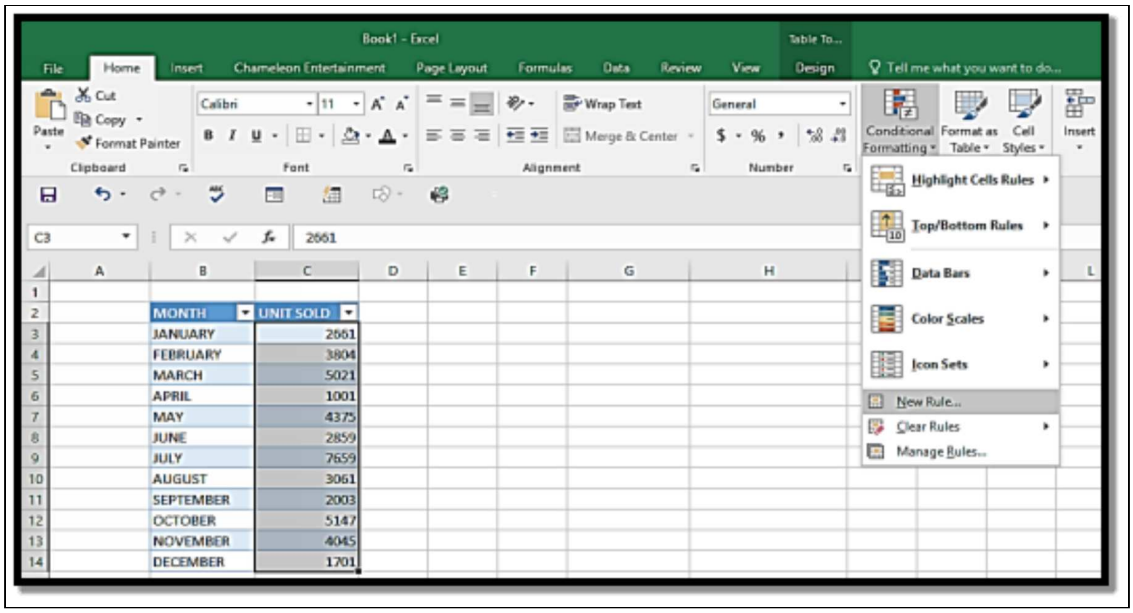
With Conditional formatting, you can highlight cells that meet up certain conditions in Excel. In my example here, I want to show the formatting of cells that are below the value of 4000.



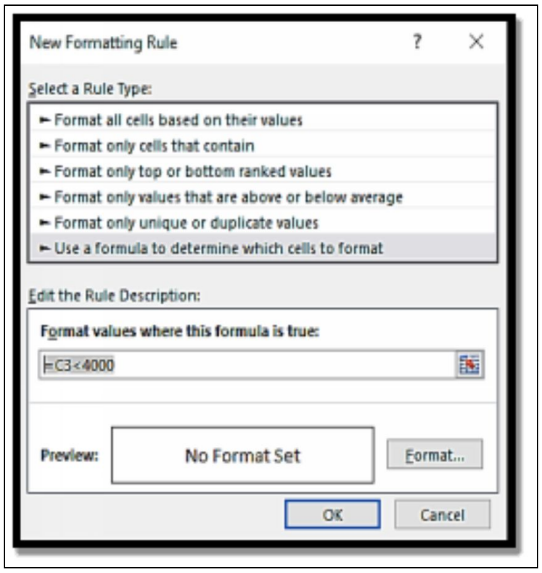
MONTH	UNIT SOLD
JANUARY	2661
FEBRUARY	3804
MARCH	5021
APRIL	1001
MAY	4375
JUNE	2859
JULY	7659
AUGUST	3061
SEPTEMBER	2003
OCTOBER	5147
NOVEMBER	4045
DECEMBER	1701

Follow the steps below;

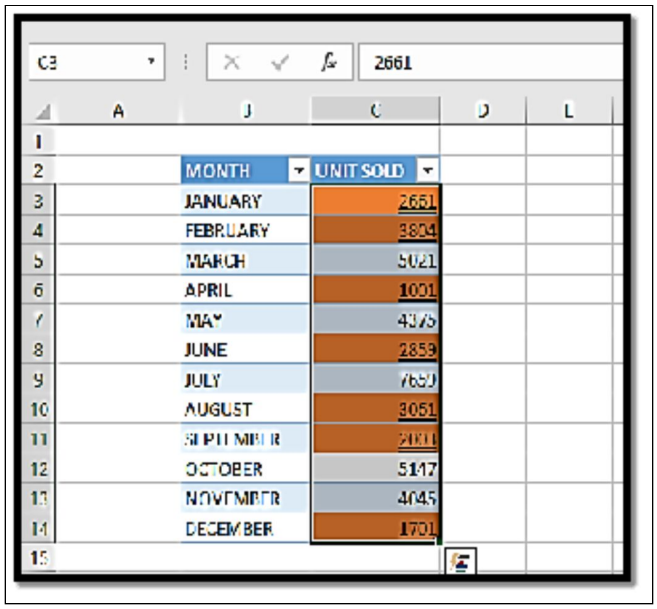
Select the cell range for the formatting. On the Home tab, pick Conditional Formatting. Select New Rule.



The New Formatting Rule window will display. Select "Use a formula to determine which cell to format". in the Edit the rule description, put in the formula **=C3<4000**. Do not include the dollar sign. Click Format.



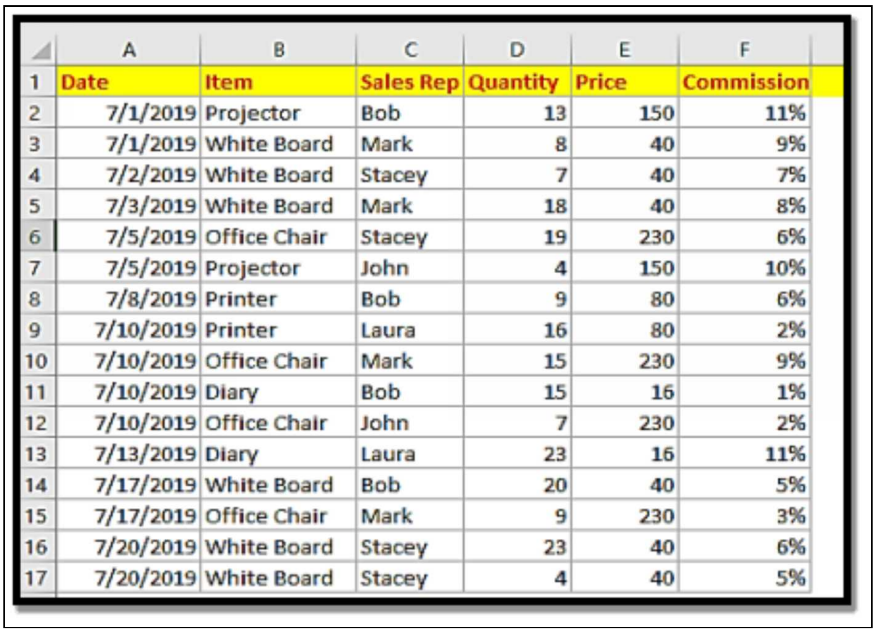
The Format cell box will be displayed. On it, you have different formatting options to choose from. Make a choice and select OK. Then, on the New Formatting Rule box, click OK.



	A	B	C	D	E
1					
2		MONTH	UNIT SOLD		
3		JANUARY	2661		
4		FEBRUARY	3804		
5		MARCH	5021		
6		APRIL	1001		
7		MAY	4375		
8		JUNE	2859		
9		JULY	7650		
10		AUGUST	3051		
11		SEPTEMBER	2001		
12		OCTOBER	5117		
13		NOVEMBER	4045		
14		DECEMBER	1701		
15					

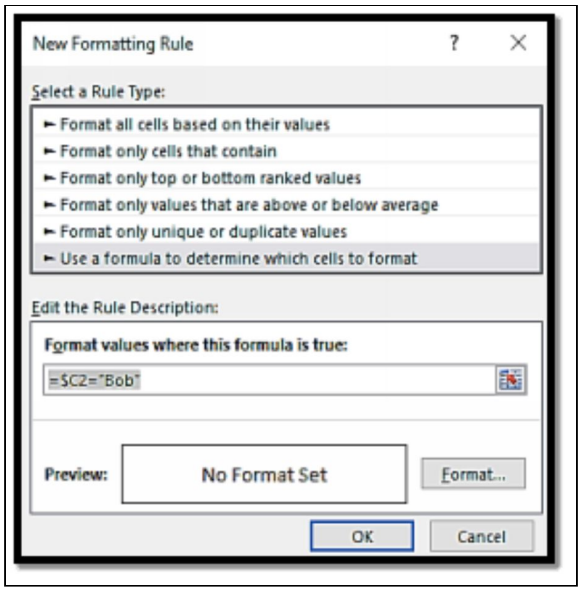
Highlighting cells based on the value of another cell

In my example below, I want to highlight the records that contain everything about Bob.

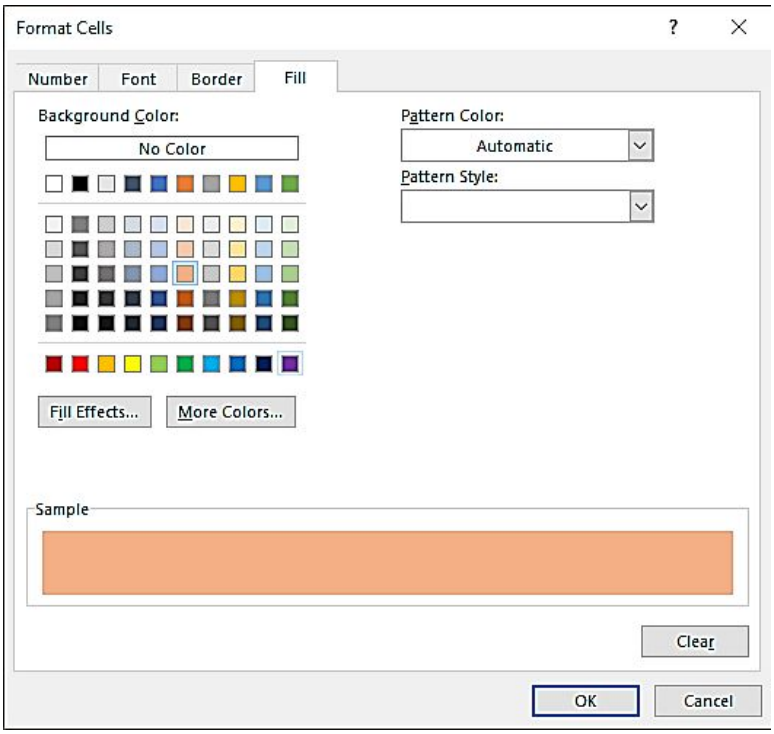


	A	B	C	D	E	F
1	Date	Item	Sales Rep	Quantity	Price	Commission
2	7/1/2019	Projector	Bob	13	150	11%
3	7/1/2019	White Board	Mark	8	40	9%
4	7/2/2019	White Board	Stacey	7	40	7%
5	7/3/2019	White Board	Mark	18	40	8%
6	7/5/2019	Office Chair	Stacey	19	230	6%
7	7/5/2019	Projector	John	4	150	10%
8	7/8/2019	Printer	Bob	9	80	6%
9	7/10/2019	Printer	Laura	16	80	2%
10	7/10/2019	Office Chair	Mark	15	230	9%
11	7/10/2019	Diary	Bob	15	16	1%
12	7/10/2019	Office Chair	John	7	230	2%
13	7/13/2019	Diary	Laura	23	16	11%
14	7/17/2019	White Board	Bob	20	40	5%
15	7/17/2019	Office Chair	Mark	9	230	3%
16	7/20/2019	White Board	Stacey	23	40	6%
17	7/20/2019	White Board	Stacey	4	40	5%

So, I highlight the entire worksheet, select Conditional Formatting (Home tab) and select new rules. Choose the **"Use a formula to determine which cells to format"** option. On the box, below it, type in this formula **=$C2=" Bob"**



Then, click on the Format option. Click on the Fill tab and choose a color that you want it to be highlighted. Then, click Ok.



This will be the result.

Date	Item	Sales Rep	Quantity	Price	Commission
7/1/2018	Projector	Bob	13	150	11%
7/1/2018	White Board	Mark	8	40	9%
7/2/2018	White Board	Stacey	7	40	7%
7/3/2018	White Board	Mark	18	40	8%
7/5/2018	Office Chair	Stacey	19	230	6%
7/5/2018	Projector	John	4	150	10%
7/8/2018	Printer	Bob	9	80	6%
7/10/2018	Printer	Laura	16	80	2%
7/10/2018	Office Chair	Mark	15	230	9%
7/10/2018	Diary	Bob	15	16	1%
7/10/2018	Office Chair	John	7	230	2%
7/13/2018	Diary	Laura	23	16	11%
7/17/2018	White Board	Bob	20	40	5%
7/17/2018	Office Chair	Mark	9	230	3%
7/20/2018	White Board	Stacey	23	40	6%
7/20/2018	White Board	Stacey	4	40	5%

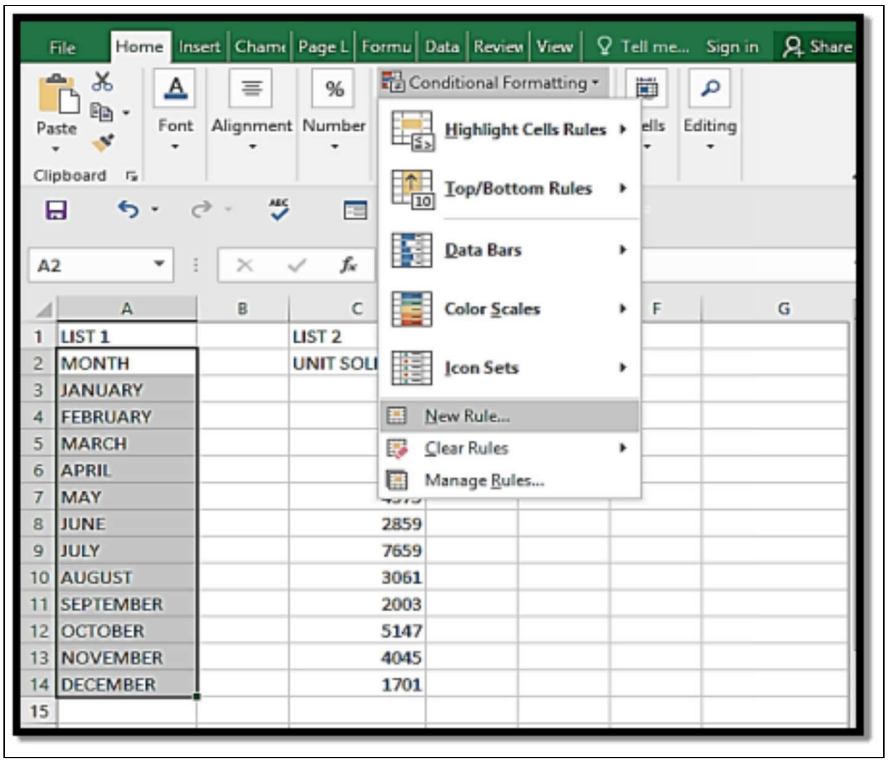
Explanation

Conditional Formatting examines each cell for the condition we've set, which is =$C2=" Bob" in this case. As a result, it will check whether cell C2 contains the name Bob or not while inspecting each cell in row A2. If it does, that cell is highlighted; if it does not, it is not.

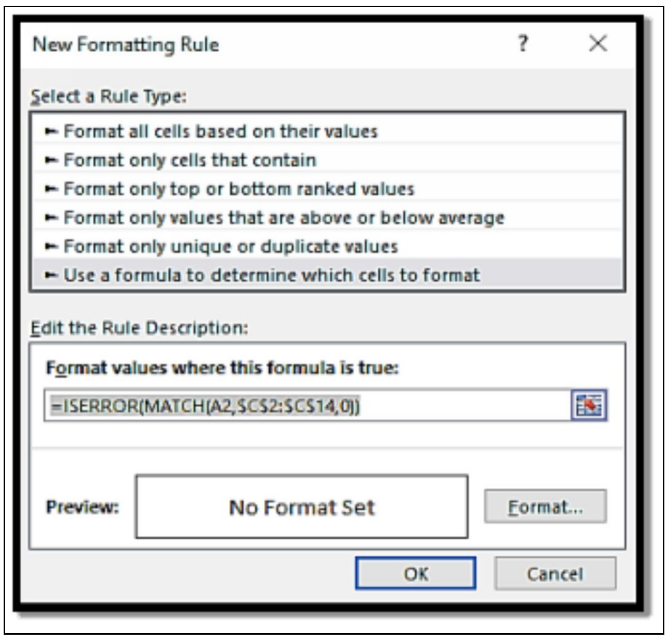
It's important to note that the dollar symbol ($) comes before the column alphabet ($C1). By doing so, we've ensured that the column will always be C. When cell A2 is tested for the formula, it will also check cell C2, and when cell A3 is examined for the condition, it will also check cell C3. By using conditional formatting, we can highlight the whole row.

Highlighting values that exist in List1 but not List2

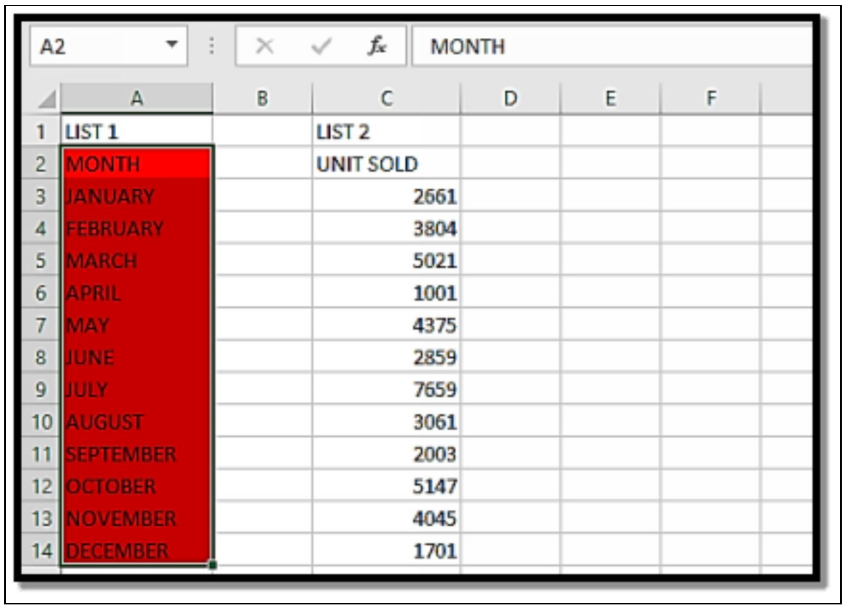
First, choose the cells in List 1 whose values are for highlighting. Click on Conditional Formatting. Pick New Rule.



Pick **"Use a formula to determine which cells to format"**. In the formula box, type in this formula; ***=ISERROR(MATCH(A2,$C$2:$C$14,0)).***



Click Format and choose a color from the Fill Tab. Click OK. Select OK again. You will find out that values that exist in List 1 but not in List 2 are highlighted.



	A	B	C	D	E	F
1	LIST 1		LIST 2			
2	MONTH		UNIT SOLD			
3	JANUARY		2661			
4	FEBRUARY		3804			
5	MARCH		5021			
6	APRIL		1001			
7	MAY		4375			
8	JUNE		2859			
9	JULY		7659			
10	AUGUST		3061			
11	SEPTEMBER		2003			
12	OCTOBER		5147			
13	NOVEMBER		4045			
14	DECEMBER		1701			

In the formula I used above, A2 means the first cell in the column for the highlighting. C2C14 is the other column that you are comparing.

Highlighting values that exist in List1 and List2

Select the column of the range for highlighting. Choose Conditional Formatting and pick New Rule. Pick "Use a formula to determine which cells to format". Put in this formula =NOT(ISNA(VLOOKUP(A2,$B:$B,1,FALSE))). A2 here stands for the first cell of the column for highlighting. B: B stands for the column for comparison. You can modify them whenever you want to.

Click on the Format button. Make some formatting for the highlighting. Choose a color, font, and so on. Click OK. You will see that they have highlighted the values that exist in List1 and List2.

Highlighting based on Dates

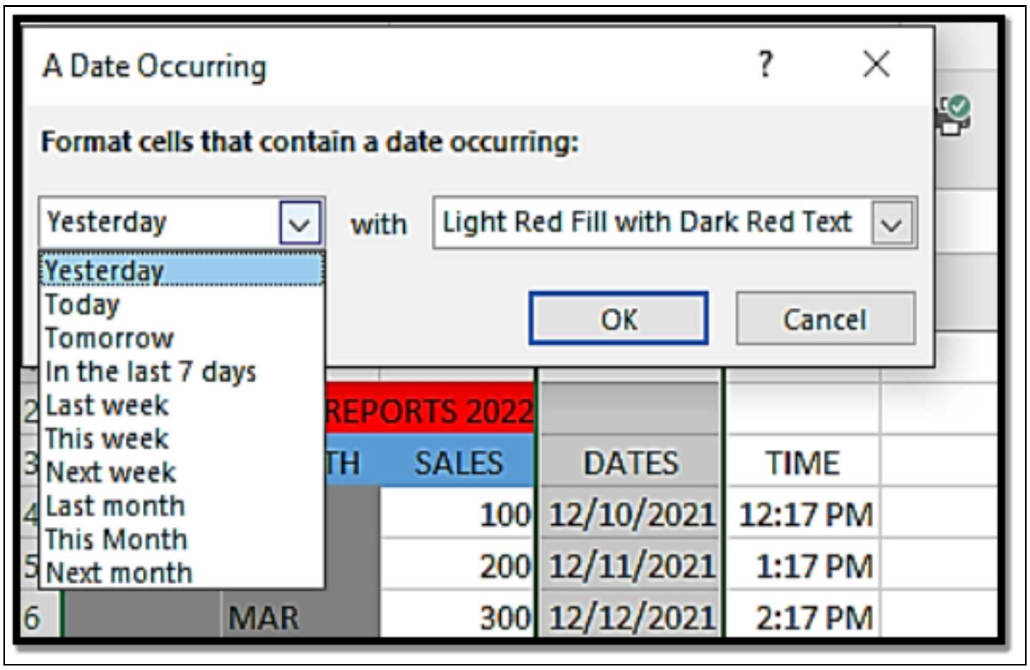
Conditional formatting could be used to highlight cells that include dates before today or throughout a date range before the present date. Conditional formatting allows you to highlight certain cells in a worksheet by coloring them depending on rules or criteria.

If you wish to emphasize past due dates, such as bills that are 30, 60, or 90 days past due, this formatting is useful. You may apply many rules to a variety of cells by using conditional formatting.

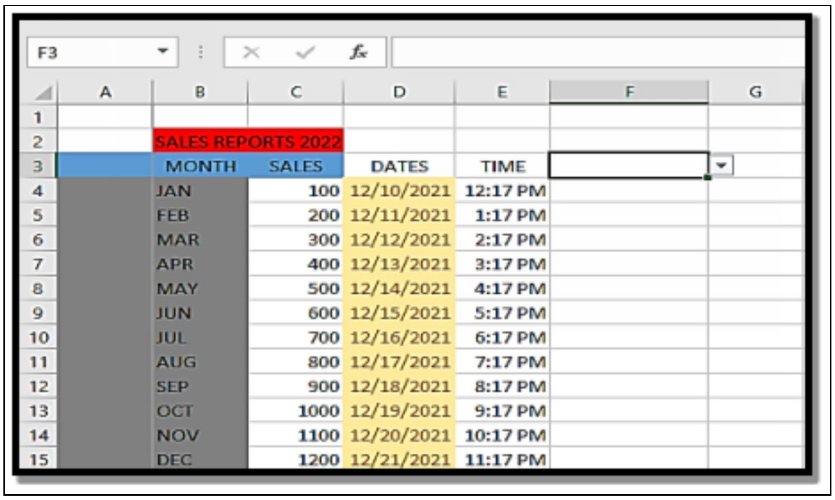
There are different ways you can highlight dates using conditional formatting. Here, I will show you the ways.

The first process is by using built-in conditional formatting

- First, choose the cells for highlighting.
- Select Conditional Formatting and pick Highlight cell rules.
- A list will appear. Pick Dates Occurring. On the dialog box that displays, pick an option from the first drop-down list such as Today, Tomorrow, etc. From the second list, pick a custom format. Then, pick a color you want for the cells.



- Select OK and OK again.



	A	B	C	D	E	F	G
1							
2		SALES REPORTS 2022					
3		MONTH	SALES	DATES	TIME		
4		JAN	100	12/10/2021	12:17 PM		
5		FEB	200	12/11/2021	1:17 PM		
6		MAR	300	12/12/2021	2:17 PM		
7		APR	400	12/13/2021	3:17 PM		
8		MAY	500	12/14/2021	4:17 PM		
9		JUN	600	12/15/2021	5:17 PM		
10		JUL	700	12/16/2021	6:17 PM		
11		AUG	800	12/17/2021	7:17 PM		
12		SEP	900	12/18/2021	8:17 PM		
13		OCT	1000	12/19/2021	9:17 PM		
14		NOV	1100	12/20/2021	10:17 PM		
15		DEC	1200	12/21/2021	11:17 PM		

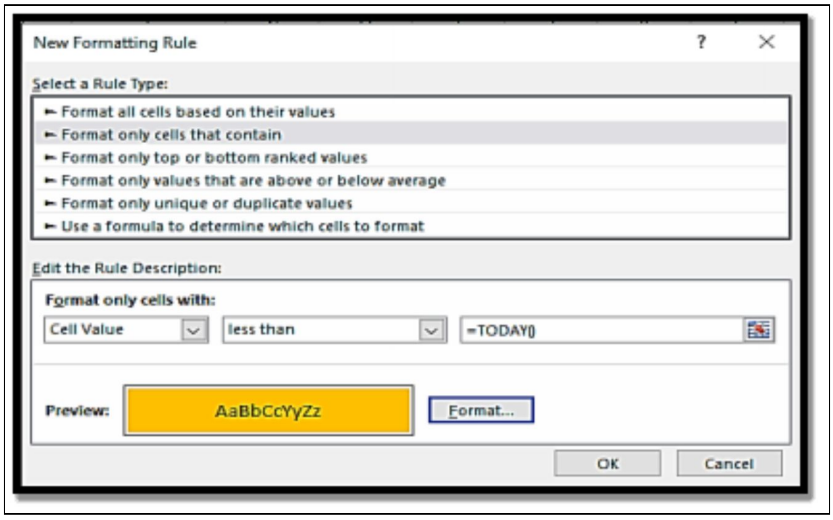
The second process is by creating a conditional formatting rule based on the content of the cells.

This process allows you to choose how you want the cells to be formatted, and you can make some modifications more than the in-built process. So, let's get started.

First, pick the cells for highlighting and pick Conditional formatting.

Hit New Rule. Choose Format only cells that contain.

On the first down arrow, the option there should be Cell Value. On the second one, pick Less Than or Greater Than as the option. For the Text Box, type in =TODAY().



Click Format and make some modifications. Click Ok two times.

	A	B	C	D	E	F	G
1							
2		SALES REPORTS 2022					
3		MONTH	SALES	DATES	TIME		
4		JAN	100	12/1/2022	12:17 PM		
5		FEB	200	8/1/2022	1:17 PM		
6		MAR	300	4/1/2022	2:17 PM		
7		APR	400	2/1/2022	3:17 PM		
8		MAY	500	2/2/2022	4:17 PM		
9		JUN	600	2/3/2022	5:17 PM		
10		JUL	700	2/4/2022	6:17 PM		
11		AUG	800	2/5/2022	7:17 PM		
12		SEP	900	2/6/2022	8:17 PM		
13		OCT	1000	2/7/2022	9:17 PM		
14		NOV	1100	2/8/2022	10:17 PM		
15		DEC	1200	2/9/2022	11:17 PM		
16		TOTAL	0				

Highlighting days between two dates

First, select the cells. Click Conditional Formatting. Choose New Rule.

Pick Use a formula to determine which cells to Format. in the formula box, enter this formula; =AND(E3>=$B$3, E3<=$C$3). The AND function is used here to compare the data in the cells you have selected. Do not apply the dollar sign for the targeted cell. Here, mine is cell E3. If you click on the cell instead of typing it in, Excel will make it an absolute reference.

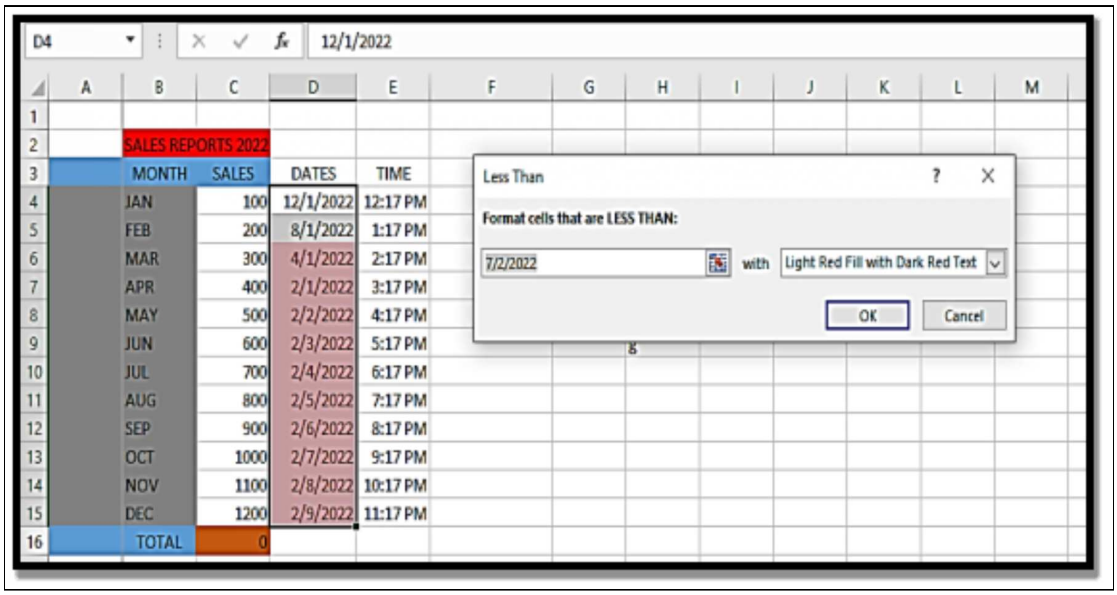
Click **Format** and make some modifications. Click OK two times.

	A	B	C	D	E
1					
2		Start	End		Highlight Days within 2010 and 2012
3		1/1/2010	12/31/2012		1/23/2012
4					12/28/2009
5					9/26/2010
6					12/8/2014
7					4/25/2010
8					11/7/2012
9					7/31/2014
10					11/24/2014
11					12/28/2010
12					7/28/2011
13					12/17/2014
14					8/3/2014
15					5/1/2011
16					4/2/2011
17					7/17/2009
18					8/12/2009

Highlighting days between a due date.

Pick the cells for formatting. Click **Conditional Formatting**. Pick **Highlight Cells Rules**.

Hit Less Than. In the dialog box that displays, you will see a date that was entered by Excel automatically as the LESS THAN rule. You will also find out that the cells have been highlighted with a red color which is displayed as the preview for you.



Excel wants to highlight the cells but we want to highlight just the due dates. To do that, we will replace the date with the TODAY function which is =TODAY(). Click OK.

Conditional Formatting: Highlight Alternative Rows

Creating a conditional formatting rule is one technique to add shade to alternating rows or columns in your worksheet. This rule employs a formula to identify whether a row is even or odd-numbered and then applies the appropriate shading.

The formula is as follows:

=MOD(ROW(),2)=0

Do one of the following on the worksheet:

- Select the cells you wish to format to apply the shade to a specified range of cells.
- Click the Select All button to apply the shade to the whole worksheet.

- Select the arrow next to Conditional Formatting in the Styles category on the home page, then click New Rule.
- Use a formula to select which cells to format in the New Formatting Rule dialog box, under Select a Rule Type.
- Enter =MOD(ROW(),2)=0 in the Format values when this formula is true
- Then choose Format.
- Click the File tab in the Format Cells dialog box.
- Choose a background or pattern color for the shaded rows, then click OK.

The color you just picked should now display in the New Formatting Rule dialog box's Preview pane.

Click OK to apply the formatting to your worksheet's cells.

Applying a specified Excel table style to alternating rows is another easy technique to create shading or banding. This is handy when you need to style a particular set of cells but also want the table's extra features, such as the ability to rapidly show total rows or header rows with filter drop-down lists that appear automatically.

Banding is applied to rows in a table by default to make the data easier to read. If you add or delete rows in the table, the automatic banding will continue.

You can convert the table to a standard range of data if you want the table design but not the table functionality.

However, you will lose the automated banding as you add additional data to your range if you do this:

- Select the range of cells you wish to format on the worksheet.
- Format as Table may be found under the Styles category on the home page.
- Select the table style you wish to use from the Light, Medium, or Dark options.

- Click OK in the Format as Table dialog box.
- The Banded Rows check option in the Table Style Options group is selected by default.
- You may uncheck this checkbox and choose Banded Columns instead if you wish to apply shade to alternate columns rather than alternating rows.
- If you wish to convert the Excel table back to a conventional range of cells, click anywhere in the table to bring up the tools for doing so.
- Click Convert to Range in the Tools category on the Design tab.

Conditional formatting: Pivot Tables with Data Bars

Excel's Data Bars function adds a colored bar to your numbers and is a great Conditional Formatting tool.

The value in the cell is represented by the length of the data bar. A greater value is represented by a longer bar.

You may pick between a Gradient Fill or a Solid Fill, as well as a variety of pre-determined colors.

If you choose More Rules, you'll be able to format more colors as well as a variety of various value kinds. follow the actions outlined below;

Within the Pivot Table, choose any value. Select **Home** > **Conditional Formatting** > **Data Bars** > **Any Gradient Fill** from the drop-down menu.

To apply the data bar formatting to the full table, go to the Formatting Options Icon and pick the second option.

Data bars are now visible throughout the full pivot table.

To apply the data bar formatting to the full table while omitting the total column and row, go to the Formatting Options Icon and pick the third option.

Because the totals don't influence the data bars, you get a better visual depiction!

Custom number formats

Despite the fact that Excel has a large range of built-in number formats, you may discover that none of them meet your requirements. This appendix explains how to create custom number formats and includes several examples.

About Number Formatting

The General number format is used by default in all cells. This is essentially a "what you write, gets typed" format. The General format rounds numbers with decimals and employs scientific notation for huge numbers if the cell is not broad enough to display the complete value. You may wish to format a cell with anything different than the General number format in many circumstances.

The most important thing to understand about number formatting is that it simply impacts how a value is displayed. The original number is preserved, and any formulae that need a formatted number use the original.

The Precision as Displayed option on the Advanced tab of the Excel Options dialog box is an exception to this rule. Formulas will utilize the values that are actually shown in the cells as a consequence of a number format applied to the cells if that option is enabled. Using this option is not recommended in general since it alters the underlying values in your worksheet

Creating a Custom Number Format

On the Number tab of the Format Cells dialog box, the Custom category allows you to create number formats that aren't featured in any of the other categories. Excel allows you a lot of freedom when it comes to generating unique number formats. You may use a custom number format to format any cell in the worksheet after you've created it. You're free to create as many custom number formats as you like.

The worksheet in which the custom number formats are specified is saved. Simply copy a cell that utilizes the custom format to the other workbook to make the custom format accessible in that worksheet.

A number format is created by declaring a string of codes as a number format. After selecting the Custom category on the Number tab of the Format Cells dialog box, you input this code sequence in the Type field. An example of a basic numerical format code is as follows:

0.000

This code, which is made up of placeholders and a decimal point, instructs Excel to show the number with three digits to the right of the decimal place.

Here's another illustration:

00000

The value is shown with five digits in this special number format, which contains five placeholders (no decimal point). When the cell has a five-digit ZIP code, this format is ideal. (Under truth, the Zip Code format in the Special category really uses this code.) The value is shown with the leading zero when you format the cell with this number format and then input a ZIP code, such as 06604 (Bridgeport, CT). This number shows as 6604 when entered into a cell using the General number format (no leading zero).

Many more examples may be found by scrolling through the number formats in the Custom category of the Format Cells dialog box. In many circumstances, you may utilize one of these programs as a starting point and just make minor adjustments.

Find blank cells in Excel with a color

In Excel, you might have data from a third-party source that isn't necessarily formatted to your preference.

Blank cells in your Excel data are a typical occurrence that might obstruct your research, particularly if you're utilizing a Pivot Table to evaluate the data.

To identify these vexing blank cells in Excel, first, select all of your data (CTRL+*) and then use the Go To shortcut: CTRL+G > Special > Blanks.

Then, using the color red to fill in the blank cells and filtering with that same color to drill down to these blank cells and do some formatting, you can drill down to these blank cells and perform some formatting. To do so, follow the instructions below:

Make sure you've picked your full table. We'll choose all of the empty cells.

- To launch the Go to Window, use Ctrl + G. Select Special from the menu.
- Fill in the blanks. Click the OK button.
- The empty cells have now been picked. Select Home > Font > Fill > Color Red from the drop-down menu.
- Select Filter by Color > Color Red to filter the Customer column.

Fill Justify Tool

The Fill Justify feature in Excel is a useful tool. It enables you to combine text from many rows into a single cell.

If you have data that is downloaded in distinct rows and wish to combine them into a single phrase, the Fill Justify option in Excel is your savior.

Follow the instructions outlined below:

- Adjust the column width so that all of the text fits in one cell.
- Choose the cells that you'd want to merge. Select Home > Fill > Justify from the drop-down menu.
- Everything has now been consolidated into a single cell!

Format cells: Special Numbers

If you have a list of values from a database and wish to format them in Excel using a specific number format like a Zip Code, Social Security Number, or Phone Number, you may do so by selecting the "Special" number category in the Format Cells dialogue box.

To make this option available, make sure your Locale (location) is set to English (U.S).

follow the actions outlined below;

- Select the cell containing the Zip Code and click CTRL + 1 to format it.
- Make sure English (United States) is chosen in Locale.
- Click OK after selecting Special > Zip Code + 4 from the drop-down menu.

- Select the cell holding the data and click CTRL + 1 to format the Phone Number.
- Click OK after selecting Special > Phone Number.
- Select the cell holding the value and click CTRL + 1 to format the Social Security Number.
- Click OK after selecting Special > Social Security Number.

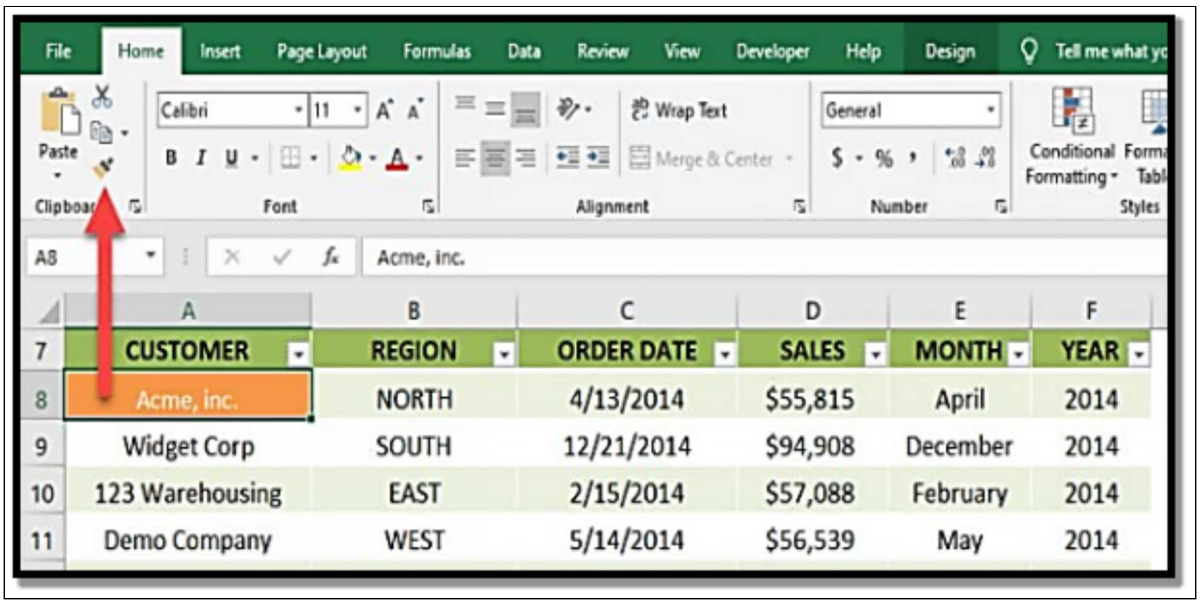
Format Painter in Multiple Cells

The Format Painter may copy formatting from one location and apply it to another, and this can be done for numerous cells.

To access this secret treasure, double-click the Format Painter, and then let your imagination run wild with the paintbrush! Follow the instructions outlined below.

Choose a cell with the formatting you wish to replicate.

Make sure to double-click the Format Painter icon under Home > Clipboard > Format Painter.



These are the cells to which the same formatting should be applied. All of them should be clicked.

With a single click, the same formatting is performed. Try applying it to the full YEAR Column by selecting the complete column and highlighting it.

Freeze Panes in Excel

In Excel, Freeze Panes are used to fix any frame, row, or segment of the table so that the user may access the data down below while still seeing the header's name. Freeze Panes, Freeze Top Row, and Freeze First Column are the three types of Freeze Panes options accessible in the View menu tab's Window area. Freeze Panes is a feature that allows us to freeze the worksheet from where our cursor is now located. Both the row and the column are frozen as a result of this action. Then, for each Row and Column, we have a distinct option to freeze them. We'll see that certain parts of the worksheet will remain frozen until we unfreeze them.

To identify which parameters, we're looking at during a review, we have a frozen top row:

Top Row Before Freezing:

7	Puneet	4	4	84	16	13-01-2019	13-01-2020	13-01-2018
8	Jacques	14	12	87	13	13-01-2019	13-01-2020	13-01-2018
9	Supriyo	15	12	92	8	13 01 2019	13 01 2020	13 01 2018
10	Archana	8	6	78	22	13-01-2019	13-01-2020	13-01-2018
11	Chen	6	5	89	11	13-01-2019	13-01-2020	13-01-2018
12	Ian	5	4	100	0	13-01-2019	13-01-2020	13-01-2018
13	Tsetou	7	5	79	21	13-01-2019	13-01-2020	13-01-2018
14	Mark	2	1	50	50	13-01-2019	13-01-2020	New Hire
15	Richa	11	10	100	0	13 01 2019	13 01 2020	13 01 2018
16	Michelle	10	10	99	1	13-01-2019	13-01-2019	13-01-2018

Top Row After Freezing:

	A	B	C	D	E	F	G	H
1	Analyst	Datasets	Hours Worked	Completion %	TBD	Date of Review	Next review date	Last Review Date
7	Puneet	4	4	84	10	13-01-2019	13-01-2020	13-01-2018
8	Jacques			87	13	13-01-2019	13-01-2020	13-01-2018
9	Supriya			92	8	13-01-2019	13-01-2020	13-01-2018
10	Archana			78	22	13-01-2019	13-01-2020	13-01-2018
11	Chen	6	5	89	11	13-01-2019	13-01-2020	13-01-2018
12	Ian	5	4	100	0	13-01-2019	13-01-2020	13-01-2018
13	Tsetou	7	5	70	21	13-01-2019	13-01-2020	13-01-2018
14	Mark	2	1	50	50	13 01 2019	13 01 2020	New Hire
15	Richa	11	10	100	0	13-01-2019	13-01-2020	13-01-2018
16	Michelle	10	10	99	1	13-01-2019	13-01-2019	13-01-2018

Top Row is freezed

This image depicts the same dataset with a frozen row. When looking at data beyond the first few entries in the spreadsheet, it's straightforward to figure out which parameter we're talking about. The graph above shows the same dataset with and without the first column frozen. We can also use Freezing Panes to partition the dataset into numerous pieces for easier analysis: The worksheet is divided into sections that may be explored separately. Where the rows and columns have been frozen in place, the gray lines in the center of the worksheet reflect this.

If we know what database we're dealing with, the Freeze Panes function isn't too difficult to utilize. We'll learn how to utilize the characteristics related to freezing panes and employ them for analysis in the following paragraphs.

Here's an example of Excel's Freeze Panes:

To do this, we must take the following steps:

From the Excel toolbar, choose **View**. Select **Freeze Panes** from the view settings to bring up a dropdown menu where we can choose which rows or columns we wish to freeze. Select Freeze Top Row to lock the current worksheet's top row in place, allowing us to peruse the remainder of the data without disrupting the top row.

Just below the first row, a little gray straight line will emerge. This indicates that the first row has been locked or frozen.

Lock cells in Excel

All cells are locked by default. Locking cells, on the other hand, have no impact until the worksheet is protected.

1. Make a selection of all cells.

2. Select Format Cells from the context menu (or press CTRL + 1).

3. Check that all cells are locked by default on the Protection tab.

4. Select OK or Cancel from the drop-down menu.

5. Keep the sheet safe.

All of the cells are now locked. Unprotect a worksheet by right-clicking on its tab and selecting Unprotect Sheet. The password for the Excel file that may be downloaded is "easy."

Lock Specific Cells

To lock certain cells in Excel, unlock all of the cells first. After that, you'll need to lock particular cells.

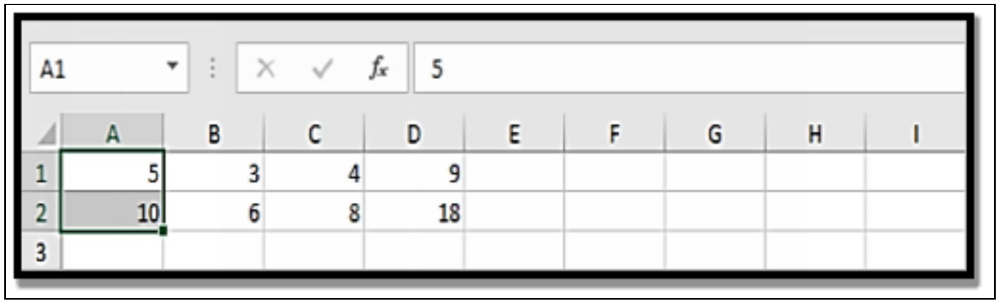
Finally, cover the sheet with a sheet protector.

