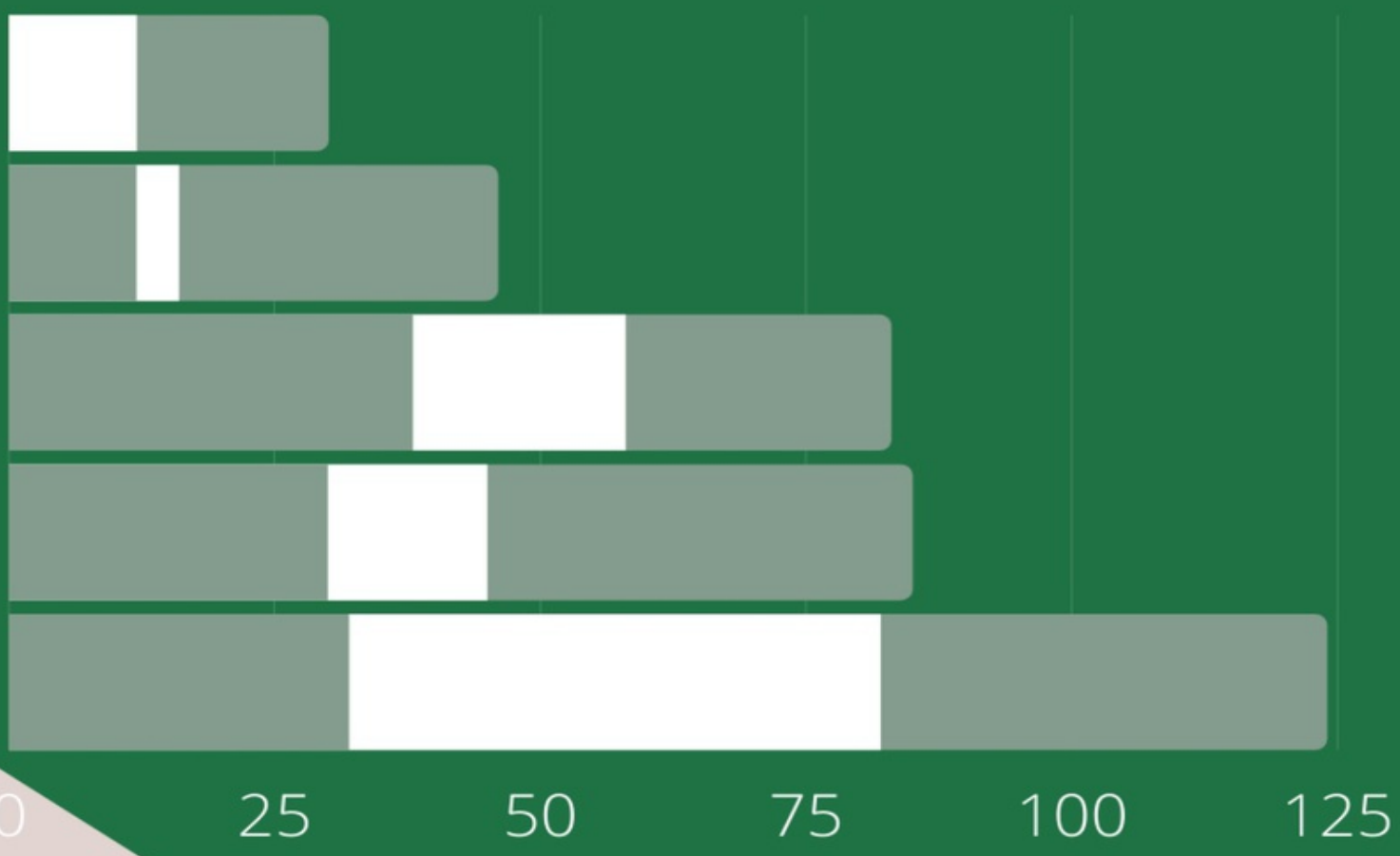
EXCEL 2021 FOR BEGINNERS AND ADVANCED LEARNERS

A STEP-BY-STEP PRACTICAL GUIDE TO MASTERING EXCEL



PETER JOHN

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LEGAL NOTICE

TABLE OF CONTENT

INTRODUCTION

Truth be told, Excel program is a must to have for both small and large scale business, especially in the time as such as this. Both large and small businesses rely on Excel software to their financial planning and accounting needs which are a major part of every organization.

To some people, Excel is a program that arranges data in rows and columns. However, Excel goes far beyond that, rather it contains features that allow you execute operations such as data entry, analysing data in table, charts, and graphs, statistics, financial analysis and modelling, data management, forecasting, track inventory, macro programming etc.

With this user guide, you will be learning the most crucial parts of Excel which will help you harness your skills and boost your confidence when it comes to using Excel. In a nutshell, you will be learning the different concepts in Excel; workbook, worksheet, functions and formulas, tables and charts, and lots more.

Although, Excel is not easy to learn, but you know? with this guide, you are one step ahead to master Excel with ease.

CHAPTER ONE
INTRODUCTION TO OFFICE 2021

Before we begin to dive into Word 2021 fully, we must have in-depth knowledge about Office 2021.

Office 2021 is a replacement and an upgrade version of Office 2019 and Office 2021. Office 2021 is a single payment or non-subscription version of Microsoft Office that comes along with a lot of new features and upgrades, specifically created for consumers and small businesses.

Office 2021 is also designed for consumers who don't want to subscribe to the cloud-powered Microsoft 2021 variants.

Office 2021 contains the same applications as previous versions of Office such as Word, Excel, PowerPoint, Outlook, OneNote, and depending on the plan or bundled subscribed to, you may get to use other applications and services such as Publisher, Planner, OneDrive, Exchange, SharePoint, Access, Skype, Yammer, and Microsoft Teams.

Why Should You Use Office 2021?

There is no doubt that Office 2021 and other versions of Office Suite have so many similarities. Despite all these similarities, Office 2021 has some exclusive features that make it different from the other versions of Office Suite. However, these features are the major factors that will intrigue you to use Office 2021. Now let us highlight them.

- **Easy Access from Anywhere:** Office 2021 allows you to access your file anytime and anywhere using an internet connection, from any device. Office 2021 runs in a Microsoft data center, which allows the users to connect to the internet to access the software.
- **SharePoint**: One of the advantages of using Office 2021 is that it allows you to use **SharePoint Online.** Using this service allows you to share and collaborate with others. To view the document by anyone in the organization, this service set up security permission.
- **Software Update:** Another advantage to the use of Office 2021 is that it allows the users to get frequent software updates. These updates allow access to the latest features such as security updates, and bug fixes.
- **Dark Mode:** Office 2021 comes with a feature known as "Dark Mode". This feature allows you to make things darker and easier for the eyes. The dark mode makes late-night writing and editing very much easier to do.
- **Secured Cloud Storage:** Office 2021 has a secure working environment with high-security measures set in place such as two-factor authentication, which obstructs any authorized people to gain access to your files even while on your devices. With this in place, your confidential files are secured without any security threat or breach.
- **Improved Communication:** Office 2021 comes with tools such as Skype, Yammer, Microsoft Teams, and Outlook, which help to enhance communication. For instance, Skype for Business allows you to hold conference calls and meetings with staff and external agencies anywhere in the world, regardless of the distance or location. Yammer, another tool for communication in Office 2021which serves as another form of social network used in an organization is used to post news feeds, email notifications, and create different channels for different purposes.
- **Automatic Upgrades**: Applications such as Word, Excel, Outlook, etc. are upgraded from time to time automatically at scheduled intervals. With this in place, the stress and cost involved in buying new software are removed as updates are included in the subscription for the Office 2021 licenses.
- **Business Continuity:** Threats such as disasters and thefts cannot affect the flow of your business

no matter what happens to your physical devices, emails, files, and data. This is because all files and data needed for workflow are saved and regularly backed up in Office 2021 cloud.

Versions of Microsoft Office 2021

Office 2021 comes in two versions; consumer Office 2021 and Office LTSC (**Long Term Servicing Channel**) for commercial customers. Office LTSC includes enhanced features such as dark mode supports for visuals, accessibility improvements, and performance improvements on Word, Excel, and PowerPoint. Consumer Office 2021 also has similar features to Office LTSC for commercial users.

These versions of Office 2021 are both compatible with Windows and Mac.

CHAPTER TWO
INTRODUCTION TO MICROSOFT EXCEL 2021

Before we go deep into the basic operations of EXCEL 2021, we must first learn what EXCEL 2021 is all about, its features, and its importance.