1. Make a selection of all cells.

2. Select Format Cells from the context menu (or press CTRL + 1).

3. Uncheck the Locked check box on the Protection page and click OK.

4. Choose cell A1 and cell A2 as an example.



5. Select Format Cells from the context menu (or press CTRL + 1).

6. Select the Locked check box on the Protection tab and click OK.

Locking cells have no impact until the worksheet is protected.

7. Keep the sheet safe.

Cells A1 and A2 are now locked. You must first unprotect the sheet before editing these cells. The password for the Excel file that may be downloaded is "easy." All other cells are still editable.

Lock and Protect formula cells

If the template will be used by beginners, you should consider locking all of the formula cells to prevent the formulae from being removed or changed. When the worksheet is secured, all cells are locked by default and cannot be modified.

The steps to unlock the non-formula cells are as follows:

1. Select **Home > Editing > Go to Special** by looking for it and selecting it.
2. Click **OK** after selecting Constants. This phase picks all cells that aren't formula cells.
3. Hold down **Ctrl+1**. A dialog box called Format Cells opens.
4. Go to the Security tab.
5. Select the Locked checkbox and uncheck it.
6. To exit the Format Cells dialog box, click **OK**.
7. Select **Review > Changes > Protect Sheet** from the drop-down menu. The dialog box Protect Sheet appears.
8. Type a password (if desired), then click OK.

You can't change the formula cells after you've completed these procedures unless the sheet is unprotected.

Number Format: Make Negative Red Numbers

While you have several negative percentages or values in your Excel spreadsheet, it might be difficult to locate them quickly when browsing the page. Actually, by custom styling the chosen cells or conditional formatting them all at once, you may make all negative percentages or values red. The negative percentages or values will be highlighted and stand out on the present worksheet using these two ways.

Please follow the instructions below.

In Excel, you can rapidly format all negative percentages in red by using a custom format.

1. Mark the cells in red that contain the negative percentage you wish to highlight.

2. Select Format Cells from the right-clicking menu by right-clicking the chosen cells.

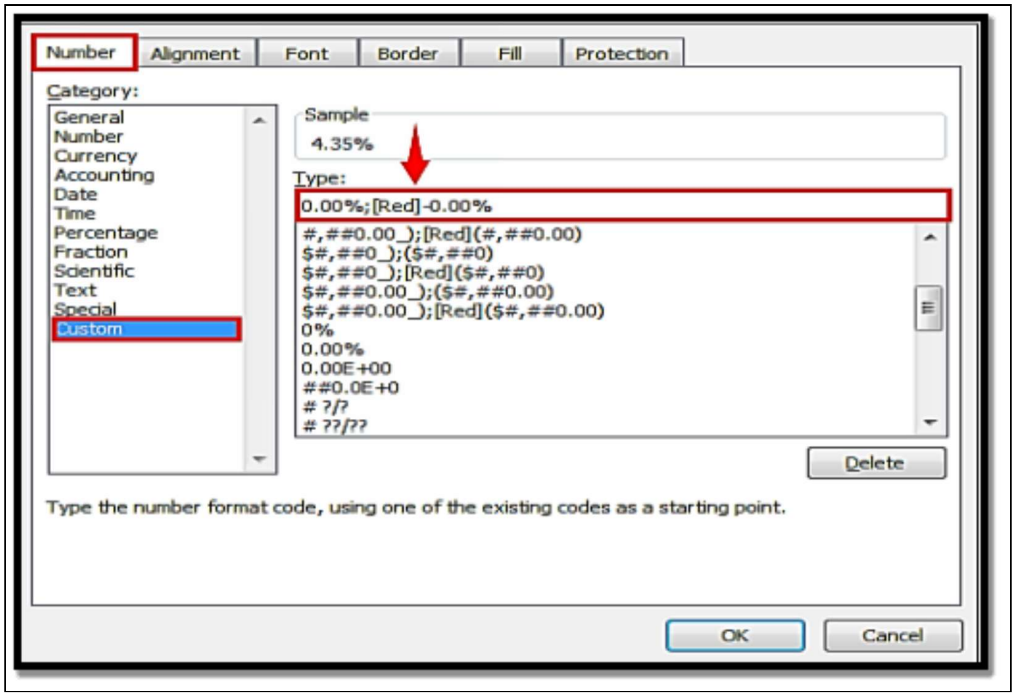
3. In the Format Cells dialog box, make the following changes:

1) Go to the **Number** tab

2) In the Category box, choose **Custom**;

3). In the Type box, copy and paste 0.00 percent; [Red]-0.00 percent;

4). Then press the OK button. Take a look at this example:



Then, in the chosen cells, all negative percentages are highlighted in red.

Number Format: Thousands and Millions

Many times, you'll find enormous figures in an Excel report that are difficult to comprehend and read at a glance.

The most effective method is to display the numbers in thousands (K) or millions (M) (M).

A figure of 45,200,000, for example, will be represented as 45.2 million.

You will learn how to format millions and thousands in Excel using the following formulas:

Placeholder Pound Sign (#) with Placeholder Zero (0) & Decimal Point Custom Formatting

Custom Formatting

Large numbers in Excel may be configured to appear in "Thousands" or "Millions," which is a welcome relief.

Select CUSTOM and then insert one comma to display Thousands or two commas to show Millions using the Format Cells dialogue box shortcuts CTRL+1. You may also add text to your cells by using the quote marks " your word " to surround any term.

But, before we go any further, you should be aware that some characters in custom formatting have unique meanings.

Display unimportant zeros (zero (0)).

Display significant zeros using the pound symbol (#).

A thousand separators are the comma (,).

Quote (" ") — Replace the text inside the quotations with your own.

Using the placeholder zero or the pound symbol, you may construct Excel Custom Number Format Millions and Thousands. Let's take a look at each of them separately.

With Placeholder Pound Sign (#)

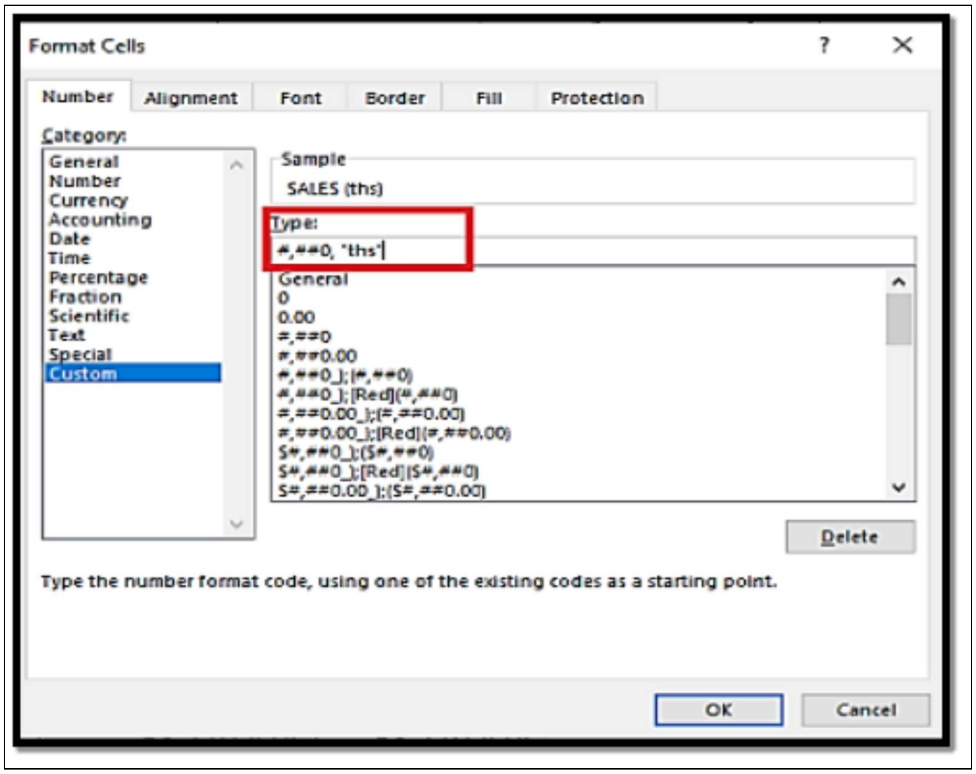
#,##0, “ths”

#,##0,, “mills”

In the example below, sales data is shown in columns D and E, with the sales amount in column D. You must convert Excel format numbers into millions and thousands using number formatting in Excel.

Follow the steps below to get started:

- Any column in your dataset may be selected.
- To launch the Format Cells dialog box, use Ctrl + 1.
- Select Custom from the Number Tab in the Format Cells dialog box.
- Click OK after typing **#, ##0, "ths."**



The format of your column will be applied.

Printing Settings

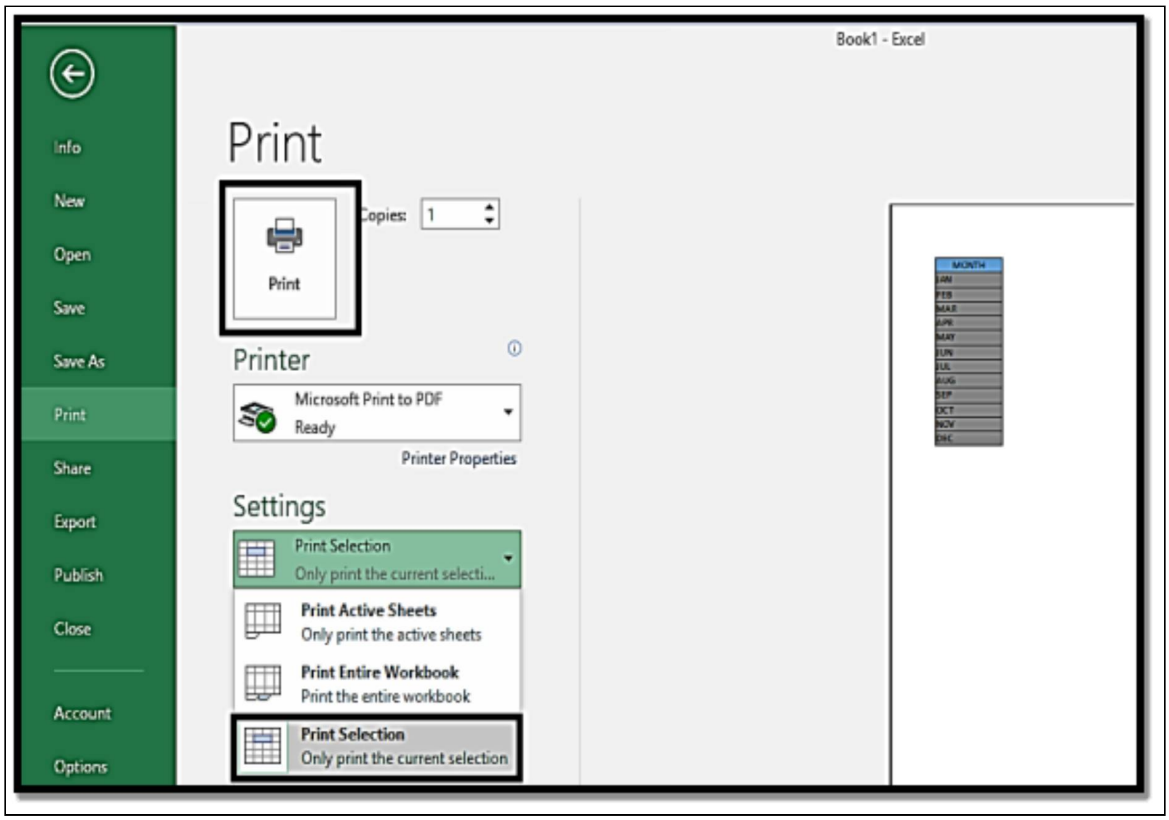
Excel sheets might have a lot of information, and printing it all at once isn't always practical. By identifying the desired region, navigating to the print options, and selecting the 'print chosen area' option, you may print specific

areas of a spreadsheet. Printing selected sheets in a workbook may be done similarly. "**Print Areas**" may also be utilized by people who want to fine-tune their formatting before printing. There are different methods you can use in printing your worksheet.

Printing from a Selection

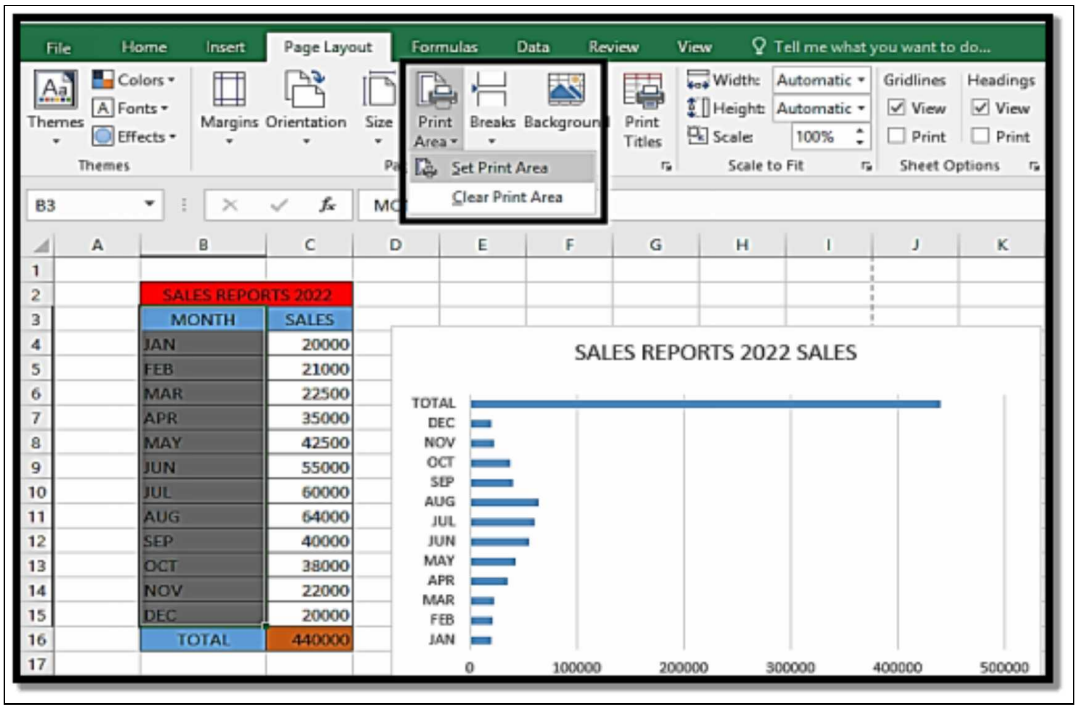
Highlight the cell(s) you want to print. Click on **File** and choose **Print**.

On the Print Setting menu, hit the down arrow and select **Print Selection**. Then, click on **Print**. This will print out only the selected area in your spreadsheet.



Using a Print Area

Highlight the cell(s). Click on Page Layout. Click on **Print Area**, then select Set Print Area.



The print area will be identified by the highlighted cells.

You may continue working while this area is stored for future printing.

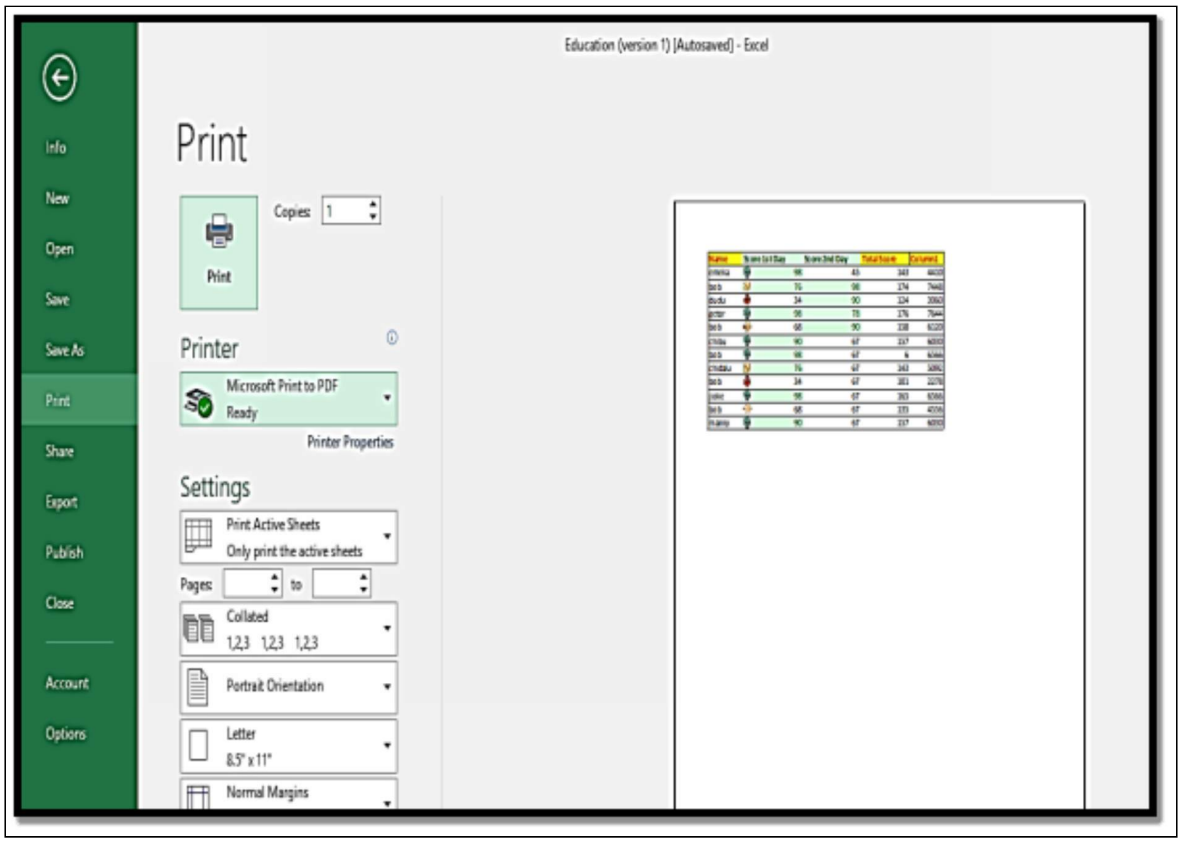
- The "Orientation" button allows you to move between landscape and portrait mode.
- On a printed page, the "Margins" button modifies the margins.
- "Scale to Fit" determines how many pages your printed material will occupy.
- From the same dropdown menu, you may clear, overwrite, or add to the print area.

Click on **File** and select **Print**. On the Print settings menu, select **Print Active Sheet**. Then, click on **Print**.

Doing Basic Printing

Print in Excel is for printing the data in the worksheet, but only to the width that the printer option allows for chosen and available pages. The present worksheet, active sheet, whole workbook, any chosen table, or any specified range of worksheets may all be printed. To print your work, simply open the

worksheet, and click on **File** > **Print**. On the **Print setting** menu, click the arrow and pick **Print Entire Workbook**. Then, select how many copies you want. Click **Print**.

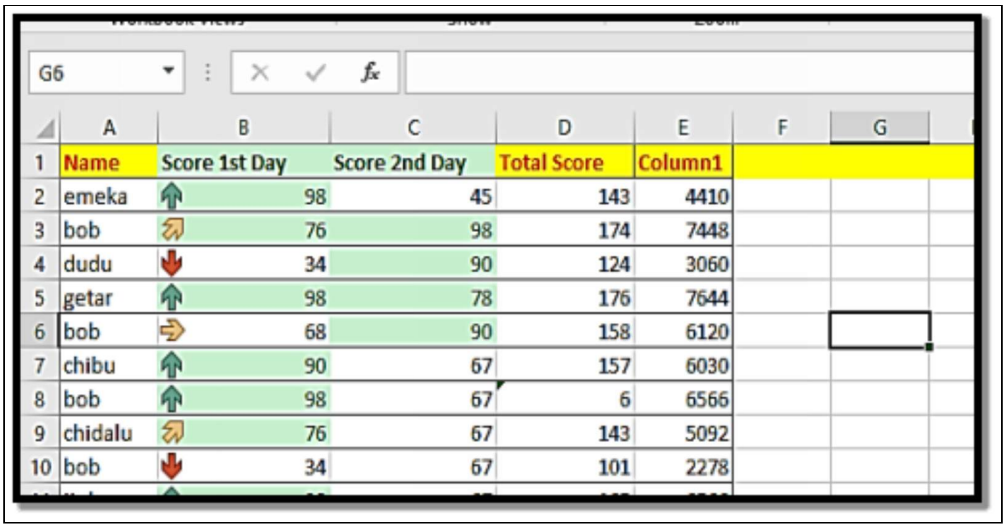


Changing your Page View

This is an excellent way of knowing how your worksheet appears when printed. On the page view, the functionalities of the normal view will be there but this time you will have a few more tools like header, footer, layouts, and more. This will help you complete your page perfectly.

Normal view

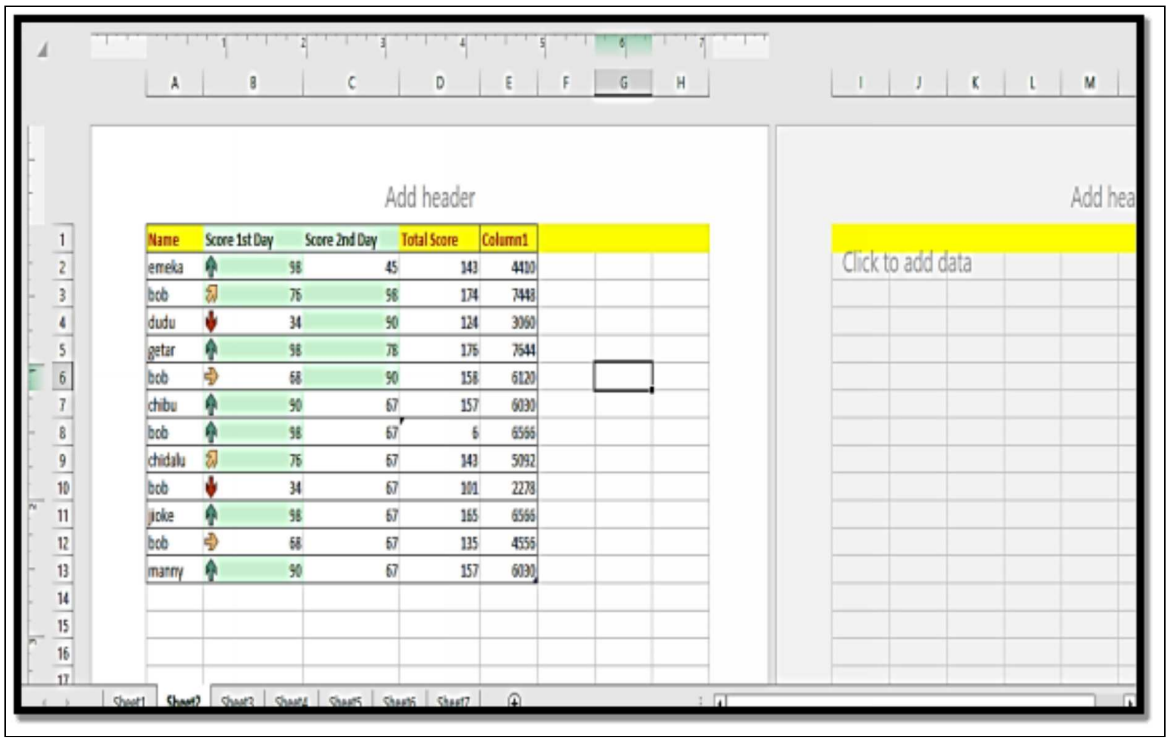
The standard view of your worksheet. How your worksheet looks when you've not made any view edit on it.



	Name	Score 1st Day	Score 2nd Day	Total Score	Column1
2	emeka	98	45	143	4410
3	bob	76	98	174	7448
4	dudu	34	90	124	3060
5	getar	98	78	176	7644
6	bob	68	90	158	6120
7	chibu	90	67	157	6030
8	bob	98	67	6	6566
9	chidalu	76	67	143	5092
10	bob	34	67	101	2278

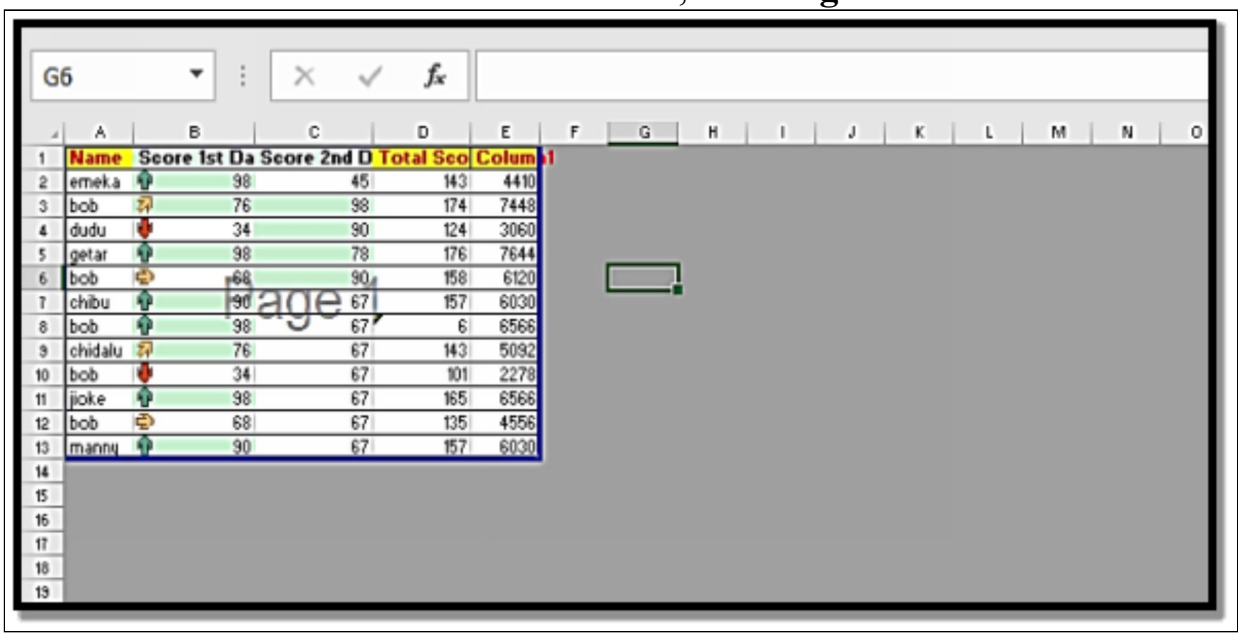
Page layout view

Select the worksheet that you want to change the view. Click the View tab on the ribbon, then select **Page Layout View**. Your workbook will be displayed in the page layout view as you can see in the image below.



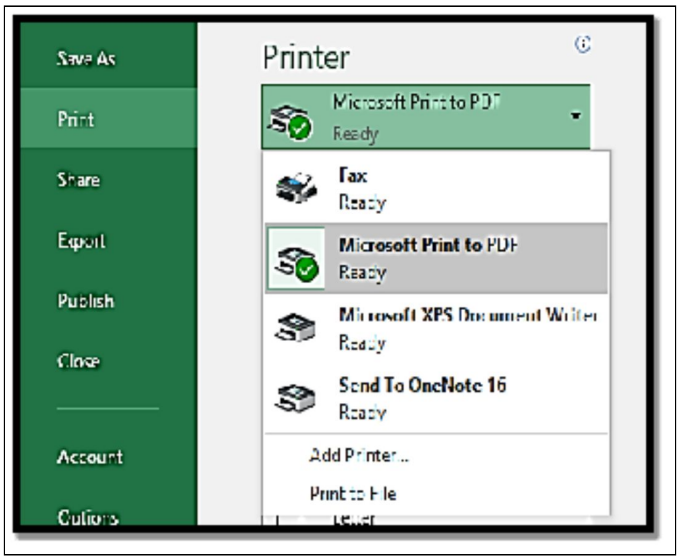
Page break preview

Select the worksheet. Click View, then **Page Break View**.



Choosing your printer

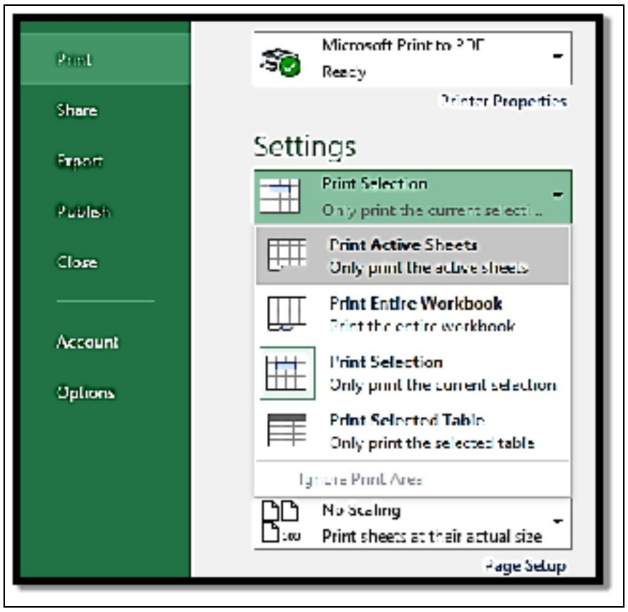
To print your work, you need a printer. So, on the print page, click on the drop-down arrow below the Printer section. You will see a list of printers, select one from there. If you want to add a printer, click Add Printer.



Specifying what you want to print

When printing a workbook, you can decide what you want to print from that particular workbook. When you go to the print setting menu and click on the

drop-down arrow, you will see a list of options in which you can select how you want to print your workbook.



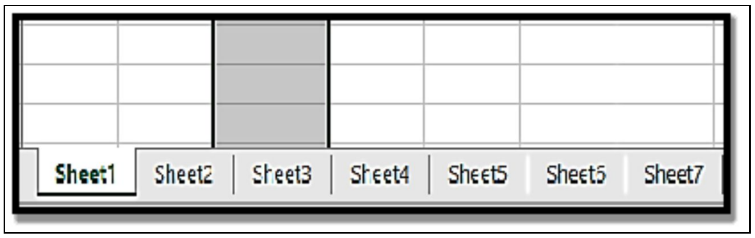
Below are the options you will see and what it means;

1. **Print Entire Workbook**: To print the whole workbook. If you have many sheets, use this option to print them all.

2. **Print Selection**: For printing just the current selection in your workbook. So, to print some portion of your worksheet, simply highlight the areas, then select this option.

SALES REPORTS 2022			
MONTH	SALES	DATES	TIME
JAN	100	12/10/2021	12:17 PM
FEB	200	12/11/2021	1:17 PM
MAR	300	12/12/2021	2:17 PM
APR	400	12/13/2021	3:17 PM
MAY	500	12/14/2021	4:17 PM
JUN	600	12/15/2021	5:17 PM
JUL	700	12/16/2021	6:17 PM

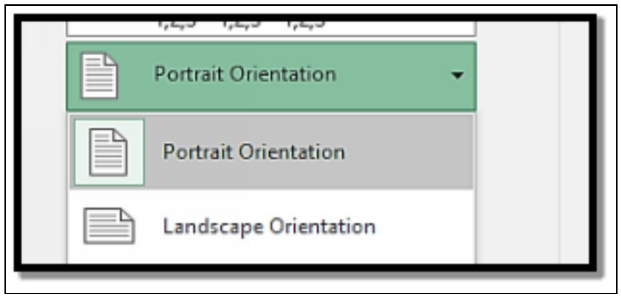
3. **Print Active Sheets**: To print just the active sheet i.e., the sheet that's being displayed on the screen. In the image below, the active sheet is Sheet 1. So that is what you will print.



4. **Print Selected Table**: This option is to print the selected table on your worksheet.

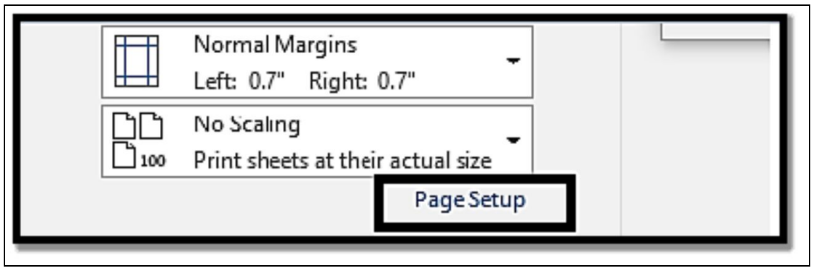
Changing page orientation

There are two types of page orientation in Excel which are Landscape orientation and Portrait orientation. The Portrait orientation is mostly used when you have more rows and fewer columns on your worksheet while Landscape orientation is used when you have more columns and fewer rows on the worksheet. You will find this page orientation on the Print setting menu.

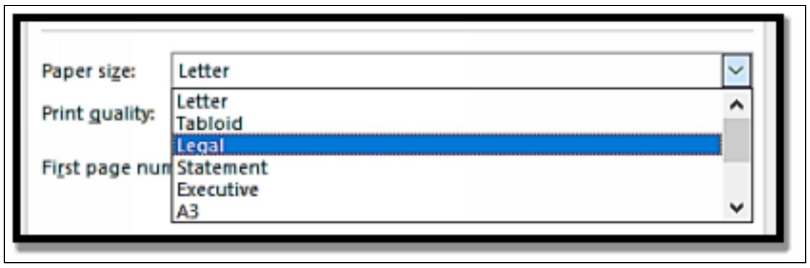


Specifying paper size

Click on Page Setup below the Print Setting option.



In the dialog box that opens, click on the drop-down arrow on the Paper Size option. Pick the paper size for your workbook.

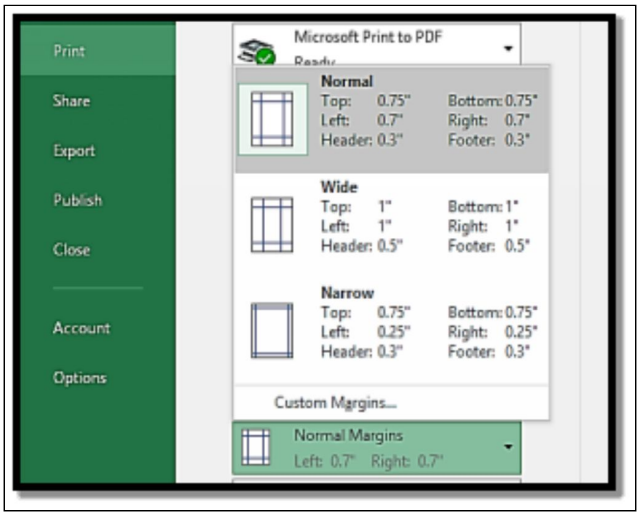


Printing multiple copies of your reports

If you want to print more copies, click on the arrow next to the Copies option. Type in the number of copies you want and then click Print.

Adjusting the page margins

to change the page margins of your worksheet, click on the arrow on the Normal Margin option. You will see different options for margins. Select the one you want to use.



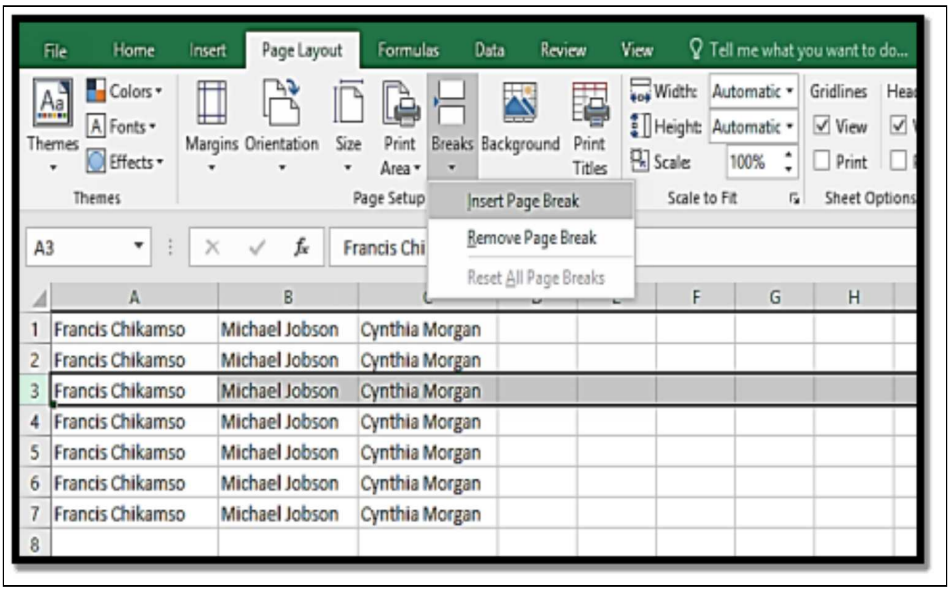
Understanding page breaks

As the name sounds, Page Breaks is used to break pages into different forms. In Excel, it is used to reduce the length of a page to minimize data

misalignment when printing the work.

Inserting a page break

First, choose the row or column for the page break. Click Page Layout. On-Page Setup, click Breaks and select Insert Page breaks.



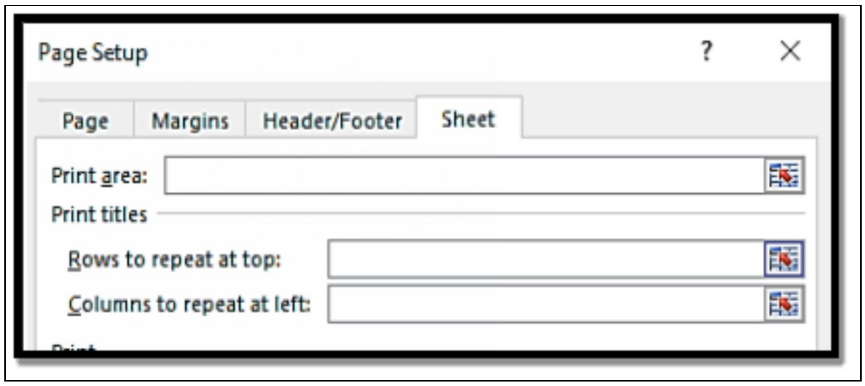
This action will display a thick line on the worksheet to let you know where the new page starts from.

Removing manual page breaks

To remove the page breaks, click on a cell that is below the cell you inserted a page break, click on Breaks, then select **Remove Breaks**.

Printing row and column titles

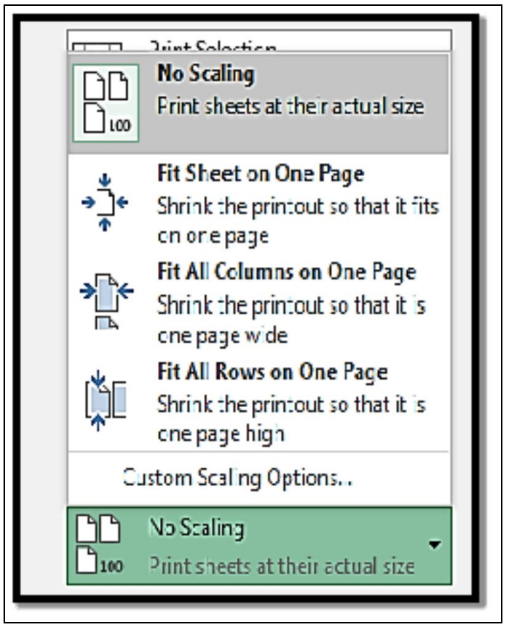
Click the Page Layout tab, and select **Print Titles**.



On the Rows to repeat at the top and Columns to repeat at the left box, choose the row or column you wish to print. After that, click Ok.

Scaling printed output

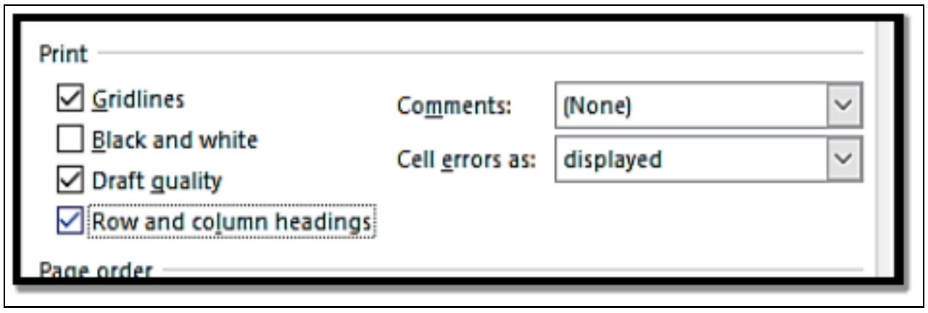
Scaling is used to determine how you want to print the sheets. Click on the Scaling arrow to see the list of options just as you can see in the image below. You can decide to print the actual size of the sheets, fit the sheets on one page, fit all columns on one page, or fit all rows on one page.



Printing cell gridlines

By default, the letters and numbers that function as row and column headings do not print. Neither do the gridlines on the worksheet. If you need to print them also while printing, then you can turn them on. So, on the ribbon, click Page Layout, then select Print Titles. On the Page Setup box, check the box

next to Gridlines. If you also want to print the row and column headings, check the box close to the option. Once you are done, click Ok.



Changing a Format to a Different Format

Consider the following scenario: you have a table with a lot of bold text on it. The bold text might potentially appear in random cells across your page.

Then you decide that the bold text isn't right for your design and that you'd rather have red text instead.

What would you do in this situation?

It would be a huge hassle to change all of the formatting one by one!!!

Excel, thankfully, enables you to swap one formatting for another!

STEP 1: Select **Home** > **Find & Select** from the drop-down menu.

STEP 2: Pick your options.

STEP 3: Decide on a format. We'll decide on the format we want to use.

Make sure that Bold is turned on. Click the OK button.

Choose the second Format option. We'll choose the format we wish to use as the final one.

Make sure that the color Red is chosen. Click the OK button.

Replace All and watch the magic unfold!

Emails – Text to Column

Let's create a new column to store the email addresses.

Select the Year Column heading with a right-click. Select Insert > To the left of the table are the columns.

Make sure the new column heading is renamed to email.

We now have an empty Email section. Choose the names and emails for the Name and Email columns.

Select **Data** > **Text to Columns** from the drop-down menu.

Next should be selected.

We want to divide the value of Name & Email by the (.

To do so, go to Other and fill in the blanks (within). Next should be selected.

Finish by clicking the **Finish** button. Click the **OK** button.

The Email section is now filled up. The last step is to eliminate the) from the equation.

Choose the **Email column's** values.

Let's try swapping out the values. Hold down the CTRL and H keys at the same time.

Place) in the Find what field, then choose the Replace All option. This will replace the) with a blank value, causing it to be erased entirely.

Our names and emails are now separated!

	A	B	C	D
3	Date Joined	Name & Email	Email	Year
4	Mar-15	John	john@email.com	2015
5	Jun-15	Paul	paul@email.com	2015
6	May-15	Peter	peter@email.com	2015
7	Aug-15	Leyre	leyre@email.com	2015
8	May-15	Mikel	mikel@email.com	2015
9	Dec-15	Effie	effie@email.com	2015
10	Feb-15	Jim	jim@email.com	2015
11	Mar-15	George	george@email.com	2015
12	Aug-15	Tina	tina@email.com	2015

Split Names: Text to Columns

There are two simple methods to separate a name in Excel (first name, middle name, and last name) - the text to column approach and the formula method. A delimiter character must be given when using the text to column technique.

The entire names of cricket players from various countries are shown here. The first and last names are what we're looking for.

1	Full Name	First Name	Last Name
2	Virat Kohli	??	??
3	Steve Smith	??	??
4	Mitchel Johnson	??	??
5	James Anderson	??	??
6	Sachin Ramesh Tendulkar	??	??
7	Mahendra Singh Dhoni	??	??
8	Kevin Pietersen	??	??
9	Michael Clarke	??	??
10	Ricky Ponting	??	??

The text to column approach is broken down into the following steps:

Choose the **"full name"** column from the drop-down menu.

Select the option "text to columns" from the Data tab.

The "convert text to columns wizard" dialog box appears.

Select "**delimited**" as the file type and then "next."

We must choose the kind of delimiter used in the data. A "space" separates the first and last names in the "complete name" column. As a result, we choose "space" as the delimiter and click "next."

When you click "next," the "convert text to columns wizard" window appears. We choose the cell in which we want the first and last names to be stored.

When you click "end," the names show in two columns.

The sixth and seventh rows of names have been divided into three parts: first name, middle name, and final name. The additional column receives the third name.

How to Convert Text Dates into Excel Dates

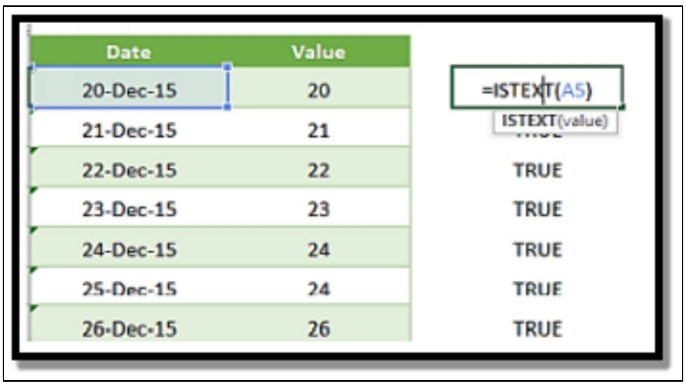
Dates are normally imported in a TEXT format from your company's server, ERP system, or any other source for that matter.

I'll demonstrate how to convert a TEXT Date into an Excel Date that Excel can read and manipulate.

Follow the instructions outlined below:

Let's use the ISTEXT function to verify if the Dates are in TEXT format.

A TRUE indicates that the format is TEXT:



Date	Value	
20-Dec-15	20	=ISTEXT(A5)
21-Dec-15	21	ISTEXT(value)
22-Dec-15	22	TRUE
23-Dec-15	23	TRUE
24-Dec-15	24	TRUE
25-Dec-15	24	TRUE
26-Dec-15	26	TRUE

We can now highlight the whole Dates column since we know our Dates are in TEXT format.

Select Data > Text to Columns > Finish from the drop-down menu.

The TEXT Date will now be converted to an Excel Date! Wasn't that quick?

Turn Text to Values with Paste Specials

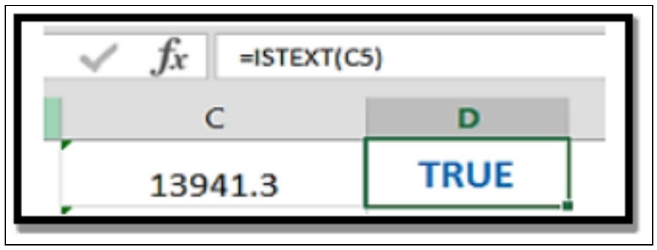
Many times, you will get data from your IT system that is incorrectly structured! If you work in a large corporation, it's a million times better!

When you attempt to add the values together, you receive a count instead of a total. Because Excel sees the data as text rather than a value, this is the case.

You can check why the cell is in text format by pressing F2 in the cell.

Values are converted to text by using an apostrophe before the number.

You may also use the ISTEXT function to check the format of a cell:



Using the Paste Special > Values > Multiply combination, you can simply turn the text into values.

Here's how to do it:

In an empty cell, write the number one.

That cell should be copied.

Right-click on the data range and choose Paste Special from the menu.

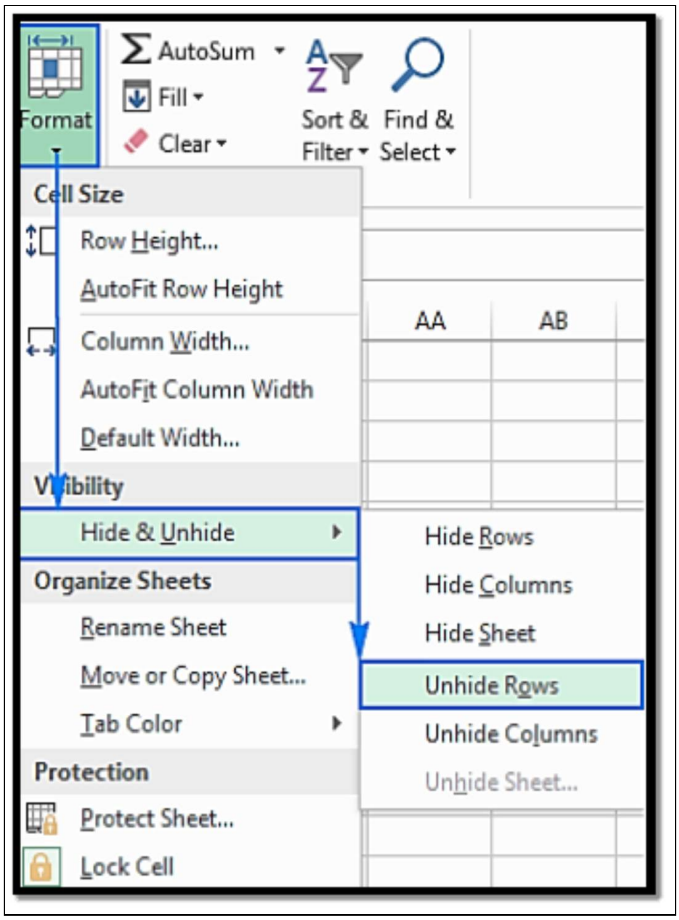
Press OK after selecting Values & Multiply.

Your information will be turned into numerical values.

Unhide Rows and Columns in Excel

You could choose to conceal some rows or columns in certain instances. Hide rows and columns if you don't want people to see certain information or if you need to generate a report that summarizes the information in the worksheet but doesn't reveal all of the specifics.

To conceal rows in your worksheet, click on the row header on the left and choose the row or rows you wish to hide. Then, from the shortcut menu, right-click and choose Hide. You may also use the **Home > Cells > Format Hide & Unhide drop-down** list's instructions.



Use the same method to conceal columns, but start by choosing columns rather than rows.

Note: You can also conceal a row or column by dragging the boundary of the row or column. The border in the row or column header must be dragged. Drag a row's bottom border upward or a column's right border to the left.

A concealed row is one whose height has been set to zero. A hidden column, likewise, has a column width of zero. When you move the cell cursor with the navigation keys, cells in hidden rows or columns are skipped. To put it another way, you can't go to a cell in a concealed row or column using the navigation keys.

Excel, on the other hand, uses a thin column header and a narrow row heading for concealed columns and rows, respectively. To make the column broader — and visible again — click and drag the column header. Click and drag the little row heading to make the column visible for a concealed row.

Selecting a cell in a hidden row or column using **Home > Find & Select > Go To** (or its F5 counterpart) is another method to unhide a row or column. If column A is hidden, for example, you may use F5 to change the cell reference to the hidden column by specifying cell A1 (or any other cell in column A). Then choose **Home > Cells > Format > Hide & Unhide > Unhide Columns** from the drop-down menu.

CHAPTER THREE

FORMULA TIPS

Add leading Zeros

You may want to add leading zeros to numbers if you have a variety of different ranges of numbers but they have a different number of numbers within them. In other words, if there is a number that starts with 100 and there are other numbers that are just single digits but you want all of your data to look uniform and if they don't have numbers in the hundreds place, you want there to be zeros.

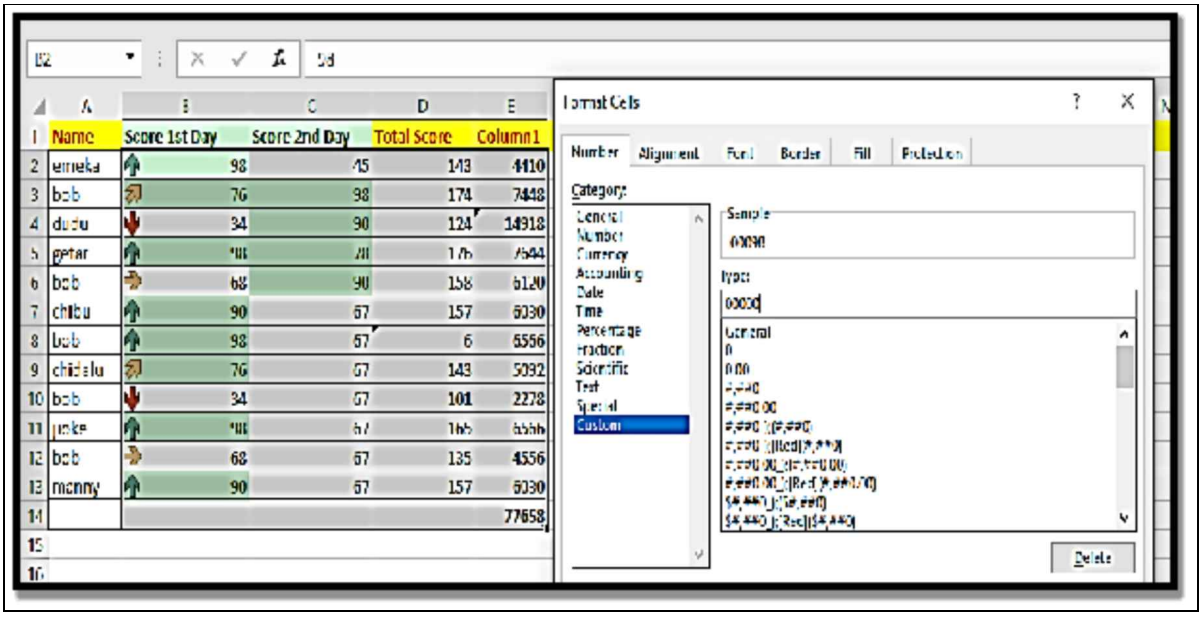
You want those leading zeros to be there to make everything uniform. Also, if you just want to add a couple of zeros to any data that exists for any reason, there are ways to do that. So, the first thing to do is to select the data you want to add that information to.

Here, I have cells containing two-digit numbers, three-digit numbers, four-digit numbers, and a five-digit number. So, I will try to make everything even. I want all of these numbers to have leading zeros so that they can be of the same length.

I13

	A	B	C	D	E	F	G
1	Name	Score 1st Day	Score 2nd Day	Total Score	Column1		
2	emeka	98	45	143	4410		
3	bob	76	98	174	7448		
4	dudu	34	90	124	14918		
5	getar	98	78	176	7644		
6	bob	68	90	158	6120		
7	chibu	90	67	157	6030		
8	bob	98	67	6	6566		
9	chidalu	76	67	143	5092		
10	bob	34	67	101	2278		
11	jioke	98	67	165	6566		
12	bob	68	67	135	4556		
13	manny	90	67	157	6030		
14					77658		
15							

After choosing the cells, right-click, then pick Format Cells. Pick Custom. Up in the menu where it says General, type in zeros and the first two zeros that you type will be replaced by the actual numbers themselves because there are two-digit numbers. But if you continue to type and you make five numbers i.e., five zeros, you will see that the sample displayed for you has three leading zeros now followed by the actual number and that is going to populate your data.



Pick OK and then on your worksheet, the leading zeros will be put in just the way it was planned. They all now have the same length with the five-digit number.

M17

	A	B	C	D	E
1	Name	Score 1st Day	Score 2nd Day	Total Score	Column1
2	emeka	00098	00045	00143	04410
3	bob	00076	00098	00174	07448
4	dudu	00034	00090	00124	14918
5	getar	00098	00078	00176	07644
6	bob	00068	00090	00158	06120
7	chibu	00090	00067	00157	06030
8	bob	00098	00067	00006	06566
9	chidalu	00076	00067	00143	05092
10	bob	00034	00067	00101	02278
11	jioke	00098	00067	00165	06566
12	bob	00068	00067	00135	04556
13	manny	00090	00067	00157	06030
14					77658
15					

Create a named range

There are certain key requirements for naming named ranges in Excel that you should be aware of before you begin:

a. There are no spaces allowed in names. Instead of using a space, you might use an underscore character (such as Annual Total).

b. You may name the range with any combination of alphabets and digits, but it must begin using a letter symbol. A number cannot begin a name.

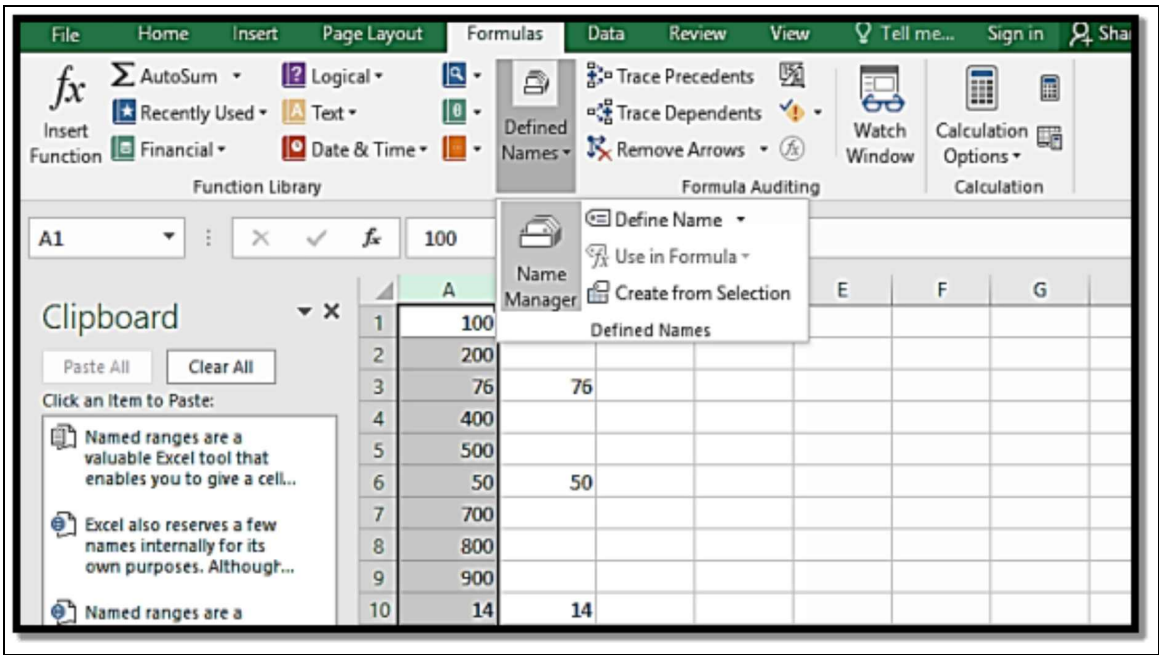
c. Except for underscores and periods, no other symbols are permitted.

d. Although names are restricted to 255 characters, it is best to make them as brief as possible while still being relevant and clear.

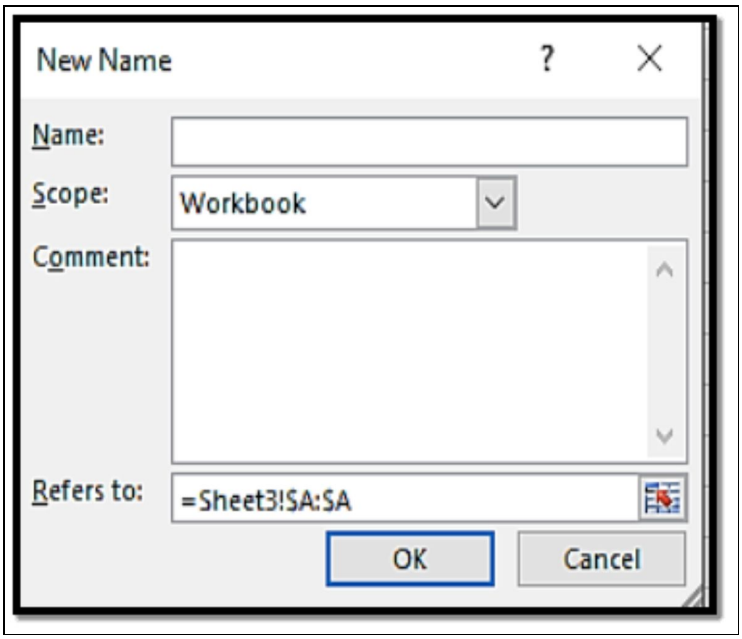
Excel also keeps a few names in reserve for internal use. Although it is possible to construct names that override Excel's internal names, this is something you should avoid.

Creating range names in your workbooks

Choose the cell or range. Click the Formula tab on the ribbon. Navigate to the Define Names section. Click the down arrow and select **Name manager**.

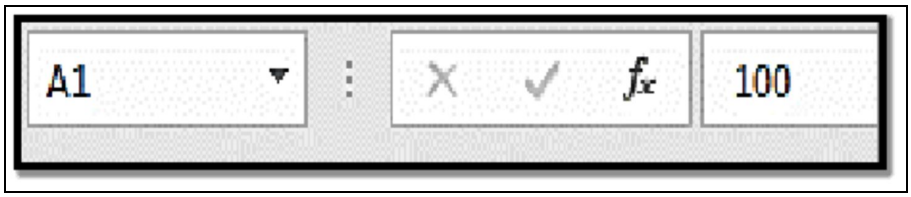


Click on New. This opens up the New Name dialog box.



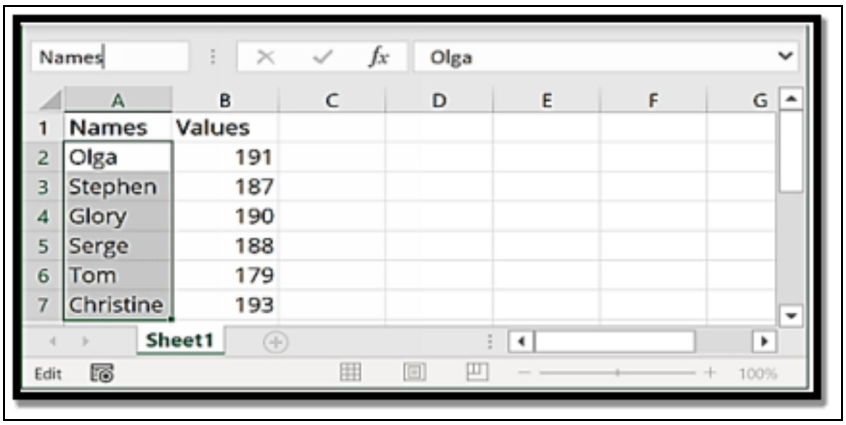
In the Name box, type a name (Excel can display the name if you selected a data range with a heading line). In the area labeled Refers to, the active or chosen cell or range address shows. To add the name to your spreadsheet and exit the dialog box, double-check that the address provided is accurate.

Using the Name box to construct a name is a quicker option:



Choose the cell or range, then input the name. Press Enter. (If you input a name and then click on the worksheet, Excel will not assign the name to the chosen range.) You can't modify the range that a name refers to if it already exists. Instead of selecting the range, attempting to do so choose it.

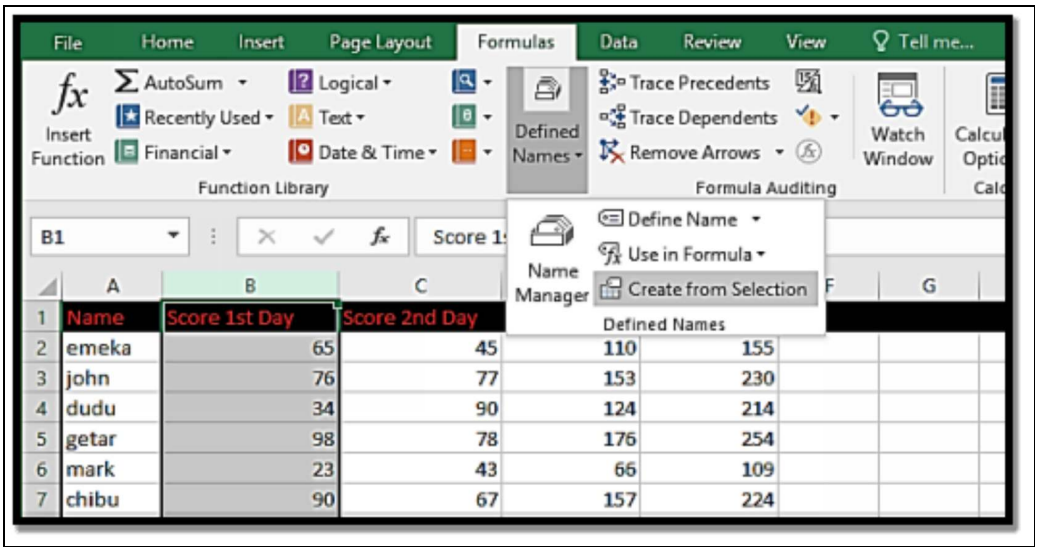
For instance:



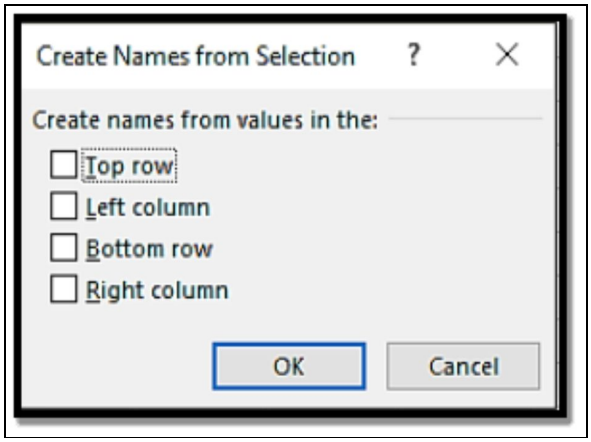
If your formula contains named cells or ranges, you can either input the name instead of the address or select a name from a table, then Excel will automatically insert it. Names and Values are two specific names on the worksheet.

Using the Create Names from Selection dialog box

You may rapidly generate names for numerous cells by using existing row or column labels. Choose the cell range and labels. In the Defined Names group of the Formulas tab, pick **Create from Selection**.



Select the place of the text and click OK.



Getting to Know Some AutoSum Techniques

The AutoSum button is well-known among Excel users.

This command is so widespread that it may be found in two places on the Ribbon:

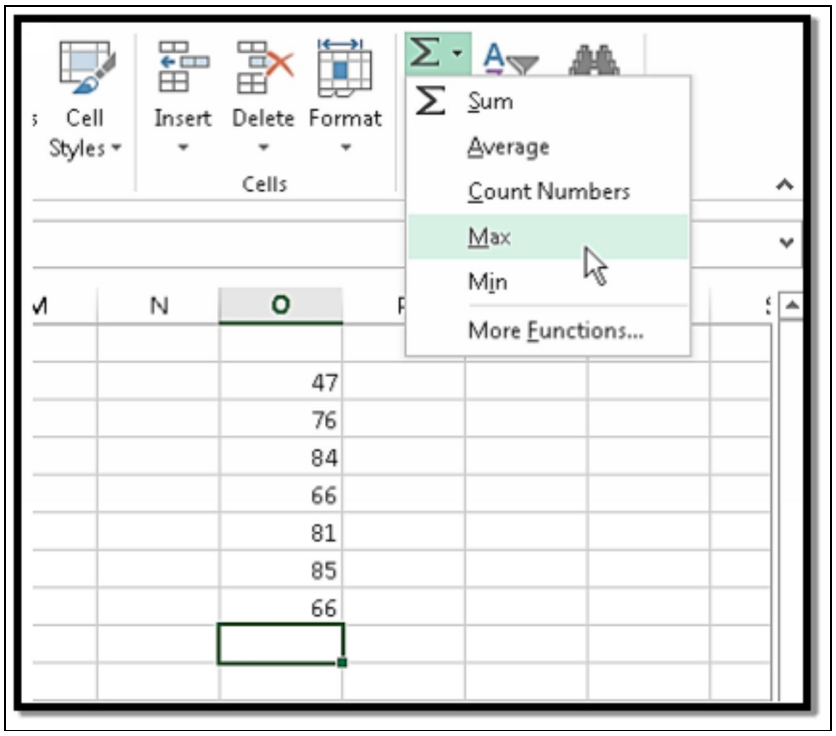
The Home Editing group and the Formulas Function Library group.

Simply choose a cell and press the button, and Excel analyzes the data in the area and suggests a SUM calculation. If the suggested range is right, hit Enter or click the AutoSum button again to input the formula. Press Esc if you change your mind.

If the range to be summed includes any blank cells, be cautious. Excel will misidentify the whole range if a blank cell is present. If Excel makes an inaccurate assumption about the range to be summed, just choose the right range and hit Enter.

You may also use your keyboard to access AutoSum. The impact of pressing Alt+= is the same as hitting the AutoSum button.

Other sorts of formulae may be inserted using the AutoSum button. Have you seen the arrow on the right side of that button? When you click it, you'll find four more options: AVERAGE, COUNT, MAX, and MIN. When you choose one of those options, the corresponding formula is suggested. You'll also see a More Functions option, which just shows the Insert Function dialog box, which is the same one that appears when you choose Formulas Function Library Insert Function from the Formulas Function Library menu (or click the fx button to the left of the formula bar).



AutoSum produces formulae automatically in certain instances (explained below) and does not allow you to check the range to be summed. Don't presume Excel got the range right the first time.

The following are some more AutoSum-related tips:

Select the full range before clicking the AutoSum button if you need to insert a comparable SUM formula into a range of cells. In this situation, Excel automatically inserts the functions for you, one formula in each of the chosen cells.

Select the range of numbers plus an extra column to the right and an additional row at the bottom to total both across and down a table of numbers. Excel adds the formulae that add the rows and columns when you click the AutoSum button. Because the range to be summed in the picture is D4:G15, I added a new row and column: D4:H16. When you click the AutoSum buttons, formulae appear in row 16 and column H.

When dealing with a table (made by selecting InsertTablesTable), using the AutoSum button after picking the row below the table generates a Total row for the table and formulas that utilize the SUBTOTAL function instead of the SUM function. If you filter the data, the SUBTOTAL function sums just the visible cells in the table, which is handy.

AutoSum uses the same number format as the first cell in the range to be totaled unless you apply a different number format to the cell that will store the SUM formula.

Select the cells to be totaled and then click the AutoSum button to generate a SUM formula that only utilizes a portion of the numbers in a column. The SUM formula is placed in the first empty cell below the specified range in Excel. Multiple selections are not permitted; the chosen range must be a continuous collection of cells.

	A	B	C	D	E	F	G	H	I
1									
2									
3				Region-1	Region-2	Region-3	Region-4	Total	
4			January	6,489	6,491	6,023	6,188		
5			February	6,032	6,103	5,583	6,488		
6			March	5,188	6,264	5,428	5,004		
7			April	6,229	5,019	5,283	6,507		
8			May	5,962	5,520	6,154	5,382		
9			June	6,040	5,525	5,508	6,135		
10			July	5,820	5,330	6,448	5,997		
11			August	6,182	5,527	6,229	5,907		
12			September	5,771	5,740	5,688	5,843		
13			October	5,005	5,617	5,713	5,929		
14			November	5,179	5,512	5,149	6,166		
15			December	6,439	5,693	6,062	5,650		
16			Total						
17									
18									

Understanding the Difference Between Absolute and Mixed References

The cell references in a formula that relates to another cell or range are normally relative references. The cell references change to their new place in a relative way when you replicate a formula that includes relative references.

Assume that cell A13 contains the following formula (which makes use of relative references):

=SUM(A1:A12)

If you paste the formula into cell B13, it becomes

=SUM(B1:B12)

When copying formulae, you usually want cell references to adjust. That's why you utilize relative references in formulas the majority of the time. However, in certain cases, absolute or relative references are required.

Making use of absolute references

Two-dollar signs are used to express an absolute reference (one in front of the column part and one in front of the row part).

Here are two instances of absolute references formulas:

=$A$1

=SUM($A$1:$F$24)

Even if the formula is duplicated elsewhere, an absolute cell reference in the formula does not change.

Assume that cell B13 has the following formula:

=SUM($B$1:$B$12)

The references do not change when you copy this formula to another cell. The copied formula refers to the same cells as the original and yields the same result.

When should an absolute reference be used? The solution is straightforward: The only time you should consider using an absolute reference is if you want to replicate the formula and the copied formula must refer to the same range as the original.

An example is the simplest method to grasp this subject. A basic worksheet is shown in the picture.

Cell D2 has the following formula:

=(B2*C2)*$B$7

This calculation includes both relative (B2 * C2) and absolute cell references ($B$7) to the sales tax cell. All of the references will be right if you copy this formula to the fields below.

After copying the formula from cell D2, cell D3 now has the following formula:

=(B3*C3)*$B$7

The references to the cells in columns B and C have been altered, but not to cell B7, which is precisely what you desire.

Using mixed references

The column or row component of a reference in a mixed cell reference is absolute (and hence does not change when the formula is copied and

pasted). Mixed cell references aren't used very frequently, but as you'll see in this lesson, they may make your work a lot simpler in certain cases.

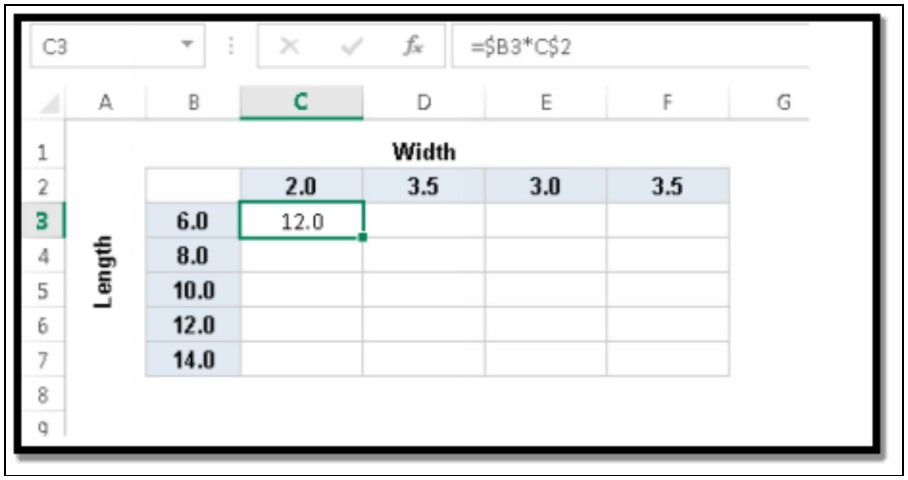
Here are two instances of references that are mixed:

=$A1

=A$1

The column component of the reference (A) in the first example is absolute, whereas the row part (1) is relative. The column component of the reference in the second example is relative, whereas the row part is absolute.

The graphic depicts a worksheet that illustrates a circumstance in which mixed references are the best option.



The formulae in the table compute the area of a rectangle for varied lengths and widths.

The formula for cell C3 is as follows:

=$B3*C$2

Both cell references are intermingled, as you can see. The column ($B) is referenced by an absolute reference in cell B3, while the row ($2) is referenced by an absolute reference in cell C2. As a consequence, this formula may be duplicated down and across with no errors in the computations. For instance, in cell F7, the formula is

=$B7*F$2

Copying the formula would generate inaccurate results whether C3 employed absolute or relative references.

Calculating a Person's Age

Calculating a person's age may be difficult since it takes into account both the current year and the current day. Then there are the issues that arise as a result of leap years.

In this part, I'll show you three ways to figure out how old someone is. These calculations assume that cell B1 holds the date of birth (2/16/1952, for example) and cell B2 has the current date (calculated with the TODAY function).

1st method

The following formula divides by 365.25 and subtracts the date of birth from the current date.

After that, the INT function removes the decimal component of the result:

=INT((B2-B1)/365.25)

Because it divides by the average number of days in a year, this method isn't completely correct. Consider the case of a youngster who is precisely a year old. This formula yields a value of 0 rather than 1.

Method number two

The YEARFRAC function may be used to compute age more precisely:

=INT(YEARFRAC(B2, B1))

Although the YEARFRAC function is designed for financial computations, it also works well for computing ages. The number of complete days between two dates is used to compute the proportion of the year represented by this function. Using the INT function, the fraction is removed and an integer representing full years is returned.

3rd method

The DATEDIF function is used in the third approach for computing age. The Excel Help system does not explain this undocumented function:

=DATEDIF(B1,B2,”Y”)

About the DATEDIF function

One of the small Excel mysteries is the DATEDIF function, which isn't mentioned in the Excel Help system. Although the DATEDIF function is described in the Excel 2000 Help system, it is not documented in older or later versions.

DATEDIF was first introduced in the Lotus 1-2-3 spreadsheet application, and it was likely incorporated in Excel for compatibility reasons.

The DATEDIF function calculates the difference between two dates and returns the result in months, days, or years. The DATEDIF function has the following syntax.

=DATEDIF(Date1,Date2,Interval)

The dates Date1 and Date2 are both normal dates (or a reference to a cell that contains a date). Date1 must come before (or be the same as) Date2. Interval, the third parameter, is a text string that defines the time unit to be returned.

The following is a list of valid interval codes:

- **m:** The number of full months that have passed between Date1 and Date2.
- **d:** The time difference between Date1 and Date2.
- **y:** The number of full years that have passed from Date1 and Date2.
- **ym:** The number of months that have passed since Date1 and Date2. Because this interval does not include years, it behaves as though the two dates are in the same year.
- **yd:** The distance between Date1 and Date2. Because this interval does not include years, it behaves as though Date1 and Date2 are in the same year.

- **md:** The time difference between Date1 and Date2. Because this interval excludes both month and year, Date1 and Date2 seem to be in the same month and year.

Here's another version if you're a stickler for accuracy:

=DATEDIF(B1,B2,”y”) & “ years, “&DATEDIF(B1,B2,”ym”) &

“ months, “&DATEDIF(B1,B2,”md”) & “ days”

This method produces a text string that looks somewhat like this:

33 years, 8 months, and 17 days.

Converting Metric System to Metric System

You know how many miles it takes to get from New York to London in miles, but your European office needs kilometers. How does one calculate the conversion factor?

The CONVERT function in Excel may convert between a number of different metrics in the following categories:

- Area
- Distance
- Energy
- Force
- Information
- Magnetism
- Power
- Pressure
- Speed
- Temperature
- Time
- Volume (or liquid measure)
- Weight and mass

Three parameters are required for the CONVERT function: the value to be converted, the from-unit, and the to-unit. If cell A1 has a distance in miles, for example, apply the following formula to convert miles to kilometers:

=CONVERT(A1,”mi”,”km”)

Unit abbreviations are presented in the Help system as the second and third parameters. Some acronyms are well-known, while others aren't. You must, of course, use the appropriate abbreviation. Furthermore, since the unit abbreviations are case-sensitive, the formula below gives an error:

=CONVERT(A1,”Mi”,”km”)

The CONVERT function has a lot more functionality than it seems. You may use a multiplier when working with metric units. In reality, a multiplier is used in the first example I gave. The third argument's unit abbreviation is m, which stands for meters. To represent the result in kilometers, I used the kilo-multiplier (k).

In certain cases, the CONVERT function requires some ingenuity. I

f you need to convert 100 km/h to miles/sec, for example, you'll need to call the CONVERT function twice:

=CONVERT(100,”km”,”mi”)/CONVERT(1,”hr”,”sec”)

In Excel 2013, the CONVERT function has been greatly improved, and it now supports dozens of additional measurement units.

If you can't locate a unit that works with the CONVERT function, Excel may have another function that will suffice.

Using the AGGREGATE Function

AGGREGATE, which was introduced in Excel 2010, is one of the most flexible functions accessible in Excel. This multifunctional function may be used to add numbers, compute averages, count entries, and more. This method is handy since it may disregard values in hidden rows and error values (optionally). You can use AGGREGATE to substitute a complicated array formula in certain circumstances.

The AGGREGATE function accepts three parameters, although certain functions need an extra argument.

The AGGREGATE function's first input is a number between 1 and 19 that specifies the kind of computation to be performed. In essence, the calculation type is one of Excel's various functions. The AGGREGATE

function's second input is an integer between 0 and 7 that controls how concealed cells and errors are handled.

Formula Error Displays: How to Avoid Them

#REF! or #DIV/0! are examples of errors that can occur when using a formula. You usually want to know when a mathematical mistake happens so that you may correct it. However, in certain circumstances, it may be preferable to just ignore the error notifications. An example may be seen in the picture.

D2 =B2/C2

	A	B	C	D	E	F
1	Month	Total Sales	No. Reps	Average		
2	January	7,832,083	12	652,674		
3	February	8,398,338	15	559,889		
4	March	6,823,444	16	426,465		
5	April	9,004,563	16	562,785		
6	May			#DIV/0!		
7	June			#DIV/0!		
8	July			#DIV/0!		
9	August			#DIV/0!		
10	September			#DIV/0!		
11	October			#DIV/0!		
12	November			#DIV/0!		
13	December			#DIV/0!		
14						

The formulae in Column D compute the average sales volume. Cell D2, for example, has the following formula:

=B2/C2

Using the IFERROR function

As you can see, if the cells utilized in the computation are empty, the formula returns an error. You may use an IFERROR function to conceal those error values if you like. The first parameter is the expression that will be tested for an error, and the second argument is the value that will be returned if the formula evaluates to an error

The previous formula may be rewritten as follows:

=IFERROR(B2/C2,"")

When you copy this formula along the column, the outcome is a little more aesthetically pleasing, as you can see in the figure below.

By the way, the second parameter for the IFERROR function may be whatever you like. (It doesn't have to be a series of zeros.) You might, for example, make it a cell reference.

D2 =IFERROR(B2/C2,"")

	A	B	C	D	E	F
1	Month	Total Sales	No. Reps	Average		
2	January	7,832,083	12	652,674		
3	February	8,398,338	15	559,889		
4	March	6,823,444	16	426,465		
5	April	9,004,563	16	562,785		
6	May					
7	June					
8	July					
9	August					
10	September					
11	October					
12	November					
13	December					
14						

Because the IFERROR function was first introduced in Excel 2007, it is incompatible with previous versions of Excel. If you want to share your spreadsheet with individuals who are using Excel 2003 or older, you'll need to utilize the ISERROR function, which is discussed next.

Using the ISERROR command

With an IF function, the ISERROR function is employed.

Use the following formula in cell D1 for the previous example:

=IF(ISERROR(B2/C2),"",B2/C2)

If the ISERROR function's parameter evaluates to an error, it returns TRUE. The IF function produces an empty string in this scenario. Otherwise, the computed value is returned by the IF function.

This way of avoiding an error display is a little more involved, and it's also inefficient since the formula is evaluated twice if it doesn't yield an error.

As a result, you should utilize the IFERROR functions unless you need to work with Excel 2003 or previous versions.

Check your Match with F9

You may use the F9 shortcut to verify the outcome of each section of your formula if you're composing a large formula and it doesn't give you the desired result.

Our algorithm calculates the Average Sales; let's see whether it worked out correctly!

D14 =SUM(Table1[SALES])/COUNT(Table1[SALES])

	A	B	C	D	E	F	G
4	CUSTOMER	REGION	ORDER DATE	SALES	MONTH	YEAR	
5	Acme, inc.	NORTH	4/13/2014	$55,815	April	2014	
6	Widget Corp	SOUTH	12/21/2014	$94,908	December	2014	
7	123 Warehousing	EAST	2/15/2014	$57,088	February	2014	
8	Demo Company	WEST	5/14/2014	$56,539	May	2014	
9	Smith and Co.	NORTH	6/28/2015	$63,116	June	2015	
10	Foo Bars	SOUTH	1/15/2015	$38,281	January	2015	
11	ABC Telecom	EAST	8/22/2015	$57,650	August	2015	
12	Fake Brothers	WEST	12/31/2015	$90,967	December	2015	
13							
14			Average	$64,296			

Double-click or hit the F2 shortcut to edit the cell containing your formula.

	A	B	C	D	E	F
4	CUSTOMER	REGION	ORDER DATE	SALES	MONTH	YEAR
5	Acme, inc.	NORTH	4/13/2014	$55,815	April	2014
6	Widget Corp	SOUTH	12/21/2014	$94,908	December	2014
7	123 Warehousing	EAST	2/15/2014	$57,088	February	2014
8	Demo Company	WEST	5/14/2014	$56,539	May	2014
9	Smith and Co.	NORTH	6/28/2015	$63,116	June	2015
10	Foo Bars	SOUTH	1/15/2015	$38,281	January	2015
11	ABC Telecom	EAST	8/22/2015	$57,650	August	2015
12	Fake Brothers	WEST	12/31/2015	$90,967	December	2015
13						
14			=SUM(Table1[SALES])/COUNT(Table1[SALES])			

Let's focus on the first part of the equation.

	A	B	C	D	E	F
4	CUSTOMER	REGION	ORDER DATE	SALES	MONTH	YEAR
5	Acme, inc.	NORTH	4/13/2014	$55,815	April	2014
6	Widget Corp	SOUTH	12/21/2014	$94,908	December	2014
7	123 Warehousing	EAST	2/15/2014	$57,088	February	2014
8	Demo Company	WEST	5/14/2014	$56,539	May	2014
9	Smith and Co.	NORTH	6/28/2015	$63,116	June	2015
10	Foo Bars	SOUTH	1/15/2015	$38,281	January	2015
11	ABC Telecom	EAST	8/22/2015	$57,650	August	2015
12	Fake Brothers	WEST	12/31/2015	$90,967	December	2015
13						
14			=SUM(Table1[SALES])/COUNT(Table1[SALES])			

F9 will be pressed. This will display the SUM formula's result.

	A	B	C	D	E	F
4	CUSTOMER	REGION	ORDER DATE	SALES	MONTH	YEAR
5	Acme, inc.	NORTH	4/13/2014	$55,815	April	2014
6	Widget Corp	SOUTH	12/21/2014	$94,908	December	2014
7	123 Warehousing	EAST	2/15/2014	$57,088	February	2014
8	Demo Company	WEST	5/14/2014	$56,539	May	2014
9	Smith and Co.	NORTH	6/28/2015	$63,116	June	2015
10	Foo Bars	SOUTH	1/15/2015	$38,281	January	2015
11	ABC Telecom	EAST	8/22/2015	$57,650	August	2015
12	Fake Brothers	WEST	12/31/2015	$90,967	December	2015
13						
14			=514364/COUNT(Table1[SALES])			

The total is 514,364, as you can see. To return to the original Formula, hit CTRL+Z.

Let's focus on the second part of the equation.

	A	B	C	D	E	F
4	CUSTOMER	REGION	ORDER DATE	SALES	MONTH	YEAR
5	Acme, inc.	NORTH	4/13/2014	$55,815	April	2014
6	Widget Corp	SOUTH	12/21/2014	$94,908	December	2014
7	123 Warehousing	EAST	2/15/2014	$57,088	February	2014
8	Demo Company	WEST	5/14/2014	$56,539	May	2014
9	Smith and Co.	NORTH	6/28/2015	$63,116	June	2015
10	Foo Bars	SOUTH	1/15/2015	$38,281	January	2015
11	ABC Telecom	EAST	8/22/2015	$57,650	August	2015
12	Fake Brothers	WEST	12/31/2015	$90,967	December	2015
13						
14			=SUM(Table1[SALES])/COUNT(Table1[SALES])			

F9 will be pressed. This will display the COUNT formula's result.

	A	B	C	D	E	F
4	CUSTOMER	REGION	ORDER DATE	SALES	MONTH	YEAR
5	Acme, inc.	NORTH	4/13/2014	$55,815	April	2014
6	Widget Corp	SOUTH	12/21/2014	$94,908	December	2014
7	123 Warehousing	EAST	2/15/2014	$57,088	February	2014
8	Demo Company	WEST	5/14/2014	$56,539	May	2014
9	Smith and Co.	NORTH	6/28/2015	$63,116	June	2015
10	Foo Bars	SOUTH	1/15/2015	$38,281	January	2015
11	ABC Telecom	EAST	8/22/2015	$57,650	August	2015
12	Fake Brothers	WEST	12/31/2015	$90,967	December	2015
13						
14			=SUM(Table1[SALES])/8			

The count is 8, as you can see. To return to the original Formula, hit CTRL+Z.

This approach may be used to swiftly examine any component of a difficult calculation that has to be audited.

Step-by-step evaluation of formulas

This is one of the coolest Excel hacks I've encountered since I've struggled to grasp formulae on several occasions. Especially those that are lengthy and complicated! Excel allows you to assess your formula and break it down into steps so you can comprehend it!

Take a look at the formulae in the IS THE VALUE IN BETWEEN column that I've developed below.

In a series of stages, we'll see how this formula is solved:

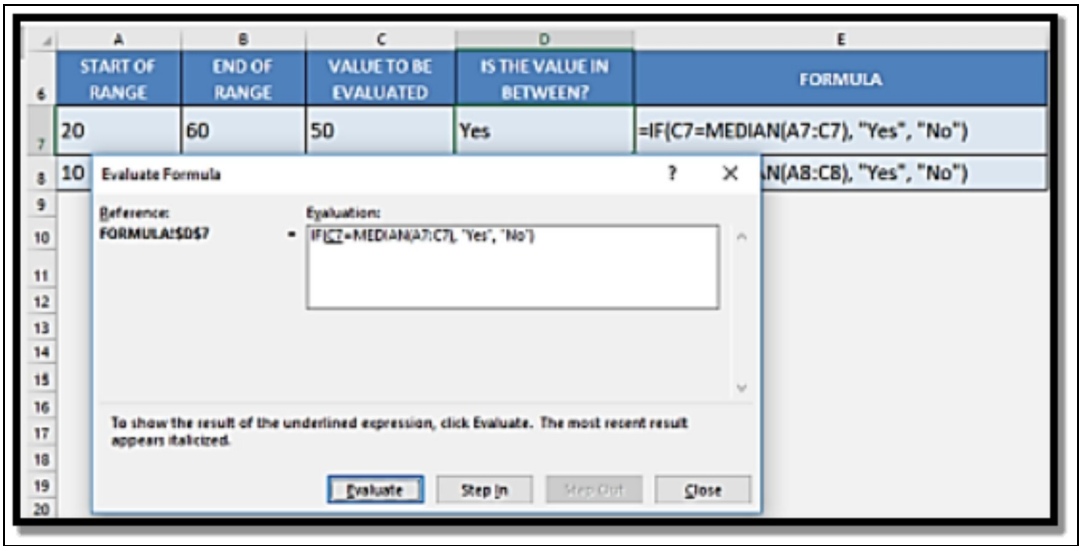
As you can see, our formula employs both the If and Median formulas.

The purpose of this formula is to determine if a value (VALUE TO BE EVALUATED) is within the range (START OF RANGE to VALUE TO BE EVALUATED). Is 50 the average of the three numbers: 20, 60, and 50?

=IF(C7=MEDIAN(A7:C7), "Yes", "No") IF(C7=MEDIAN(A7:C7) IF(C7=MEDIAN(A7:C7)

To begin learning our formula, first, highlight it, then go to Formulas > Evaluate Formula:

Our formula is now shown on the screen, with the highlighted portion being the first to be assessed. Then choose **Evaluate**.



C7 has been given a score of 50. Select Evaluate.

The median of the values from A7 through C7 is calculated as 50 (20, 60, 50). Select Evaluate.

Is 50 the same as 50? Excel has determined that it is TRUE. Select **Evaluate**.

Excel assessed the If formula as a Yes since it got a TRUE.

We've seen how the formula produced the desired outcome in just a few simple steps:

Fill down formulas

If you wish to swiftly replicate a formula down your table, you may do it either slowly by dragging down the bottom right-hand corner of the cell or fast by double-clicking the bottom right-hand corner of the cell.

This method will work as long as there is data on the left-hand side of the formula that you wish to transfer downwards!

Follow the instructions outlined below:

Enter your Excel Formula.

To apply the same formula to the remainder of the column, double-click on the bottom right corner of the cell.

In a flash, the identical Excel formula is applied to the full column!

Find the best formula

This is one of the greatest Excel hacks I've encountered since I've struggled to find the proper Excel formula for my assignment on several occasions!

The greatest thing is that you won't have to remember Excel formulas if you use this method.