What is Excel 2021?

Excel 2021 is a spreadsheet program in Office 2021 Microsoft to record and analyze numerical and statistical data.

Excel 2021, being a spreadsheet program uses spreadsheets to organize numbers and data with formulas and functions. Excel contains features that allow you to carry out several operations such as calculation, graph tools, pivot tables, macro programming, and many more.

Excel 2021 uses cloud storage to save its file, and can be accessed from a web browser on the computer system.

Features of EXCEL 2021

Excel and traditional Excel have some features in common. Right now, I will be listing out some features that make Excel different from the traditional Excel

- **Online Subscription**: Excel 2021 is the subscription-based version of Excel designed to regularly release updates and features that will enhance the productivity of its users. The subscription payment can be done monthly, semi-annually, or annually.
- **Custom Visuals**: One of the features available in Excel 2021 is custom visuals such as bullet charts, speedometer, and word cloud which were available only available in Power B1.
- **Custom Functions**: This feature allows you to create custom functions by using JavaScript which permits for better interconnection.
- **Full SVG Graphics:** Excel 2021 comes with SVG graphics support and 500 built-in icons which look great on infographics and dashboards.
- **3D Models with Full Rotation:** Excel 2021 has many 3D models that are for free on the internet, with extensions such as. fbx., obj., ply., stl., and gbl.
- **XLOOKUP Function**: Another feature in Excel 2021 is the XLOKUP function. This function allows you to find the value that is located within a spreadsheet range or table.
- **More Images, Icons, Backgrounds, and Templates**: Excel 2021 comes thousands of new designs such as images, icons. Backgrounds and templates.
- **Ideas**: Another feature in Excel 2021 is the Idea function. The Idea function offers help on how to express data or put them into visualization.
- **Black Theme**: The black theme in Excel 2021 makes late-night work editing with ease.
- **Split Columns to Rows**: This is a new feature in Power Query where each delimiter generates a new row.
- **Funnel Chart:** This is a chart type that comes in handy for illustrating a sales funnel
- **Co-authoring Features:** This feature in EXCEL 2021 allows two or more users to simultaneously edit a workbook when stored on OneDrive or SharePoint.

Importance of Using EXCEL 2021

Now let’s talk about the importance of using Excel 2021 compare to traditional Excel.

- **Preparation of Financial data**: One of the reasons to use Excel 2021 is that it allows you to prepare financial data such as budgets, account balance information, taxes, payrolls, receipts, and a lot more.
- **Mathematical Formulas**: With Excel 2021, you can solve complex mathematical problems by making use of the mathematical formulas in Excel.
- **Online Storage and Access**: Excel 2021 which is a part of Office 2021 allows you to access their files online, without the need to move around with their computers. In a nutshell, you can access your files anytime and anywhere using any device compatible with the use of Excel 2021
- **Easy and Effective Comparison**: With Excel 2021, you can analyze a large amount of data which can be used to get trends and patterns that can influence or affect decisions.
- **Co-authoring:** Excel 2021 allows you to work on the spreadsheet at the same time with other users.
- **Improved Security:** In contrast to the traditional Excel, Excel 2021 offers an advanced security system to the files on it. This denies intruders access to the files by either using a password using the Visual Basic Programming or directly within the Excel files.
- **Creating Forms**: With Excel 2021, you can create form templates that can be used for handling inventories, performance, evaluation ,questionnaire, and reviews.

CHAPTER THREE

GETTING FAMILIAR WITH EXCEL SCREEN INTERFACE

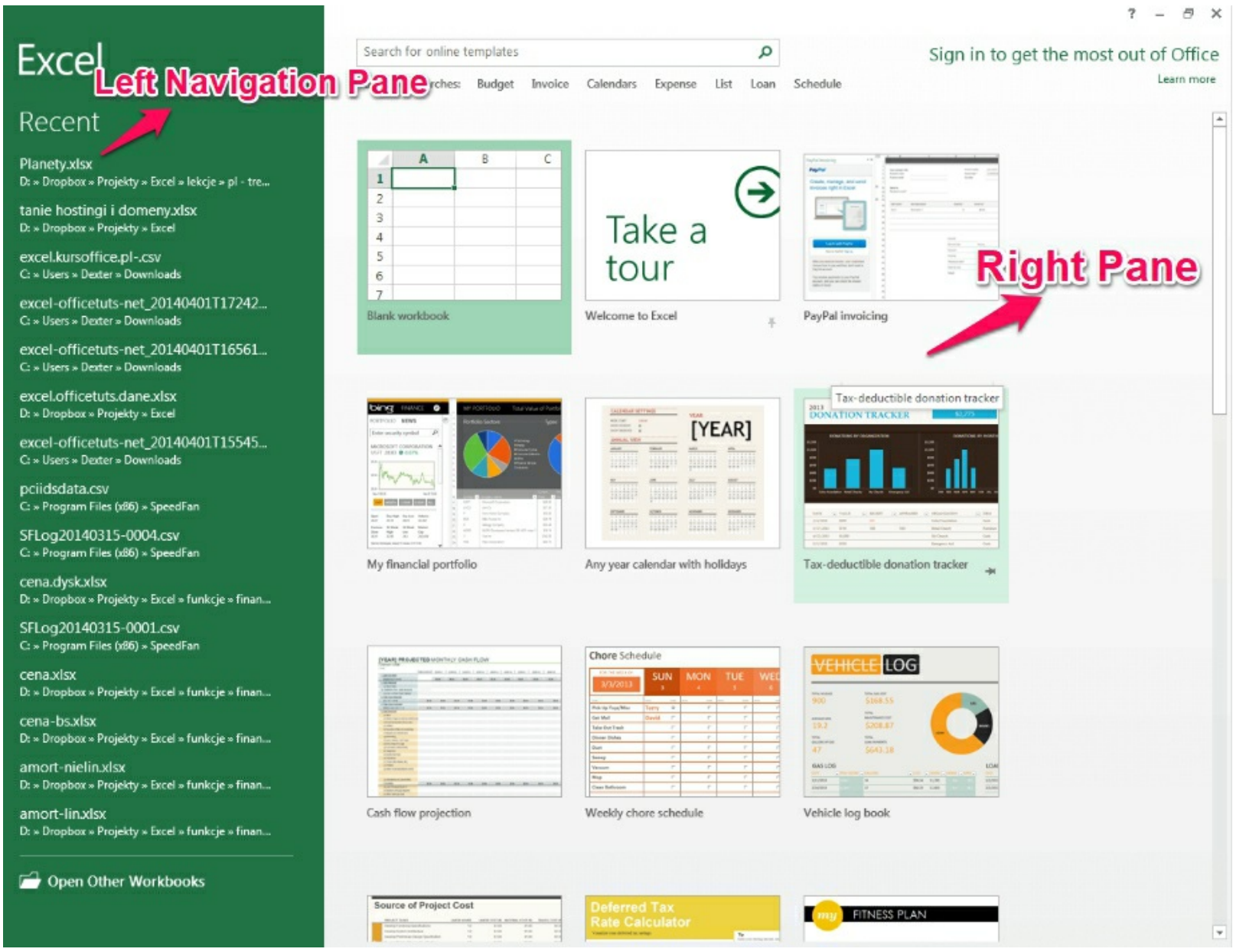
In this chapter, you will be learning about Excel’s screen interface which includes the Start Screen, Ribbon

Interface, and how to customize the ribbons on Excel's interface.

Excel's Start Screen

When you open an Excel application for the first time, the first thing that pops up is the start screen, which is divided into two parts.

- The Left Navigation Pane
- The Right Pane



The Left Navigation Pane

The Left Navigation pane comprises a list of recently opened Excel files and a link which is **"Open Other Workbooks".** When you click on "**Open Other Workbooks",** this takes you to the backstage view of Excel where you can access options such as New, Open, Save, Save As, etc.