Let's imagine we have a horizontal table in which we wish to find values:

Stock List	Television	Laptop	Tablet
Price	$ 150.00	$ 185.00	$ 245.00
Cost	$ 85.00	$ 95.00	$ 90.00

Here's what we're aiming for: How can we find out the price of the television and return it?

Follow the instructions outlined below.

Let's go in search of the ideal formula! To insert a function, go to Formulas > Insert Function.

Let's type in lookup since that's what we're looking for. After clicking Go, we'll see a few formulae.

You may also read about each formula, and HLOOKUP is ideal for the task! Select it and then click OK.

Now comes the fun part: Excel explains each argument and how to use the formula correctly. As you scroll through each argument, there is also a description.

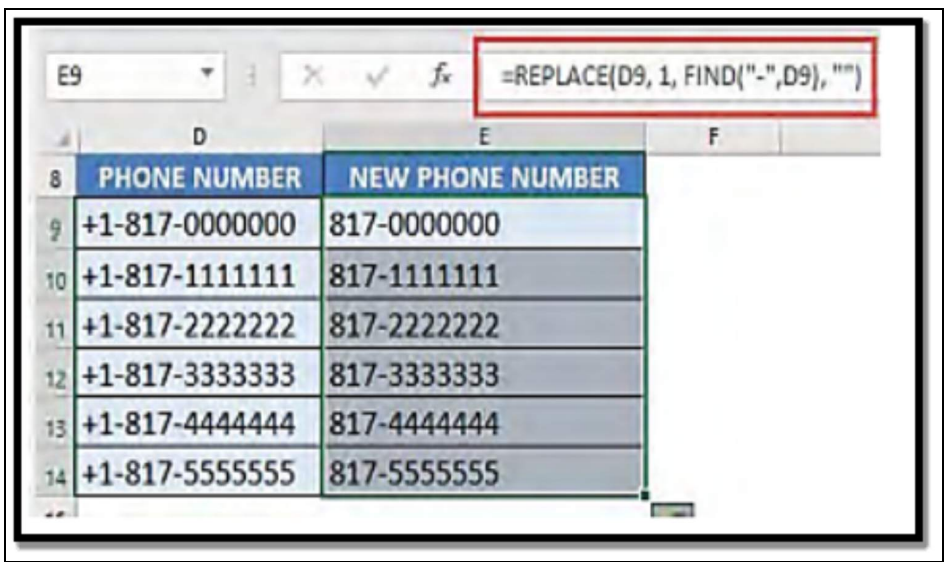
Let's get started filling in the blanks! After that, click OK. You now have the proper formula for the desired outcome.

Remove formulas in Excel

When I have an Excel spreadsheet with a lot of formulae, I sometimes wish to hard code the results instead of using formulas.

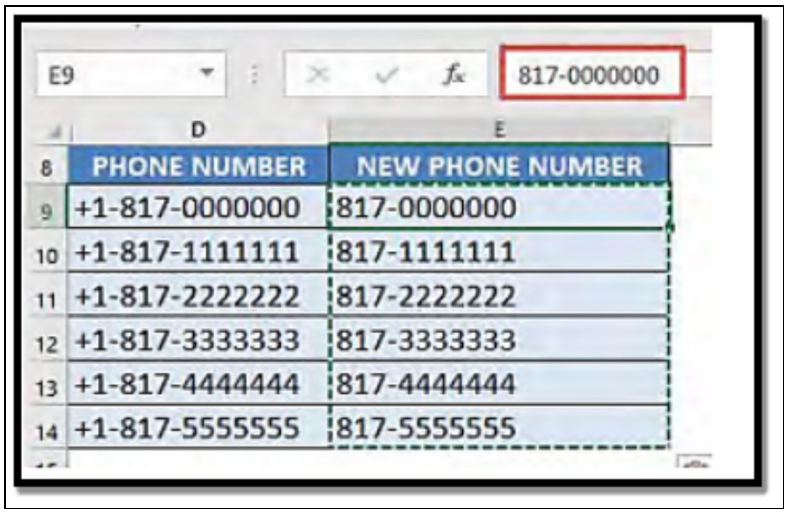
This is a simple task in Excel!

In Column E of our example worksheet, we have the following formulae.



Follow the instructions outlined below.

- Make a list of all the cells that have formulae in them.
- Select Copy: with a right-click.
- Right-click once more and choose Paste Values.
- You'll see that the data are still there, but the formulas have vanished.



	D	E
8	PHONE NUMBER	NEW PHONE NUMBER
9	+1-817-0000000	817-0000000
10	+1-817-1111111	817-1111111
11	+1-817-2222222	817-2222222
12	+1-817-3333333	817-3333333
13	+1-817-4444444	817-4444444
14	+1-817-5555555	817-5555555

Dividing the formula into rows.

I occasionally wish there was a method to make a difficult or lengthy formula more legible and easier on the eyes. And, surprise what, Excel has a solution!

Let's pretend we have a SWITCH Formula that should yield the following:

- A one-star rating denotes poor performance.
- A score of 2 is considered average.
- A three-star rating is excellent.
- If not, display Unknown.

This is the SWITCH Formula in its entirety. We can make it more understandable with some formatting wizardry!

Take the actions outlined below:

Double-click on the cell that contains the formula to begin changing it. We'll utilize the **ALT + ENTER** keyboard shortcut to add additional lines to our formula, and then you may add spaces to make your Excel formula indented. In terms of functionality, you haven't contributed anything new to your Excel Formula, but you have made it simpler to read and comprehend!

Show and hide formulas in excel

When I have a page with a lot of Excel formulae, I want to quickly check how each one appears. This is ideal for auditing spreadsheets.

Follow the instructions outlined below:

- Press the following keys on your keyboard: Ctrl + '
- The key is often found in the top left corner of your keyboard.
- This will display all of your worksheet's Excel formula!
- To conceal the formulae, press the Ctrl +'combination once more.
- Another option is to go to File > Options and change this using Excel Options.
- Go to Advanced> This Worksheet's Display Options > Instead of their computed fields, show formulae in cells.
- Make certain this is checked.
- All of the formulae are now visible as well! To make the formulae visible again, uncheck them.

VLOOKUP in an Excel Table

What exactly does it do?

Finds a value in the first column of a table array and returns a value from another column in the table array in the same row.

Breakdown of the formula:

=VLOOKUP(lookup_value, table_array, col_index_num,

[range_lookup])

What does it imply?

=VLOOKUP(this value, TableName, and fetch me this column's value,

FALSE/0] Exact Match

Excel Tables are fantastic and should be used often, whether you have two rows or 200,000! Because of the structured referencing, when you use a Vlookup formula to lookup in an Excel Table, your calculation becomes dynamic. That is, when the Excel Table grows in size as more data is added, your Vlookup formula's 2nd parameter (table array) does not need to be modified since it refers to the Excel Table as a whole by using names like Table1, Table2, Table3, and so on. Our Excel Table is named Table2 in the example below, and the Vlookup formula does not need to be altered when we add new rows of data to it. I mean, how awesome is that?

Follow the instructions outlined below:

The data must be converted into an Excel table. Press Ctrl + T and then OK.

Let's now build the formula for calculating the laptop's pricing. Let's have a look at the VLOOKUP formula:

VLOOKUP = (G15, Table1, 2, FALSE)

This will get the lookup value (Laptop in Cell G15), followed by a search in Table1's first column.

The value in Column #2, which is the price, will be obtained after that. We want to obtain the precise match, which implies FALSE.

To replicate the formula across the table, drag it down. It's worth noting that the second row is seeking Mouse's pricing. This is not yet included in our data table.

Add a new entry to our table for the price of the mouse and write it in. The best part is that our VLOOKUP algorithm still works well. We don't need to adjust the range of values that our VLOOKUP will utilize since we're

utilizing Table1. It is now automatically incorporated, and the mouse's price is immediately fetched.

Excel's XLOOKUP function

Have you ever wished to use Excel to search for values? Which of the following Excel functions did you utilize to solve your problem?

VLOOKUP, the dynamic one? HLOOKUP? Isn't that the horizontal one? INDEX MATCH is a difficult one.

Even while the Excel functions listed above may get the job done, they have their own set of restrictions. Use the brand-new Excel function offered in Microsoft Office 365 to solve this problem.

XLOOKUP!

You won't be able to utilize this function if you're using an earlier version of Excel (2010, 2013, 2016, 2019). XLOOKUP is a powerful and versatile replacement for the Excel functions listed above.

It enables you to lookup values in a data collection fast (much like VLOOKUP Excel), but with more flexibility and benefits, such as:

- Data to the right or left of the lookup values may be looked up.
- By default, it seeks an exact match. You do not need to add another argument to it.
- If your search result isn't found, you may give a custom value or phrase.
- It may use wildcards to accomplish a partial match lookup.
- It can look for values in both horizontal and vertical directions.
- Instead of a single number that spells out the outcomes, it might return a range.
- It enables you to locate the most recent occurrence in your database.

What exactly does it do?

Excel XLOOKUP searches an array for a specified value and returns the value from another array in the same row.

- It has the ability to search for a value both horizontally and vertically.
- Make a precise or approximate match,
- Make use of wildcards.
- If no results are discovered, return a custom text.
- The returned array isn't even required to be on the right side of the lookup array.
- Isn't it incredible? It's a feature that's jam-packed with benefits.

Breakdown of the formula:

=XLOOKUP (lookup_value, lookup_array, return_array,

[if_not_found], [match_mode], [search_mode])

where:

• lookup value - the value you're looking for;

• lookup array - the range or array where the value should be found;

• return array - the range or array from which the result should be derived;

• [if not found] - the value you'd want to show if no results were found;

• [match mode] [match mode] [match mode] [match_

0 - Exact Replica (if no result is found, then error)

1 - Exact or the next smaller number (if no result is found, then the next smaller value will be displayed)

2 - Exact size or the next bigger size (if no result is found, then the next larger value will be displayed)

3 - The use of wildcards

[search mode] [search mode] [search mode] [search_

1 - to start searching from the beginning

-1 - to start searching from the beginning

2 - ascending binary search

-2 descending binary search

In Excel, how do you utilize XLOOKUP?

There are two tables in the following example:

The SKU, name, price, and cost of a product are all included on the stock list.

Table of Orders with Quantity Indicated

Using XLOOKUP, you wish to extract the prices of the goods from the stock list database.

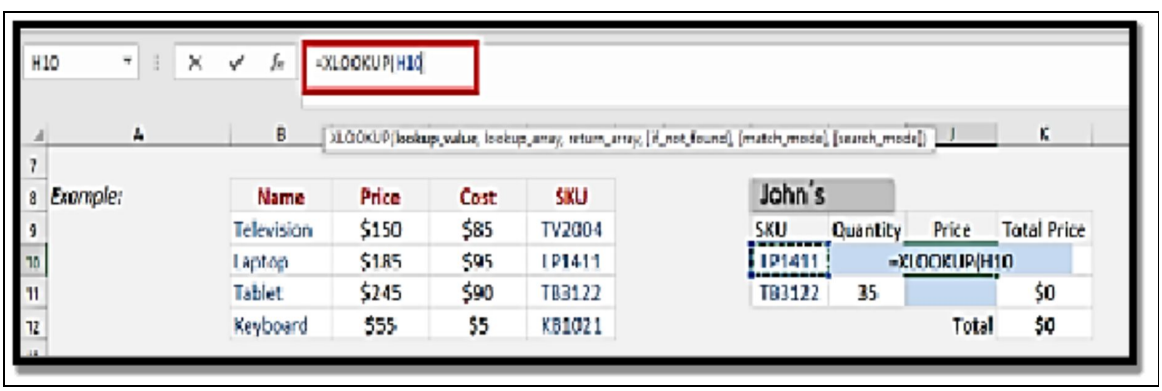
Follow the instructions outlined below:

The XLOOKUP function must be entered in a blank cell.

=XLOOKUP(

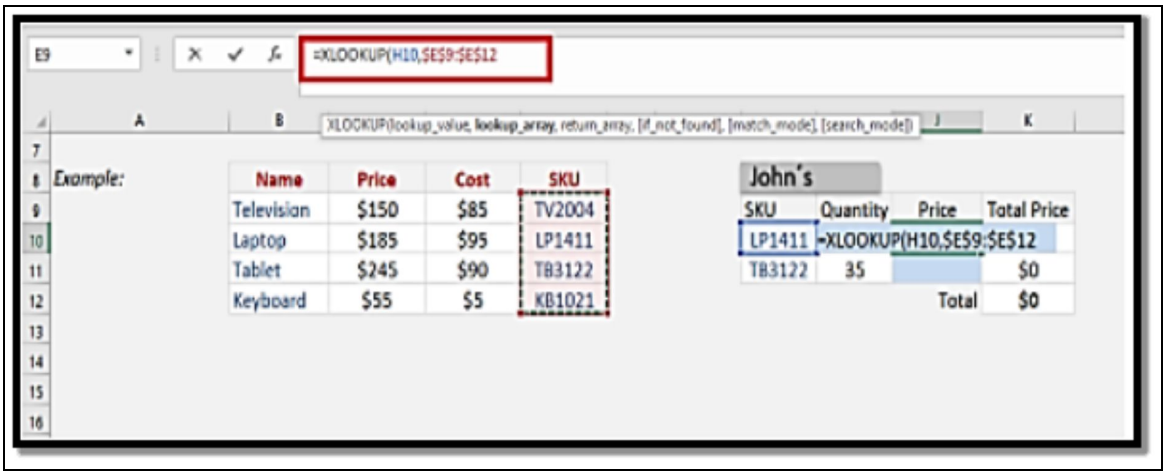
Lookup value (the SKU of the product you're searching for) is the first XLOOKUP input.

=XLOOKUP(H10,



Lookup array is the second XLOOKUP parameter (the array that contains all product SKUs)

=XLOOKUP(H10,$E$9:$E$12



Make careful to hold down the F4 key to lock the table range.

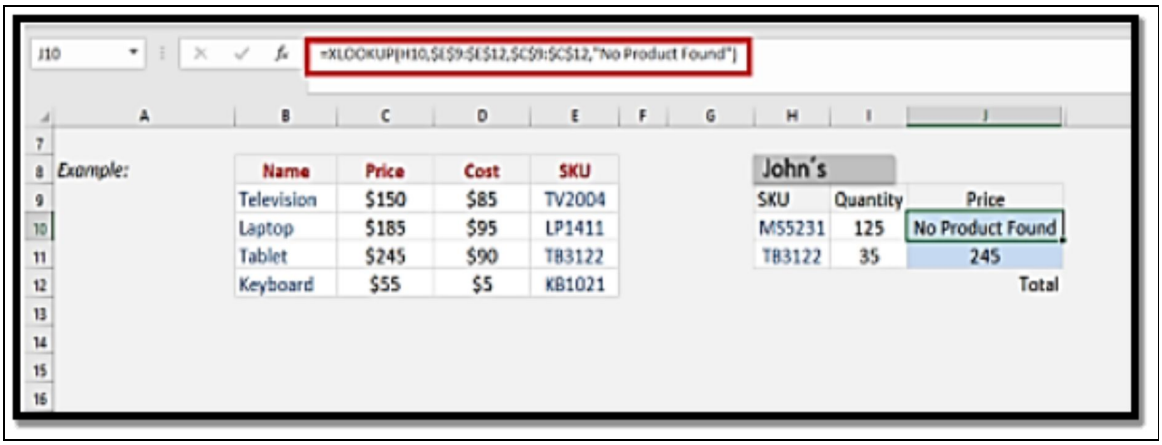
Return array (the array containing price) =XLOOKUP(H10,$E$9:$E$12,$C$9:$C$12) is the third XLOOKUP input.

As you can see, Excel has taken the price of the SKU LP1411 from the stock list and put it in the column ($185).

Drag the bottom right corner downwards to apply the same formula to the remaining cells.

What if you're looking for a product name that isn't shown in the stock list table? Excel will give you an error message!

Instead of displaying this error, you may display a custom text (such as No Product Found)! To do so, just use the XLOOKUP function's fourth optional input - [if not found]. **=XLOOKUP(H10,$E$9:$E$12,$C$9:$C$12, "No Product Found")**



This was a simple demonstration of how to utilize Excel's XLOOKUP function. Let's take a closer look at how this function may be used in more complex ways.

CHAPTER FOUR

TABLE AND PIVOT TABLE TIPS

Excel Tables: Autofill formulas

The ability to autofill a formula all the way down your data without having to copy and paste is one of the benefits of utilizing an Excel Table. When you enter a formula in any column of your Excel Table, it will fill down and up automatically. The formula fills in the additional rows as you add them to your Excel Table, so you don't have to copy and paste. What a clever idea!

This is the raw data, which has been transformed into an Excel table. Our aim is to figure out what proportion of our sales is made up of expenses and then enter it in the blank column.

CUSTOMER	REGION	ORDER DATE	SALES	COSTS	COGS
Acme, inc.	NORTH	4/13/2014	$55,815	$9,932	
Widget Corp	SOUTH	12/21/2014	$94,908	$7,859	
123 Warehousing	EAST	2/15/2014	$57,088	$18,986	
Fake Brothers	WEST	12/31/2015	$90,967	$5,033	
Demo Company	WEST	5/14/2014	$56,539	$17,276	
Smith and Co.	NORTH	6/28/2015	$63,116	$18,311	
Foo Bars	SOUTH	1/15/2015	$38,281	$1,654	
ABC Telecom	EAST	8/22/2015	$57,650	$12,982	

To calculate the proportion of expenses in sales, use this formula. To account for blank values, we use IFERROR. =IFERROR([@COSTS]/[@SALES], "")

Select any row at random and you'll see that the formula has been applied to it as well. This is the beauty of Excel Tables, and your formula was applied to the full column! There will be no more copy-pasting

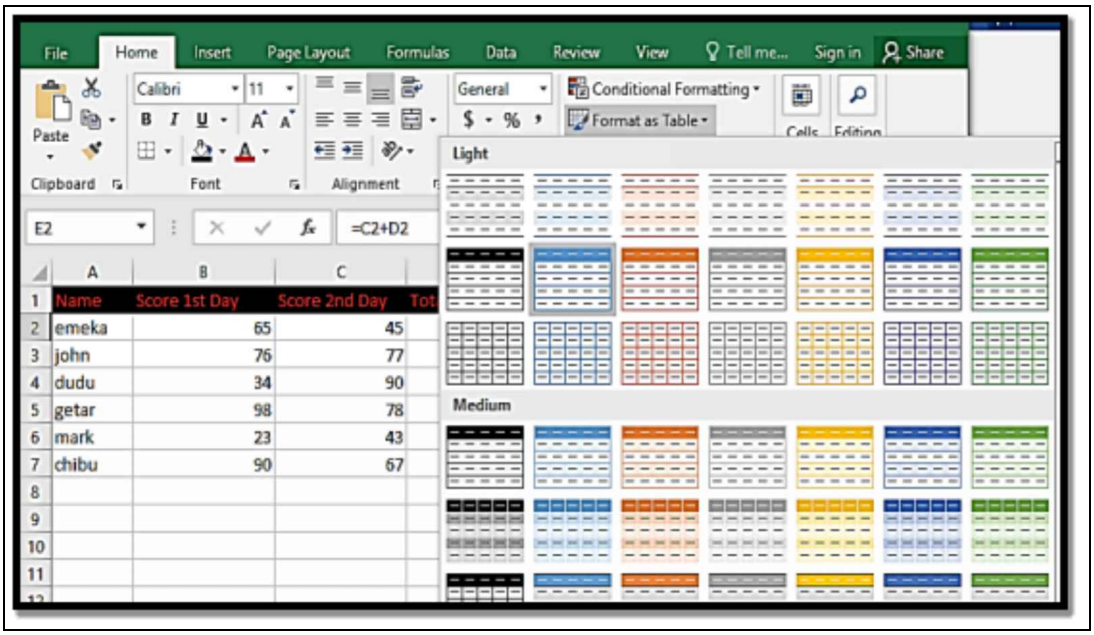
Excel Tables: Styles

Tables in Excel are useful for providing data collections structure. It contains several useful features, such as data organization, headers, and applied filters. Tables may be accessed via the Insert menu tab or the shortcut key **Control key + T**. All we have to do now is choose the range of cells we want to include in the table. The Design tab, which appears when we pick the table, allows us to adjust table styles.

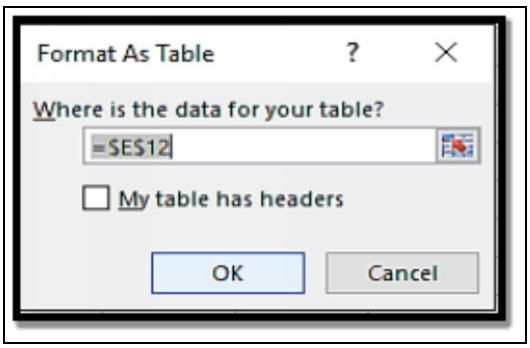
Follow the steps below to create a table:

Choose the cell or range you want to create the table on.

Click on the Home tab, then click on **Format as Table**. This will display a menu that consists of some table styles. Choose any style you want.



When you click on the style you want, a dialog box will open. Check the box on the My table as header (Checking this box makes the first row of the range the header row) and click Ok.



	A	B	C	D	E
1	Name	Score 1st Day	Score 2nd Day	Total Score	Total Score2
2	emeka	65	45	110	155
3	john	76	77	153	230
4	dudu	34	90	124	214
5	getar	98	78	176	254
6	mark	23	43	66	109
7	chibu	90	67	157	224

TIP

Right-click a style in the **Table Styles group** and choose **Set as Default** from the shortcut menu to alter the workbook's default table style. That style will be applied to any subsequent tables you create in that worksheet.

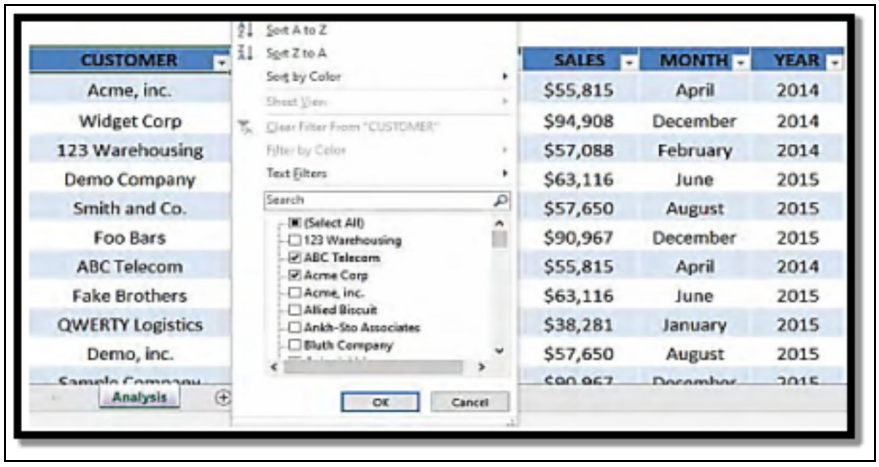
Choose **Page Layout > Themes** to pick a different document theme for a new range of color options.

Filter and Search in Excel Tables

If you know how to utilize the Search box inside the Filter button, it may be quite useful. For example, if you have a list of customers, the Search box enables you to identify certain customers by entering just a few characters, add a selection to your filtered list, and even drill down to individual customers using wildcard symbols like the asterisk ***.**

Follow the instructions outlined below.

To build up our table, click on the CUSTOMER column header and pick two values to show only.



Now click on the CUSTOMER column header and put "the" in the search box. Once you mark Add current selection to filter, all customers who contain the word "the" in their text will be included in your filter. Select OK.

You've just added three more customers to your account.

Now click on the CUSTOMER column header and type w* in the search box. The asterisk * is a wildcard character, which means it will only search for text that begins with the letter w. Once you tick Add current selection to filter, the Customers who begin with the letter w will be included in your filter. Click the OK button.

You've now added the extra customers.

Filter Unique Records in Excel Tables

You may use Excel's Advanced Filter to filter unique entries and copy them to a different place outside the data collection. When you wish to utilize a filtered list for additional analysis, this is beneficial. Let's look at how we can do this using the Advanced Filter.

Follow the instructions outlined below:

For the REGION column, we want to make a list of unique values. Select Data > Sort & Filter > Advanced from the drop-down menu.

Choose one of the following:

- Copy to a new place - this will generate a one-of-a-kind list in the new spot.
- Select the **REGION** column and include the column headers in the listed range.
- Paste it into the cell where you want the unique list to appear.
- Only unique records - if you want to generate a unique list, make sure this box is checked.
- You've now constructed a list of unique values.

Excel Tables: Go to Blanks

The Excel Go to Special feature, which includes a variety of handy spreadsheet formatting and cleanup tools, is a must-have for any professional Excel user. Go To Special > Blanks is one that I use often. This enables you to quickly remove many blank rows/columns. I'll teach you how to do it in the video below.

Follow the instructions outlined below:

- Select the full table that contains your information.
- To access the Go to Dialog, use CTRL + G. Select Special.
- Click OK after selecting Blanks.
- Now that we've chosen the blank rows, right-click on one and choose Delete > Table Rows.
- Your empty rows are suddenly gone in the blink of an eye!

Excel Tables: Headers Show in Columns

Excel Lists had limited capability prior to the introduction of Excel Tables in Excel 2007. When you had a list of data with hundreds of rows and had to scroll all the way down to the bottom, the Headers row was not visible, thus you had to assume what certain fields were linked to. When you have a large number of rows of data in an Excel Table and need to scroll down to the bottom of the table, the header names remain visible in the Excel Columns.

This is a screenshot of our Excel spreadsheet. Look at the values in the Table Header, then scroll all the way down.

CUSTOMER	REGION	ORDER DATE	SALES	MONTH	YEAR
Acme, inc.	NORTH	4/13/2014	$55,815	April	2014
Widget Corp	SOUTH	12/21/2014	$94,908	December	2014
123 Warehousing	EAST	2/15/2014	$57,088	February	2014
Demo Company	WEST	5/14/2014	$56,539	May	2014
Smith and Co.	NORTH	6/28/2015	$63,116	June	2015
Foo Bars	SOUTH	1/15/2015	$38,281	January	2015
ABC Telecom	EAST	8/22/2015	$57,650	August	2015
Fake Brothers	WEST	12/31/2015	$90,967	December	2015
Fake Brothers	WEST	12/31/2015	$90,967	December	2015
Total	9	2/6/2015	$605,331		

Analysis

For your convenience, our column values are still mysteriously shown on top! This is where Excel Tables shine.

CUSTOMER	REGION	ORDER DATI	SALES	MONTH	YEAR
Demo Company	WEST	5/14/2014	$56,539	May	2014
Smith and Co.	NORTH	6/28/2015	$63,116	June	2015
Foo Bars	SOUTH	1/15/2015	$38,281	January	2015
ABC Telecom	EAST	8/22/2015	$57,650	August	2015
Fake Brothers	WEST	12/31/2015	$90,967	December	2015
Fake Brothers	WEST	12/31/2015	$90,967	December	2015
Total	9	2/6/2015	$605,331		

Linking Excel Tables to Power Pivot

In only a few minutes, you may attach the Excel table to Power Pivot. Make an Excel table containing the information. On the Ribbon, choose the PowerPivot tab. In the Tables category, click Add to Data Model. The Excel table is connected to the PowerPivot Data Table of the same name.

Preparing your Excel Tables

While any huge piece of data may be transformed into a pivot table, it's critical to prepare your Excel data in preparation for PivotTables evaluation. Otherwise, you risk encountering flaws or inconsistencies that cause your data to be misrepresented.

To guarantee that your pivot table produces the results you want, follow these guidelines:

1. Make a distinct heading for every column in your dataset. Instead of using "Name" for both, provide "First Name" and "Last Name."
2. Give each column a classification, such as money or time. To do so, click the symbol above the column to select the whole column. Then, with the drop-down box inside the Numbers category on the home tab, choose the correct classification. You can also style your data by choosing the Number tab after right-clicking the column and picking Format Cells. You'll be able to select your classification and customize how the data is presented.
3. Totals, averages, subtotals, and the like should not be included in the data. Calculations will be considerably easier to create using pivot tables.
4. Erase all of the data's blank cells. If there are any empty cells in the supplied data, an error notice will appear in the results. To get rid of blank cells, type "not available" or "n/a." Shift key + Down Arrow is a quick technique to discover blank cells. This will shift you to another empty cell in the column instantly.
5. Delete any data that is repeated. The findings of repeating data will be wrong. While certain data may recur (for instance, goods in total sales), multiple inputs for a single occurrence should be avoided.
6. Delete all of the data's filters. Within the pivot table, filters may be built. The Sort & Filter function in the Editing section on the home tab may be used to change filters.
7. Any clustered cells should be ungrouped. To group data, wait till you've generated your pivot table. The Ungroup function in the Outline category on the Data tab may be used to remove clustered cells.
8. Your data should be formatted into a table as the last step before building your pivot table. Select Format as Table from the Styles category on the home tab once you've highlighted all of your data.

Adding your Excel tables to the data model

In Excel, a PivotTable may only be created from a single table or range. You may use the Data Model to add new tables to the PivotTable if necessary.

Assume your workbook has two worksheets.

- The first is a table that contains the data of salespeople and the territories they represent.
- The second contains sales data by area and month

Salesperson	Region
Albertson, Kathy	East
Brennan, Michael	West
Davis, William	South
Thompson, Shannon	North

Region	Month	Order Amount
East	January	$925.00
East	February	$875.00
East	February	$500.00
East	March	$350.00
West	January	$400.00
West	January	$850.00
West	January	$1,500.00
West	February	$550.00
West	March	$400.00
South	February	$235.00
South	January	$850.00
South	March	$600.00
South	January	$250.00
North	January	$875.00
North	January	$265.00
North	February	$375.00
North	February	$1,345.00
North	March	$300.00

The sales may be summarized per salesperson as shown below.

- Sales may be accessed by clicking the table.
- Choose the **INSERT** tab.
- Inside the Tables category, choose PivotTable.

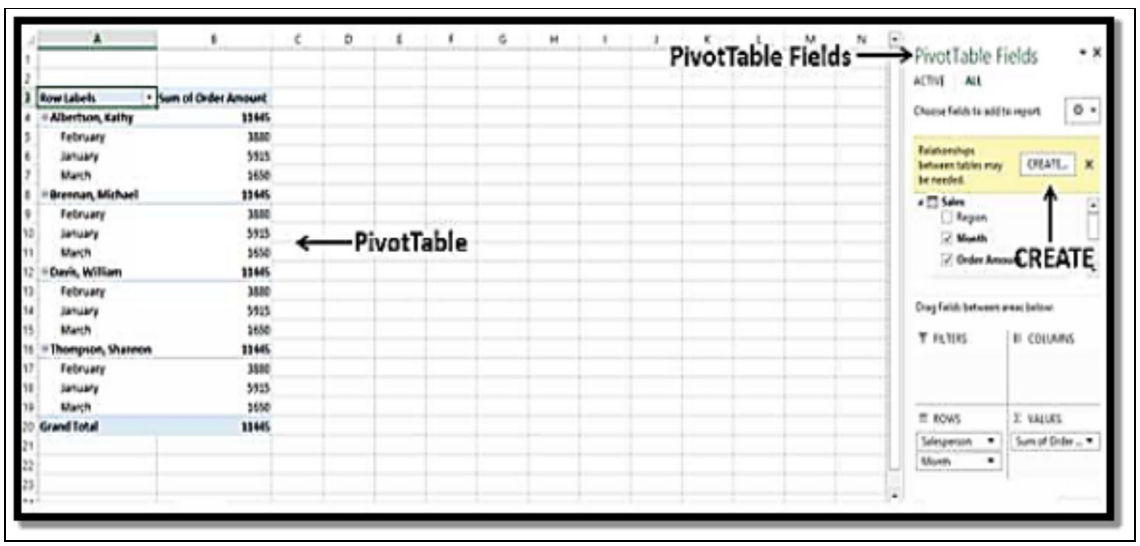
A blank PivotTable will be constructed using the variables from the Sales data – Region, Month, and Order Amount. Underneath the PivotTable Fields list is a MORE TABLES command.

SELECTING MORE TABLES.

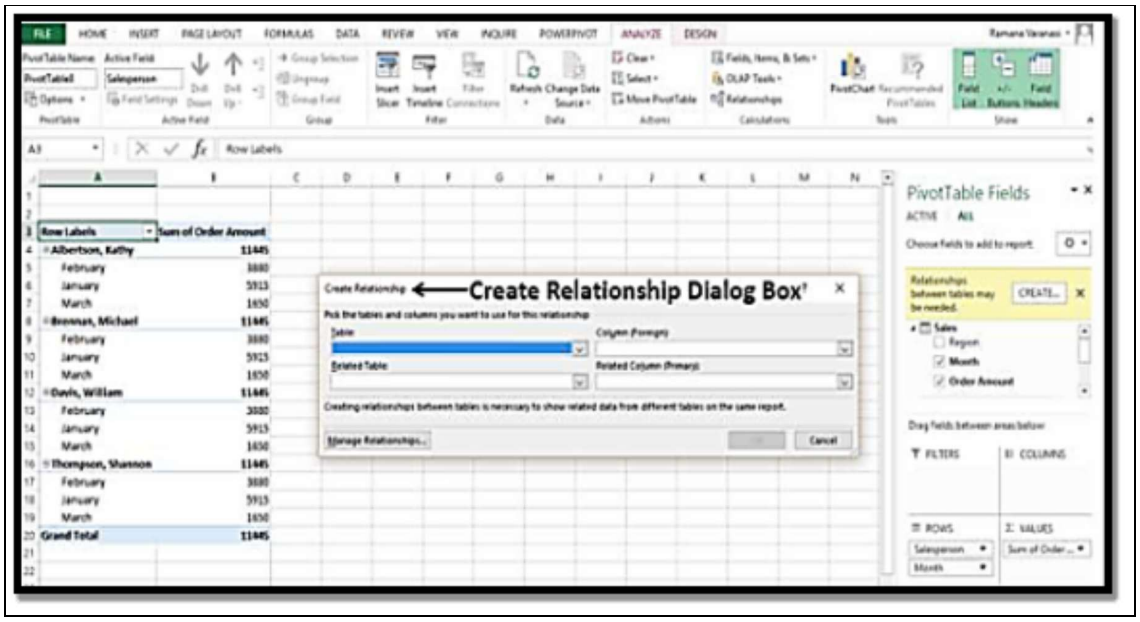
The dialog box Create a New PivotTable opens. To leverage several tables in your analysis, a new PivotTable must be built using the Data Model, according to the information provided. Select Yes. A new Pivot Table will be created.

You'll see that there are two tabs under PivotTable Fields: ACTIVE and ALL.

- Click the ALL tab.
- In the PivotTable Fields list, there are two tables: Sales and Salesperson, each with its own set of fields.
- Drag the **Salesperson** field from the Salesperson table to the ROWS area.
- Drag the Month field from the Sales table to the ROWS area.
- Drag the Order Amount field from the Sales table to the VALUES box.

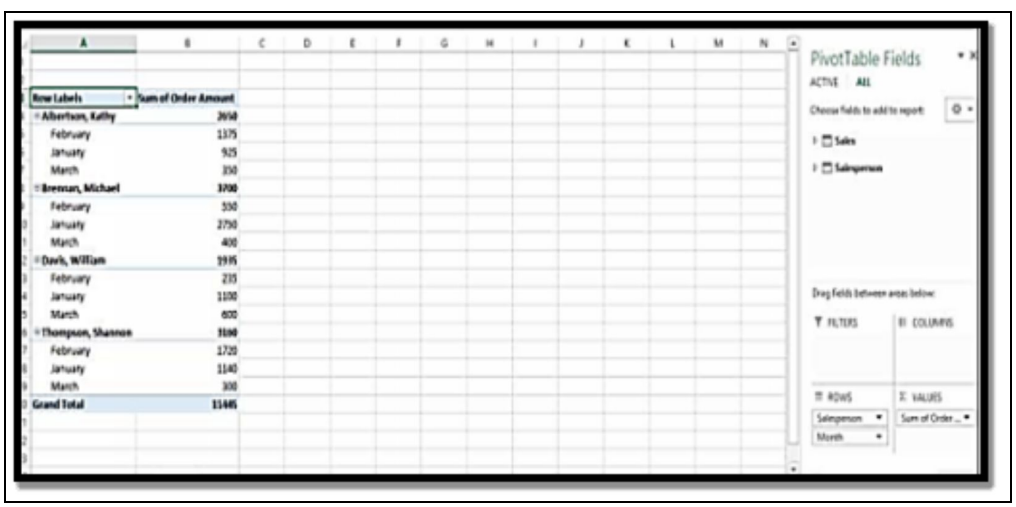


The PivotTable is now ready to use. A notification occurs in the PivotTable Fields stating that table relationships may be required. Besides the message, select the CREATE button. The dialog box for creating a relationship displays.



- Choose Sales from the Table drop-down menu.
- Choose Region from the Column (Foreign) box.
- Choose Salesperson from the Related Table drop-down menu.
- Choose Region from the Related Column (Primary) box.
- Choose the OK button.

The PivotTable has been created from two tables on separate spreadsheets.



Importing tables versus views has advantages and disadvantages.

Tables provide the advantage of clearly stated connections. Whenever you import tables, Power Pivot can detect the connections between them and reproduce them in the Data Model instantly. Tables are also much more

accessible, enabling you to view all of the raw data without being manipulated. Whenever you import tables, nevertheless, you must have a basic grasp of the database structure as well as how the contents in the tables are used in the framework of your company's business requirements. Furthermore, importing a table imports all columns and entries, whether or not you use them. It typically compels you to take the additional step of manually filtering out all the columns you don't want in order to maintain the complexity of your Power Pivot Data Model reasonably.

Because views are already tailored to contain just the columns and data that are required, they are frequently simpler datasets. Furthermore, you are not required to have a thorough understanding of the database structure. Someone with that expertise has previously completed the task for you, including joining the right tables, applying the necessary business processes, optimizing output, and so on.

Something you lose with views is Power Pivot's ability to detect and develop connections inside the Data Model dynamically. You also lose visibility since you probably wouldn't be able to see precisely what the view is doing to arrive at its finished product if you just do not have the permissions to access the views in design mode.

When feasible, it's regarded as a recommended method to utilize views rather than tables. They may help you simplify your Power Pivot Data Model by restricting the quantity of data you import. Tables, on the other hand, are by no means sneered upon and are sometimes the only alternative owing to a lack of database privileges or preset views. It's possible that you'll need to import both tables and views from the same database.

Excel Tables: How to Insert

The majority of the time, you'll make a table out of a pre-existing set of data. Excel, on the other hand, enables you to construct a table from an empty range and fill in the data afterward. The steps that follow presume that you already have a set of data that can be used in a table.

	A	B	C	D	E	F	G	H
1	Product Sales							
3	Da	Region	Produ	Qty	Cost	Amt	Tax	Total
4	1-Apr	East	Paper	73	12.95	945.35	66.17	1,011.52
5	2-Apr	West	Pens	40	2.19	87.60	6.13	93.73
6	1-Apr	West	Paper	33	12.95	427.35	29.91	457.26
7	3-Apr	East	Paper	21	12.95	271.95	19.04	290.99
8	2-Apr	East	Pens	14	2.19	30.66	2.15	32.81
9	3-Apr	West	Paper	10	12.95	129.50	9.07	138.57

1. Make sure the range doesn't have any fully blank rows or columns; otherwise, Excel won't be able to accurately identify the table range.
2. Choose any cell in the range.
3. Select **Insert > Tables > Table** from the menu (or press **Ctrl+T**). The **Create Table dialog box** appears in Excel. Excel attempts to figure out the range and whether the table contains a header row. It predicts right the majority of the time. If not, make the necessary changes before clicking **OK**.

The **Table Tools > Design tab** of the Ribbon displays once the range is transformed to a table (using the default table style).

Note: If the table isn't segregated from other data by at least one empty row or column, Excel could not predict the table's size accurately. If Excel makes an inaccurate estimate, just give the table's precise range in the Create Table dialog box. Better still, click Cancel and reorganize your worksheet such that the table is at least one blank row or column away from the rest of your data.

To make a table out of an empty range, right-click it and choose Insert Tables Table. Excel builds the table, inserts generic column headings (such as Column1 and Column2), and formats the range using table formatting. You'll almost always want to replace the generic column headers with something more meaningful.

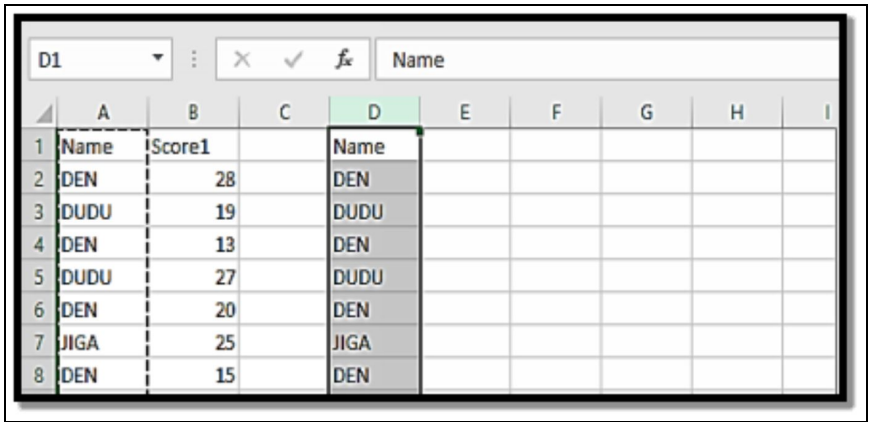
Excel Tables: Remove duplicates

Let’s say you have data in range A1:B6. And you want to add up the values in a column (Column B) in regards to the text value in another column

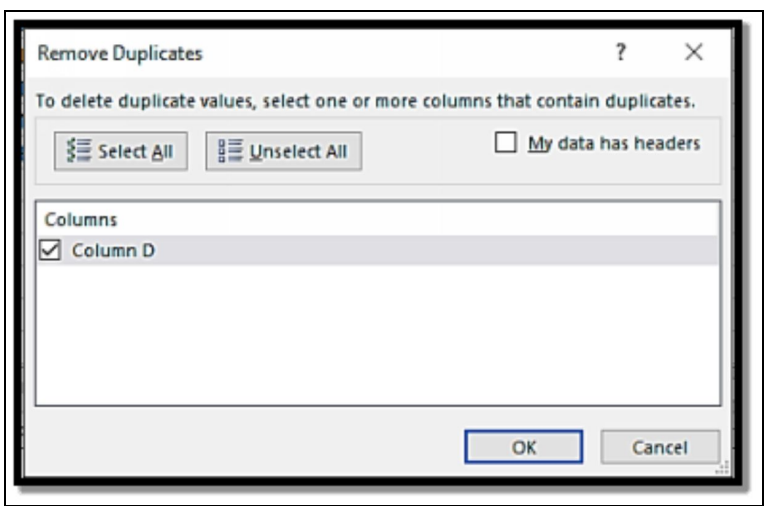
(Column A). To do this, you will have to remove the values that are duplicated in column A, then add up the values in Column B in regards to the unique text values in column A.

Below is how you can do so;

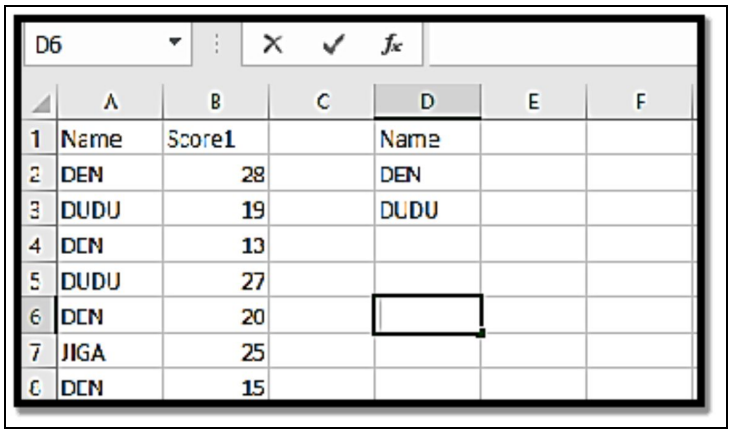
Pick the text values in the A column. Copy the values and paste them into another empty cell.



Select the new column you have pasted the values. Click the Data tab and select Remove Duplicates. Then, pick the pasted columns in the column option. Select OK.

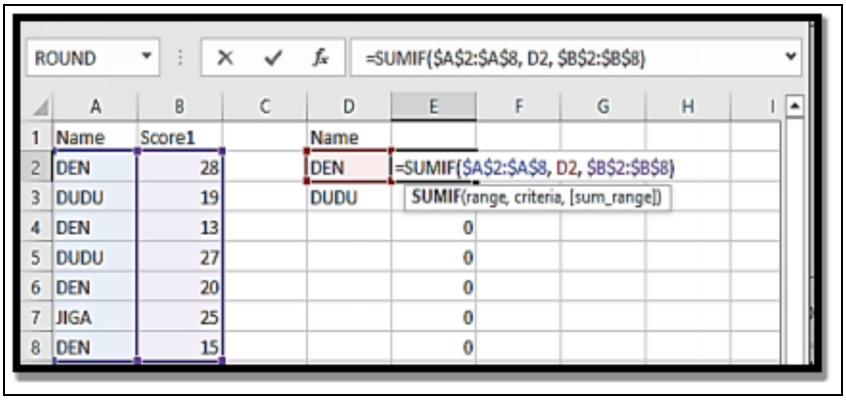


The duplicate values will be removed.



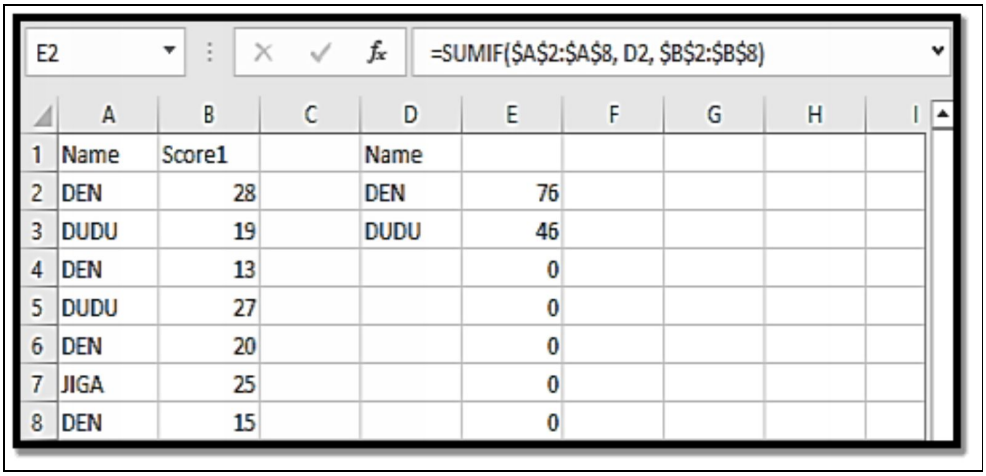
	A	B	C	D	E	F
1	Name	Score1		Name		
2	DEN	28		DEN		
3	DUDU	19		DUDU		
4	DEN	13				
5	DUDU	27				
6	DEN	20				
7	JIGA	25				
8	DEN	15				

Choose an empty cell next to the pasted column. Enter the formula **=SUMIF($A$2:$A$6, D2, $B$2:$B$6)**.



	A	B	C	D	E	F	G	H	I
1	Name	Score1		Name					
2	DEN	28		DEN	=SUMIF($A$2:$A$8, D2, $B$2:$B$8)				
3	DUDU	19		DUDU	SUMIF(range, criteria, [sum_range])				
4	DEN	13			0				
5	DUDU	27			0				
6	DEN	20			0				
7	JIGA	25			0				
8	DEN	15			0				

Hit Enter. Then, use the fill handle to fill in the cell. The summed-up values will display.



	A	B	C	D	E	F	G	H	I
1	Name	Score1		Name					
2	DEN	28		DEN	76				
3	DUDU	19		DUDU	46				
4	DEN	13			0				
5	DUDU	27			0				
6	DEN	20			0				
7	JIGA	25			0				
8	DEN	15			0				

Excel Tables: Row Differences

You may quickly filter the differences between two columns by heading to Find & Select > Go to Special > Row Differences if you have two rows that you wish to compare, such as the sale amount against the amount paid. You can color in the cells after they've been recognized, and then filter to show each transaction.

Follow the instructions outlined below.

- Choose the rows you'd like to compare.
- To launch the **Go to** Dialog, use **Ctrl + G**. Choose **Special**.
- Click OK after selecting Row Differences.
- Color the cells that you've chosen.
- Let's now filter out these rows and keep them! Select Home > Sort & Filter > Filter from the drop-down menu.
- Go to **Paid Column Filter** > **Color Filter** > **Red Color Filter**.
- You've got your row differences now.

Excel Tables: Slicers

Using one or more slicers is another technique to filter a table. This approach is less versatile than the previous one, but it is more aesthetically pleasing. Slicers are especially beneficial when the table will be examined by beginners or individuals who find traditional filtering approaches too difficult. Slicers are very visual, so it's easy to see what kind of filtering is being used. Slicers have the disadvantage of taking up a lot of screen space.

To add one or more slicers, choose **Table Tools > Design Tools** from any cell in the table. Place the Slicer on the table. Excel reacts by displaying each table heading in a dialog window.

Mark the field(s) you want to filter with a check mark. Each column may have its slicer, although this is seldom necessary. Most of the time, you'll just need to be able to filter the table by a few fields. When you click **OK**, Excel will create a slicer for each field you selected.

Every unique item in the field has its button on a slicer. Because the database includes information for 14 distinct agents, the slicer for the Agent

field in the real estate listing example has 14 buttons.

Important: Slicers aren't always ideal for columns with numeric data. The List Price column in the real estate listing table, for example, includes 78 distinct values. As a result, a slicer for this column would contain 78 buttons (with no method of grouping the values into numeric ranges). This is an example of how a slicer is less versatile than utilizing Filter Buttons to filter data.

Simply click one of the buttons to use a slicer. Only the rows with a value that matches the button are shown in the table. You can also use **Ctrl and Shift** to pick several buttons and a continuous set of buttons, which is handy for choosing a range of List Price values.

If your table has more than one slicer, the selected buttons in each slicer filter the results. Click the **Clear Filter icon** in the upper-right corner of the slicer to remove filtering for that slicer.

New

Multi-Select is a new icon in slicers in Excel 2016. You can choose numerous objects without using Ctrl if you click this symbol. People who use touch displays will find it simpler as a result of this.

To modify the look or arrangement of a slicer, use the tools in the Slicer Tools Options context menu. You have a great deal of leeway.

Excel Tables: Subtotal Feature

To enable Subtotals in a pivot table, follow these steps:

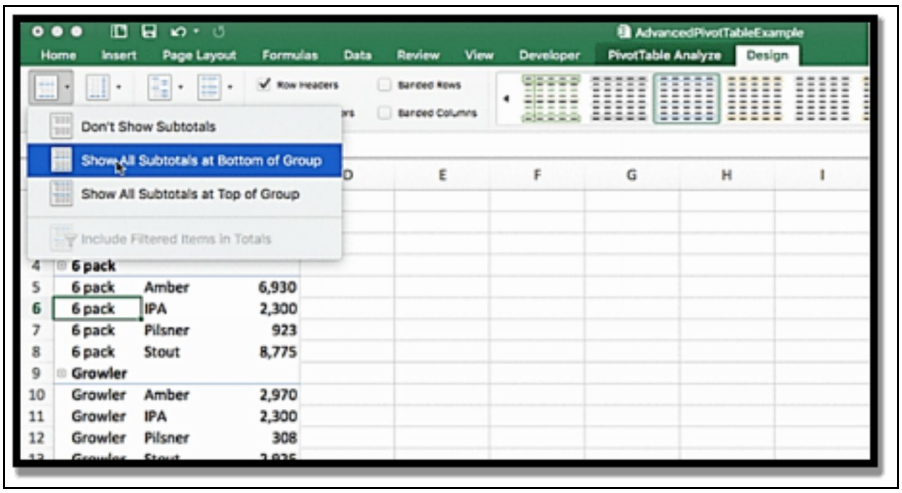
1. Within the pivot table, choose a cell.
2. Inside the ribbon, go to the Design tab.
3. Choose "**Show all Subtotals** at Bottom of Group" or "**Show all Subtotals** at Bottom of Group" from the Subtotals drop-down option.
4. The subtotal computations for the row area groups should now be visible (year, quarter, month).

If you want, you may also show subtotals in your pivot table.

Let's pretend Ryan is going through his beer sales statistics by size and kind. Excel doesn't show the subtotals for each area since his settings are set to show just the cumulative sum of all beer sales.

Ryan would want to examine the data in greater detail as well, and it's simple for him to just do so:

1. First, select the **Pivot Table** and pick the Design tab.
2. Click on **Subtotals**. Choose where you want to display the subtotals. It can be at the bottom or at the top.



1. If you don't want to show the subtotals, select them from the options there.

Excel Tables: Summarize data with subtotals

What exactly does it do? =SUBTOTAL(function num, ref1)

=SUBTOTAL is what it implies (function number 1-11 includes manually hidden rows & 101-111 excludes them, your list or range of data)

When we combine the Subtotal function with a drop-down list, it may become dynamic. This is an excellent technique for producing an Excel Dashboard that highlights essential data metrics on a single page. Follow the instructions outlined below.

In our Excel worksheet, we need to list the Subtotal summary functions.

Select **Developer** > **Insert** > **Form Controls** > **Combo Box** from the ribbon.

Select the region where you want to place the Combo Box with your mouse.

Select **Format Control** from the Combo Box's right-click menu.

Select the range containing the Subtotal summary names from STEP 1 for the Input Range.

Select a cell where you want the output to appear and hit OK for the Cell Link.

(Depending on the order of the list and the name chosen, the Cell Link increases by one; we'll use this value as the first argument in the SUBTOTAL function.)

Enter the Subtotal function, using the Cell Link from STEP 6 as the first parameter function num.

Select the data range for the second parameter.

As you can see, when you choose a summary name from the drop-down menu, the Cell Link value is identical to the function num for that summary name! Let's give it a go. Select MAX to get the most out of your money.

Total Row Calculations in Excel Tables

The use of formulae to compute the contents of an Excel Table's Columns is one of its most powerful capabilities. This will add a Totals Row at the bottom of your Table, and a list of formulae will emerge if you click on any of the boxes! You may use the default formulae such as Average, Count, Count Numbers, Max, Min, and Sum, or you can click on More Functions to access all of Excel's formulas.

follow the actions outlined below;

Any cell in your table may be selected. Select Table Tools > Design > Table Style Options > Total Row from the drop-down menu.

At the bottom of the data, a new row has been inserted. For the REGION column, choose Count.

For the ORDER DATE column, choose Max.

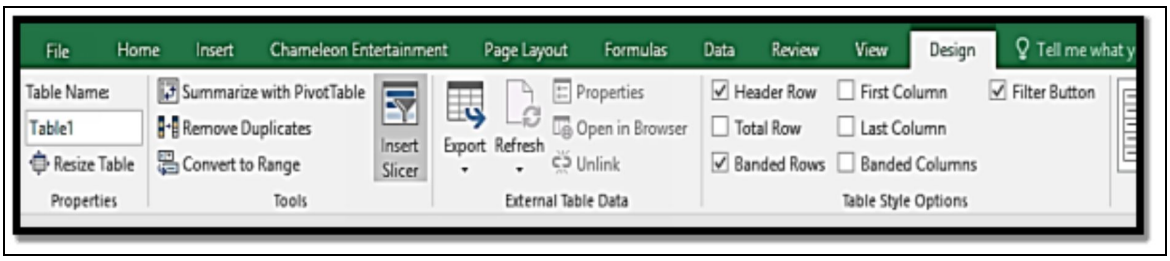
Now you have your modified data! Select Sum for the SALES column. As you add new rows and modify values, they are immediately updated!

Pivot Tables: Connect Slicers to Multiple pivot tables

Slicers are a graphical filtering feature in Excel that allows you to view what elements are filtered inside a Pivot Table. Visualizations and summary reports are the most typical uses for Pivot Table Slicer. Slicers have the benefit of being able to link to many pivot tables and pivot charts, as opposed to pivot table filters. The slicer tool may be used on a data table, pivot table, and charts starting with Excel 2013.

To add a slicer to a table, your data must be organized in an Excel table. Select a cell within your data and navigate to the Insert menu and choose Table to build an Excel table.

When your data is now in a table, a tab will be shown. On the Table Design tab, select **Insert Slicer**.



It will bring up the **Insert Slicer** box, where you can choose whatever fields in your data you wish to add a slicer to.

To generate many slicer objects at once, pick one or much more fields out from the list. You'll be capable of utilizing them both at the same time to sort data depending on different fields.

If you press OK, Excel will automatically construct the slicer objects.

Adding a Slicer to a Pivot Table

1. Simply, choose the pivot table for the slicer. Navigate to the **Pivot Table Analyze** tab and select Insert Slicers.
2. Then, choose the fields to add. Click Ok.

Pivot Tables: Distinct count

When you insert an Excel Pivot Table Slicer, it is solely linked to the Pivot Table from which it is being inserted. What if you wanted to manipulate many Pivot Tables from the same data set with a single Slicer, such that when you hit a button, all of the Pivot Tables change? This may be done using the Slicer's Report Connections (Excel 2013, 2016, 2019 & Office 365) / PivotTable Connections (Excel 2010) option. Follow the instructions outlined below.

By choosing **Insert** > **Pivot Table** > **New Worksheet/Existing Worksheet** and clicking on your data set, you may create two Pivot Tables.

Insert a **MONTH** Slicer in Pivot Table #1 by navigating to PivotTable Tools > Analyze/Options > Insert Slicer > Month > OK.

Insert a **YEAR Slice**r in Pivot Table #2 by navigating to PivotTable Tools > Analyze/Options > Insert Slicer > Year > OK.

Right-click Slicer #1 and choose Report Connections (Excel 2013, 2016, 2019, and Office 365)/PivotTable Connections (Excel 2010) > "check" the PivotTable2 box and click OK.

Right-click Slicer #2 and choose Report Connections (Excel 2013, 2016, 2019, and Office 365)/PivotTable Connections (Excel 2010) > "check" the PivotTable1 box and click OK.

Both Pivot Tables will now alter when you choose each Slicer's components!

Filter by Dates in Pivot Tables

A Pivot Table has a number of different Date filters. You may filter results by a certain date period, such as this week, next month, next quarter, next year, previous year, year to date, and so on. This is handy if you want to check which bills are due this month or which sales transactions were included in a certain quarter.

I've included a couple of short Pivot Table filter examples below.

Select **Date Filters** > **Between** from the **Row Labels** menu.

Set a date range for your search. When you click OK, your Pivot Table will be filtered by dates.

Let's give it another go. Select **Date Filters** > **Next Quarter** from the Row Labels menu.

The following quarter is now filtered in your Pivot Table! (This technique only works if the dates in your Pivot Table and today's date are in the same year.)

Pivot Tables: Filter the top 5 customers

You may quickly filter your Pivot Table to display just the top X customers. There are many different Value Filters to pick from, and the Top 10 Filter is one of my favorites. Here's a look at our pivot table:

Sum of SALES	Column Labels
Row Labels	2015
Acme, inc.	113,918
Demo Company	106,826
Widget Corp	94,378
Foo Bars	85,607
123 Warehousing	75,088
Fake Brothers	43,216
Smith and Co.	41,632
ABC Telecom	14,659
Grand Total	**575,324**

Select **Row Labels** > **Value Filters** > Top 10 from the drop-down menu.

Set it to the top 5 items based on the total amount of SALES. Click the OK button.

The data in your pivot table has now been filtered!

Sum of SALES	Column Labels
Row Labels	2015
Acme, inc.	113,918
Demo Company	106,826
Widget Corp	94,378
Foo Bars	85,607
123 Warehousing	75,088
Grand Total	**475,817**

Show report filter pages in pivot tables

When utilizing an Excel Pivot Table, you may display the Report Filter elements on distinct pages inside your spreadsheet. Assume you've constructed a fantastic Pivot Table that displays overall revenue and the number of transactions by area. You may use the Report Filter to add your customer field and then duplicate the Pivot Table for each of your customers in a separate Sheet. Check out the steps below to see how you can achieve it.

CUSTOMER	REGION	ORDER DATE	SALES	MONTH	YEAR
Acme, inc.	NORTH	13/04/2014	$1,000,000	April	2014
Widget Corp	SOUTH	21/12/2014	$1,500,000	December	2014
123 Warehousing	EAST	15/02/2014	$2,000,000	February	2014
Demo Company	WEST	14/05/2014	$2,500,000	May	2014
Smith and Co.	NORTH	28/06/2015	$63,116	June	2015
Foo Bars	SOUTH	15/01/2015	$38,281	January	2015

Row Labels	Sum of SALES	Count of SALES2
EAST	2,000,000	1
NORTH	1,063,116	2
SOUTH	1,538,281	2
WEST	2,500,000	1
Grand Total	**7,101,397**	**6**

- In the report filter, choose **Customer Field**.
- Select **Options** > **Options Drop Down** > Show Report Filter Pages from the drop-down menu.
- Select OK.

- Each customer's pivot table will be shown on a separate sheet.

Pivot Tables: Sorting a pivot table.

A Pivot Table may be sorted in a number of different ways. Within a Pivot Table, you may sort the Row/Column Labels as well as the Values. I'll show you three fast methods below.

By clicking a cell and dragging each row item up or down, you may sort.

You may also sort by putting a value into an existing cell.

In this case, we're entering Widget Corp, which is now at the bottom of the list.

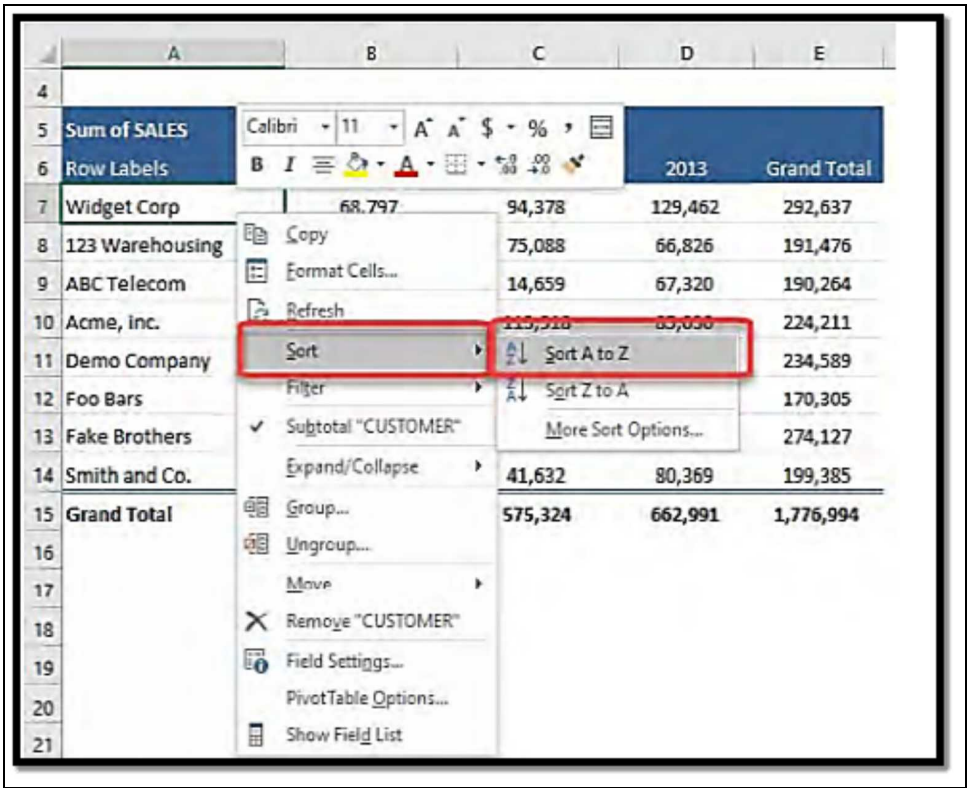
Sum of SALES	Column Labels			
Row Labels	2014	2015	2013	Grand Total
Widget Corp	49,562	75,088	66,826	191,476
ABC Telecom	108,285	14,659	67,320	190,264
Acme, Inc.	25,263	113,918	85,030	224,211
Demo Company	13,964	106,826	113,799	234,589
Foo Bars	31,176	85,607	53,522	170,305
Fake Brothers	164,248	43,216	66,663	274,127
Smith and Co.	77,384	41,632	80,369	199,385
Widget Corp	68,797	94,378	129,462	292,637
Grand Total	**538,679**	**575,324**	**662,991**	**1,776,994**

123 Warehousing is moved to the bottom of the list, while Widget Corp rises to the top.

Sum of SALES	Column Labels			
Row Labels	2014	2015	2013	Grand Total
Widget Corp	68,797	94,378	129,462	292,637
123 Warehousing		75,088	66,826	191,476
ABC Telecom		14,659	67,320	190,264
Acme, inc.		113,918	85,030	224,211
Demo Company	13,964	106,826	113,799	234,589
Foo Bars	31,176	85,607	53,522	170,305
Fake Brothers	164,248	43,216	66,663	274,127
Smith and Co.	77,384	41,632	80,369	199,385
Grand Total	**538,679**	**575,324**	**662,991**	**1,776,994**

Sum of SALES
Value: 68,797
Row: Widget Corp
Column: 2014

You may also use the right-click menu to sort. Select Sort > Sort A to Z on any business name, and our table will be sorted in alphabetical order depending on the firm name.



CHAPTER FIVE

WORKING WITH DATA

11 Excel Data Entry Tips

If entering data is a regular component of your job, Data Entry Forms is a great function to have. It might assist you in avoiding errors and speeding up the data entering procedure. It also allows you to concentrate on only one record at a time! It's a simple and quick approach to entering records in Excel by presenting one row of data at a time instead of moving from one column to the next. It used to take me a long time to enter data in Excel since I had to enter these records one by one, but I found a clever solution that allows me to change my Excel Table into a useful Excel Data Entry Form!

How can I customize the Ribbon?

The Alter Ribbon tab of the Excel Options dialog box is where you customize the Ribbon. Right-click anywhere on the Ribbon and choose to Customize the Ribbon to bring up this dialog box quickly.

The Ribbon may be customized in a similar way as the Quick Access toolbar. The only difference is that you must pick where the command should be placed in the Ribbon.

The overall method is as follows:

1. Customize the Ribbon by right-clicking any portion of the Ribbon. The Customize Ribbon tab of the Excel Options dialog box appears in Excel.

2. To see different groupings of commands, use the **Choose Command** From the drop-down list on the left.

3. In the list box on the left, find and pick the command you want.

4. Select a collection of tabs from the Customize the Ribbon drop-down list on the right.

Tool Tabs refers to the context tabs that display when a certain item is chosen; Main Tabs refers to the tabs that are always visible.

5. In the right-hand list box, choose the tab and group where you want the command to appear.

To extend the hierarchical lists, click the "+ sign" controls. Because commands cannot be added to built-in groups, you may need to utilize the New Tab or New Group buttons to create a new tab or group.

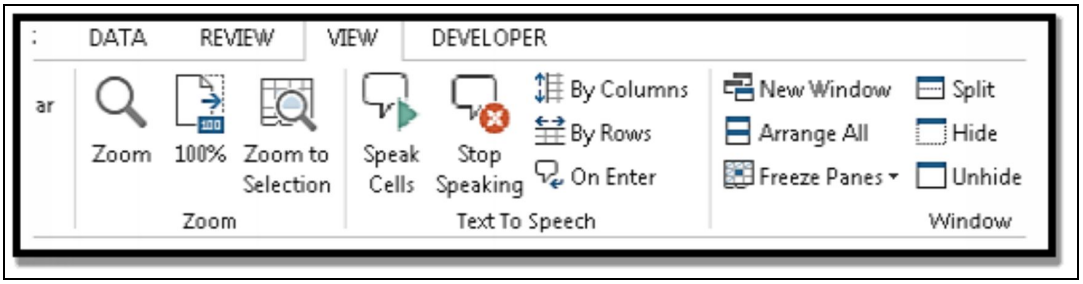
6. To add the chosen command from the left to the group on the right, click the Add button.

To exit the Excel Options dialog box, click OK after you've completed making your Ribbon adjustments.

New tabs and groups are assigned generic names, so you'll want to give them titles that are more relevant. Rename the chosen tab or group using the Rename button. Built-in tabs and groups may also be renamed.

Although a built-in tab cannot be removed, it may be hidden by unchecking the checkbox next to its name.

The picture depicts a portion of a personalized Ribbon. I added a group on the View tab in this example. There are five commands in the new Text to Speech category. This new group was added between the Zoom and Window groups.

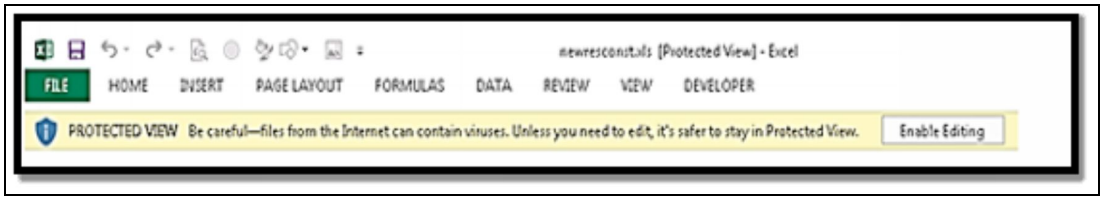


Protected View: An Overview

There's a good possibility you've previously used Excel's Protected View function. Although it may seem like Excel is preventing you from accessing your own files, Protected View is designed to keep you safe from viruses.

Malware is software that has the potential to damage your computer. Hackers have devised a number of methods for manipulating Excel files in order to run malicious code. By opening a file in a secured environment, Protected View effectively avoids these sorts of assaults (sometimes called a sandbox).

You'll see a colorful notification above the Formula bar if you open an Excel worksheet that you obtained from the internet. In addition, the word [Protected View] appears in Excel's title bar.



Click **Enable Editing** if you're satisfied the file is secure. You'll be able to read the contents of the worksheet if you don't allow editing, but you won't be able to make any changes.

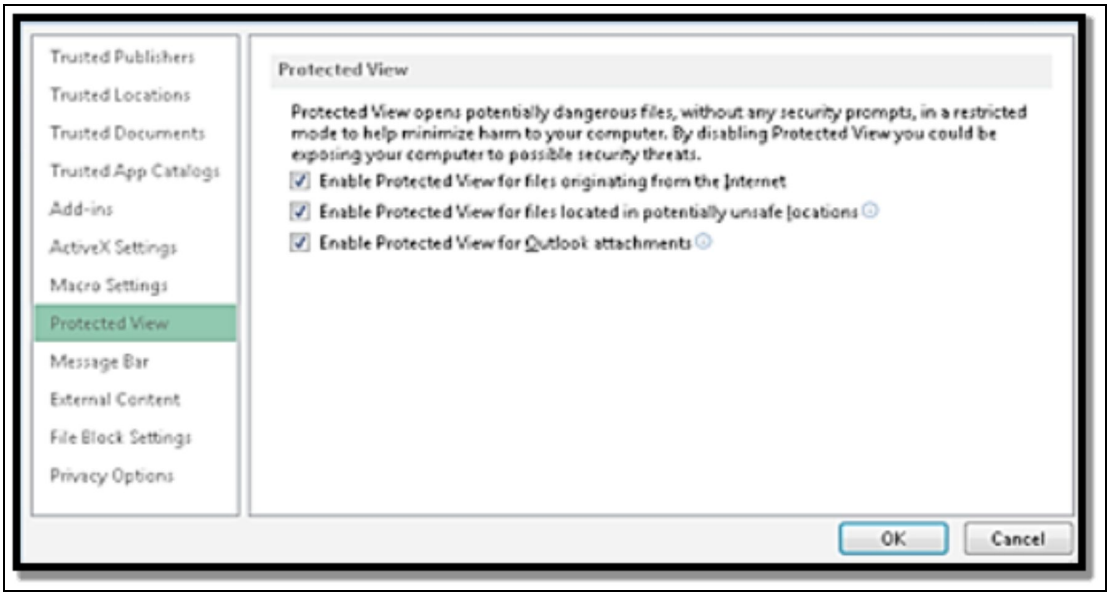
After you allow editing, you'll get another notification if the spreadsheet includes macros: The following is a security warning. Macros have been turned off. Click Enable Content if you're certain the macros are safe.

Protected View is caused by a number of factors Protected View is activated when the following conditions are met:

- Files that have been downloaded from the internet
- Attachments that have been opened from Outlook
- Files that open from places that might be dangerous, such as your Temporary Internet Files folder
- Files that aren't allowed because of the File Block Policy (a feature that allows administrators to define potentially dangerous files)
- Files that have been digitally signed but have had the signature expire

Protected View gives you some control over how it functions. Choose File Options and then Trust Center to adjust the settings. Then, in the Trust Center dialog box, pick the Protected View tab after clicking the Trust

Center Settings button. The possibilities are shown in the picture. All three settings are checked by default.



Choose File Open to show the Open dialog box if you wish to explicitly open a file in Protected View. After selecting your file, click the arrow to the right of the Open button to open it. Open in Protected View is one of the alternatives available.

If you allow editing in a worksheet that was originally opened in Protected View and then save it, it will no longer open in Protected View.

Working with a Workbook in a Web Browser

Workbooks may be created, viewed, and edited directly in a browser using Microsoft's Office Web Apps. The experience isn't identical to using Excel on a desktop computer, but it's extremely close. You may access your workbooks from any place, and Excel does not need to be installed on the machine you're using.

This advice assumes you already have a free Microsoft SkyDrive account and are signed in. SharePoint may also be used.

After you've finished creating a worksheet, go to File Save As and choose a SkyDrive location. This operation stores a copy of your workbook in your local SkyDrive folder as well as in the cloud. Both versions are in sync.

Navigate to skydrive.com in your web browser. Locate and choose the worksheet. In the Excel Web App, the worksheet is displayed. A workbook is shown on the Google Chrome browser.

When compared to the desktop version, the Excel Web App is missing several functionalities.

The Excel Web App, for example, does not support the following:

- Macros
- Add-ons
- Validation of data
- Observations
- Things added as shapes and other inserted objects
- Worksheet protection, for example, prevents the workbook from being opened.

Cloud computing is an excellent concept that has the potential to become a key part of the computing future. However, since you're at the whim of your Internet provider and Microsoft, it might be aggravating. What if you need to do some tasks but the file you want is stored in the cloud?

Save as a Read-Only File

You have several options if you need to share information in a workbook with someone while also ensuring that the information isn't altered.

Please enclose a printed copy.

The low-tech technique is to print a workbook on paper. If the receiver lives far away, this option may need the use of delivery service.

Send a PDF version of the document as an electronic copy.

Portable Document Type (PDF) files are a widespread file format, and almost everyone has software that can show them

Choose FileExportCreate PDF/XPS Document from the File menu, then click the Create PDF/XPS button to bring up the Publish as PDF or XPS dialog box.

Additional settings are available by using the Options button:

Select the pages you want to use.

Specify whether you want to save the current range, chosen sheet(s), or the full workbook.

Save the document's properties and accessibility data.

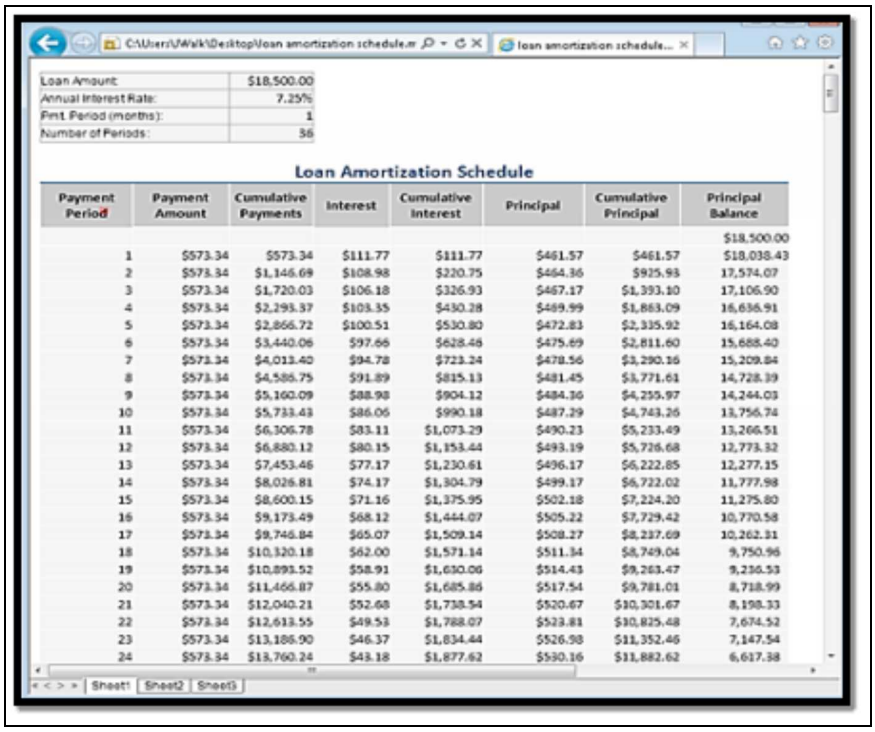
Use Excel's Page Layout view (View Workbook View Page Layout) before saving for the best results, so you can see precisely how the pages will break.

Another alternative in Excel is the XPS format (for XML Paper Specification). This is the format used by Microsoft. When exporting from Excel, you can only export a single worksheet, and photos aren't supported. With Windows, an XPS viewer is included. This is a unique format that isn't generally used.

Please provide an MHTML file.

This file format is unknown to many Excel users. MHTML generates an Excel workbook accurately in a single file that can be accessed in a variety of browsers, including Internet Explorer, Opera, and Mozilla Firefox (extension required). To open the Save As dialog box, choose FileSave As. Then, from the Save, As Type drop-down option, choose Single File Web Page (*.mht, *.mhtl).

The picture depicts a workbook that has been saved as an MHTML file and is being viewed in Internet Explorer. Take note of the worksheet tabs at the bottom.



Loan Amount:	$18,500.00
Annual Interest Rate:	7.25%
First Period (months):	1
Number of Periods:	36

Loan Amortization Schedule

Payment Period	Payment Amount	Cumulative Payments	Interest	Cumulative Interest	Principal	Cumulative Principal	Principal Balance
							$18,500.00
1	$573.34	$573.34	$111.77	$111.77	$461.57	$461.57	$18,038.43
2	$573.34	$1,146.69	$108.98	$220.75	$464.36	$925.93	17,574.07
3	$573.34	$1,720.03	$106.18	$326.93	$467.17	$1,393.10	17,106.90
4	$573.34	$2,293.37	$103.35	$430.28	$469.99	$1,863.09	16,636.91
5	$573.34	$2,866.72	$100.51	$530.80	$472.83	$2,335.92	16,164.08
6	$573.34	$3,440.06	$97.66	$628.46	$475.69	$2,811.60	15,688.40
7	$573.34	$4,013.40	$94.78	$723.24	$478.56	$3,290.16	15,209.84
8	$573.34	$4,586.75	$91.89	$815.13	$481.45	$3,771.61	14,728.39
9	$573.34	$5,160.09	$88.98	$904.12	$484.36	$4,255.97	14,244.03
10	$573.34	$5,733.43	$86.06	$990.18	$487.29	$4,743.26	13,756.74
11	$573.34	$6,306.78	$83.11	$1,073.29	$490.23	$5,233.49	13,266.51
12	$573.34	$6,880.12	$80.15	$1,153.44	$493.19	$5,726.68	12,773.32
13	$573.34	$7,453.46	$77.17	$1,230.61	$496.17	$6,222.85	12,277.15
14	$573.34	$8,026.81	$74.17	$1,304.79	$499.17	$6,722.02	11,777.98
15	$573.34	$8,600.15	$71.16	$1,375.95	$502.18	$7,224.20	11,275.80
16	$573.34	$9,173.49	$68.12	$1,444.07	$505.22	$7,729.42	10,770.58
17	$573.34	$9,746.84	$65.07	$1,509.14	$508.27	$8,237.69	10,262.31
18	$573.34	$10,320.18	$62.00	$1,571.14	$511.34	$8,749.04	9,750.96
19	$573.34	$10,893.52	$58.91	$1,630.06	$514.43	$9,263.47	9,236.53
20	$573.34	$11,466.87	$55.80	$1,685.86	$517.54	$9,781.01	8,718.99
21	$573.34	$12,040.21	$52.68	$1,738.54	$520.67	$10,301.67	8,198.33
22	$573.34	$12,613.55	$49.53	$1,788.07	$523.81	$10,825.48	7,674.52
23	$573.34	$13,186.90	$46.37	$1,834.44	$526.98	$11,352.46	7,147.54
24	$573.34	$13,760.24	$43.18	$1,877.62	$530.16	$11,882.62	6,617.38

The MHTML format is generally the best solution if you need to distribute a read-only, non-alterable workbook (assuming that the recipient has a browser that supports this format).

Generating a Filenames List

This part will show you how to display a list of filenames from a folder in a spreadsheet.

In this method, an Excel 4 XLM macro function is used in a named formula. It's handy since it's a quick and easy method to obtain a list of filenames into a spreadsheet, which would ordinarily need a complicated VBA script.

To construct a named formula, start with a new worksheet and follow these steps:

1. To open the New Name dialog box, go to **FormulasDefine Name.**

2. In the Name box, type **FileList**.

3. In the Refers To field, type the formula below.

=FILES(Sheet1!$A$1)

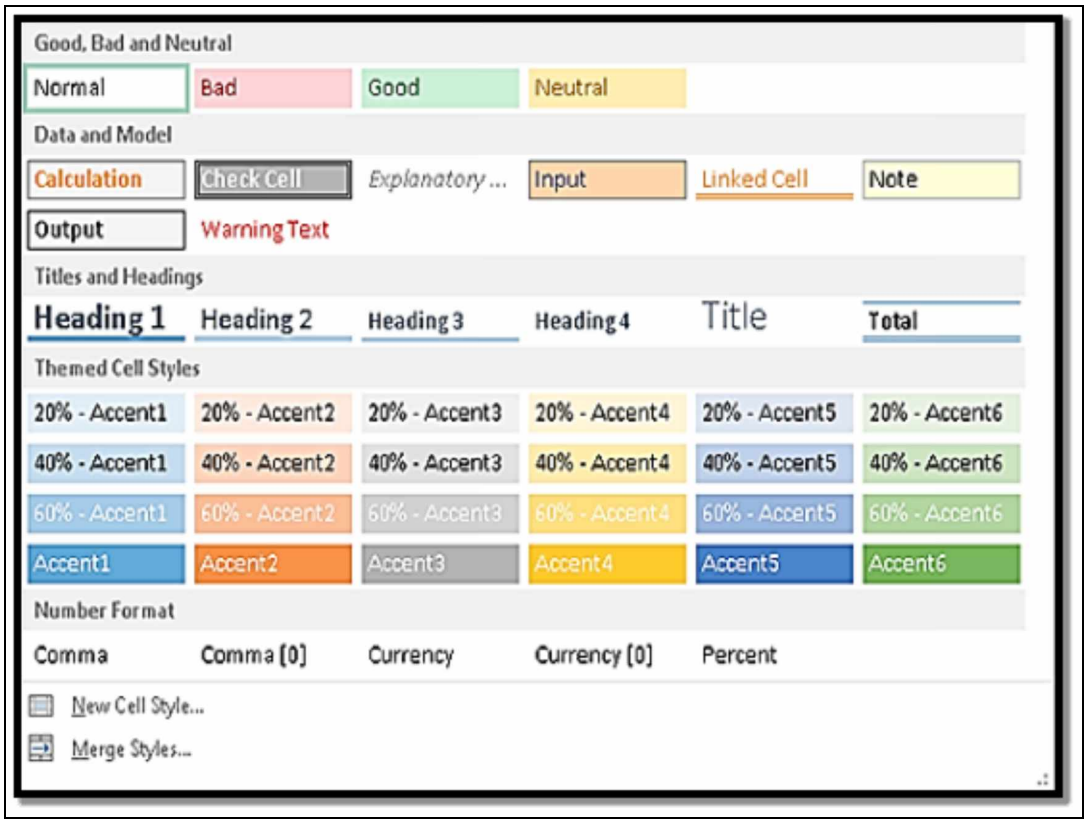
4. To exit the New Name dialog box, click OK.

Making use of the Style gallery

The Style gallery (found in the HomeStyles category) has hundreds of premade styles that you may use in Excel. The graphic depicts the Style gallery's preconfigured styles. Simply click the style to apply it to the specified cell or range. It's worth noting that this gallery includes a preview. When you move your mouse over a style, the effect is momentarily applied to the selection so you can see it. Simply click the style to make it permanent.

After you apply a style to a cell, you may use any formatting technique taught in this chapter to apply extra formatting to it. Modifications to the cell's formatting have no effect on other cells that use the same style.

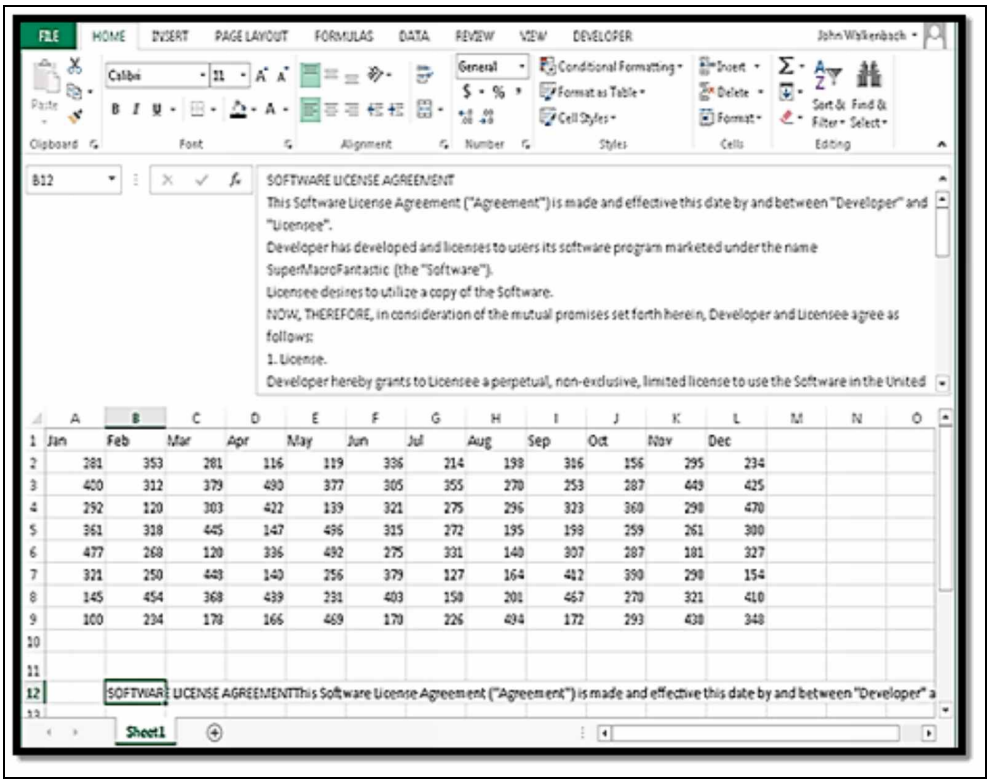
It's recommended to avoid unnecessary formatting to get the most out of your designs. Instead, try developing a fresh look (explained later in this tip).



Changing the size of the Formula Bar

A little arrow appears on the right side of the Formula bar; click the arrow, and the Formula bar grows. You may also adjust the height of the Formula bar by dragging the bottom boundary. A shortcut key combination of Ctrl + Shift + U is also beneficial. The height of the Formula bar is toggled by pressing this key combination to display either one row or the previous size. A scrollbar appears to the right of the Formula bar if the extended Formula bar isn't tall enough to show all of the text in the current cell.

The resized Formula bar is seen in the picture. Increasing the height of the Formula bar does not conceal the information in the spreadsheet, as you can see. Instead, the worksheet data is shown underneath the Formula bar. The formula bar may be nearly as tall as the workbook window (one worksheet row always remains visible).



The width of the Formula bar may also be adjusted. To the right of the Name field, click and drag the three dots. The Formula bar grows smaller as the Name box gets broader.

Monitoring Formula Cells from Any Location

If you have a huge spreadsheet model, keeping track of the values in a few critical cells as you update input cells might be useful. This process is made much easier with the Watch Window function. You can keep a check on any number of cells with the Watch Window, independent of whether the worksheet or workbook is open. This feature may help you save time by removing the need to navigate and switch between worksheet tabs and workbook windows.

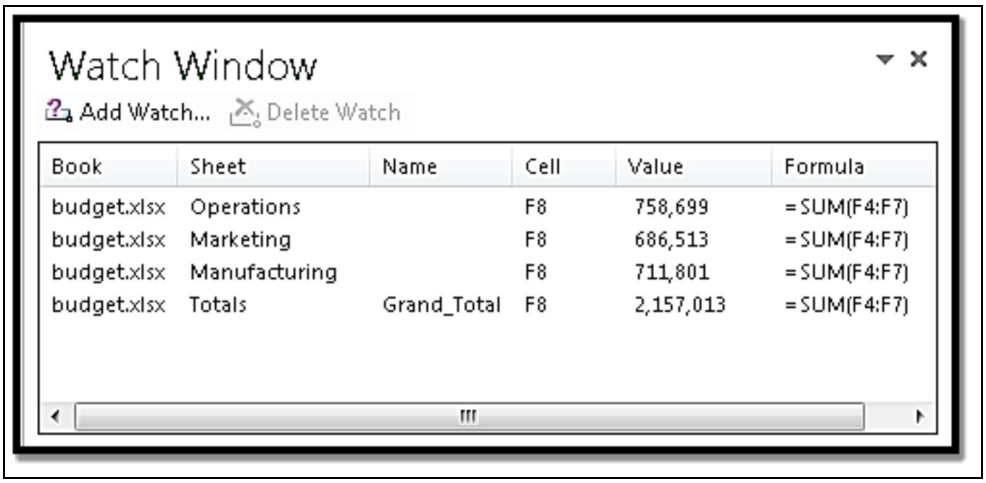
About the Watch Window

Choose FormulasFormula, AuditingWatch Window to open the Watch Window. To watch a cell, go to the Watch Window and Click the Add Watch button, then choose the cell in the Add Watch dialog box. When the Add Watch dialog box appears, you may pick a range or press Ctrl and click individual cells to add multiple cells.

The Watch Window shows the workbook name, worksheet name, cell name (if one exists), cell location, current value, and formula for each cell (if it has one).

Even across sessions, Excel remembers the cells in a Watch Window. When you end a workbook with cells in the Watch Window that are being watched, those cells are deleted from the Watch Window. When you restart the worksheet, though, the cells are visible again.

The graphic depicts the Watch Window, which is being used to keep track of numerous cells.



Customizing the Watch Window

You may alter the display of the Watch Window, which is a task pane, by performing any of the following:

To adjust the size of the task window, click and drag a boundary.

When you drag the task pane to the border of an Excel workbook window, it docks instead of floating.

To modify the width of the columns shown, click and drag the borders in the header. You may conceal a column by dragging its border all the way to the left.

To sort the items by a column, click one of the headings.

Navigating with the Watch Window

The Watch Window may also be used as a navigational tool. If you often go between worksheets, create a cell in the Watch Window for each worksheet. To make a cell in the Watch Window active, double-click it in the Watch Window.

Unfortunately, this navigational strategy only works with the current workbook in Excel 2013. To put it another way, double-clicking a Watch Window item that links to a cell in a separate workbook will not open that workbook. I'm not sure whether this is by design or if Excel has a flaw.