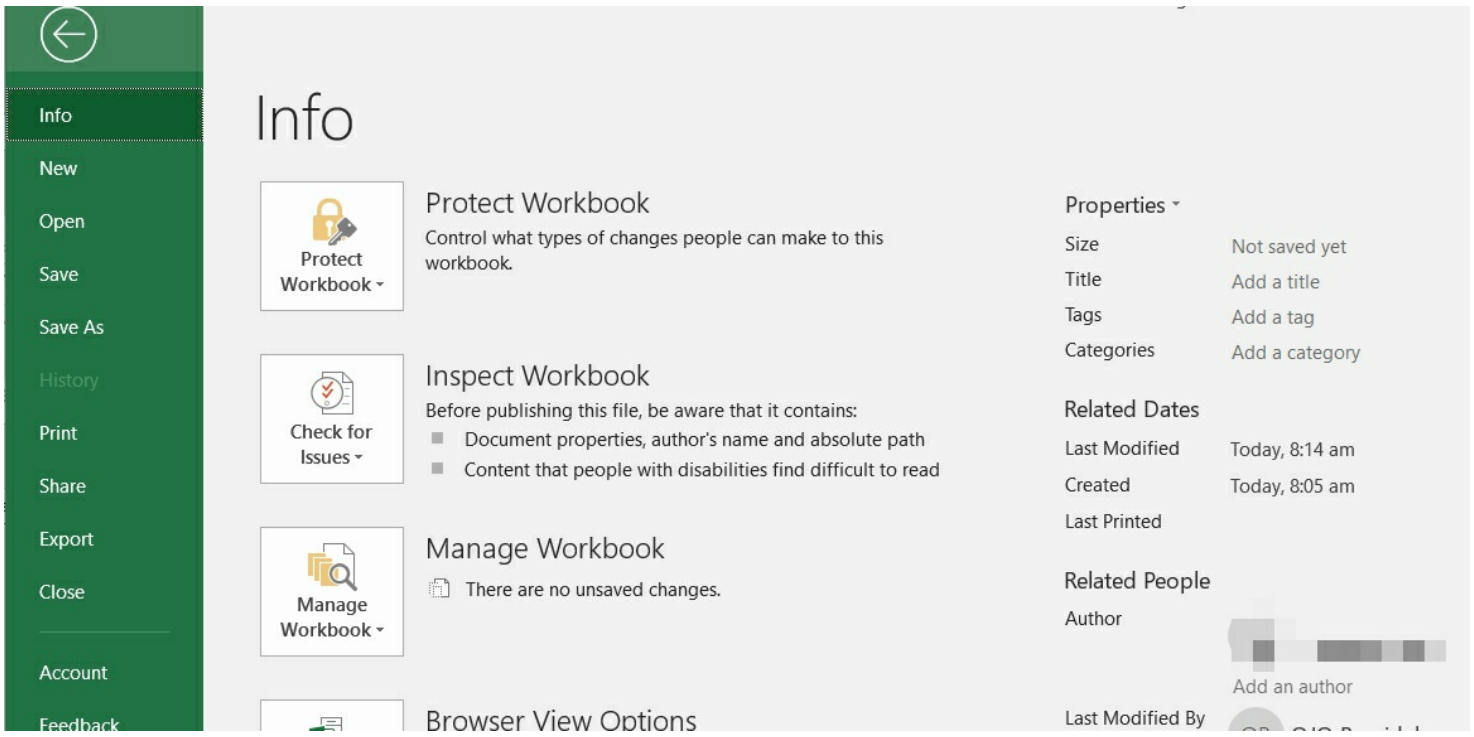
The Right Pane

The Right Pane displays a list of thumbnails that includes templates that can be used to create a new workbook. To view more templates to create a new workbook, click on the **Find More** in New link on the right side of the Home screen. To open a new blank Excel workbook, you can click on **Blank workbook**

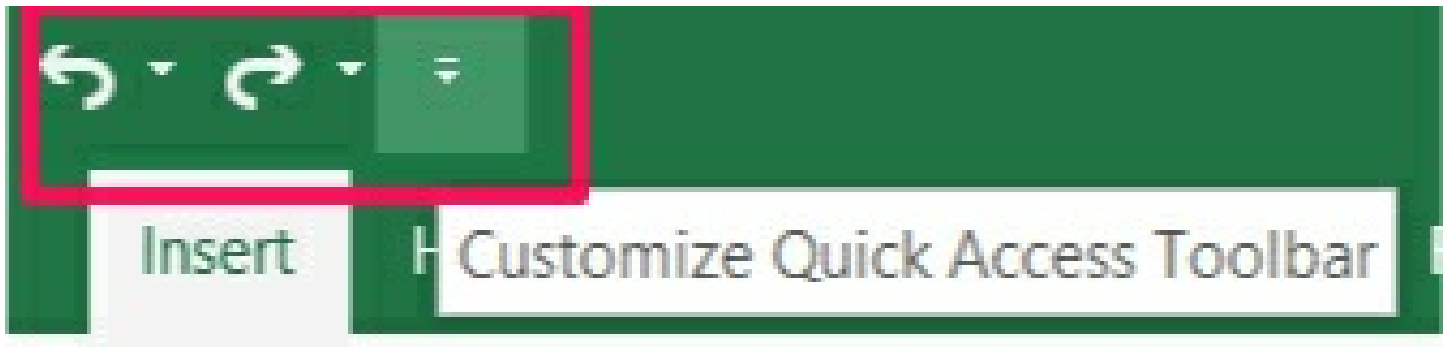
Excel's Workbook User Interface

From the Excel Home Screen, you open a new, blank workbook by clicking on the New Workbook thumbnail. When a new, blank workbook is opened, the following options are displayed on the user interface

- **File Menu Button:** The File Button takes you to the Backstage View of Excel, and this contains several options such as New, Open, Save As, Print, etc. to work with the Excel file.



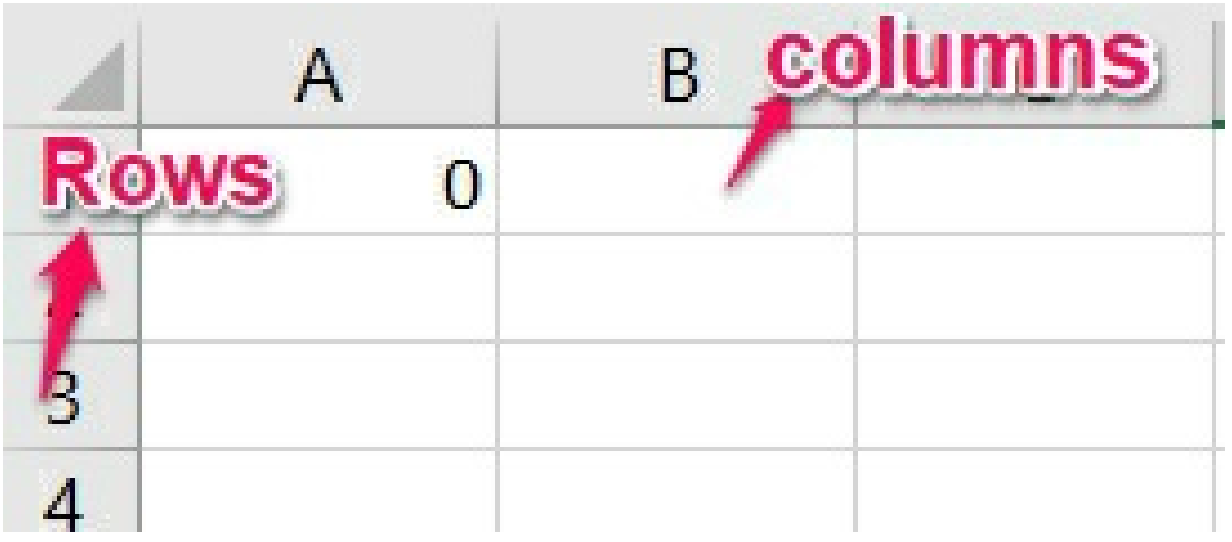
Quick Access Toolbar: This tool is located above the Excel ribbon and by default, it contains commonly used commands such as Save, Undo, and, Redo. This Quick Access Toolbar can be customized by adding any other commonly used command to it, by clicking on Customize Quick Access Toolbar button located beside the Quick Access Toolbox button



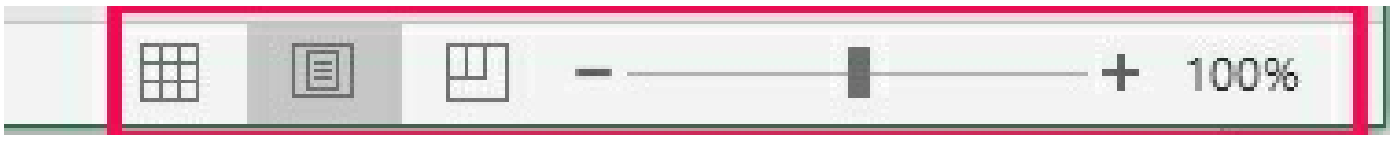
- **Ribbon:** This contains most of the commonly used commands in Excel. They are displayed on the Excel interface in tabs ranging from the Home tab to the View tab

- **Formula Bar:** The Formula bar is located at the top of the Excel worksheet window. The Formula bar has three parts; the cell name, the Formula bar button, and the contents of the currently selected cell.