Create Form in Excel

Say goodbye to typing data into this Table row by row, column by column**... Follow the steps below to get started:**

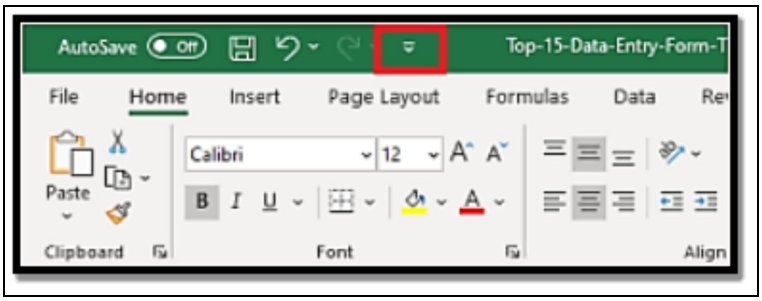
- Go to **Insert**> Table to convert your column names to a table. Check the box next to the "**My table contains the headers**" option.
- To learn how to create a fillable form in Excel, we'll use the Form Creation feature.
- Select **File** > **Options** from the File menu.
- Select **Customize Ribbon** from the drop-down menu. Select Commands Not in the Ribbon and Form from the drop-down menus. This is the capability we need. Select New Tab.

- Select **New Group** from the New Tab and click Add. This will create a new tab on our Ribbon for Forms.
- Select your Table, then Form in your new Form tab.
- A new dialog box for the Form will appear! Fill up the blanks with your information. To save it, click New. Rep this procedure for each record you wish to add. To exit this page and see the data in your Excel Table, press **Close**.
- This new form may now be used to continuously add data to your Excel Table!

Add to Quick Access Toolbar (QAT)

Let's put them on your QAT for quick access now that you know how to make a form in Excel. Follow the steps below to add to the Quick Access Toolbar (QAT):

Right next to QAT, click the little arrow.



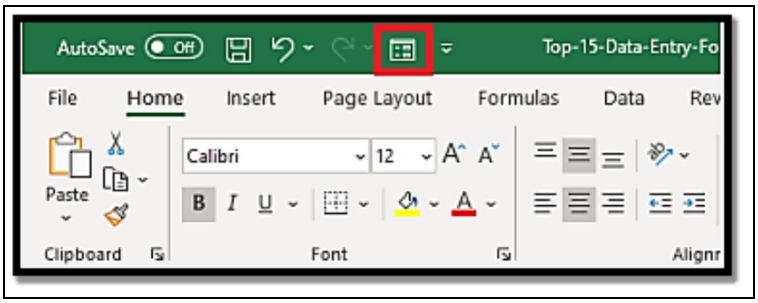
From the dropdown menu, choose More Commands.

Select All Commands from the Choose commands from the list in the Excel Options dialog box.

Select **Form** from the drop-down menu, then click Add>>.

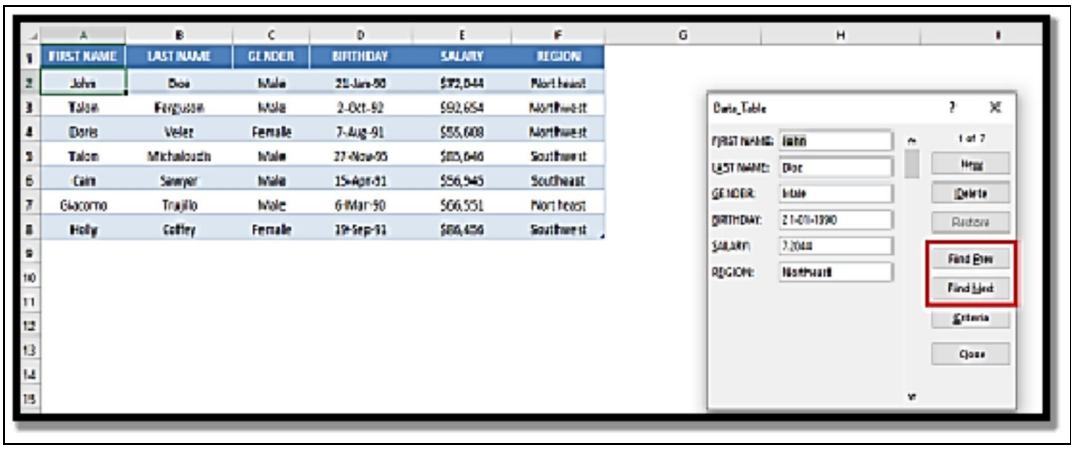
The **Customize Quick Access Toolbar** now includes a form. Click the **OK** button.

Your Quick Access Toolbar now includes the Data Entry Form.



Look through the Records

Use the Find Previous and Find Next buttons on the Data Entry Form to navigate through the existing records.



You can also use the scroll bar to go back and forth between records. When you have data with several columns and records, this will save you time.

Changing an Existing Record

To find the record you want to edit, use the Find Previous and Find Next buttons.

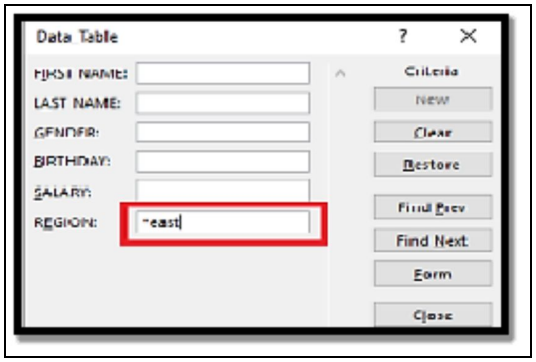
Simply make the required modifications and press Enter in Excel after you've found the relevant record.

The changes will be reflected in the data table.

Criteria for the search

Using Wildcards If you want to search all items in the Region Column that include the term "east," use the wildcard asterisk *.

- Click the Criteria button in the Data Entry Form.
- Type *east in the Region field (to search all regions containing the word east)

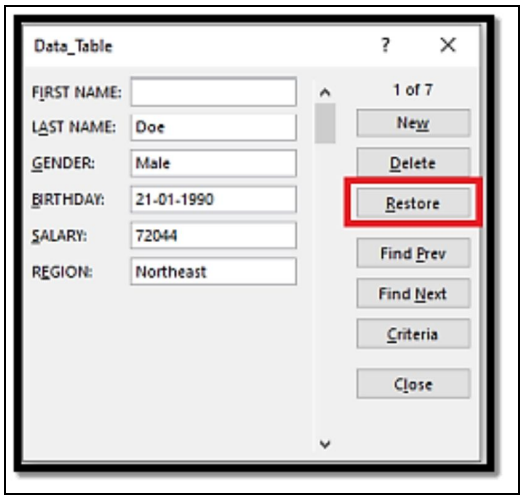


To discover items containing the word east, click Find Next.

In this instance, the Data Entry Form will locate the three entries for you.

Recovering a Record

Assume you've removed the first name of a record by mistake and have no idea what was typed in that area! Don't be concerned. The Restore button in the Excel Data Entry Form may be used to recover data that has been mistakenly lost.



The information will return to the appropriate field. It's important to remember that the Restore button is only useful if you haven't pressed Enter yet. The Restore button will go inactive as soon as you hit the Enter key, and you will be unable to return to the original data.

Data Validation in Forms

Even though you can't add data validation to the form directly, any restrictions placed on the data table will still apply to the Forms. Let's have a look at how! Let's say you use Data Validation to add a list rule to the Region Column.

The Region Column should be selected.

Select **Data Tab** > **Data Tools** (Group) > **Data Validation** from the drop-down menu.

Select List from the Allow dropdown in the Data Validation dialog box.

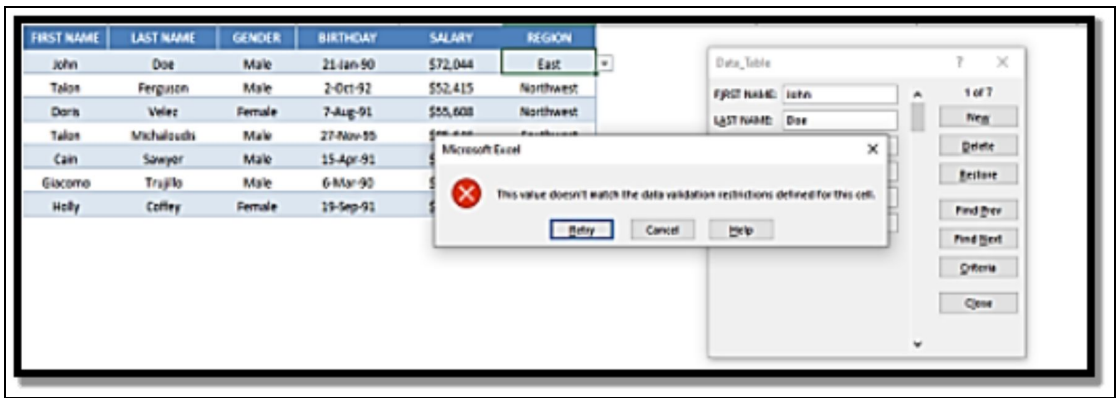
Type Northeast, Northwest, Southeast, and Southwest in the Source column, then click OK.

Data Validation has now been added to the Region Column, allowing you to only input values that are already in the list (Northeast, Northwest, Southeast, Southwest).

In QAT, choose the Forms icon.

Change Record 1's region from Northeast to East, then click OK.

After you click OK, you'll receive the following error message:



Keyboard Shortcuts for Data Entry Forms To work quicker with Data Entry Forms, utilize the following keyboard shortcuts:

- In Excel Forms, press Tab to advance to the next field.
- To advance to the next record in the Excel Forms, press Enter.
- To close the Excel Form, press the Esc key on your keyboard.

- When using the Excel Data Entry Form, **keep the following in mind:**
- Each record may have a maximum of 32 fields.
- A data form record cannot be printed.
- You may undo any changes to the data before pressing Enter. So go ahead and give it a shot! I am confident you will enjoy it.

Add the calculator to the Excel Toolbar

You may have discovered that when you need to do some quick and basic calculations that do not require formulas, you can use the Windows built-in Calculator in Excel. The Calculator app and Excel are frequently used together. Did you know that instead of searching for the Calculator Application, you can use Excel's built-in calculator? Excel offers a lot of customization options, and including the Calculator on the Excel toolbar is one of them. It can literally be placed on your Excel window, making it very simple and convenient to access whenever needed.

Adding the Excel Calculator to the Quick Access Toolbar might save you a lot of time and be quite useful. The Quick Access Toolbar (QAT) is located in the top-left corner of the Ribbon and provides quick access to Excel's most commonly used functions and commands. Save, Undo, and Redo are the only options available by default in QAT. Excel users, on the other hand, may configure it to their liking. So, if you're someone who utilizes the Calculator App with Excel on a regular basis. The addition of a calculator to your QAT would be ideal!

How to Include a Calculator in a QAT

The steps for making a calculator in Excel are simple to follow. The following are some of them:

- Click the down arrow on the Excel Toolbar in the top-left corner of the Excel Ribbon.
- Select More Commands from the list in the drop-down menu.
- Select Commands Not in the Ribbon from the drop-down menu.
- Select Calculator from the drop-down menu. Activate the Add button.
- Click the OK button.
- Your Calculator icon is now available for use.

AutoSum an Array of Data in Excel

You may rapidly fill in the Totals with the Autosum button when you have an array of data in Excel with Totals at the bottom and to the right of the data.

Your data, including the "**Totals**" row and column, should be highlighted.

The Sum formula will be filled in the Totals cells if you click the Autosum button (under the Home or Formulas tabs).

Following that, both your Total row and column will be filled in.

Charts: Change the Axis units

The number of axes used in charts varies. There are no axes on pie, doughnut, sunburst, or tree map charts. All 2-D charts have two axes, but they may have three (if you use a secondary value axis) or four (if you use a secondary value axis) (if you use a secondary category axis in an XY chart). There are three axes in true 3-D charts.

The Format Axis task pane in Excel allows you a lot of flexibility over these axes. Depending on the kind of axis chosen, the content of this task pane changes.

Value axis

Right-click a value axis and choose Format Axis from the context menu. The Axis Options section is increased in this scenario, while the other three parts are constricted. The remaining icons at the task pane's top deal with axis appearance and number formatting.

Excel automatically derives the lowest and maximum axis values based on the numerical range of the data by default. Enter your minimum and maximum values in the Bounds section to override the automatic axis scaling. When these settings are changed, the term Auto becomes a Reset button. To return to automatic axis scaling, click Reset.

Excel also automatically changes the main and minor axis units. You may override Excel's selection and specify alternative units once again.

The look of a chart may be substantially altered by adjusting the boundaries of a value axis. In certain circumstances, manipulating the scale might provide a deceptive view of the data.

The scale you select is determined by the scenario. Setting scale values has no hard and fast guidelines, save that you shouldn't falsify facts by changing the chart to argue a point that doesn't exist.

If you're making numerous charts with comparable scaled data, it's a good idea to keep the limits the same so that the charts can be compared more readily.

Values in Reverse Order is another option in the Format Axis task pane. The Values in Reverse Order option on the right chart reverses the scale's direction. The Category Axis is at the top of the chart. Select the Maximum Axis Value option for the Horizontal Axis Crosses setting if you want it to stay at the bottom of the chart.

Because the Base setting for a logarithmic scale is 10, each scale value in the chart is ten times higher than the one below it. When the main unit is set to 100, each tick mark value is 100 times larger than the one below it, resulting in a scale where each tick mark value is 100 times higher than the one below it. A base value between 2 and 1,000 may be specified.

To change how tick marks are presented on an axis, open the **Tick Marks section** of the Format Axis dialog box. Tick marks are shown differently depending on the Major and Minor Tick Mark choices. The axis tick markings, which usually have labels next to them, are known as major tick marks. Between the big tick markings are little tick marks.

The axis labels may be placed in three distinct spots if you expand the Labels section: next to Axis, high, and low.

Number, the task pane's last area, allows you to customize the number formatting for the value axis. The numerical formatting is normally tied to the original data, but you may change it.

Category axis

The Axis Type: Text or Date is an essential setting. Excel detects if your category axis has date or time information when you build a chart. It utilizes a Date category axis if it does. Dates are in column A, while the values plotted in the column chart are in column B. Although the data only has values for ten dates, Excel constructed a chart with 30 intervals on the category axis. It detected that the values on the category axis were dates and produced a scale with equal intervals.

Excel decides how the category labels should be oriented, but you may change it. Excel displays the text at an angle due to the long category labels.

The labels will show horizontally if you make the chart broader. The Alignment settings in the Size & Properties section of the Format Axis task pane may also be used to alter the labels.

Charts: copying and moving charts

A chart must be enabled before it can be modified. Click an embedded chart to make it active. This brings up the chart and chooses the element you've selected. Simply click the sheet tab to activate a chart on a chart sheet.

Resizing a chart

If your chart is an embedded chart, resizing it with your mouse is simple. Round handles emerge on the chart's corners and edges when you click it. To enlarge the chart, move the mouse cursor to a corner and click and drag when the pointer transforms into a double arrow.

Another option for resizing a chart is to Select **Chart Tools > Format > Size** and alter the height and width of the chart using the two controls. Use the spinners or input the measurements into the Height and Width settings directly.

Moving a chart

Click and drag one of the charts's borders to relocate an embedded chart to a new spot on a worksheet. To relocate an embedded chart, utilize typical cut-and-paste operations. This is the only technique to transfer a chart from one worksheet to the next.

Choose **Home > Clipboard > Cut (or press Ctrl+X)** after selecting the chart. Then choose **Home > Clipboard > Paste (or press Ctrl+V)** from a cell near the desired spot. The new location may be in a different worksheet or even a separate workbook. The chart will be connected to the data in the original worksheet if you paste it into a separate workbook.

Select the embedded chart and pick **Chart Tools > Design > Location** (or vice versa) to transfer it to a chart sheet (or vice versa). The dialog box for moving the chart appears. Choose **New Sheet** and give the chart sheet a name (or use the Excel proposed name).

Copying a chart

Click the chart's border, hold down the **Ctrl key**, and drag to produce an identical replica of the chart on the same worksheet. When you let go of the mouse button, a fresh duplicate of the chart appears.

To create a duplicate of a chart sheet, follow the same steps as before, but this time drag the tab of the chart sheet.

You can also copy a chart using ordinary copy-and-paste methods. Choose **Home > Clipboard > Copy (or press Ctrl+C)** after selecting the chart (an embedded chart or a chart sheet). Then choose **Home > Clipboard > Paste (or press Ctrl+V)** from a cell near the desired spot. The new location may be in a different worksheet or even a separate workbook. The chart will be connected to the data in the original worksheet if you paste it into a separate workbook.

Deleting a chart

To remove an embedded chart, hold down **Ctrl** and click it (to select the chart as an object). Then hit the **Delete key**. You can select numerous charts while holding down the Ctrl key and then erase them all with a single push of the **Delete key**.

Right-click a chart sheet's sheet tab and choose **Delete** from the shortcut menu. Select numerous chart sheets by holding down **Ctrl** while clicking the sheet tabs.

Adding chart elements

Activate the chart and utilize the controls in the **Chart Components "+" icon**, which appears to the right of the chart, to add additional elements to it (such as a title, legend, data labels, or gridlines). It's worth noting that each item extends to reveal more alternatives.

On the **Chart Tools > Design > Chart Layouts tab**, you can now use the **Add Chart Element control**.

Moving and deleting chart elements

Titles, legends, and data labels may all be changed around inside a chart. Simply click a chart element to pick it, then drag its border to reposition it.

Selecting a chart element and then pressing **Delete** is the simplest method to remove it. The controls on the Chart Elements icon, which displays to the right of the chart, may also be used.

Several chart components are made up of numerous items. The data labels element, for example, has one label for each data point. To relocate or remove a single data label, first select the whole element, then pick the relevant data label with a second click. The single data label may then be moved or deleted.

Formatting chart elements

Many users are pleased to utilize the chart styles and layouts that have been pre-programmed. Excel enables you to edit with individual chart components and apply extra formatting for more exact modifications. Some alterations may be made using the Ribbon commands, but the quickest approach to format chart elements is to right-click the element and choose **Format > Element** from the shortcut menu.

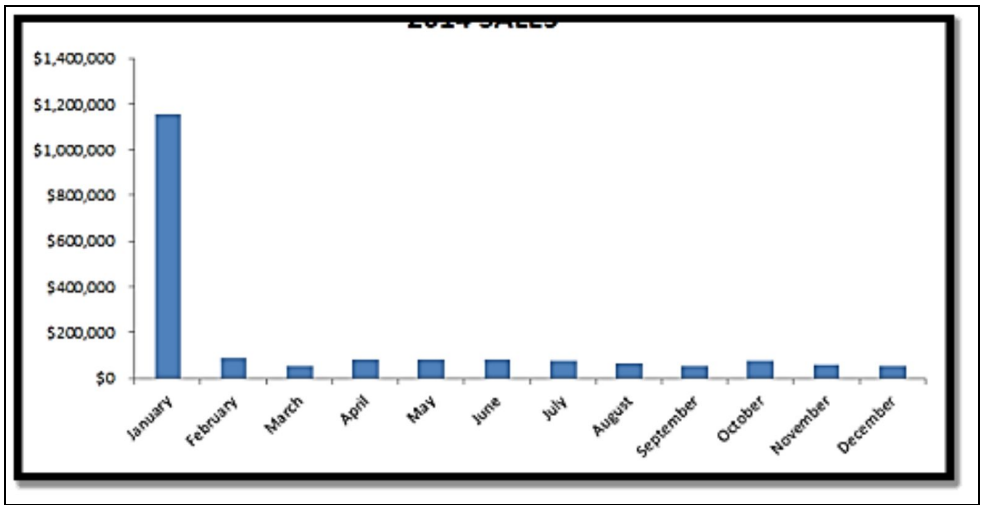
The command you use is determined by the element you choose. Format Chart Title, for example, is a shortcut menu command that appears when you right-click the chart's title.

A task window with choices for the chosen element appears when you use the Format command. Changes you make are instantly visible. The dialog box changes to show the attributes for the newly chosen chart element when you pick a new chart element. While working on the chart, you may keep this task window open. It can be docked on either the left or right side of the window, or it can be made free-floating and large.

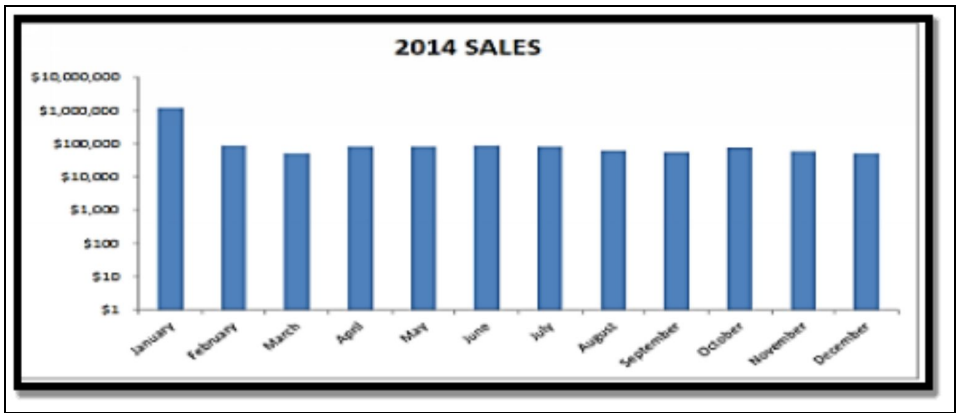
You can double-click a chart element to bring up the Format task pane if it isn't visible. Furthermore, you can return to the original formatting for a chart style if you apply formatting to a chart element and then realize it wasn't such a good idea. Reset to Match Style from the shortcut menu by right-clicking the chart element. When you give the command, pick the chart region to reset the whole chart.

Charts: Logarithms Scale

If you have a large numerical range of data and want to plot a graph, you'll almost certainly end up with a skewed chart like this:



To scale your chart by a factor of ten, use the logarithmic scale (log scale) option in the Format Axis dialogue box. This increases the vertical axis units by ten, starting at 1, 10, 100, 1000, 10000, 100000, 1000000, and so on. This scales the graph to show more even distribution, as shown in the image below.



- Go to Insert > Column Chart and select your data.
- Choose your chart's vertical axis.
- Select Format Axis from the context menu by right-clicking.
- Make sure the logarithmic scale is set to a base often.
- Your chart has been updated and is now available to use.

Using Charts to Present Information

The visual presentation of our work is crucial. We can compress a lot of important information into simple and relevant infographics to express our message, as the common adage goes "a picture is worth a thousand words."

Remember that management does not have time to pore through your spreadsheets, which include hundreds of rows and columns and are spread out across at least 20 sheets. The bottom-line results, which may be used to make decisions, are usually of importance to management. This goal is fairly simple to accomplish in a graphical presentation (charts and to-the-point bullet points in our presentations).

The fundamental graphing of data is relatively familiar to most Excel users. We'll go over advanced ideas like dynamic titles (chart and axis), dynamic legends, dynamic data collecting (if additional data is uploaded to the same chart), and so on to help us create dynamic charts. We'll also look at some of the benefits of utilizing charts to estimate future situations based on previous data.

Guidelines

A consistent chart layout is critical for improving the presentation's overall aesthetic. I always create a single chart template, which I subsequently use throughout the presentation or paper. This offers the presentations or papers a more balanced appearance. All you have to do now is modify the (a) data source and (b) chart type after you've created a template. Furthermore, if you create dynamic charts, the modifications will be minor.

The following are some general standards to follow while creating charts:

1**. Orderliness**—Create a graph with just those parts that communicate important information and leave out those that are superfluous or repetitive.

2. **Backdrop**—Leave the background white, i.e., without any color.

3. **Gridlines**—Some individuals advise against using gridlines. Gridlines are necessary to assist the viewer in reconciling the items in the graph with the axis values. The advice is to utilize gridlines, but in a light gray hue, and to make the spacing between the gridlines as small as possible so that they do not get congested

4. **Marker and line colors**—Make the markers and lines stand out by using bright, clearly recognized colors. Use the same colors for the markers and the lines that go with them.

5. **Legends**—It is advised that the legend be placed at the bottom or top of the chart. Legends may be used in the chart as long as they do not obscure the data. If just one data series is plotted, do not provide a legend.

6. **Plot area**—Excel does not cover all four sides of the plot area by default, leaving the right and top sides blank. To make the chart more distinct, lines should be drawn on all four sides.

7. **Sort data**—If you're making a chart to display the ranking of variables, you'll need to sort the data first. Sort the data in ascending order if the chart needs to display higher to a lower ranking. Sort the data in descending order if the chart needs to display lower to a higher ranking.

8. **For sequential data**, such as monthly income or cost per year, it makes more sense to sort data chronologically, beginning in January and ending in December.

9. **Chart title**—For the chart, provide a descriptive and self-explanatory title. The title makes it clear what the chart is about to the viewer.

10. **Axis titles**—If the axis titles in one kind of chart don't fit horizontally in another, try a different form of a chart. Axis titles that are vertical or at an angle are not encouraged. This may make data interpretation time-consuming and prone to errors.

11. **Thousands separator**—Use the number format with thousands separator if your data is bigger than 999. This is also a good idea for the remaining spreadsheets. If your data in the table has a thousand separators, the chart will use that format automatically.

12. **Dynamic titles**—Use dynamic axis titles, dynamic chart titles, and dynamic legends to create your chart. When any of the chart's heads change, the chart is instantly updated. We're graphing projects against their relative NPVs at a 10% discount rate, for example. As a result, the X-Axis indicates that, but the graph will change if the discount rate in the worksheet changes, but the axis title will not change if it is not connected to the discount rate in the worksheet. We'll teach you how to do it later.

13. **Covered area**—Aim to cover at least 75% of the chart's surface area.

14. **Gridlines** for the primary and secondary axes should overlap to make it easier for the viewer to reconcile the information with the axis values.

Dynamic Charting

The charts are immediately updated if you alter the data range (remove or add additional data), axis names, chart title, legends, and so forth. Creating dynamic charts requires additional talents in addition to standard charting abilities. It needs dynamic range data as a source. The table approach and the formula method are the two main ways accessible, which I employ the majority of the time.

Understanding Recommended Charts

Recommended Charts is one of Excel's newest features. Excel replies by presenting the Recommended Charts of the Insert Chart dialog box once you choose your data and pick **Insert > Charts > Recommended Charts**. This dialog box shows a glimpse of your data using a variety of chart types.

What is the mechanism behind it? The following is taken from the Excel Help:

Do you want us to suggest a decent graphic to show off your data? Select data from your worksheet and click this button to obtain a collection of

charts tailored to your data.

Don't be fooled. Excel makes recommendations using rudimentary algorithms, but doesn't expect powerful artificial intelligence. In other words, you're unlikely to come across a suggested chart that makes you wonder, "Why didn't I think of that?"

Column charts, line charts, area charts, bar charts, pie charts, and scatter charts seem to be the only chart formats approved.

The suggestions do not seem to take into consideration the size of the data. A combo chart, for example, would be a fantastic idea if you choose two data series with significantly different scales. I've never seen an Excel recommendation for a combo chart, however. Rather, it suggests a column or line chart in which one of the data series is so near to the axis that it may be obscured.

Even though the data is ideal (and labeled) for a stock market chart, it is never suggested. It does, however, make several suggestions that are manifestly ineffective.

The suggested chart’s function, on the other hand, isn't wholly worthless. Excel will not propose a pie chart if a data series includes more than eight data points, for example. That's sound advice since pie charts are often misused to present excessive amounts of data. In addition, Excel will never suggest a three-dimensional graphic. That's also sound advice since a 3D graphic is seldom the best option.

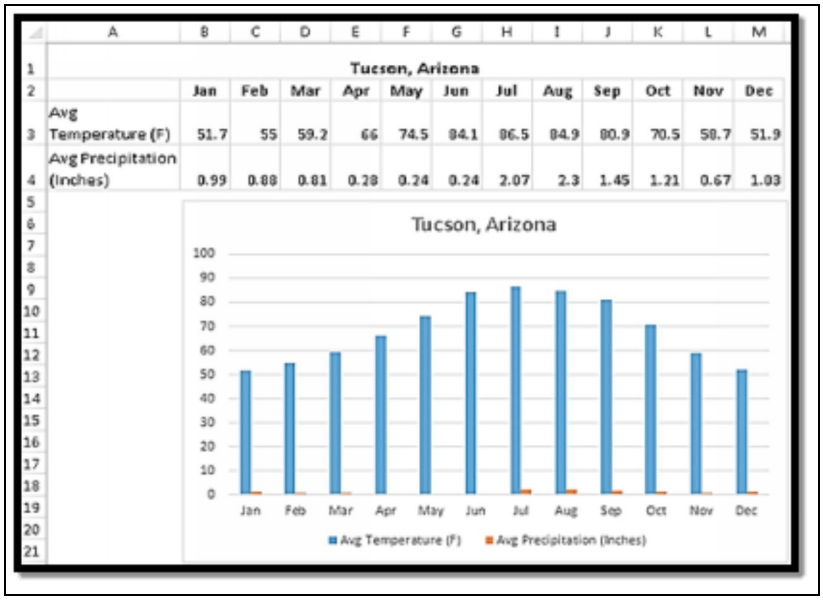
The Recommended Charts tool in Excel is a great concept, but the present implementation is far from perfect. The biggest issue is that this function is designed for new users, and many of them would mistakenly feel that a suggested chart is the best way to show their data.

Bottom line: Except for extremely basic data sets, don't rely on Excel's chart suggestions. Instead, spend some time learning about the many chart kinds available in Excel. If you aim for simplicity and clarity, you'll be less likely to follow erroneous advice from a computer program.

Creating a Combination Chart

A combination chart is a chart that combines two different chart types into one. A supplementary vertical axis may be used in a combo chart. Creating a combo chart in Excel used to be a bit of a pain and needed some non-intuitive processes. Excel 2013 gets it right this time: making a combo chart is simple.

A column chart with two data series, Temperature, and Precipitation, is shown in the picture. Because the scales of these two measurements are so dissimilar, the columns for precipitation data are hardly discernible. This is an excellent candidate for a combo chart.



Tucson, Arizona	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Avg Temperature (F)	51.7	55	59.2	66	74.5	84.1	86.5	84.9	80.9	70.5	58.7	51.9
Avg Precipitation (Inches)	0.99	0.88	0.81	0.28	0.24	0.24	2.07	2.3	1.45	1.21	0.67	1.03

Inserting a combo chart that has already been set

The instructions below show how to make a combination chart using data from the range A2:M4. Temperatures will be shown as columns, and precipitation will be displayed as a line on the graph. In addition, a supplementary vertical axis will be used in the precipitation series.

1. Choose the A2:M4 range.

2. Select **Insert** > **Charts** > Combo from the drop-down menu.

This command displays three icons as a result of its expansion. You may get a preview of the icons by hovering your cursor over them.

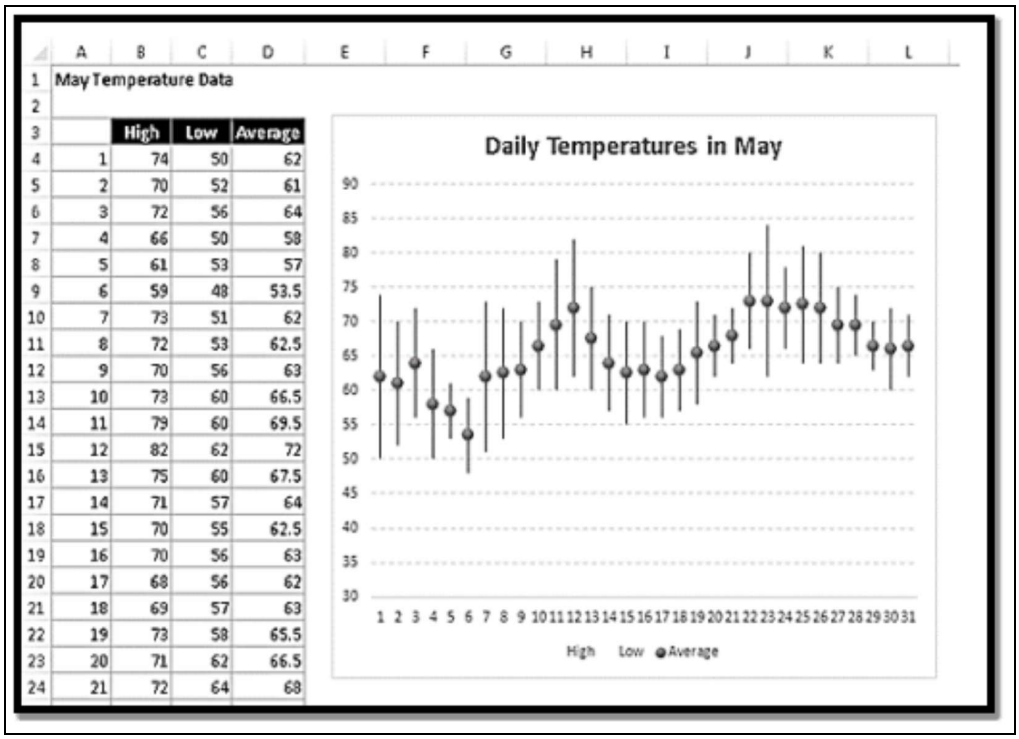
3. Select the Clustered Column — Line on the Secondary Axis icon.

Using High-Low Lines in a Chart

Excel has many stocks market charts that are often used to show stock market data. You may, for example, make a chart that displays the daily high, low, and closing prices of a stock. Three data series are required for this chart style.

Stock market charts, on the other hand, aren't simply for stock values. The graphic exhibits a month's worth of daily temperatures on a graph. The temperature range for the day is shown by the vertical lines (also known as high-low lines).

A single command was used to build this graph. I picked A3:D34 as the range, then **Insert > Charts >Other Charts** and the High-Low-Close option. Of course, you may arrange the high-low lines as you like. You could also want to link the average temperatures with a line.



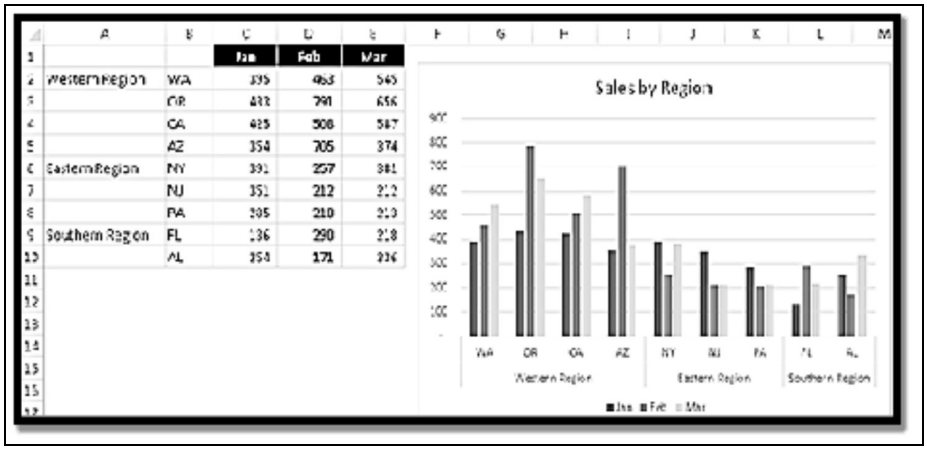
	High	Low	Average
1	74	50	62
2	70	52	61
3	72	56	64
4	66	50	58
5	61	53	57
6	59	48	53.5
7	73	51	62
8	72	53	62.5
9	70	56	63
10	73	60	66.5
11	79	60	69.5
12	82	62	72
13	75	60	67.5
14	71	57	64
15	70	55	62.5
16	70	56	63
17	68	56	62
18	69	57	63
19	73	58	65.5
20	71	62	66.5
21	72	64	68

The sequence of the data for the chart series is crucial when making stock market charts. The series must be presented in that sequence since I picked the High-Low-Close chart style. The "Close" data correlates to Average temperatures in this situation.

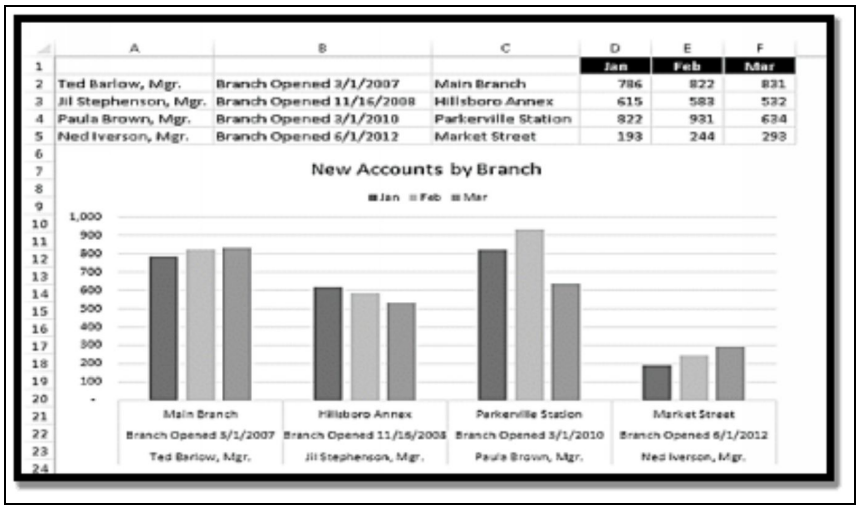
Using Category Labels with Multiple Levels

Most people are unaware that when they build a chart, they may include multi-level category labels. There's no need to go above and beyond. Before you construct the chart, just select all of the data. You don't have to worry about the specifics since Excel will take care of them for you.

An example of a chart with two columns for category labels is shown in the picture. The region is the first level, while the state is the second level. The Region designations in column A aren't duplicated for each state, as you can see. The area name appears just once in the graphic due to the blank regions.

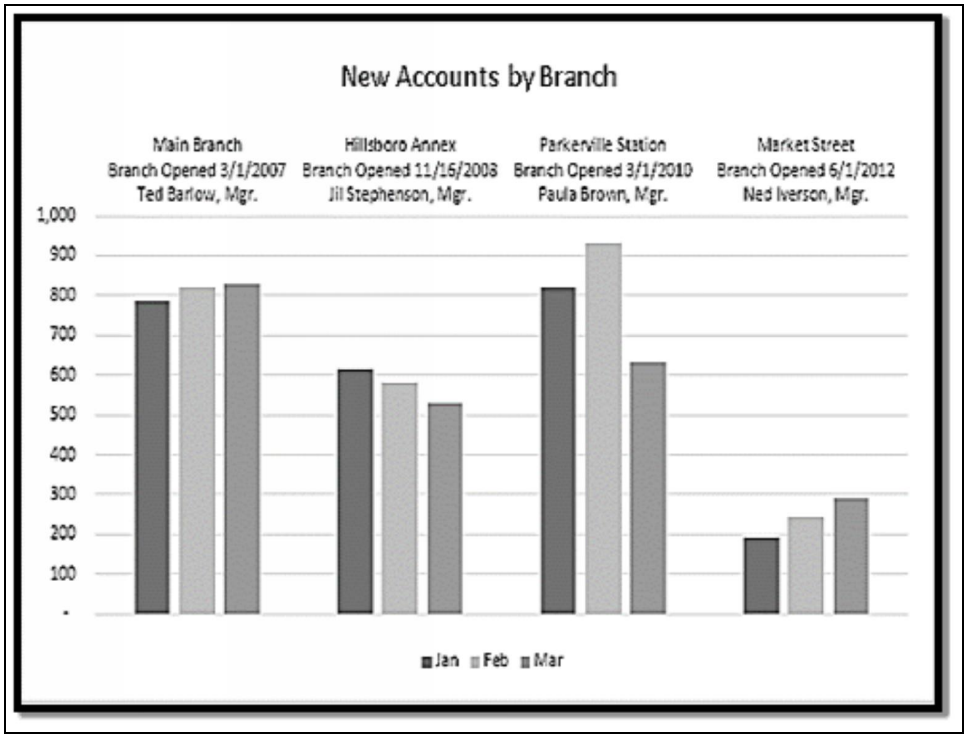


Another example, which utilizes three columns for the category axis labels, is shown in the figure. The extra lines of text are utilized in this example to offer more information about each of the four branches.



The category axis labels may be formatted, but the formatting is applied to the whole text. To put it another way, you won't be able to apply different formatting to each level.

A variant of the preceding example is shown in the picture. I chose the category axis and hit Ctrl+1 to bring up the Format Axis task window after generating the chart with a multi-level category axis. I set the Label Position to High in the Axis Options Labels section. I also turned off the Multi-level Category Labels option, which causes the lines to be closer together.



Connecting the Text of the Chart to the Cells

You may wish to connect some of the chart's text components to cells when creating a chart. When the text in the cell is changed, the accompanying chart element is updated. You may even attach chart text components to formula-filled cells. You might, for example, connect the chart title to a cell with a formula that yields the current date.

The chart title, axis titles, and individual data labels may all be linked to a cell.

1. Choose the chart element that will be used to display the cell link.

2. Select the **Formula bar** from the drop-down menu.

3. Put an equal symbol **(=)** in the box.

4. Select the cell to which the chart element will be attached.

5. Hit the **Enter** key.

Surprisingly, if the cell contains a name, this strategy does not work. Excel gives an error message stating that the calculation is incorrect. Override the name with the sheet name and cell address if you need to attach the chart element to a named cell. Consider the following scenario:

=Sheet1!A12

A connected text box (or a linked shape) may also be added to a chart:

1. Choose a chart.

2. Select **Insert** > **Text** > **Text Box** from the drop-down menu. Alternatively, choose **Insert** > **Illustrations** > **Shapes** and a text-supporting shape.

3. Add an empty text box to the chart by clicking within it (or shape).

4. Select the Formula bar from the drop-down menu.

5. Put an equal symbol **(=)** in the box.

6. Select the cell to which the item will be associated.

7. Hit the **Enter** key.

How to Freeze a Chart

In most cases, an Excel chart takes data from a range. When you change the data, the chart will instantly update. That's usually a positive thing. However, there are instances when you wish to "unlink" the chart from its data range in order to create a static display – a chart that never updates. If you plot data created by several what-if scenarios, for example, you may wish to keep a baseline chart so you can compare it to other situations.

A chart may be frozen in two ways:

- Make an image out of the chart.

- Convert the array references to range references.

Creating an image from a chart

Follow these procedures to turn a chart into a static image:

1. Create the chart as normal and format it according to your preferences.

2. To activate the chart, click it.

3. Select **Home** > **Clipboard** > **Copy** > **Copy as Picture** from the drop-down menu.

The dialog window for copying a picture appears.

4. Click **OK** after accepting the default settings.

5. To deselect the chart, click any cell.

6. To paste the photo, use Ctrl+V in the cell you choose in Step 5.

The end result is a representation of the original graph. As an image, but not as a chart, this chart may be modified. In other words, features like chart type and data labels are no longer editable. It's a blank chart, which is exactly what you wanted.

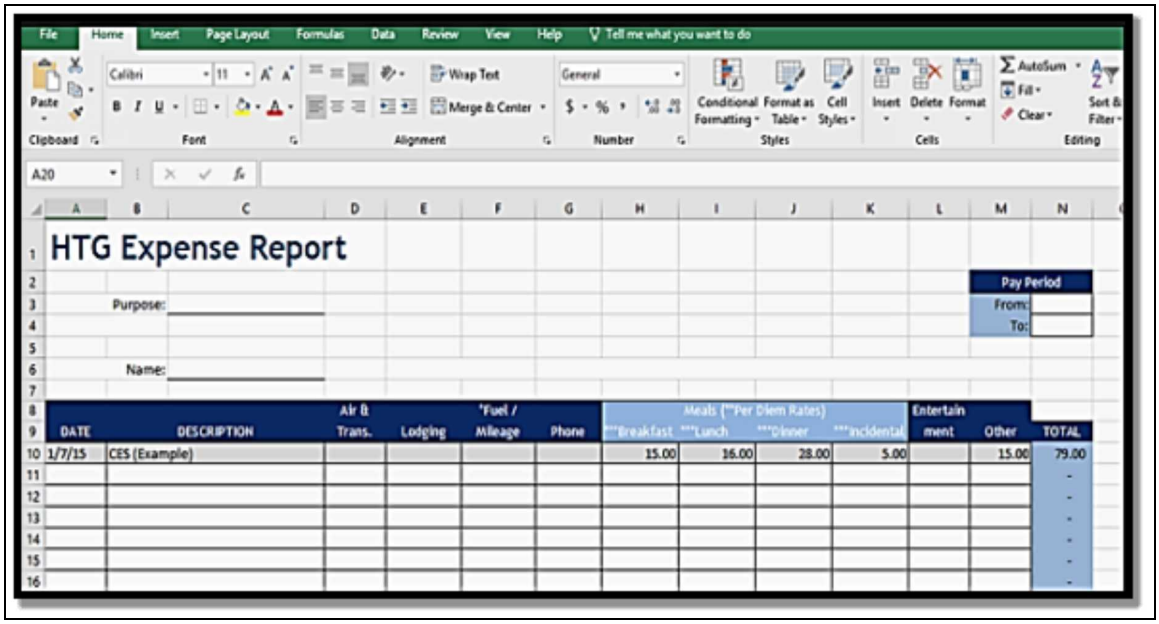
Excel's Picture Tools contextual menu appears when you choose the image. All of the tools in Picture Tools Format, as well as those in the Format Picture dialog box (displayed when you press Ctrl+1), are accessible.

Templates

Creating a custom worksheet template might help you avoid doing the same thing over and over again. Assume you're creating a monthly sales report that includes your company's sales by area, as well as a few summary calculations and graphics. You can create a template file with everything but the input values in it. When you're ready to produce your report, just open a worksheet based on the template, fill in the blanks, and you're done.

Of course, you could just use the prior month's worksheet and save it under a new name. However, because you can easily forget to use the **Save As command** and accidentally overwrite the previous month's file, this is prone to errors. Choose **File > Open** and then Open as **Copy in the Open**

dialog box as another option. (When you click the arrow on the Open button, this command displays.) When you open a file as a copy, it produces a new workbook from an existing one, but it uses a different name to avoid overwriting the previous one.



The default workbook name when creating a workbook based on a template is the template name with a number attached. If you create a new workbook using a template titled Sales Report. xltx, for example, the default name is Sales Report1.xlsx. When you save a workbook built using a template for the first time, Excel shows the Save As dialog box, allowing you to rename the workbook.

A custom template is similar to a regular worksheet. Any Excel function, such as charts, formulae, and macros, may be used. A template is usually set up such that the user may input data and get results right away. To put it another way, most templates include everything except the data, which is entered by the user.

NB: If your template includes macros, save it as an Excel Macro-Enabled Template (.xltm) extension.

Consolidate tool in Excel

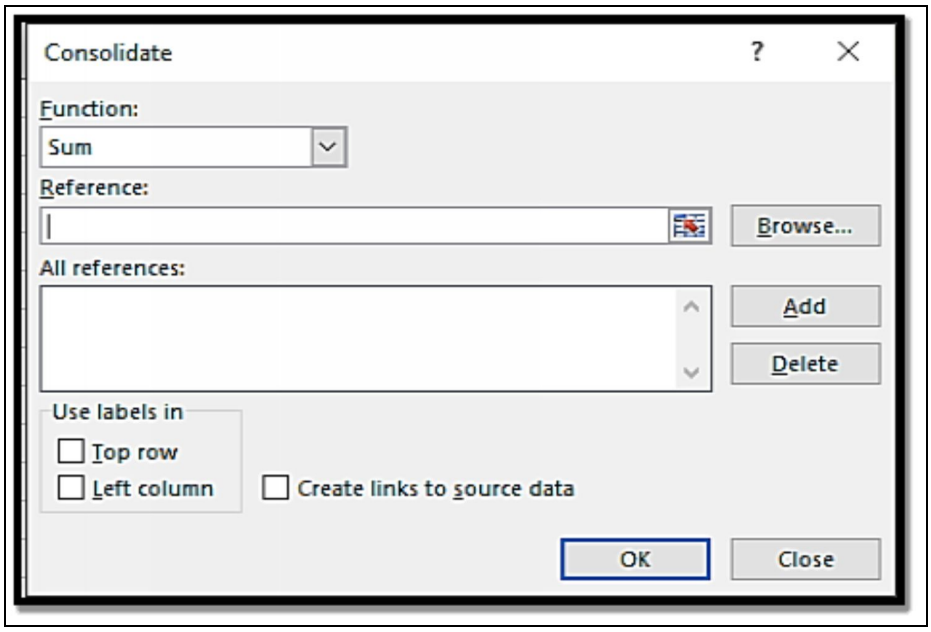
This feature is used for merging and summarizing data in multiple workbooks. It is also used to summarize data that is in a particular file. To

use this feature, you have to be sure of the following;

- The columns must have a range name and a heading.
- The values to be summarized have to be on the left of the values to be summarized.

Click the upper left anchor cell in which the summary is to show. Select the Data tab and pick **Consolidate.**

In the dialog box, select the right function from the Function menu. Put in the range name of the data you are summarizing. Pick the options you need from the Use Labels option. Press **Ok**.



The summarized data of your work will be displayed.

Text to Speech Conversion

Did you know that you can use Excel to convert text to speech? Yes, Excel includes a great feature that allows it to read aloud the text in your Excel spreadsheet! **Follow the instructions outlined below.**

- Customize the Ribbon by right-clicking anywhere on the Excel ribbon.
- We'll build a new group on our Home Tab if we choose New Group.

- Select any symbol from the Rename menu, then name your group Text to Speech.
- Change the option to Commands Not in the Ribbon to view all of the Excel features that aren't currently part of your Excel Ribbon!
- Select the commands that begin with Speak from the list below and click Add to add them one by one.
- The commands have now been added to the Text to Speech group. You're looking great!
- Select OK.
- You may now have some fun with text-to-speech instructions! Try selecting Speak Cells after highlighting the text you want to listen to.

Copy the Cell Above in Excel

We occasionally receive data that has been downloaded from an external source but has not been properly formatted. You could have missing data in a cell and wish to copy the cell just above it to fill up an empty cell in Excel.

Follow the instructions outlined below:

- Your data set should be highlighted.
- Select Home > Find & Select > Get to Special from the ribbon menu, or use the keyboard shortcut CTRL+G to go to Special.
- Press OK after selecting the Blanks option.
- This will highlight all of your empty cells.
- Then tap the = symbol to refer to the cell right above it.
- Finally, and most crucially, you must hit CTRL+ENTER to have the formula applied to all of the blank cells you have chosen.

Dropdown list with data validation

Making a drop-down list with your data is one of Excel's greatest capabilities. It's one of the first things I learned and now use every day. If

you rely on other users to enter data, you can create a drop-down list to eliminate manual entry and re-entry of data, as well as to reduce data entry errors. External users can choose from a drop-down list to enter their choices on a form or a template with Data Validation lists. **Perform the actions outline below:**

- Select the cell into which you want to enter your list.
- Select Data > Data Validation > List from the ribbon.
- Select the range that contains your list of text/values in the Source box and hit OK.

Dropdown menu

You can extend this concept to include it in your Excel Table or Database, in addition to creating a simple Drop-Down Menu/List or Data Validation List. You won't have to repeat procedures like inputting the same customer or copying and pasting again and over. See how simple it is to put this into action in under a minute!

Follow the instructions outlined below:

- Make a list of your values.
- Draw a box around the area where you want your drop-down menu to appear.
- Select the list of values for your drop-down list as the Source in Data > Data Validation Select List. Select OK.
- You may put it to the test right now on your table! You can also change the values in your source list, and your drop-down list will update as well!

Dynamic data list

One of the many useful features of Excel Tables is the ability to build a dynamic drop-down list. When new data is added to an Excel Table, a dynamic drop-down list grows with it. This is useful when you want users to choose from a predefined text or value list rather than entering data manually, which can lead to errors.

Follow the instructions outlined below:

- By choosing the range and hitting the keyboard shortcut **Ctrl + T**, you may turn your list into an Excel table.
- Choose the values for your Table column.
- Go to **Formulas** > **Define Name** > enter a custom name with no spaces (we'll use this name in step 5) and press OK in the ribbon menu.
- Go to the ribbon and select **Data** > **Data Validation** > List from the other Excel Table column where you want to enter the dynamic list.
- Enter the name you created in Step 3 in the Source box and press OK, or click in the Source box, press F3, and choose the named range from there.
- If you want to add more data to your Excel Table list, hover over the bottom right-hand corner with your mouse and drag down when you see a double arrow.
- If you make a new entry, your drop-down list will be instantly updated.

Dynamic data validation list

So, what exactly is a dynamic data validation drop-down list in Excel? As new data is entered into your Excel Table, your drop-down list is instantly updated. This is a useful feature since it eliminates the need to change your data validation source reference every time you add a new record, saving you time in the long run.

Follow the instructions outlined below:

- By choosing a range of data and hitting the keyboard shortcut **Ctrl + T**, you may convert it to an Excel Table.
- Hover over the Excel Table and left-click when the arrow pointer appears to choose your Table's column.
- Go to Formulas > Define Name > in the ribbon. Enter a unique name with no spaces (this name will be used in step 5) and click OK.

- Select Data > Data Validation > List from the ribbon after clicking on a cell.
- Enter the name you generated in Step 3 in the Source box and click OK.
- If you wish to add more data to your Excel table, move your cursor to the bottom right corner and drag down until you see a double arrow.
- If you make a new entry, your drop-down list will be instantly updated.

Filter by selection

When working with an array of data in Excel, you can rapidly choose an item and use the AutoFilter button to filter that selection out of your data. You may then choose another item from another column within your data, repeat the steps above, and further filter your data. This is a simple and fast approach to going deeper into your data.

Follow the instructions outlined below:

- To make this method work, go to **File** > **More** > **Options** > Quick Access Toolbar and add the AutoFilter button to the Quick Access Toolbar.
- Then choose **All Commands** > **AutoFilter** > **Add** > OK from the Choose commands from the menu.
- Then click anywhere in your data, choose AutoFilter from your Quick Access Toolbar, and watch the magic happen! Let's imagine we wish to sort the data by North Region. Any NORTH value may be selected by clicking on it. After that, choose the AutoFilter icon.
- With a simple click, the **NORTH REGION** has been added to your table.

Find and replace

You may quickly edit your data using the Find & Replace function or the CTRL+H shortcut. Consider the case where you have thousands of rows of data downloaded from an external source with the incorrect date. You'll save a lot of time by using CTRL+H.

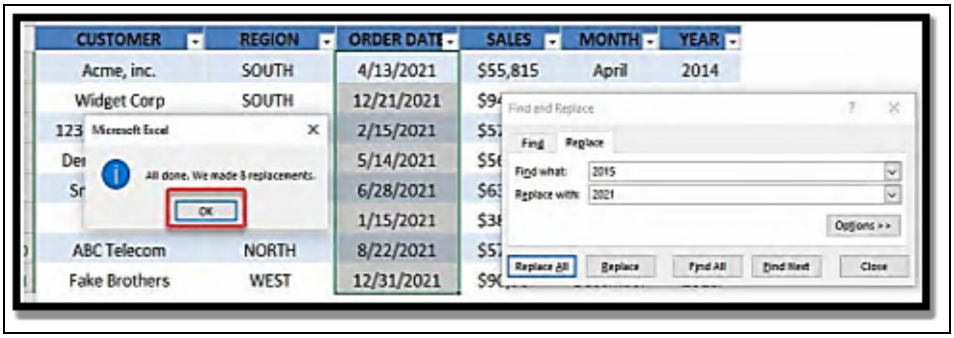
See how it's done in the video below.

Let's try substituting the years 2015 with 2021. All of the Order Dates should be selected.

CUSTOMER	REGION	ORDER DATE	SALES	MONTH	YEAR
Acme, inc.	SOUTH	4/13/2015	$55,815	April	2014
Widget Corp	SOUTH	12/21/2015	$94,908	December	2014
123 Warehousing	NORTH	2/15/2015	$57,088	February	2014
Demo Company	WEST	5/14/2015	$56,539	May	2014
Smith and Co.	SOUTH	6/28/2015	$63,116	June	2015
Foo Bars	SOUTH	1/15/2015	$38,281	January	2015
ABC Telecom	NORTH	8/22/2015	$57,650	August	2015
Fake Brothers	WEST	12/31/2015	$90,967	December	2015

To replace anything, go to **Home** > **Find & Select** > **Replace**.

We'd want to swap 2015 for 2021. Fill in the blanks, then click Replace All. Click the OK button. Your values have been updated.



It may also be used to delete values. Let's pretend we wish to get rid of the NORTH Region. Select the REGION Column's values. To get started, go to **Home** > Find & Select > **Replace**

To locate the NORTH text, type in the values and replace them with a blank. Select Replace All from the drop-down menu.

Find and highlight duplicates

When we have filthy data, we usually wind up with a lot of duplicates. However, spotting duplicates in Excel for data cleansing is a breeze! Follow the instructions outlined below.

- Select Home > Conditional Formatting > Highlight Cells Rules > Duplicate Values from the drop-down menu.
- You have complete control over the formatting. We chose Green Fill with Dark Green Text for our example. Click the OK button.
- The magic will now happen; all of the duplicate values in your Excel spreadsheet will be highlighted!

Find errors with the Go to Special Constants

Let's say you have a data collection and want to check sure each column includes the information it should. For example, suppose you have a column with Dates and you want to make sure there are no cells with Text. Follow the instructions outlined below.

	A	B	C	D	E
3	CUSTOMER	REGION	ORDER DATE	SALES	MONTH
4	Acme, inc.	NORTH	4/13/2015	$55,815	$94,908
5	Widget Corp	NORTH	12/21/2015	$94,908	December
6	123 Warehousing	EAST	2/15/2015	$57,088	February
7	Smith and Co.	#N/A	6/28/2015	$63,116	June
8	ABC Telecom	2015	8/22/2015	$57,650	August
9	Fake Brothers	WEST	August	$56,897	$38,281
10	Acme, inc.	NORTH	4/13/2015	$55,815	April
11	Smith and Co.	SOUTH	6/28/2015	$63,116	June
12	Foo Bars	SOUTH	January	$38,281	January
13	ABC Telecom	#N/A	8/22/2015	$57,650	August
14	Fake Brothers	WEST	12/31/2015	$90,967	December

Choose the values for the Order Date column.

To launch the Go To dialog, use **CTRL + G**. Choose Special.

In the Order Date column, we wish to pick the text values. To do so, go to Constants and make sure just Text is checked (Because our invalid values are in the text format).

Now that the text values have been highlighted in Excel, you may make the required modifications!

	A	B	C	D	E
3	CUSTOMER	REGION	ORDER DATE	SALES	MONTH
4	Acme, inc.	NORTH	4/13/2015	$55,815	$94,908
5	Widget Corp	NORTH	12/21/2015	$94,908	December
6	123 Warehousing	EAST	2/15/2015	$57,088	February
7	Smith and Co.	#N/A	6/28/2015	$63,116	June
8	ABC Telecom	2015	8/22/2015	$57,650	August
9	Fake Brothers	WEST	August	$56,897	$38,281
10	Acme, inc.	NORTH	4/13/2015	$55,815	April
11	Smith and Co.	SOUTH	6/28/2015	$63,116	June
12	Foo Bars	SOUTH	January	$38,281	January
13	ABC Telecom	#N/A	8/22/2015	$57,650	August
14	Fake Brothers	WEST	12/31/2015	$90,967	December

How to Use Flash Fill in Excel

In Excel 2013, the feature of Flash Fill was added. It's incredibly useful since Excel anticipates the remainder of your inputs depending on the first one you put in. Once you check that its forecast is true, it will fill the remaining rows in a flash! The great thing about Excel's Flash Fill is that it eliminates the need for formulae and eliminates manual repetition, saving you a ton of time!

ACTIVATE FLASH FILL: If the Flash Fill feature does not operate automatically, go to File > Options > Advanced > Automatically Flash Fill in Excel's backend. Follow the instructions outlined below.

- Fill in Homer as the first name in the First Name field.
- When you write the initial letter I for Ian in the second entry, Excel will propose that you Flash Fill the remainder of the First Names.
- If Flash Fill does not start automatically when you anticipate it to match your pattern, you may manually start it by going to Data > Flash Fill. Pressing Ctrl+E is another option.
- Press Enter if the flash fill looks fine.
- In the Last Name field, type Simpson as the first name.
- When you insert the initial letter W of Wright in the second entry, Excel will propose that you Flash Fill the remainder of the Last Names.

- Press Enter if the flash fill looks fine. Without using a single calculation, your data is now complete!

Add hyphens to serial numbers using a flash fill.

You may use Flash Fill to combine, extract, transfer, and change data from one column into a new column. Formatting numbers is one of the coolest applications of Flash Fill. We're going to add hyphens to our serial numbers in the example below!

Unformatted SSN	Formatted SSN
123456789	
478923744	
980412833	
491823821	
239842394	
123981293	

In the Formatted SSN column, enter 123-45-6789 as the first item. We'd want to format the remainder of the SSNs in the same manner.

When you input the initial number 4 of 478923744 in the second entry, Excel will advise that you Flash Fill the remainder of the Formatted SSN column. Excel can deduce that you're attempting to apply this formatting. Press Enter if the Flash Fill looks okay.

You'll have to start Flash Fill manually if it doesn't start automatically in your chosen cell when you put in data that fits a pattern. This may be done by selecting Data > Flash Fill from the menu bar or by using the Flash Fill keyboard shortcut. CTRL+E

Excel was able to apply the same style to the remainder of the table without the need for a single calculation, which is rather amazing.

Flash Fill: Convert Values to Dates

You may use Flash Fill to combine, extract, transfer, and change data from one column into a new column. One of the nice features of Flash Fill is that it can instantly convert your numbers into Excel dates.

Text Format	Date Format
20160423	
20151230	
20131211	
20161122	
20150530	
20140322	

In the Date Format column, type 04-23-2016 as the first item.

We want the remainder of the text to be formatted in this manner, so enter 12-30-2015 in the second box. (When working with dates, it's even better to write in a third item since there are so many permutations and regional time formats!) Excel did not automatically recommend Flash Fill. This occurs from time to time.

Because Flash Fill did not start automatically when you expected it to, you may manually start it by highlighting the full column you want it to fill. Then go to Data > Flash Fill or use the Ctrl + E keyboard shortcut.

Your data is now auto-populated thanks to Flash Fill. Excel was able to apply the same date format pattern to the remainder of the table without using a single calculation, which is rather amazing.

Fix Incorrect Formatting with Flash Fill

Have you ever encountered a situation where your data was formatted incorrectly?

For instance, first names that begin with a lowercase letter, last names that begin with an uppercase letter, and middle initials that begin with either a lower- or upper-case letter...

First Name	Middle Initial	Last Name	Full Name
Homer	a	Simpson	
iAn	B	wright	
JOHN		MICHALOUDIS	
michael	D	JACKSON	

This irritates me a lot! Fortunately, we have Flash Fill, which can transform the full data set into a uniform format automatically.

In the Full Name field, type Homer A Simpson as the first item.

We want the remainder of the text to be formatted in this manner, so enter Ian B Wright in the second entry. Excel did not automatically recommend Flash Fill. This occurs from time to time.

Because Flash Fill did not start automatically when you expected it to, you may manually start it by highlighting the full column you want it to fill. Then choose Data > Flash Fill (you may also use the Ctrl + E keyboard shortcut).

Your data is now auto-populated thanks to Flash Fill. Excel was able to apply the same format pattern to the remainder of the table without using a single calculation, which is rather amazing.

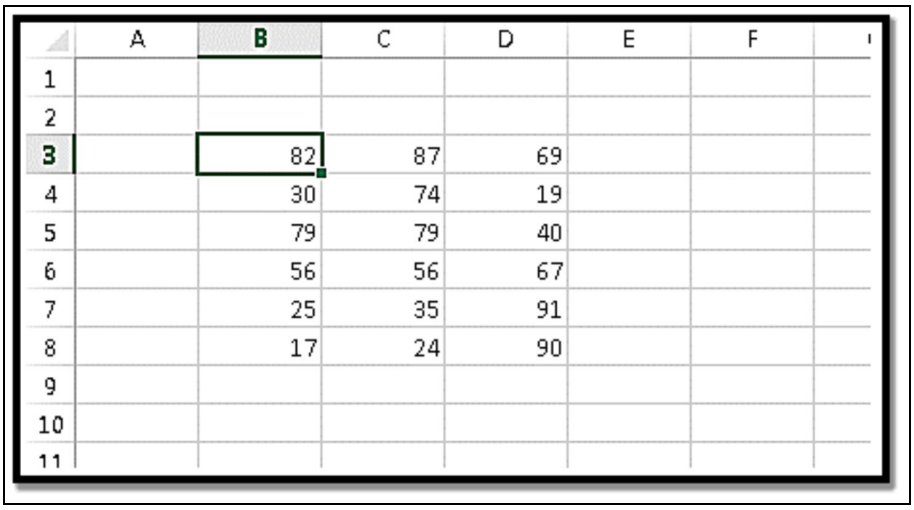
Selecting Cells Efficiently

Many Excel users believe that dragging a range of cells with the mouse is the only method to select them. Although choosing cells with a mouse is possible, it is seldom the most effective method. Selecting ranges using your keyboard is a better option.

Using the Shift and arrow keys to choose a range

The easiest technique to choose a range is to press (and hold) Shift while highlighting the cells with the arrow keys. Use PgDn or PgUp while pressing Shift to advance in bigger increments for larger choices.

You may also easily extend a selection to the final non-empty cell in a row or column by pressing the End key. To use the keyboard to pick the range B3:B8, drag the cell cursor to B3, then press the Shift key while pressing End, then the down-arrow key. To pick B3:D3, hold down the Shift key while pressing End, then the right-arrow key.



	A	B	C	D	E	F
1						
2						
3		82	87	69		
4		30	74	19		
5		79	79	40		
6		56	56	67		
7		25	35	91		
8		17	24	90		
9						
10						
11						

Choosing the current location

A big rectangular selection of cells — the present area — is often required. Move the cell cursor anywhere inside the range and press Ctrl + A to select the whole block of cells.

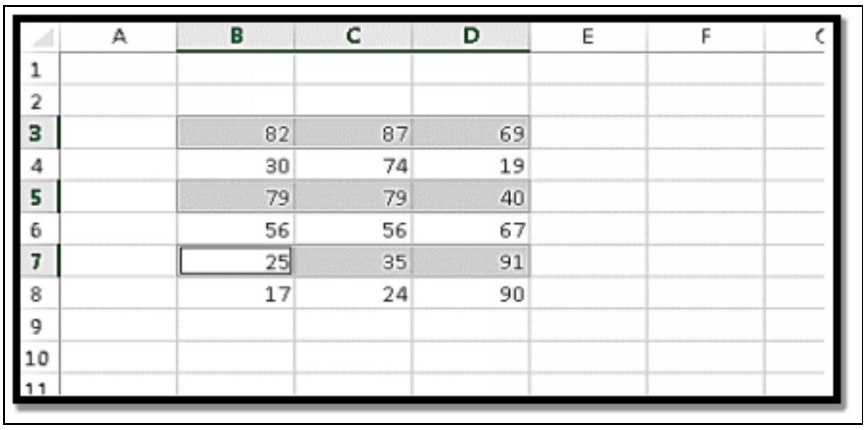
Ctrl+A picks just the data if the cell pointer is inside a table (made with InsertTablesTable). To pick the table's Header and Total rows, press Ctrl+A a second time.

Shift + click to choose a range

When choosing a big range, using the mouse is the most effective technique — but dragging isn't necessary. Select the range's upper-left cell. Then, while holding Shift, navigate to the range's lower-right corner and click the lower-right cell.

Selecting noncontiguous ranges

Your range options are generally basic rectangle ranges the majority of the time. In certain circumstances, you'll need to make multiple selections, which includes cells or ranges that aren't nearby. You may wish to apply formatting to cells in various regions of your worksheet, for example. You may apply the formatting to all specified ranges in one step if you make multiple selections. A multiple selection is seen in the picture.



	A	B	C	D	E	F	G
1							
2							
3		82	87	69			
4		30	74	19			
5		79	79	40			
6		56	56	67			
7		25	35	91			
8		17	24	90			
9							
10							
11							

Using the mouse or the keyboard, you may pick a noncontiguous range.

To highlight particular cells or ranges, hold down Ctrl while clicking and dragging the mouse.

Select a range from the keyboard as mentioned earlier (by using the Shift key). Then, without canceling the previous range selection, press Shift+F8 to pick another range. As many times as necessary, repeat this step. Return to regular selection mode by pressing Shift+F8 once more after you're done.

Choosing whole rows

Click a row number along the left side of the worksheet to choose a single row. Alternatively, use Shift+spacebar to pick any cell in the row.

Click and drag in the row number area to pick several neighboring rows. To choose a row, select any cell in the first (or final) row and press Shift+spacebar. Then, while holding Shift, use the arrow keys to move the row selection down (or up).

Press Ctrl while clicking the row numbers for the rows you wish to include to pick multiple non adjacent rows.

Selecting entire columns

Click a column letter near the top of the spreadsheet to pick a single column. Alternatively, use Ctrl + spacebar on any cell in the column.

Click and drag in the column letter section to choose several neighboring columns. To choose a column, click any cell in the first (or final) column

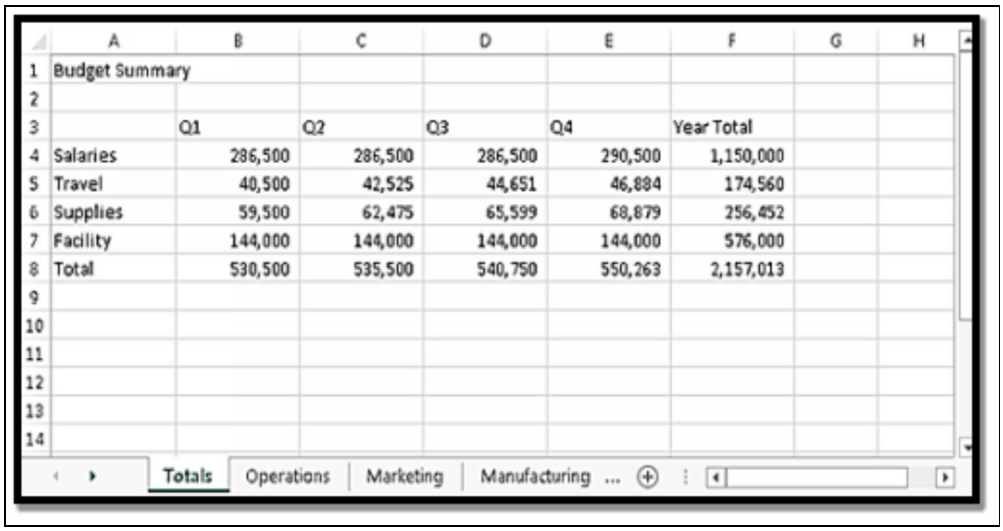
and press Ctrl + spacebar. Then, while holding down Shift, use the arrow keys to move the selection to the right (or left).

Press Ctrl while clicking the column letters for the columns you wish to include to pick multiple non adjacent columns.

Choosing multiple sheet ranges

Ranges may be extended over numerous worksheets to become three-dimensional ranges, in addition to two-dimensional ranges on a single worksheet.

A basic example of a multi-sheet workbook is shown in the picture. Totals, Operations, Marketing, and Manufacturing are the four sheets in the workbook. The sheets are all set out in the same way.



	A	B	C	D	E	F	G	H
1	Budget Summary							
2								
3		Q1	Q2	Q3	Q4	Year Total		
4	Salaries	286,500	286,500	286,500	290,500	1,150,000		
5	Travel	40,500	42,525	44,651	46,884	174,560		
6	Supplies	59,500	62,475	65,599	68,879	256,452		
7	Facility	144,000	144,000	144,000	144,000	576,000		
8	Total	530,500	535,500	540,750	550,263	2,157,013		
9								
10								
11								
12								
13								
14								

Totals | Operations | Marketing | Manufacturing ...

Assume you want to apply the same formatting to all sheets, such as making the column headers bold and darkening the backdrop. The ideal way is to choose a multi sheet range.

The formatting is applied to all sheets when the ranges are chosen.

Selecting a multi sheet range is a two-step procedure in general:

1. Choose a single sheet for the range.

2. Decide which worksheets should be included in the range.

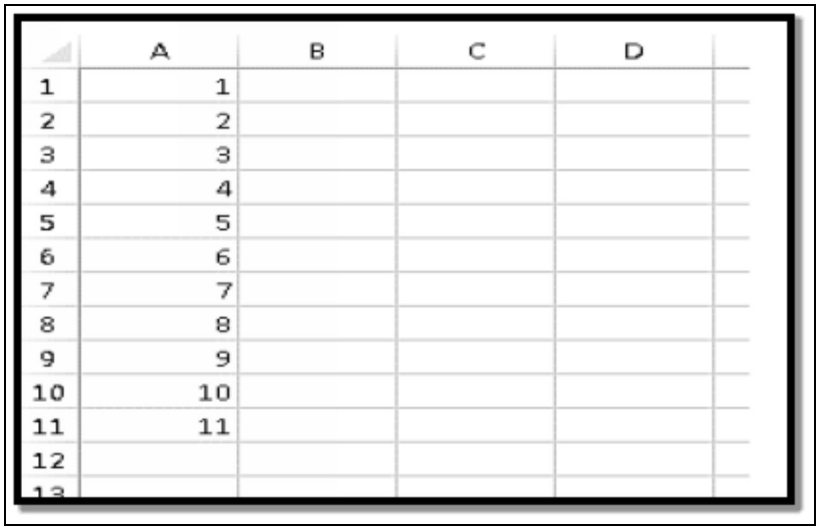
Press Shift and click the sheet tab of the final worksheet you wish to include in the selection to choose a collection of contiguous worksheets. To

select specific worksheets, hold down Ctrl and click the sheet tab of each worksheet. The sheet tabs of the chosen sheets have a white backdrop when you make the selection, and Excel shows [Group] in the title bar. To exit Group mode, click any sheet tab when you've finished working with the multi-sheet range.

Filling a Range with a Series Automatically

Enter the first value, create a formula to compute the next value, then replicate the formula if you need to fill a range with a sequence of numbers. In column A, for example, the graphic depicts a succession of sequential numbers. The value 1 is in cell A1, and this formula was copied along the column into cell A2:

=A1+1

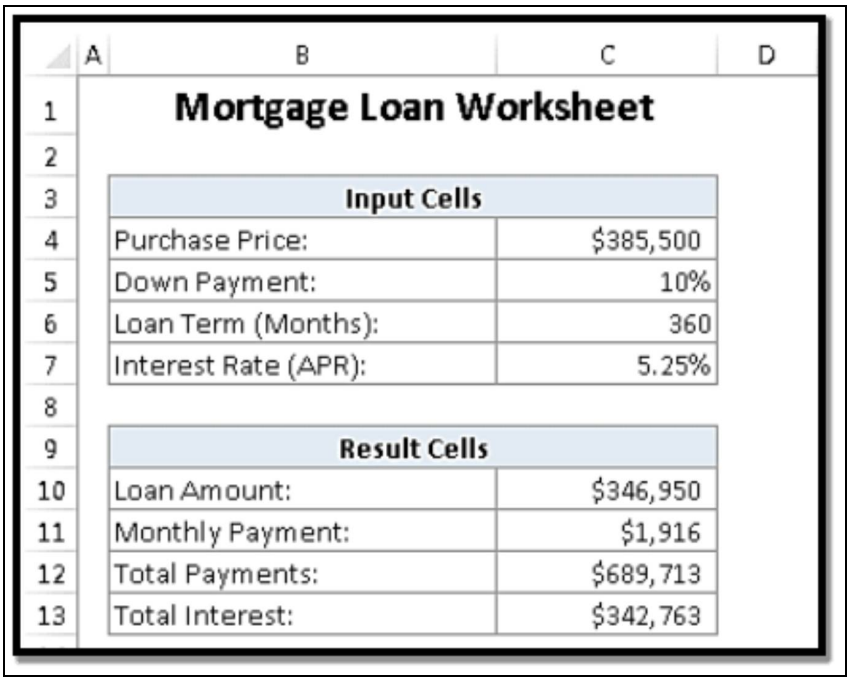


	A	B	C	D
1	1			
2	2			
3	3			
4	4			
5	5			
6	6			
7	7			
8	8			
9	9			
10	10			
11	11			
12				
13				

Restricting Cursor Movement to Input Cells

There are two sorts of cells in a typical worksheet: input cells and formula cells. The formulae compute and show the results once the user inputs data into the input fields.

A basic example is shown in the picture. The input cells span from C4 to C7. The formulae in C10:C13 make use of these cells. To avoid the user from typing over formula cells by mistake, it's a good idea to restrict cursor movement such that the formula cells aren't even selectable.



	A	B	C	D
1		**Mortgage Loan Worksheet**		
2				
3		**Input Cells**		
4		Purchase Price:	$385,500	
5		Down Payment:	10%	
6		Loan Term (Months):	360	
7		Interest Rate (APR):	5.25%	
8				
9		**Result Cells**		
10		Loan Amount:	$346,950	
11		Monthly Payment:	$1,916	
12		Total Payments:	$689,713	
13		Total Interest:	$342,763	

It takes two steps to set up this kind of arrangement: Protect the sheet after unlocking the input cells.

The methods below are particular to the example presented in the image

1. Choose **C4:C7**.

2. To open the Format Cells dialog box, use Ctrl+1.

3. Select the Protection tab in the Format Cells dialog box, remove the Locked check box, and click OK.

All cells are locked by default.

4. Select **ReviewChangesProtect** Sheet from the drop-down menu.

The dialog box Protect Sheet appears.

5. Make sure the Select Unlocked Cells checkbox is selected and deselect the Select Locked Cells checkbox.

6. (Optional) Create a password that must be entered to unlock the document.

7. Select **OK**.

Only the unlocked cells may be chosen once you've completed these steps. If you need to make any changes to your worksheet, go to ReviewChangesUnprotect Sheet and unprotect the sheet first.

Although the steps in this example utilized a contiguous range of cells as input, this isn't required for them to operate. The input cells may be strewn around your spreadsheet.

Password-protecting a spreadsheet isn't a security feature. This form of the password is simple to decipher.

Transforming Data with and Without Using Formulas

Frequently, you'll have a set of cells with data that has to be changed in some manner. You could wish to raise all values by 5%, for example. Alternatively, you may need to divide each number by two. This tutorial will show you how to conduct these sorts of changes in two different methods.

Data transformation without the use of formulas

The procedures that follow presume that you have a range of numbers and wish to raise all of them by 5%. For example, suppose the range includes a pricing list, and you're hiking all prices by 5%:

1. Select any blank cell and type 1.05.

This amount will be multiplied by the values, resulting in a five percent raise.

2. To copy that cell, use **Ctrl + C.**

3. Choose the range that will be modified.

Values, formulae, and text may all be included in the range.

4. To open the Paste Special dialog box, go to Home >Clipboard > Paste > Paste Special.

5. Select **Multiply** from the Paste Special dialog box.

6. Select OK.

7. To exit **Copy** mode, press **Esc**.

Using temporary formulas to transform data

The preceding section explains how to apply basic mathematical changes to a variety of numerical data. This tutorial explains how to change data (numerical or text) using temporary formulae, which is a much more flexible way.

A worksheet with names in column A is shown in the picture. The purpose is to transform these names to correct cases from all capital letters (only the first letter of each name in uppercase).

	A	B	C
1	**Name**	**Balance**	
2	SHIRLEY THOMAS	630.53	
3	ROBERT HARRIS	998.25	
4	ERIC HERNANDEZ	940.71	
5	MARTIN JACKSON	954.26	
6	WILLIAM CHAVEZ	928.43	
7	JERRY RUSSELL	308.75	
8	STANLEY WARD	714.30	
9	JANICE DAVIS	830.20	
10	TOD FISHER	655.37	
11	PHILLIP CARTER	896.46	
12	ANDREA PARKER	973.46	
13	ERIC HOBBS	909.49	
14	ELIZABETH MORALES	359.33	
15	MARY POWERS	262.92	
16	EDWARD SMITH	76.45	
17	NETA JONES	939.58	
18	JUSTIN ROSE	339.23	
19			

To change the data in column A, follow these steps:

1. In an unused column, create a temporary formula.

Enter the following formula in cell C2 for this example:

=PROPER(A2)

2. Copy the formula down the column to fit all of the cells that need to be changed.

3. Decide which formula cells to use (in column C).

4. Press **Ctrl + C** to copy the text.

5. Go back to the original data cells and select them (in column A).

6. Select Home >Clipboard > Paste > PasteValues from the drop-down menu (V).

The altered data replaces the original data.

7. To exit Copy mode, press Esc.

8. Remove the temporary formulae in column C after you're confident that the transition went as planned.

	A	B	C	D
1	Name	Balance		
2	Shirley Thomas	630.53	Shirley Thomas	
3	Robert Harris	998.25	Robert Harris	
4	Eric Hernandez	940.71	Eric Hernandez	
5	Martin Jackson	954.26	Martin Jackson	
6	William Chavez	928.43	William Chavez	
7	Jerry Russell	308.75	Jerry Russell	
8	Stanley Ward	714.30	Stanley Ward	
9	Janice Davis	830.20	Janice Davis	
10	Tod Fisher	655.37	Tod Fisher	
11	Phillip Carter	896.46	Phillip Carter	
12	Andrea Parker	973.46	Andrea Parker	
13	Eric Hobbs	909.49	Eric Hobbs	
14	Elizabeth Morales	359.33	Elizabeth Morales	
15	Mary Powers	262.92	Mary Powers	
16	Edward Smith	76.45	Edward Smith	
17	Neta Jones	939.58	Neta Jones	
18	Justin Rose	339.23	Justin Rose	

Using Conditional Formatting to Compare Two Ranges

Comparing two lists of objects to find differences between them is a typical activity. It's just too time-consuming and error-prone to do it manually, but Excel can help. This article will show you how to utilize conditional formatting.

Two multicolumn lists of names are shown in the illustration. When conditional formatting is used, the differences in the lists may be seen right away. Although the examples in this list feature text, this approach may also be used with quantitative data.

	A	B	C
1	Old List		New List
2	Jamaal O. Davis		Beatrice Jones
3	Marcy Brown		Beverlee Lewis
4	Warren Lee		Carola Rogers
5	Dana E. Turner		Cody Hendrix
6	Steven Y. Webb		Daniel A. Williams
7	Nichole Anderson		Eunice Coleman
8	John Aguilar		Jamaal O. Davis
9	John Stevens		Jessica Ford
10	Tracy S. Brooks		John Aguilar
11	Jessica Ford		John Coleman
12	Daniel A. Williams		John Stevens
13	Beverlee Lewis		Linda Logan
14	Cody Hendrix		Marvin Williams
15	Marvin Williams		Nichole Anderson
16	John Coleman		Stephen Harris
17	Etta Andrews		Stephen M. Rich
18	Stephen Harris		Steven Y. Webb
19	Tina Golden		Tracy S. Brooks
20	Beatrice Jones		Warren Lee
21			

The first list is in the range A2:A20, and it's called OldList. The second list is in the range C2:C20, and it's called **new list**. The FormulasDefined NamesDefine Name command was used to name the ranges. It's not required to name the ranges, but it makes them simpler to deal with.

Begin by conditionally formatting the old list:

1. Select the **OldLis**t range of cells.

2. To open the New Formatting Rule dialog box, go to Home > Conditional Formatting > New Rule.

3. In the New Formatting Rule dialog box, choose the option "**Use a Formula to Determine Which Cells to Format"** from the drop-down menu.

4. In the dialog window, type the following formula:

=COUNTIF(NewList,A2)=0

When using this approach to your own data, replace New List with the actual range address (or name), and A2 with the address of the top left picked cell.

5. Select the formatting to be applied when the condition is true by clicking the Format button.

It's a good idea to choose a different fill color.

6. Select OK.

A similar conditional formatting rule is used in the New List range's cells.

1. Select the New List range's cells.

2. To open the New Formatting Rule dialog box, go to Home > Conditional Formatting > New Rule.

3. In the New Formatting Rule dialog box, select the option "**Use a Formula to Determine Which Cells to Format**" from the drop-down menu.

4. In the dialog window, type the following formula:

=COUNTIF(OldList,C2)=0

When using this approach to your own data, replace Old List with the actual range address (or name), and C2 with the location of the top left picked cell.

5. Select the formatting to be applied when the condition is true by clicking the Format button (a different fill color).

6. Select OK.

The outcome is shown in the picture. Names that appear in both the old and new lists are highlighted. Names on the new list that were not in the previous list are also highlighted in a different color. Both lists include names that aren't highlighted.

	A	B	C	D
1	Old List		New List	
2	Jamaal O. Davis		Beatrice Jones	
3	Marcy Brown		Beverlee Lewis	
4	Warren Lee		Carola Rogers	
5	Dana E. Turner		Cody Hendrix	
6	Steven Y. Webb		Daniel A. Williams	
7	Nichole Anderson		Eunice Coleman	
8	John Aguilar		Jamaal O. Davis	
9	John Stevens		Jessica Ford	
10	Tracy S. Brooks		John Aguilar	
11	Jessica Ford		John Coleman	
12	Daniel A. Williams		John Stevens	
13	Beverlee Lewis		Linda Logan	
14	Cody Hendrix		Marvin Williams	
15	Marvin Williams		Nichole Anderson	
16	John Coleman		Stephen Harris	
17	Etta Andrews		Stephen M. Rich	
18	Stephen Harris		Steven Y. Webb	
19	Tina Golden		Tracy S. Brooks	
20	Beatrice Jones		Warren Lee	
21				

The COUNTIF function is used in both of these conditional-formatting formulations. This function counts how many times a given value occurs in a certain range. If the formula gives a value of 0, it signifies the item isn't in the range. As a result, conditional formatting kicks in, and the background color of the cell is modified.

Working with Credit Card Numbers

When it comes to credit card numbers, there are a few things to keep in mind. If you've ever attempted to insert a 16-digit credit card number into a field in Excel, you've probably noticed that the final digit is usually a zero. Worse, it's possible you didn't realize the credit card number had changed until it was too late.

Why does Excel alter your figures? The reason for this is that Excel can only support 15 digits of numerical precision.

Manually entering credit card numbers

You have three choices for storing credit card numbers in a worksheet:

An apostrophe should come before the credit card number. The data is subsequently interpreted by Excel as a text string rather than a number.

Using the Text number format, preformat the cell or range. Choose Home > Number and then Text from the Number Format drop-down option after selecting the range. Use dashes or spaces to enter the card number. When a dash (or any other non-numeric character) is embedded in an entry, Excel interprets it as text.

This idea, of course, also applies to other lengthy integers that aren't utilized in numerical computations (such as component numbers).

Importing credit card numbers

If you import credit card numbers from a CSV text file, Excel will treat them as values and will incorrectly alter the final digit to zero. To circumvent this, don't import the text using FileOpen. Use DataConnectionsGet External DataFromText instead. Excel shows the TextImport Wizard when you execute this command. Make sure you choose Text as the column data type for the credit card numbers in Step 3 of the process.

Identifying Unused Areas

A typical form of spreadsheet mistake is the use of a space character, which you can't see. Consider the following example. A formula in column B2 searches up the color name in cell B1 and returns the appropriate code from a database. The formula is as follows:

=VLOOKUP(B1,D2:E9,2,FALSE)

	A	B	C	D	E	F
1	Enter a color name:	Green		Color	Code	
2	The code	65280		Black	0	
3				Blue	16711680	
4				Cyan	16776960	
5				Green	65280	
6				Magenta	16711935	
7				Red	255	
8				White	16777215	
9				Yellow	65535	

The calculation in cell B2 in the figure below yields an error, indicating that Red was not found in the table. Hundreds of thousands of Excel users have wasted a lot of time trying to find out why this doesn't work. In this example, the solution is straightforward. The word Red is missing from cell D7. Rather, it begins with the word Red and ends with a space. These text strings are absolutely different in Excel.

If your worksheet has thousands of text entries and you need to make comparisons with that text, you may wish to detect and correct the cells that have extra spaces.

Excess spaces refer to a written item that has one or more of the following:

There may be one or more leading spaces.

There may be one or more trailing spaces.

Within the text, there are two or more spaces in a row.

Conditional formatting is one approach to recognizing this sort of cell.

Follow these steps to set up conditional formatting to detect extra spaces:

1. Select all text cells to which conditional formatting should be applied.

2. To open the New Formatting Rule dialog box, go to HomeConditional FormattingNew Rule.

3. Select the option labeled Use a Formula to Determine Which Cells to Format in the upper half of the dialog window.

4. **In the bottom half of the dialog window, type a formula like this:**

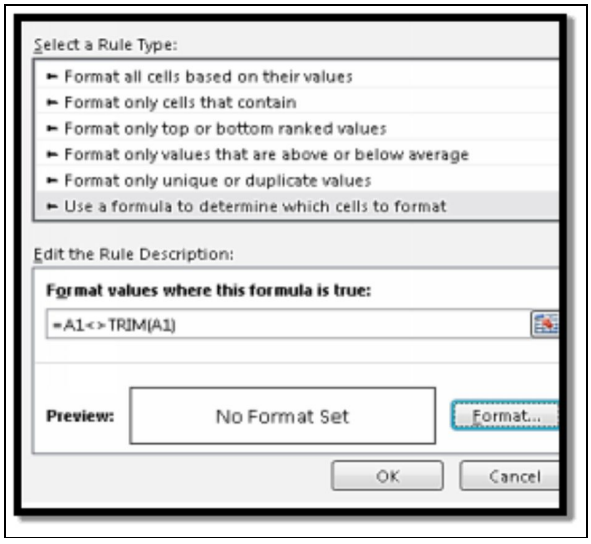
=A1<>TRIM(A1)

This calculation assumes that cell A1 is the selection's upper-left cell. If this isn't the case, replace the address of the upper-left cell in the selection you created in Step 1 with the address of the upper-left cell.

5. To show the Format Cells dialog box, click the Format button and pick the sort of formatting you want for the cells with extra spaces, such as a yellow fill color.

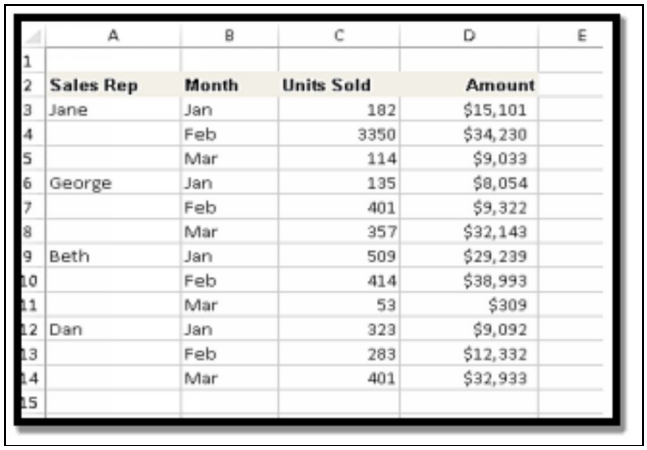
6. Close the Format Cells dialog box by clicking OK, then close the New Formatting Rule dialog box by clicking OK again.

Each cell that includes extra spaces and is within the range you set in Step 1 gets highlighted with the formatting of your choice once you finish these steps. You'll be able to readily identify these cells and delete the spaces.



Filling the Gaps in a Report

When you import data, you may see a spreadsheet that appears similar to the one shown in the picture. This report format is rather popular. As you can see, a row of data is affected by input in column A. When you arrange a list like this, the missing data throws everything off, and you can't identify who sold what when.



	A	B	C	D	E
1					
2	**Sales Rep**	**Month**	**Units Sold**	**Amount**	
3	Jane	Jan	182	$15,101	
4		Feb	3350	$34,230	
5		Mar	114	$9,033	
6	George	Jan	135	$8,054	
7		Feb	401	$9,322	
8		Mar	357	$32,143	
9	Beth	Jan	509	$29,239	
10		Feb	414	$38,993	
11		Mar	53	$309	
12	Dan	Jan	323	$9,092	
13		Feb	283	$12,332	
14		Mar	401	$32,933	
15					

If your list isn't too long, you may manually fill in the missing cell values or use a succession of Home > Editing > FillDown commands (or the Ctrl+D shortcut). However, if you have a huge list in this style, you'll need a more efficient method of filling in the cell values. Here's how to do it:

1. Choose the range with the gaps (A3:A14, in this example).

2. Select Home > Editing > Find & Go to Special from the HomeEditingFind menu.

The dialog box "**Go to Special**" displays.