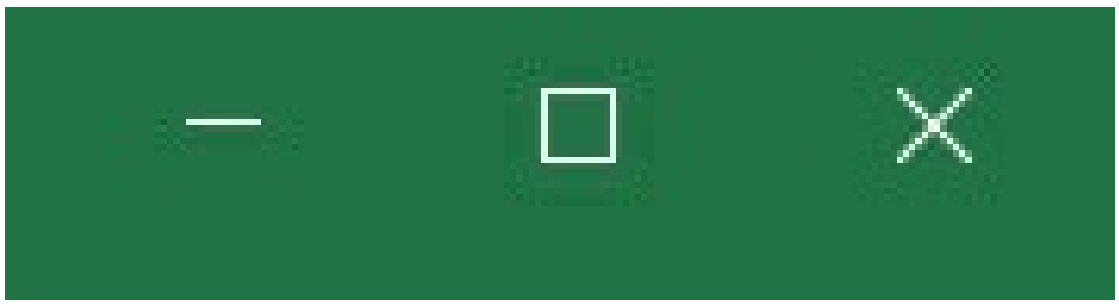
- **Worksheet Area:** This is the area that contains all the cells in the current worksheet. The worksheet is identified by column headings with letters at the top, and rows headings with numbers at the left edge, with tabs for making selections.



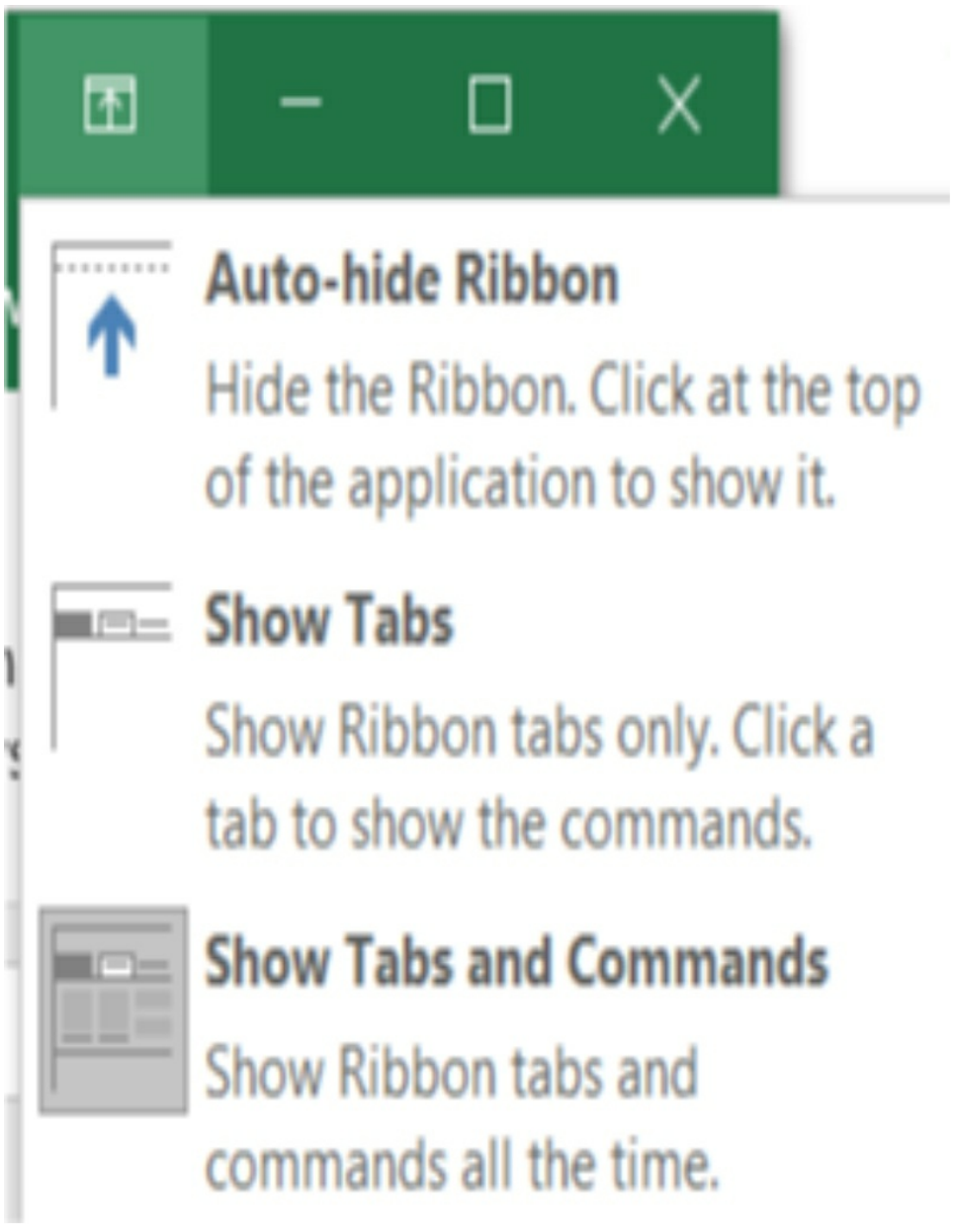
Status Bar: The Status bar keeps you abreast of the current mode of the Excel worksheet you are engaged with. The Status bar also contains the worksheet views and the Zoom tool for zooming in and out of the worksheet.



Windows Controls: The Window controls are used to control the main Excel window. The Window controls contain three buttons; maximizing the window, restoring the window, and closing the window.



- **Ribbon Display Options**: The Ribbon Display Options button is located at the top of the Excel window, and when clicked on, the three options are displayed; Auto-hide Ribbon, Show tabs, Show Tabs, and Commands.



- **Horizontal Scrollbar and Vertical Scrollbar:** The Horizontal scrollbar and Vertical scrollbar are used to scroll the content in the worksheet horizontally or vertically.

Navigating Through the Excel Ribbon

The Excel ribbon is a row of tabs, buttons, and icons located at the top of the Excel window. These tabs, icons, and

buttons are categorized based on their functions or categories.

Components of Excel Ribbons

The Excel ribbons are divided into four components; **Tabs, Groups, Buttons,** and **Dialog Box launcher.**

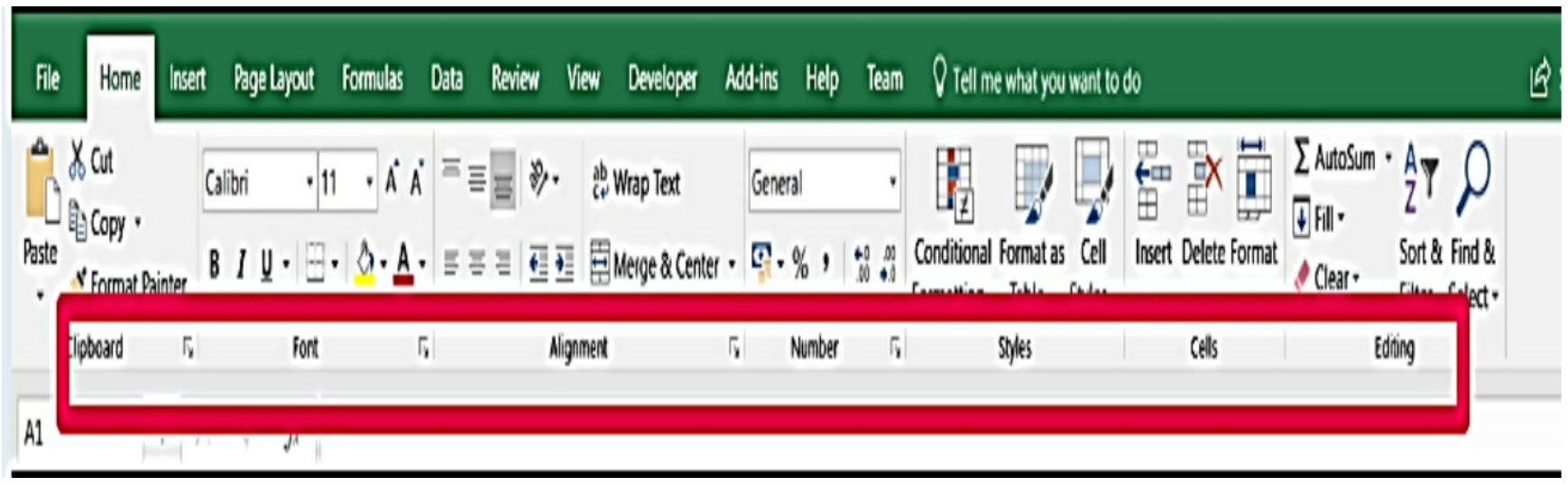
Tabs

Tabs are a group of commonly used commands brought and displayed to perform an essential task. The following are the tabs in Excel