3. Click OK after selecting the Blanks option.

The blank cells in the original selection are selected with this operation.

4. Press Ctrl+Enter after typing an equal sign (=) followed by the address of the first cell having an item in the column (=A3, in this example).

5. To replicate the selection, re-select the original range and click Ctrl+C.

6. To convert the formula to values, go to HomeClipboardPastePaste Values.

Following these procedures, the blanks in your worksheet will be filled in with the right information, and your worksheet will resemble the one shown in the picture. It's now a regular list, and you can do whatever you want with it, including sorting it.

	A	B	C	D	E
1					
2	**Sales Rep**	**Month**	**Units Sold**	**Amount**	
3	Jane	Jan	182	$15,101	
4	Jane	Feb	3350	$34,230	
5	Jane	Mar	114	$9,033	
6	George	Jan	135	$8,054	
7	George	Feb	401	$9,322	
8	George	Mar	357	$32,143	
9	Beth	Jan	509	$29,239	
10	Beth	Feb	414	$38,993	
11	Beth	Mar	53	$309	
12	Dan	Jan	323	$9,092	
13	Dan	Feb	283	$12,332	
14	Dan	Mar	401	$32,933	
15					

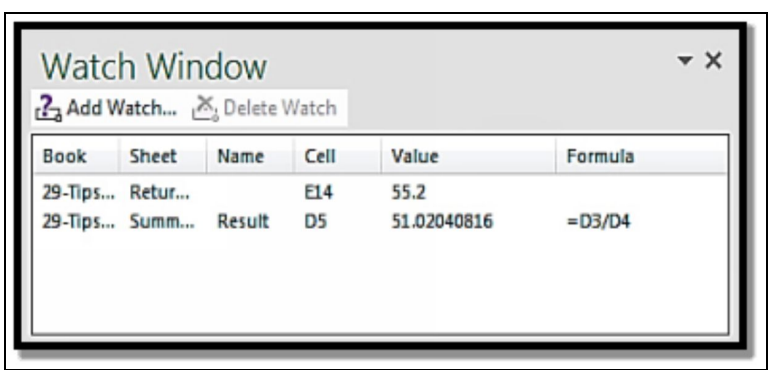
Observing the outcomes of a distant cell

You may need to monitor a single outcome on a worksheet different than the one you're working on at times. For example, you may have a workbook in which numerous worksheets' assumptions result in a final ROI. It would be useful to know the impact on ROI when you adjust the assumptions.

Switching back and forth to the results worksheet after each modification might be time-consuming. Alternatively, you may use a watch to display the current value of a distant cell (s).

Follow these steps to set up a watch:

- To show the floating Watch Window dialog box over the spreadsheet, go to Formulas, Watch Window.
- In the Watch Window dialog box, click Add Watch.
- Click the **RefEdit** button in the Add Monitor dialog box, then click the cells you wish to watch.
- To add the cell(s) to the Watch Window dialog box, click Add.
- Steps 2–4 may be repeated as needed.
- Place the Watch Window dialog box above your worksheet in an out-of-the-way area so you may continue working. It's worth noting that you may dock the Watch Window above the formula bar.
- The Watch Window dialog box displays the current value of the monitored cells whenever you make a modification to the worksheet, as illustrated in the figure below.



The Watch Window dialog box may be toggled using the Watch Window Icon in the Formulas tab after the watch has been configured.

Calculating a formula in slow motion

You can watch Excel compute a formula in slow motion if it's a particularly intricate calculation. This might assist you in identifying any problems in the worksheet's logic.

Follow these steps to assess a formula in slow motion:

Choose the cell with the formula in it.

Formulas to choose from, and formulas to evaluate. The formula is shown in the Evaluate Formula dialog box. One of the formula's elements is highlighted, indicating that it will be computed first.

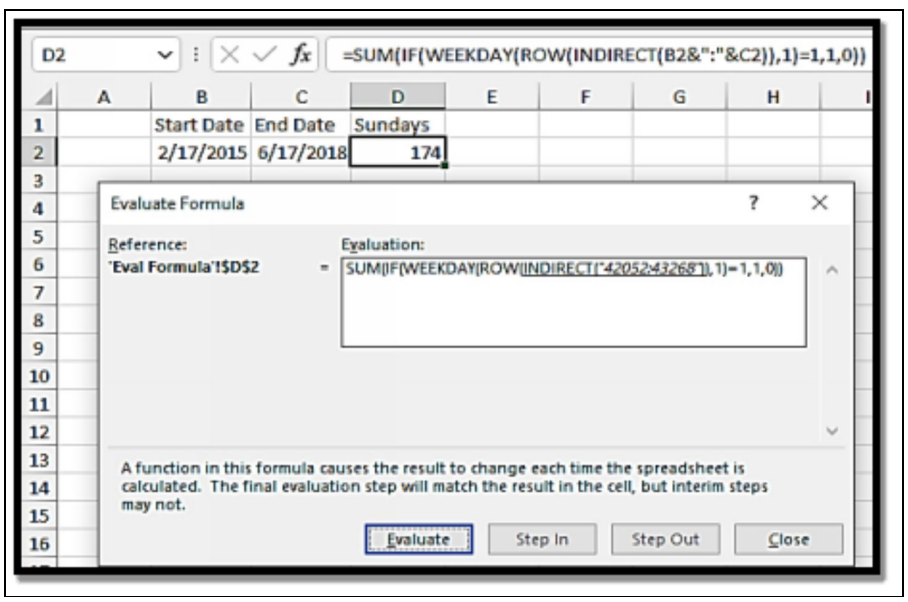
Click Evaluate to see the value of the underlined element right away.

Instead of clicking Evaluate, click Step In to understand how that element is computed. The formula for that element is shown in Excel.

Finally, the final level is assigned a numerical value. To return one step up the dialog box, click Step Out.

Continue to click Evaluate until you get to the solution in the cell.

After a few clicks on Evaluate, the picture presents an Evaluate Formula dialog box.



Adding a symbol to a cell.

Many symbols may be inserted using obscure key combinations. You do not, however, have to learn any of them. Instead, you may open the Symbol dialog box by clicking the Symbol icon on the Insert tab.

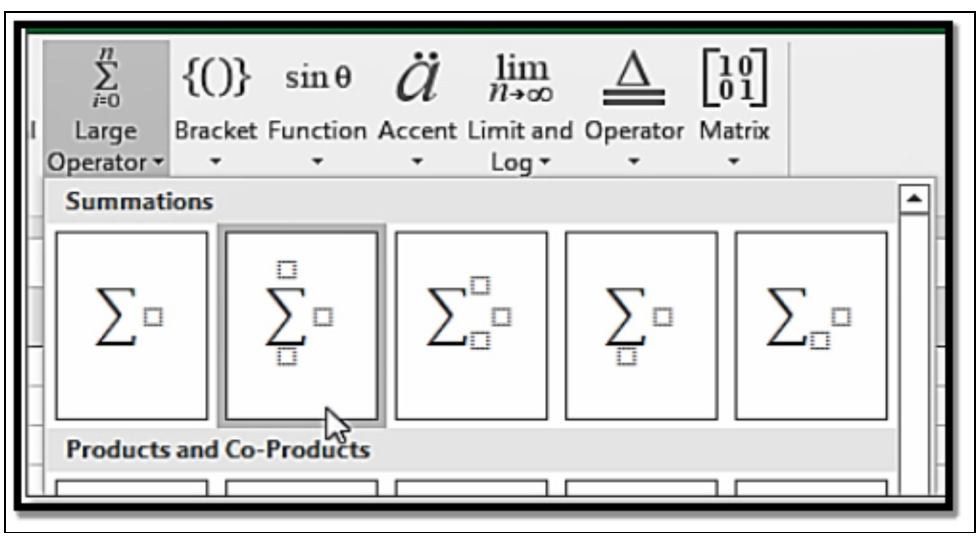
You may navigate through various subsets of the current typeface in the Symbol dialog box. When you've found the symbol you want, select it and press the Insert button.

Editing an equation

Eight prebuilt equations are available from the Equation drop-down menu on the Insert tab. You may choose one of these equations from the drop-down menu if you require it.

If you need to create another equation, first create a form on the spreadsheet. Insert, Equation, Insert New Equation when the shape is chosen. The form has a blank equation added to it.

It may seem to be a minor detail, but the Equation Tools Design tab will only appear if you are within the equation. To put a mathematical symbol, open the different drop-down choices from the ribbon. Some symbols in the graphic below have three placeholders. These are little text boxes into which you may put different values.



Despite the fact that Excel can show equations, they are only drawing objects. Excel will not be able to solve the equations.

Word gave birth to the Equation Editor. I'm sure academic journal editors desired a mechanism to create equations in their articles, which is how the Equation Editor came to be.

The Equation Editor, on the other hand, lacks any mathematical capabilities. Excel does not have a magic button that allows it to integrate from x to y depending on the equation.

Repeat the last command with F4

When creating a formula, most people are aware that F4 is useful for adding dollar signs to a reference. The F4 key is used to repeat the previous instruction when you are not changing a formula. Let's imagine you needed to adjust all of the other columns' column widths to 1. Simply use the Right Arrow key twice and F4 to repeat the Column Width command on column D after selecting cell B1 and pressing Alt+OCW Enter>. Continue pressing Right Arrow, Right Arrow, and F4 until all of the column widths have been set.

Ctrl + Backspace will bring the active cell back into view.

Occasionally, you'll find yourself near the bottom of a data set with the active cell at the top. Excel will scroll the current cell back into view if you press Ctrl+Backspace.

Using a delimiter to separate text

Depending on the source of your data, you may discover that many fields are loaded into a single cell in Excel. You may divide the data into numerous columns if the fields are separated by a character.

To do so, do the following steps:

Choose the single-column range with multiple values in each cell.

Select **Data**, **Data Tools**, and **Text to Columns** from the drop-down menu. The Convert Text to Columns Wizard dialog box appears in Excel.

Select **Delimited** in the wizard's first step and then click Next.

Choose your delimiter in the wizard's second step. Checkboxes for Tab, Semicolon, Comma, and Space are available in Excel. If you want to use a

different delimiter, go to the other box and write it in. Next should be selected.

Indicate if any of your columns are dates in step 3 of the wizard. Select Date in the Column Data Format area after clicking the column in the Data Preview section. Excel replaces the chosen column with surrounding blank columns by default. Enter a destination in step 3 of the wizard to publish the results to a different output location.

To parse the column, click **Finish**.

Excel does not make the columns broad enough by default, so go to the home tab's Cells section and choose Format, Autofit Column Width to make the output columns large enough for the contents.

Using Inquire to audit worksheets

You may use the Inquire add-in if you have Office Pro Plus or a Microsoft 356 E3 membership or above. The add-in provides tools for detecting possible issues in workbooks. You may examine a visual map of connections, highlight cells with possible concerns, and compare two versions of the same worksheet.

Select File, Options, Add-Ins to enable Inquire. Choose Manage Com Add-Ins and click Go at the bottom of the screen. Click OK after selecting Inquire. In the ribbon, a new Inquire tab emerges.

Assume you have a worksheet that you want to email to a colleague for evaluation. When you get the modified version of the worksheet from a coworker, you want to check to see whether any modifications have been made.

Rename one or both workbooks to distinguish between the original and the modified versions. Both workbooks should be open. Choose Compare Files from the Inquire tab. In the Compare drop-down option, choose the newer, modified version of the worksheet. In the to drop-down option, choose the original worksheet. This may seem to be the opposite of how you would expect the files to be supplied.

The results appear in the Spreadsheet Compare tool once you click Compare.

Uncheck that category in the bottom left of the window if you don't care about cell formatting changes.

A view of the two workbooks is shown at the top of the window. Any modifications are color-coded to correspond to the color legend in the bottom left.

Inserting and exploring 3D models

3D printing is used by almost half of all manufacturing organizations for quick prototyping. According to Forbes, 3D printing is a 12-billion-dollar business that is still rising. You can now import and rotate 3D printing files in Excel.

Filmbox (*.fbx), Object (*.obj), 3D Manufacturing Format (*.3mf), Polygon (*.ply), StereoLithography (*.stl), and Binary GL Transmission (*.glb) are all supported by Excel.

Select 3D Models from the Insert tab. Microsoft provides a few example files, but you may import any file you have.

Using the Action Pen and the inking tools

The Draw tab on the ribbon is undoubtedly one of PowerPoint's most popular features. Because the functionality had previously been created for PowerPoint, it was added to Word and Excel.

Follow these procedures if you don't see the Draw tab in Excel:

Customize the ribbon by right-clicking it and selecting Customize the Ribbon.

A list of all of Excel's built-in tabs may be found on the right side of the Excel Options window. Locate and choose the Draw tab.

To dismiss Excel Options, click OK.

Microsoft introduced the Action Pen to the Drawing Tools collection on the right side in 2020. You may draw numbers or letters with the Action Pen, and Excel will transform them into text or numbers.

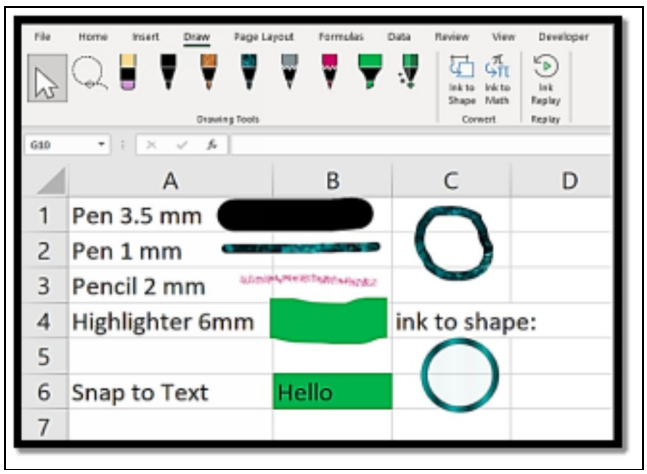
Markers, pencils, and highlighters makeup the remainder of the Drawing Tools set of pens. To alter the color or width of any pen, right-click it and

choose Modify. The ability to snap to text is provided by highlighters. If you enable this option, the highlight will occupy the full cell.

By right-clicking any marker, pencil, or highlighter and selecting New, you can add new pens.

When you choose Ink to Shape or Ink to Math, a drawn form will be converted to a shape or a math symbol, respectively.

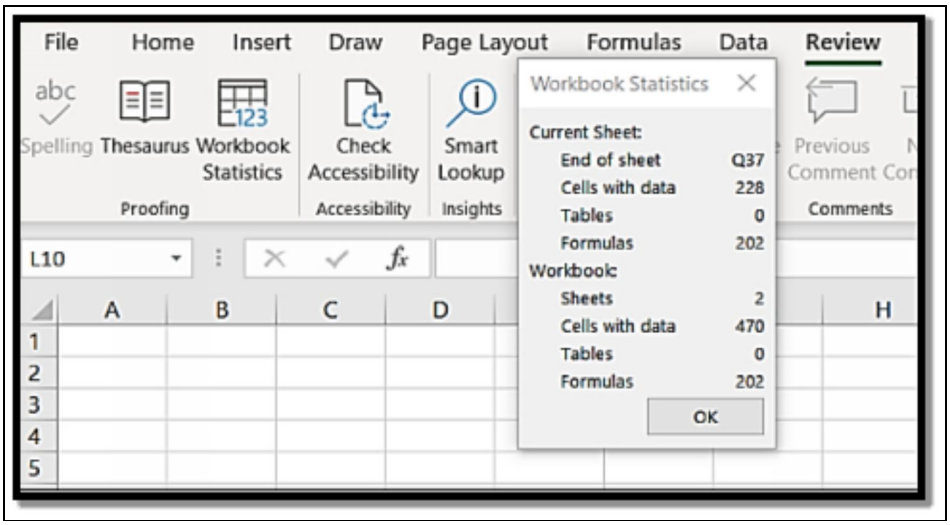
A variety of lines are created using different pens in the picture. After applying Ink to Shape, the hand-drawn circle in C1:C2 becomes a flawless circle.



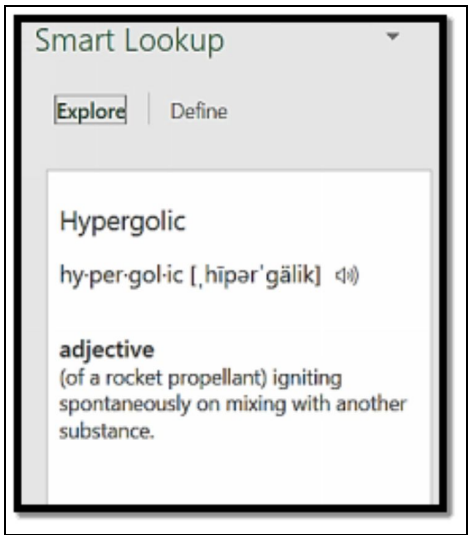
One peculiar feature is the ability to rewind your artwork. If you choose five cells and click Ink Replay, the cells will be highlighted in an animated manner. I'm not sure when you'd utilize this; if you could add each highlight one by one, like a PowerPoint presentation, I'd understand. This functionality, on the other hand, is equivalent to racing through the complete PowerPoint presentation in a single second.

Statistics in Workbooks and Smart Lookup

On the Review tab of Office 365, two new icons will appear. The Workbook Statistics icon displays the number of cells and formulae in the workbook in a panel.



The Smart Lookup tool is labeled as an "**Insights**" feature, and you must opt-in to the artificial intelligence features in order to use it. By selecting the huge Smart Lookup symbol in the Review pane, you may request a Smart Lookup on any cell. If you click Smart Lookup for the term "Hypergolic" in the picture below, you'll get a definition and several connections to articles about rockets. Although this does not seem to be "artificial intelligence," I suppose it is as simple as opening a browser.



Validate your data using data entry rules.

You may use data input rules to verify that the data you entered is formatted correctly, and you can limit the data you enter to whole numbers, decimals, dates, times, or a certain amount of text. You may also specify whether the values must be in the range of, not in the range of, equal to, not equal to,

greater than, less than, greater than or equal to, or less than or equal to the values you specify.

You can create an input message that appears when the user enters the cell, as well as an error alert that appears if the user enters the cell incorrectly, as with all data validation. Error alerts can be used to stop, warn, or simply provide information to the user.

- After you've created your data entry rule, use the Paste Special Validation option to copy and paste it into the appropriate cells.
- To make a data entry rule, click in the cell where you want to make it.
- Toggle to the Data tab.
- In the **Data Tools category**, choose **Data Validation**.
- The Validation of Data Dialog box displays.
- Select the **Settings** option.
- Select validation criteria.
- Select validation criteria.
- Type the criteria or choose the cells containing the criteria you wish to use by clicking and dragging.
- Select the **Input Message** tab from the drop-down menu.
- Give your message a title.
- Enter a message in the input box.
- Select the **Error Alert** option from the drop-down menu.
- Select a style by clicking it.
- If you wish to prevent invalid data from being entered, choose Stop.
- If you wish to give the user a warning but not block them from entering, choose Warning.
- To convey information to the user, choose Information.
- Make a title for your document.
- Enter an error message here.
- Click the OK button.
- The data input rule is created using Excel.

Goal Seek to find formula result

If you have a formula and want to display a certain outcome but don't know what input values to adjust, Excel's Goal Seek tool is for you. Assume

you're calculating the loan's payment terms. Your PMT formula calculates a payment of $1,450, but you can only pay back $1,000. Goal Seek can help you determine how much principal you can borrow depending on your $1,000 budget.

Follow the instructions outlined below.

Enter the three input variables you'll need for your PMT formula. - 3.50 percent interest rate, 240-month term, and $250,000 principal

In cell C8, enter the PMT function =PMT(Interest Rate/12, Term, Principal) to get a monthly payment of - $1,450.

Go to **Data** > **What If Analysis** > C8 and choose it. Seek a goal

SET CELL: Type the address of the cell containing the formula you wish to resolve. This reference is cell C8 in our example.

TO VALUE: Enter the desired formula result. We want the payout to be -$1,000 in our case. (Note that this is a negative number since it is a payment.)

BY CHANGING CELL: Enter the cell reference for the input value you wish to change, such as one of our three variables (Interest Rate, Principal & Term). This reference is cell C7 for the Principal in our case.

When you press OK, Goal Seek will run and provide a result. To preserve the results, press OK; to dismiss them, press Cancel.

Goal seeks to meet your profit goal

Assume you had a quarterly profit statement, and your sales for Q1 and Q2 were reasonable, but they plummeted in Q3. You have one quarter to reach your Net Profit target of $200,000. You may utilize Excel's Goal Seek function (under What-If Analysis) to figure out how much sales you need in Q4 to fulfill your Net Profit target of $200,000. Stick to the steps;

Choose the cell in which you wish to attain your $200,000 target, which is Total Net Profit in cell F7, a Sum formula. (Important: For the Goal Seek to operate, this cell must be a formula.)

	A	B	C	D	E	F
4		Q1	Q2	Q3	Q4	TOTAL
5	REVENUE	256,000	325,600	241,000		822,600
6	PROFIT MARGIN	12%	14%	15%	20%	
7	NET PROFIT	30,720	45,584	36,150	0	112,454
8						

To find out more, go to Data > What If Analysis > Goal Seeking.

SET CELL: This is the cell that contains the goal we're aiming for - F7.

TO VALUE: Enter the value you want to achieve as a goal. It will be 200,000 in our case.

BY CHANGING CELL: Type the reference for the cell containing the input value you wish to change. It's the Q4 Sales Forecast in cell E5 in our case.

When you press OK, Goal Seek will run and provide a result. To preserve the results, press OK; to dismiss them, press Cancel.

In order to meet our Net Profit objective of $200,000, we need to earn $437,730 in Q4 sales with Goal Seek. Now it's up to the sales staff to make it happen.

Group Worksheet in Excel

Have you ever been required to change data across many worksheets? Using Excel's Group Worksheets function makes this extremely simple! Let's pretend we've made the same error on many spreadsheets - note the Dvv misspelling in the screenshot below. Follow the procedures below to convert this to December.

	A	B	C	D
1	MONTH	SALES		
2	Jan	47320		
3	Feb	48821		
4	Mar	26257		
5	Apr	34413		
6	May	41662		
7	Jun	23960		
8	Jul	24175		
9	Aug	17553		
10	Sep	33918		
11	Oct	27356		
12	Nov	41469		
13	Dvv	19600		
14				

Hold the CTRL key and use the left mouse button to select the worksheets that need to be edited. We'll need to pick 2016, 2017, and 2018 worksheets while holding the CTRL button for our example (this will turn each selected sheet to white color).

In any of the spreadsheets, edit the cell. Press ENTER after changing the Dvv to Dec. This will update all of the values in the worksheet to reflect the same modification.

MONTH	SALES
Jan	47320
Feb	48821
Mar	26257
Apr	34413
May	41662
Jun	23960
Jul	24175
Aug	17553
Sep	33918
Oct	27356
Nov	41469
Dec	19600

Main 2016 2017 2018

MONTH	SALES
Jan	23278
Feb	46850
Mar	22499
Apr	49238
May	10696
Jun	40847
Jul	20903
Aug	17226
Sep	46724
Oct	20530
Nov	14982
Dec	18024

Main 2016 2017 2018

MONTH	SALES
Jan	34384
Feb	38874
Mar	31122
Apr	47248
May	31205
Jun	47913
Jul	39525
Aug	36015
Sep	39360
Oct	18480
Nov	42508
Dec	12808

Main 2016 2017 2018

Ungroup the worksheets by selecting Ungroup Sheets from the right-click menu on the worksheet tabs (super important to do this when you finish making your changes)

How to create a Custom List in Excel

In Excel, a Custom List is highly useful for filling a range of cells with your own customized list. It may be a list of your coworkers, nations, regions, phone numbers, or clients. A custom list's primary purpose is to eliminate manual entering mistakes and repetitious labor. We'll look at what's presently in Excel's memory as a default list to show how powerful Custom Lists may be.

In the first cell, type February.

Click the bottom right corner of the first cell and drag it to the following 5 cells to the right.

Release it, and it will auto-populate until July (The succeeding months after February) Excel's ability to achieve this may seem magical at first! Let's get right into Excel's Options to see how it's done and how you can make your own Custom List.

- Go to the **File** tab.
- Select **Options**.
- Choose the **Advanced tab**.
- Scroll to the bottom of the page and select **Edit Custom Lists** under the General section. The built-in default Excel lists of the calendar months and days may be found here.
- If you click on a Custom List, you'll see that it's grayed out under List items, and you can't alter it. This shows that it is an Excel Custom List by default.
- Under the List entries area, you may design and add your own Custom List. Under the Custom Lists section, click NEW LIST and then manually enter your list, one item per line.
- Click **Add** once you've finished typing the values. We updated the Greek alphabet values to our snapshot below (alpha, beta, gamma, and so on) When you're finished, click OK.
- Click **OK** once more.

- Let's return to our Excel file to observe how our new Custom List works. In a cell, type alpha.
- Click the bottom right corner of the cell and drag it to the next 5 cells to the right.
- Release to see it auto-populate to zeta, which is based on the Custom List we prepared in Step 8.

Hyperlinks: Fix Links to a Named Range

Hyperlinks in Excel have to be one of the most interesting features that I enjoy experimenting with! You may use them to create interactive buttons in Excel (without having to develop a Macro) that will take you to any cell or range in your spreadsheet. One flaw is that if you set a Hyperlink to go to a cell reference, it will always refer to that cell, regardless of whether your rows/columns have been added/deleted. If you tell it to go to C10, for example, it will always go to C10. If you add a new column to Column B, the hyperlink will continue to go to C10. Occasionally, this is not the desired consequence. I'll teach you how to use a Named Range to fix the referenced cell/range so that it doesn't shift while the worksheet updates.

- To make the Hyperlink relate to a certain range or cell, highlight it or select it.
- Enter a name in the Name Box in the upper left-hand corner of the spreadsheet (with no spaces)
- Insert a Shape and pick Hyperlink from the right-click menu.
- The Insert Hyperlink dialog box will appear. Press OK after selecting the Defined Name you created in Step 2.
- Your referenced range will be highlighted when you click on the Shape.
- You may add more Columns/Rows to your worksheet, and when you click on your Hyperlink, it will take you to the range you specified!

Power query: Consolidate Multiple worksheets

Excel's Power Query (Get & Transform) feature is simply fantastic! Many people ask me whether there is a method to use Power Query to join Tables from various sheets in the same spreadsheet. The answer is YES using Power Query! If you have numerous Excel spreadsheets with the same structure with the only changes being the numbers and dates (e.g., January

Sales List, February Sales List, March Sales List, etc.), you can quickly merge them using Power Query.

- By clicking on the data and hitting **CTRL+T**, make sure that each worksheet's data is in an Excel Table.
- Select **Power Query > Consolidate** in each of the spreadsheets with data you wish to combine. Table of Contents
- The Query Editor will open, and all you have to do now is press Close & Load. Steps 2 and 3 must be completed for each worksheet you wish to consolidate.
- Select **Power Query > Append** from the drop-down menu.
- Select the option for three or more tables.
- Select and click the Add button to add the tables to append from the Available Tables (on the left) to the Tables to Append (on the right). You may also rearrange the order in which the Tables appear in your combined table by shifting them up or down. Select the OK option.
- The Query Editor will be reopened as a result of this. Select Close and Load.
- This will launch a new worksheet that will combine all of the worksheets into a single large table. You can use this consolidated worksheet to create a pivot table and conduct your analysis.

This is how you can use the Power Query consolidate multiple worksheets tool to integrate tables.

Consolidate Multiple Workbooks Using Power Query

How can I combine many Excel workbooks into one? is one of the most often asked questions among the millions of Excel users throughout the globe? You can achieve this in a lot of ways, including using VBA or sophisticated formulae, but the learning curve is high and out of reach for most Excel users. This consolidation operation may be completed in a matter of minutes using Power Query (Get & Transform). That's correct, it'll only take a few minutes.

Make a new folder on your desktop or in any directory and call it whatever you want, for example, 2016 Sales. Insert an Excel Workbook with your sales data, such as January 2016, into this Folder. xlsx

Go to **Power Query** > **From File** > **From Folder in a NEW Excel Workbook**.

Click the **Browse** button in the Folder dialog box.

This will open the Browse for Folder dialog box, where you must choose the folder, you created in Step 1 and then press OK. This is how to utilize the Power Query functionality to load numerous files from a folder.

The Query Editor will open as a result of this. Pick the top two columns (hold down the CTRL key to select) and then right-click on the column header and select Remove Other Columns.

To add a custom column, click to **Add Column** > Add **Custom Column**.

This will open the dialog box for adding a custom column.

You must give the new column a name, such as Import, and enter the following formula in the Custom Column Formula:

= Workbook. Excel ([Content])

This will import the workbooks from the Folder you choose in Step 3 into Excel.

Import is a new column that has been added to your table. Select the Databox alone and hit OK after clicking on the Expand Filter. The worksheet will be imported from the folder.

Select OK after selecting Expand Filter from the Import Data column. This imports all of the data from the workbook's columns.

It's now time to spruce up the data with some visual adjustments! By right-clicking and selecting "Remove Content Column," you may get rid of the Content column. Remove

Press OK after selecting **Import. Data. Column1** and filtering out the CUSTOMER heading. This will also delete the heading from the other column.

Go to **Transform > Data Type > Date** and choose the Date column.

Go to **Transform > Data Type > Currency** and choose the Sales column.

By double-clicking on the column header, renaming it, and hitting OK, you may rename the column heads to anything you like.

Close and load the file by going to File > **Close & Load**.

This will populate a new worksheet in your workbook with the data.

Go to **Insert** > **Pivot Table** > New/Existing Worksheet to create a Pivot Table for your analysis.

Now comes the exciting part! Similar workbooks can be moved into the folder we created in Step 1 for future months, such as **February 2016.xlsx**, **March 2016.xlsx**, and so on. Keep in mind: The Excel Workbooks must be formatted and have the same number of columns as the worksheet we imported in Step 1.

Click on the imported data in your Excel workbook to bring up the Workbook Queries pane (if it doesn't appear, go to Power Query > Show Pane). Click the Refresh button (or go to Table Tools > Query > Refresh) to refresh the table.

The data from February 2016.xlsx and March 2016.xlsx will be imported into the Excel file and appended to the data from January.

You can now Refresh the Pivot Table, which will reflect the newly imported data.

To see the results, the following month, simply drop the new month's workbook into the 2016 Sales Folder and Refresh the Query & Pivot Table!

Power Query: Unpivot Data

You may use Power Query to extract data from any source, clean and convert it, and then import it into Excel, Power Pivot, or the Power BI Designer canvas. Unpivot Columns are one of the nicest features. This combines columns with identical features (e.g., Jan, Feb, March...) into a single column or tabular format (e.g., Month), allowing you to do further analysis using Pivot Tables which was previously impossible.

Go to **Power Query > From Table > Ok** when you've highlighted your data.

This brings up the Power Query editor, where you can choose which columns you want to unpivot.

After that, select Unpivot Columns from the Transform tab.

Select **Close & Load** from the File tab.

This will load and open your Excel workbook's unpivoted data into a new worksheet. You can now use Pivot Tables or other tools to go crazy with your super analytical work.

Quick Reports with Custom Excel Views

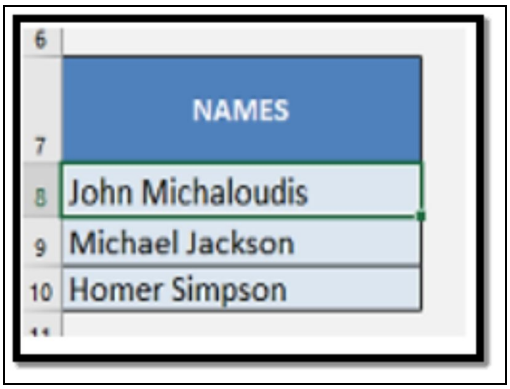
Whenever I needed to print a report from an Excel spreadsheet, I had to cut down the data and make modifications like burying columns to make it fit on one page. Hide staff pay or filtering out critical consumer data are two more prevalent circumstances. It's inconvenient since I had to reverse each of the layout modifications after printing it! Thankfully, Excel features Custom Views, which allow you to quickly undo and preserve your layout changes.

- You must first create a default view. Go to **View > Custom Views** after you've found the layout you want to utilize the most.
- To create a new Custom View, click **Add**. Click **OK** after typing in Normal View.
- Select the first four columns, right-click, and select Hide to prepare for the second Custom View.
- Custom Views is found under **View> Custom Views**.
- To create a new Custom View, click Add. Click OK after typing Hidden Columns.
- Now let's put our Custom Views to the test. Select View > Custom Views from the drop-down menu. Select Normal View from the drop-down menu and click Show.

Let's have a look at the second custom view. Select View > Custom Views from the drop-down menu. Show Hidden Columns by selecting Hidden Columns from the drop-down menu.

Excel's Smart Lookup

When I was working on a spreadsheet, there were moments when I needed to run a quick internet search to comprehend some of the terms in my cells. Copy the text, paste it into my browser, and hit the search button. I had no idea till Excel 2016 that there was a tool called Smart Lookup! I can use Smart Lookup to do word searches in Excel! Let's imagine we're interested in learning more about the following names in our spreadsheet:



Choose the name or cell that contains the text you wish to search for first.

Select Review > Smart Lookup from the drop-down menu.

You can now view my photo and information in Excel's Smart Lookup window, which is powered by Bing's online search! Thanks, Lookup using Intelligence

Sparklines: Column

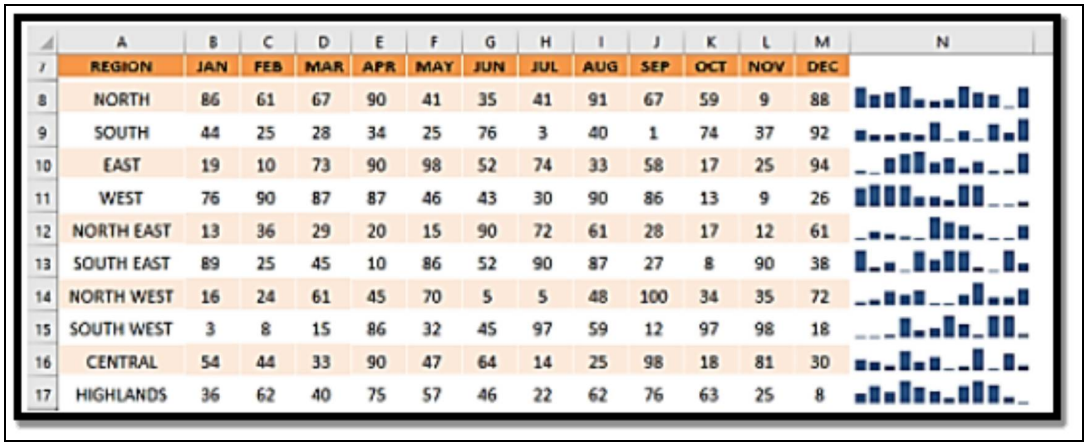
Sparklines debuted in Excel 2010 and provide a graphical depiction of your data in a single cell. When you have a lot of data points, a Column Sparkline is the way to go. You may change the color scheme and add a marker to indicate the high and low points of your data. The Sparklines will vary as your data changes.

Choose a Numbers Range

	A	B	C	D	E	F	G	H	I	J	K	L	M
7	REGION	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
8	NORTH	86	61	67	90	41	35	41	91	67	59	9	88
9	SOUTH	44	25	28	34	25	76	3	40	1	74	37	92
10	EAST	19	10	73	90	98	52	74	33	58	17	25	94
11	WEST	76	90	87	87	46	43	30	90	86	13	9	26
12	NORTH EAST	13	36	29	20	15	90	72	61	28	17	12	61
13	SOUTH EAST	89	25	45	10	86	52	90	87	27	8	90	38
14	NORTH WEST	16	24	61	45	70	5	5	48	100	34	35	72
15	SOUTH WEST	3	8	15	86	32	45	97	59	12	97	98	18
16	CENTRAL	54	44	33	90	47	64	14	25	98	18	81	30
17	HIGHLANDS	36	62	40	75	57	46	22	62	76	63	25	8

Select **Insert > Sparklines > Column** from the drop-down menu.

Choose a location for your sparklines to be placed. Click the OK button. Your Sparkline is now ready to use.



	A	B	C	D	E	F	G	H	I	J	K	L	M	N
7	REGION	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	
8	NORTH	86	61	67	90	41	35	41	91	67	59	9	88	
9	SOUTH	44	25	28	34	25	76	3	40	1	74	37	92	
10	EAST	19	10	73	90	98	52	74	33	58	17	25	94	
11	WEST	76	90	87	87	46	43	30	90	86	13	9	26	
12	NORTH EAST	13	36	29	20	15	90	72	61	28	17	12	61	
13	SOUTH EAST	89	25	45	10	86	52	90	87	27	8	90	38	
14	NORTH WEST	16	24	61	45	70	5	5	48	100	34	35	72	
15	SOUTH WEST	3	8	15	86	32	45	97	59	12	97	98	18	
16	CENTRAL	54	44	33	90	47	64	14	25	98	18	81	30	
17	HIGHLANDS	36	62	40	75	57	46	22	62	76	63	25	8	

Sparklines: Lines

Sparklines are a useful tool for displaying a graphical representation of your data in a single cell. You may change the color scheme and add a marker to indicate the high and low points of your data.

The Sparklines adapt as your data changes, giving them even more power.

- Choose a Numbers Range
- Select **Sparklines** > **Line** from the Insert menu.

- Choose a location for your sparklines to be placed. Click the OK button.

Sparklines: Win or Loss

When you have a huge data collection with both positive and negative statistics, adding a Win/Loss Sparkline next to your data is an excellent method to illustrate the trend. As a result, you or the reader will be able to notice the trends and patterns more quickly.

To create a Win/Loss Sparkline in Excel, start by following these steps:

Choose your information.

Select **Insert > Sparklines > Win/Loss** from the drop-down menu.

Select the range where the Win/Loss Sparklines should be inserted (typically the next column after your data terminates) and push OK.

By clicking on the Sparkline (which opens the Sparkline Tools tab in the ribbon) and then selecting Style from the drop-down box, you may modify the Style of the Sparkline.

To alter the negative color, go to Marker Color > Negative Points > Negative Color. Choose a color to alter the negative color, go to Marker Color > Negative Points > Negative Color. Choose a color

View Multiple Worksheets in Excel

I generally have a workbook with a lot of worksheets in it, and I have to look at many pages at once. I can't stand switching pages back and forth simply to compare the contents! Excel has a feature that allows you to see numerous spreadsheets.

Let me teach you how to do it!

- To open a new window, go to View > Window > New Window.
- There is a new window that has appeared, which you will notice. You'll note that the filename ends with a number showing the window number -.xlss:2.
- Let's rearrange the windows so that we can see them all at once! Select Vertical from View > Window > Arrange All and click OK.

- Multiple worksheets may now be seen from the same Excel file.

Creating Names for Worksheet Levels

When you name a cell or range in a workbook, you may usually use that name in all worksheets. For example, if you give a name to the cell M32 on Sheet1 and call it RegionTotal, you may use it in any calculation in any worksheet. This is a name for a workbook (or a global name). All cell and range names are workbook-level names by default.

Assume you have numerous worksheets in a workbook (one for each area) and you want each sheet to have the same name (for example, RegionTotal). You'll need to construct worksheet-level names in this scenario (sometimes referred to as local names).

To define the worksheet-level name RegionTotal, choose FormulasDefined NamesDefine Name on the worksheet where you wish to specify the name. The New Name dialog box displays after that. In the Names field, type the name in the Name field and choose the sheet where the name is valid from the Scope drop-down list.

You may also use the Name field to generate a worksheet-level name (located to the left of the Formula bar). Choose the cell or range you wish to name, then put the name in the Name field, followed by the sheet name and an exclamation point.

To create a name, press Enter. Consider the following example of a worksheet-level name:

Sheet3!RegionTotal

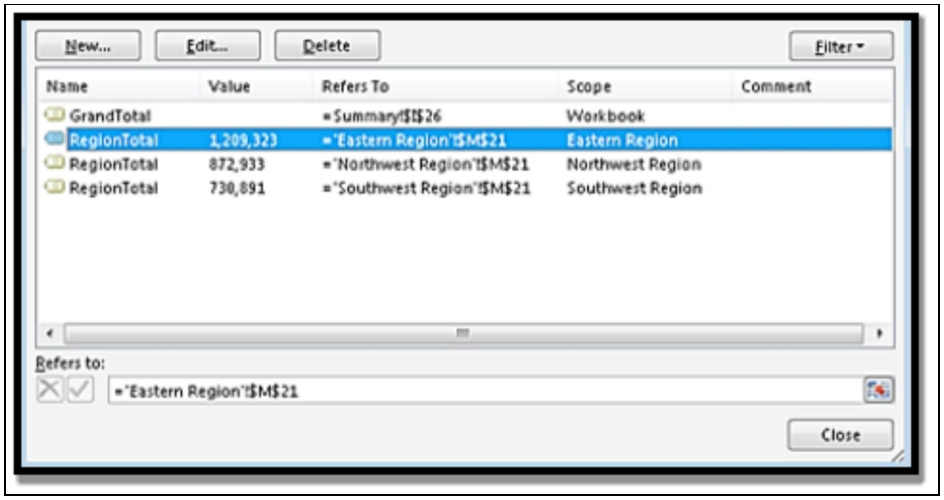
If the worksheet name has at least one space, use apostrophes to surround it, as in:

Northwest Region'!RegionTotal

You don't need to include the worksheet name in the range name when writing a formula that uses a worksheet-level name on the sheet where it was defined. (The worksheet name isn't displayed in the Name box, either.) You must use the complete name in a formula on a separate worksheet if you use the name in a formula (sheet name, exclamation point, and name).

When you replicate a worksheet with worksheet-level names, the names are reproduced in the new worksheet as worksheet-level names.

Each name's scope is clearly identified in the Name Manager dialog box. The dialog box lists the sheet on which the name is defined if the name's scope isn't Workbook.



In the Name field, only the worksheet-level names on the current sheet are displayed. When you open the Paste Name dialog box, only worksheet-level names in the current sheet are displayed in the list (by pressing F3).

The Use of Named Constants

Named constants are a handy strategy for removing clutter from your spreadsheets, as shown in this article.

Consider a worksheet that creates an invoice and calculates sales tax for a specific amount of money. The most popular method is to enter the sales tax rate into a cell and then reference that field in your formulae. This cell would most likely be called SalesTax to make things easy.

You may save your sales tax rate by naming it (rather than using a cell).

1. To launch the New Name dialog box, go to FormulasDefined NamesDefine Name.

2. In the Name box, type the name (in this instance, SalesTax).

3. For the name, choose Workbook as the scope. If you just want the name to be valid on a single device,

In the Scope area of the **New Name** dialog box, type the name of the worksheet.

4. Remove the text of the Refers To field and replace it with a simple formula, such as =7.5 percent.

5. To exit the dialog box, click **OK**.

The techniques above produce a named formula without using any cell references.

Enter the following formula into any cell to test it out:

=SalesTax

This straightforward method yields.075, which is the outcome of the SalesTax formula. You may think of this named formula as a named constant since it always produces the same output.

You can also use this constant in more complicated formulas like this one:

=A1*SalesTax

Text may also be included in a named constant. You may create a constant for a company's name, for example. The following formula, named MSFT, may be created using the New Name dialog box.

=" Microsoft Corporation"

You may then use a cell formula like this one:

="Annual Report: "&MSFT

The text Annual Report, Microsoft Corporation is returned by this formula.

In the Name box and the Go To dialog box, names that do not refer to ranges are not displayed (which appears when you press F5). This makes it reasonable, since these constants have no physical location. When you create a formula, they are displayed in the Paste Name dialog box (which

occurs when you hit F3) and the IntelliSense drop-down list. This makes sense since these names are used in formulae.

You may alter the value of the constant at any time by selecting FormulasDefined NamesName Manager from the Name Manager dialog box (choose FormulasDefined NamesName Manager). To access the Edit Name dialog box, just click the Edit button. Then, in the **Refers To area**, modify the value. When you dismiss the dialog box, Excel recalculates the formulae that utilize this term using the new value.

Wingdings Symbols in Excel

Wingdings is a whimsical typeface that many of us like using. That's something I do all the time! But what if we wanted to utilize those fancy symbols in Excel? I was never sure which symbol I would receive while typing using the Wingdings typeface! I'll teach you how to choose a fantastic Wingdings Symbol and put it in your Excel spreadsheet in no time!

Choose the cells where you want the symbols to go.

Select Wingdings: from the Font dropdown menu.

Go to Windows Start (**Windows 10)** > **Search Bar** > **Character Map** now that our cells can take Wingdings symbols. Go to **Start** > **All Programs > Accessories** > **System Tools** > **Character Map** if you're using an earlier version of Windows.

Now you'll be able to view all of the characters! Make sure you're using the Wingdings font. Select the symbol you wish to use by double-clicking it. Select Copy.

Click **Paste** in your Excel Spreadsheet.

Complete the remainder of the cells with Wingdings Symbols, and you're done!

NOTE: You may also go to **Insert > Symbol > Font: Windings > Insert > Close** after clicking on a blank cell.

Conclusion

Microsoft Excel is a program included in the Microsoft Office suite that allows users to do a variety of activities, such as tracking a personal budget or logically arranging information using rows and columns.

Apart from that, Excel has a plethora of capabilities, including formulas and functions. Function keys, for example, enable a user to do a variety of apparently tough activities in a simple and effective manner. Excel is much more powerful than most of us realize!

Learning some Excel TIPS and TRICKS is one of the FASTEST methods to learn Excel, period, and if you learn a single Excel tip a day, you may learn 30 new things in a month.

However, instead of looking everywhere, you should keep a list that you can refer to every day. So, I'm really PROUD to announce that this is the most complete collection of basic and intermediate recommendations available online. Enjoy!

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