- **File Tab:** This is the first tab in Excel which is used to open the Excel Backstage View. The Excel Backstage View has several options for customizing, editing, and managing Excel files.
- **Home Tab:** The Home tab contains commands that are commonly used in Excel, and some of these commands are copy, paste, format, find, replace, etc. The Home tab is arranged into the following groups; Clipboard, Font, Alignment, Number, Styles, Cell, and Editing.
- **Insert Tab:** The Insert tab contains objects or elements that can be inserted into the worksheet. The elements include graphics, pivot tables, charts, hyperlinks, shapes, 3D models, pictures, etc. The Insert table is arranged into the following groups; Table, Illustration, Apps, Charts, Reports, Sparkline, Filter, links, Text, and Symbols.
- **Page Layout:** The Page Layout tab contains options for Excel page setup and print. The Page Layout tab is arranged in the following group; Themes, Page Setup, Scale to Fit, Sheet Options, and Arrange.
- **Formulas Tab:** This tab contains options for adding formulas and functions in a worksheet, and troubleshoot the functions for errors. The Function tab is arranged in the following group; Function Library, Defined Names, Formula Auditing, and Calculation.
- **Data Tab:** The Data tab contains options for filtering, sorting, and manipulating data. The Data tab is arranged in the following groups; Get External Data, Connections, Sort & Filter, Data Tools, and outline.
- **Review Tab:** The Review tab contains options for spell checking, thesaurus, sharing, protecting, and tracking changes in the worksheet. The Review tab is arranged in the following groups; Proofing, Language, Comments, and Changes.
- **View Tab:** The View tab contains options for changing the display of the worksheet and its contents. The view tab is arranged in the following groups; Workbook View, Show, Zoom, Windows, and Macros groups.
- **Developer Tab**: The Developer tab contains options for creating, playing, and editing macros. It can also be used to import and map XML files. The Developer tab is arranged in the following group; Code, Add-ins, Controls, and XML.
- **Help Tab:** The Help tab is where you get online help and training, and feedback on Excel.

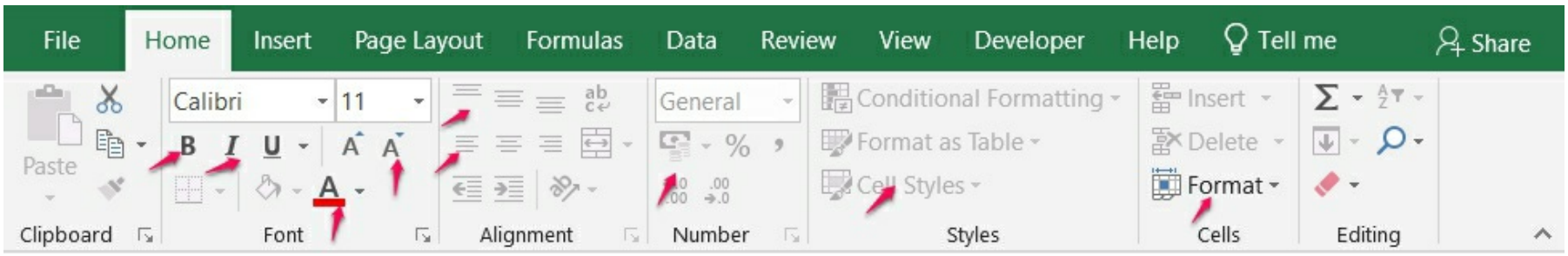
Groups

The groups contain related commands buttons which are arranged into subtasks. Each contains buttons, sub-menu, and dialog launchers.



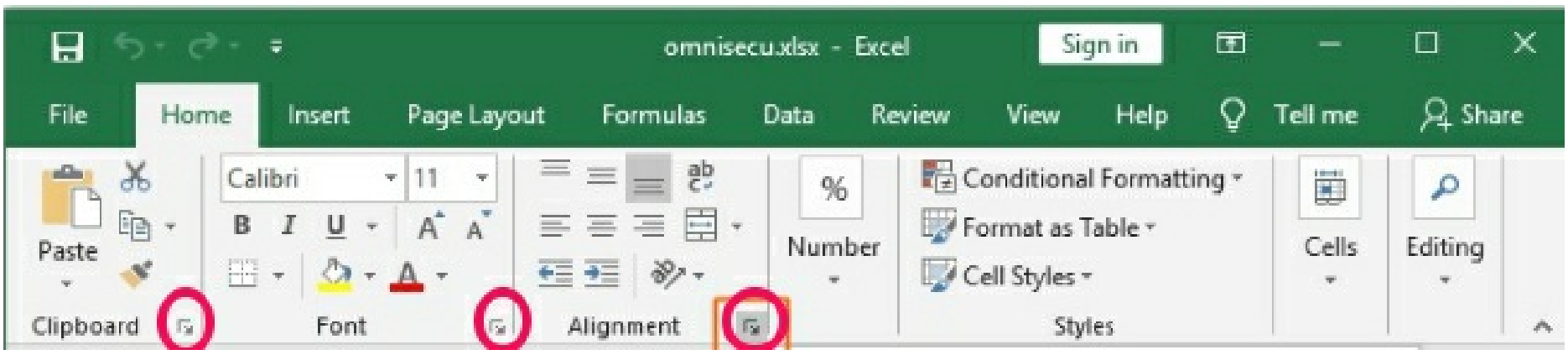
Command Buttons

These are tools in the group that are used to execute an action in the worksheet. The command buttons in the tab are organized into mini-toolbars.



Dialog Box Launcher

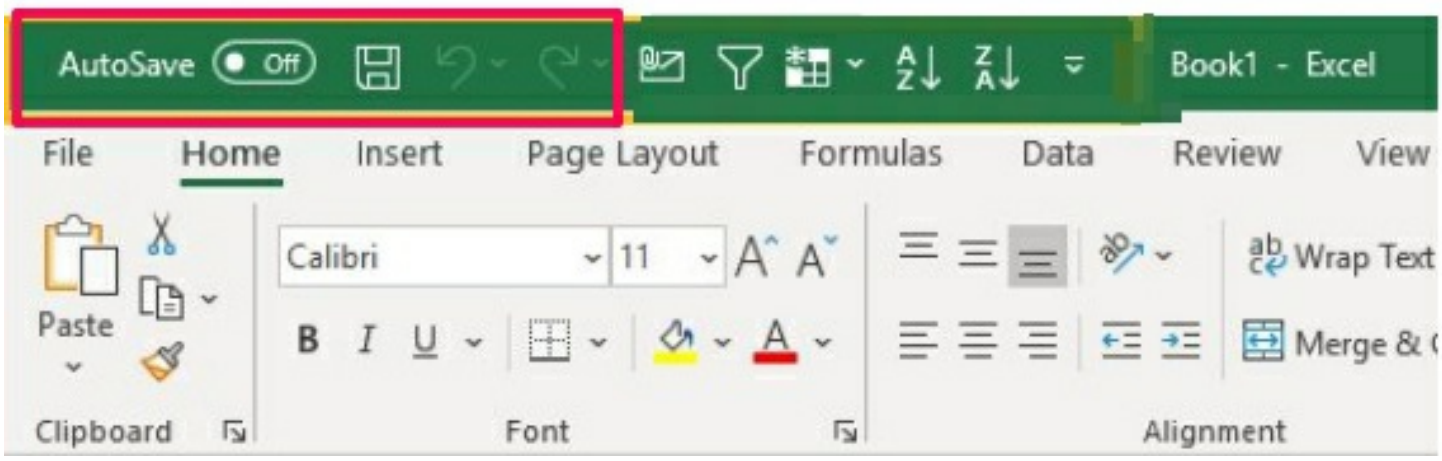
The Dialog Box Launcher is located at the right bottom corner of each group. When you click on it, the Dialog Box launcher opens a dialog box that displays additional options that can be selected from.



Customizing the Quick Access Toolbar

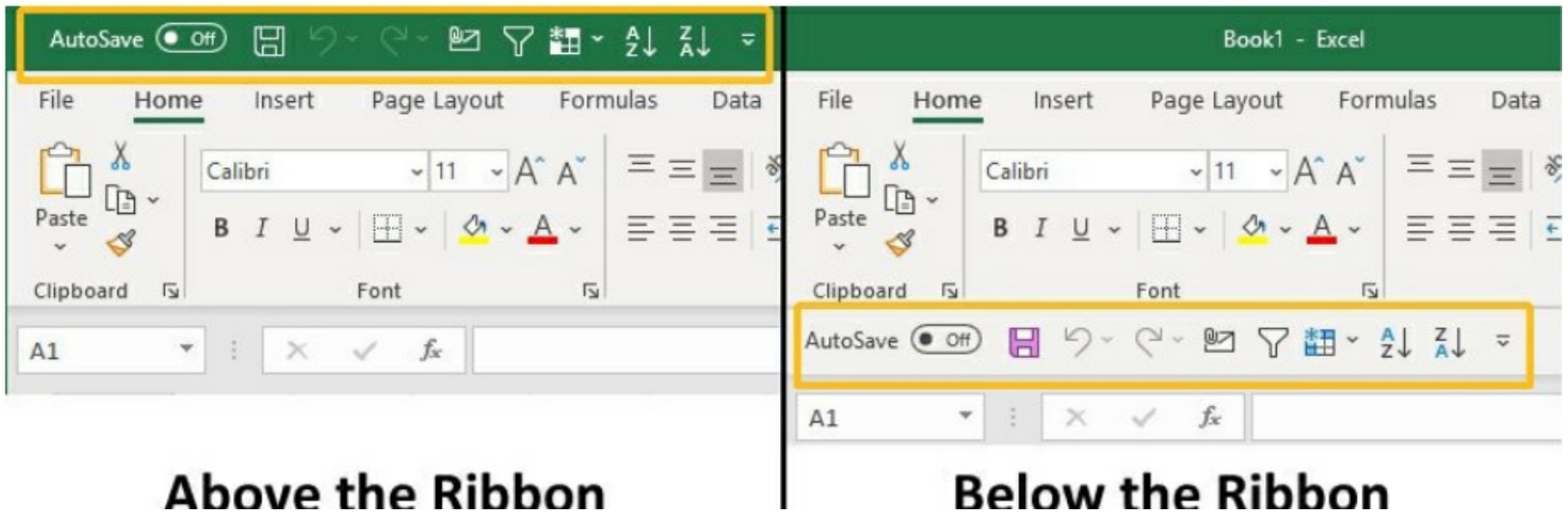
The Quick Access Toolbar is located above Excel Ribbon, and by default contains the following four buttons:

- **AutoSave**: This option automatically saves all the future edits made in the Worksheet.
- **Save**: This option allows you to manually save the changes made to the worksheet you are currently working on.
- **Undo**: This option undoes the last editing action made on the worksheet you are currently working on.
- **Redo**: This option repeats the previous editing action recently removed using the Undo bottom.



You can add more commands to the Quick Access Toolbar by clicking on the Customize Access Toolbar button located beside the Quick Access Toolbox button.

By default, the Quick Access Toolbar is located at the top left corner of the Excel application, and it can also be moved under the Ribbon area by clicking on the Customize Access Toolbar and then click on Show Below



CHAPTER FOUR
UNDERSTANDING THE BASICS OF EXCEL

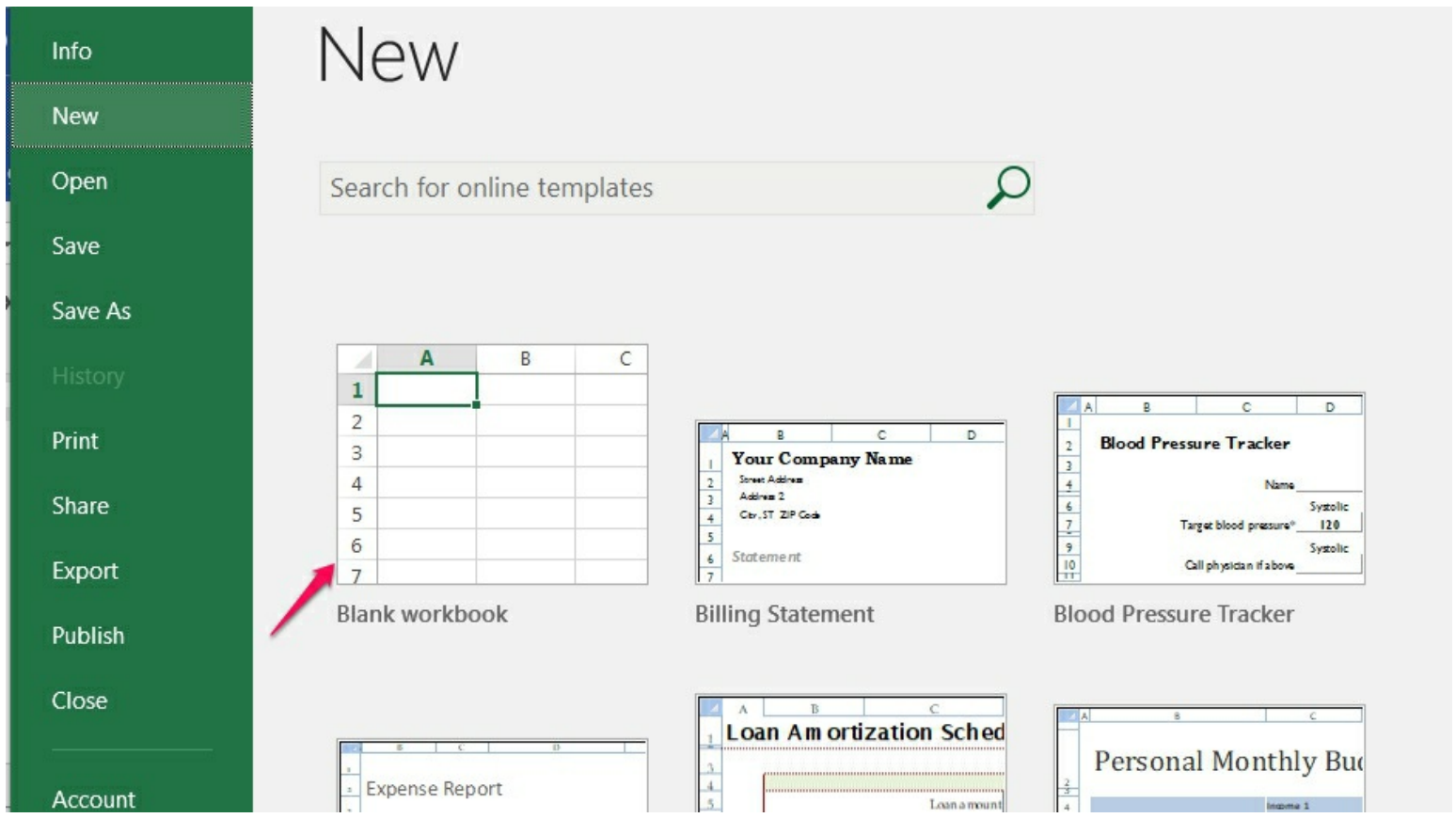
In this chapter, you will be learning the basics of Excel such as the workbook, worksheet, rows and columns, cell address, active cells, creating and opening a new Excel workbook, creating a new worksheet, entering data into the worksheet, and lots more

What is a workbook

A workbook is a file that contains one or more collections of worksheets.

To open a new workbook, follow the steps given below

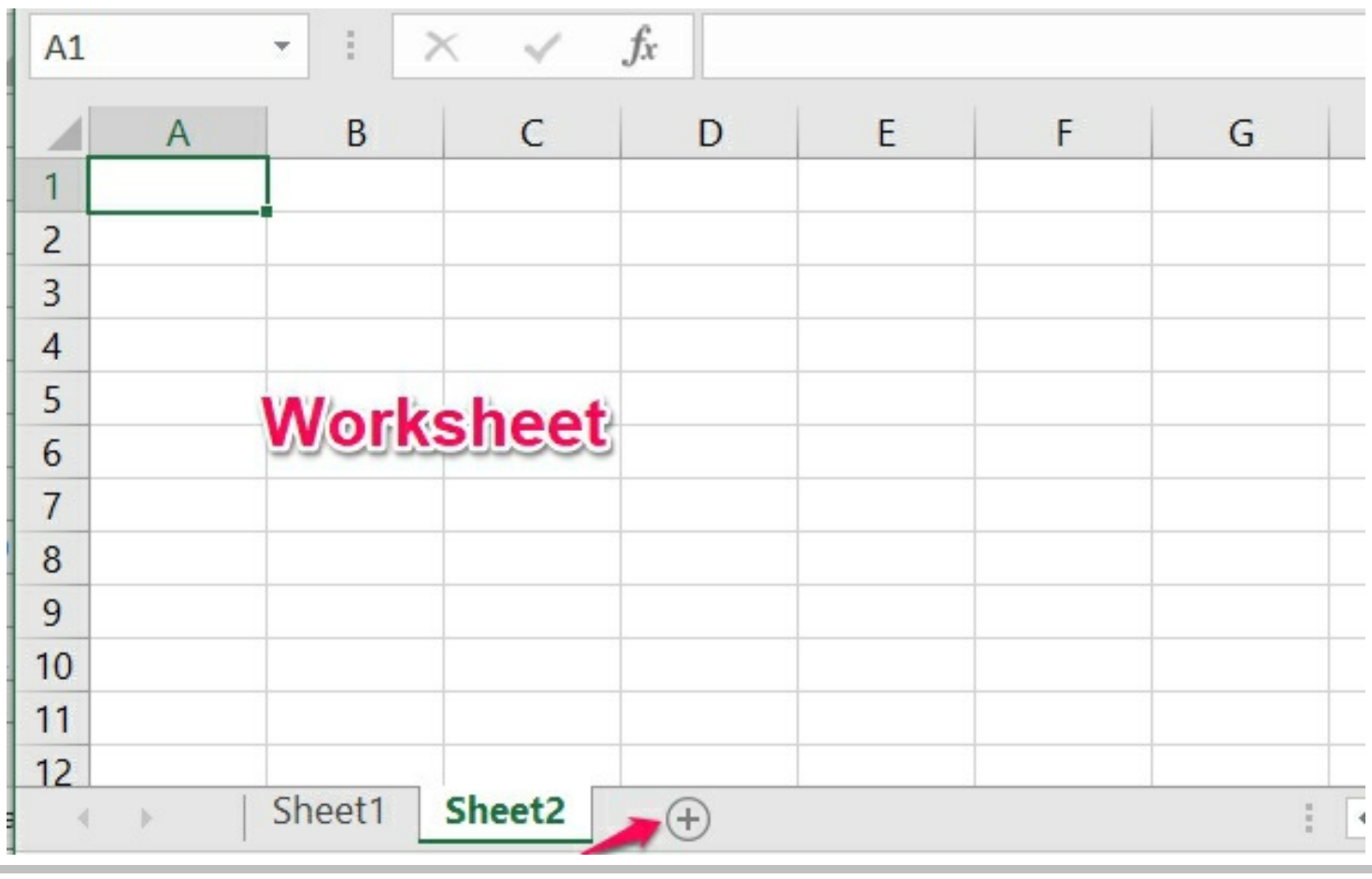
- Open the **Excel program**
- Select **Blank workbook**



What is a Worksheet

A worksheet is a collection of organized cells in rows and columns, where data are stored, updated, and manipulated. A worksheet contains 1048576 rows and 16384 columns. The worksheets are also known as spreadsheets.

To create a new worksheet, click on the plus sign at the bottom of the document window.



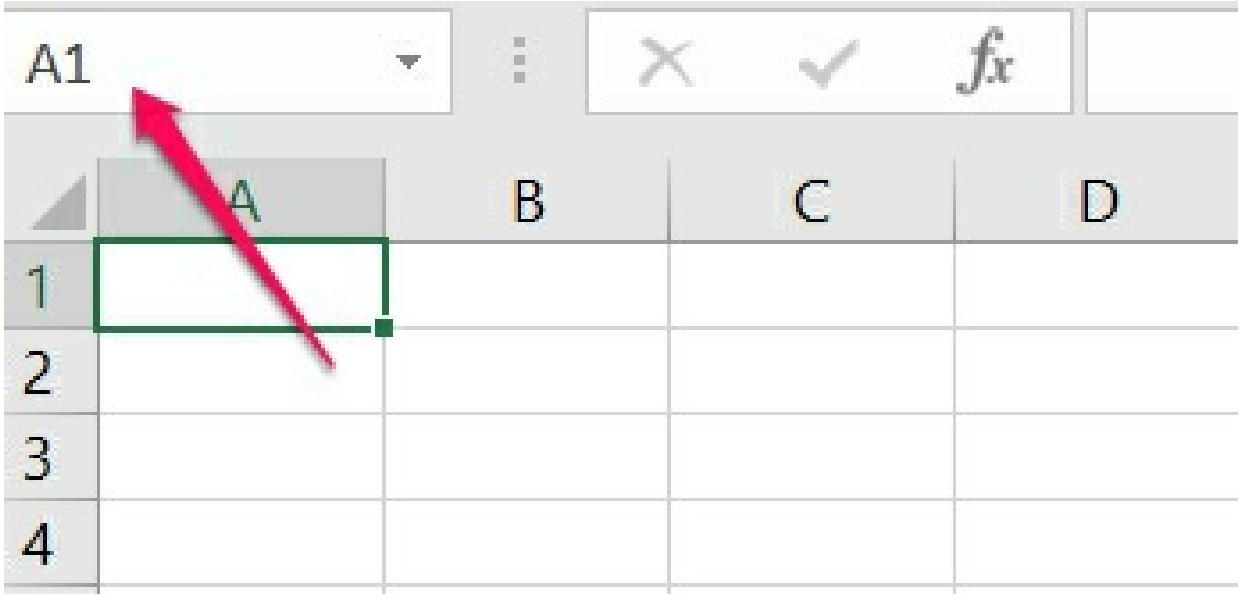
Understanding Columns, Rows, and Cell Address.

Rows: Rows are part of the Excel worksheet identified by numbers ranging from 1 to 1048576. The total number of

rows in Excel is 1048576.

Columns: Columns are part of the Excel worksheet identified by letters from A to XFD. The total number of columns in Excel is 16384.

Cell Address: The Cell address otherwise known as the cell reference is an alphanumeric value used in identifying a specific cell in the worksheet. Each cell address contains one or more letters followed by a number.



The Kinds of Data a Worksheet Accepts

The worksheet contains the three types of data; labels, values, and formulas

- **Labels**: Labels are otherwise known as texts.
- **Values:** These are numbers be it whole o decimal numbers. Values also include the date
- **Formulas:** These are commands on Excel to execute calculations e.g. SUM, MAX, LOOKUP, etc.

Hints to Observe Before Entering Data

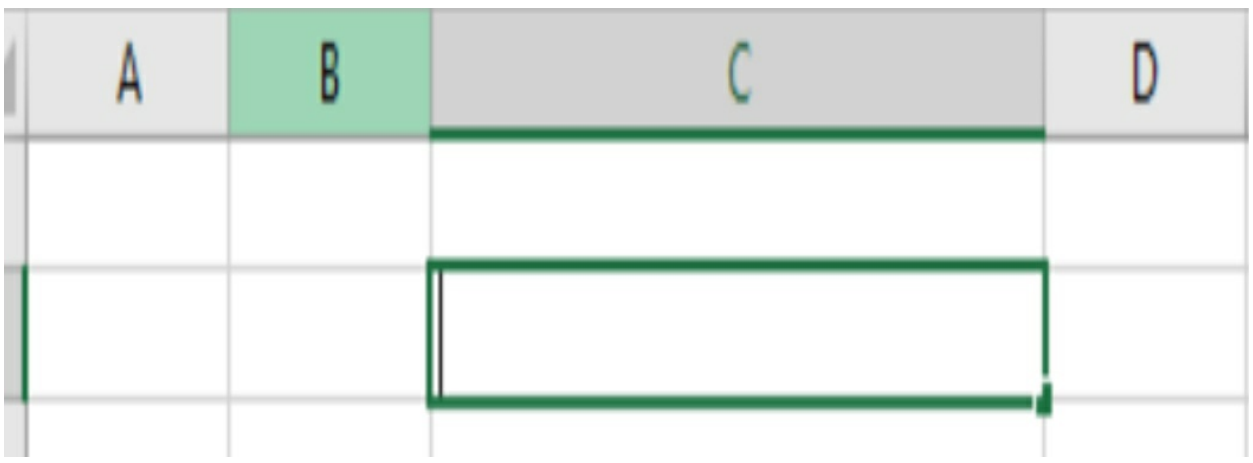
Before entering data into the worksheet, take note of the following rules:

- Select the cell you want to enter the data into
- Any new entry makes into a cell replaces the original data already contained in it.
- Data entered in a cell must be completed by clicking on the Enter button on the Formula bar, pressing the Enter key, or selecting a new cell before the entry is officially entered in the cell.

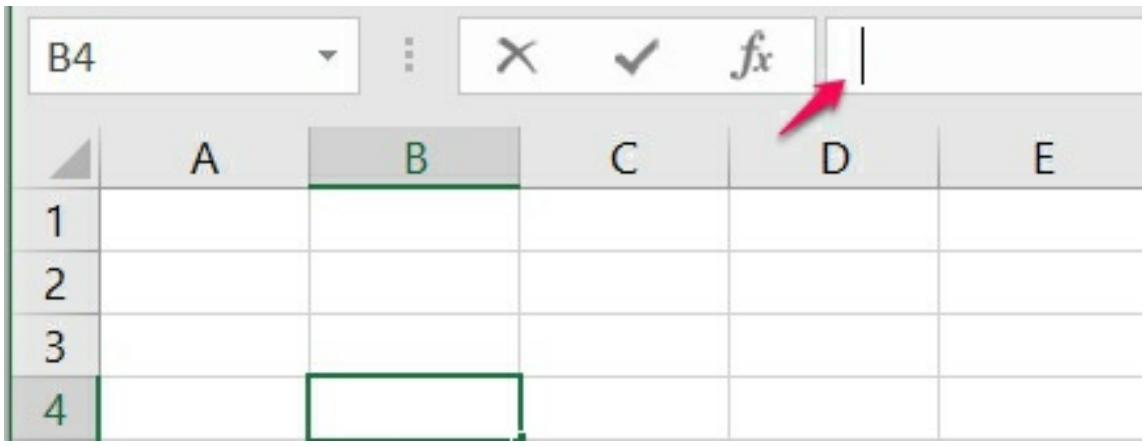
Entering Data into the Cells

There are three major ways to enter data into the cells in the worksheet and they are as follow

- **Double-clicking:** To enter data into the cell, double click on the cell and start typing inside of it. This is the most commonly used method to enter data into the cell.



- **Clicking on the Formula Bar:** One of the ways to enter the data into the cell is to click on the formula bar.



- You can also put the cell in the edit mode by pressing F2

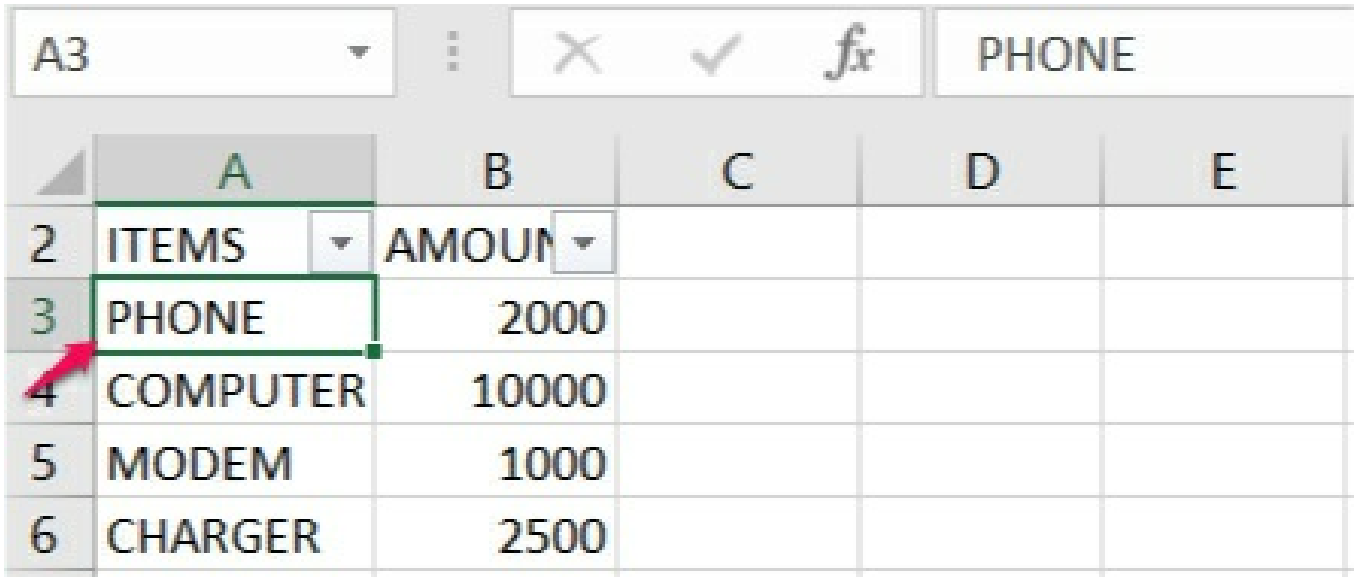
Editing Your Worksheet Data

You can edit your worksheet data by either replacing the cell's content, delete the characters in the cell entry, or insert new characters in the cell entry. Now let's quickly learn how these can be done.

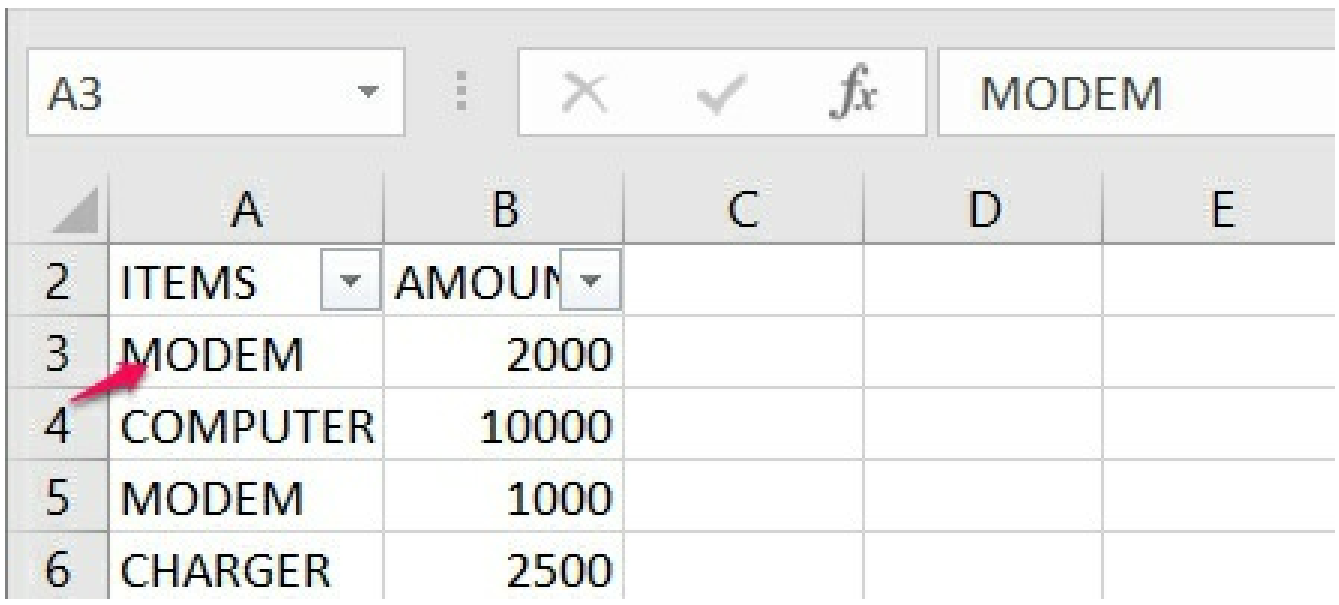
Replacing a Cell's Content

To replace the content of a cell, do the following:

- Place the cell pointer in the cell



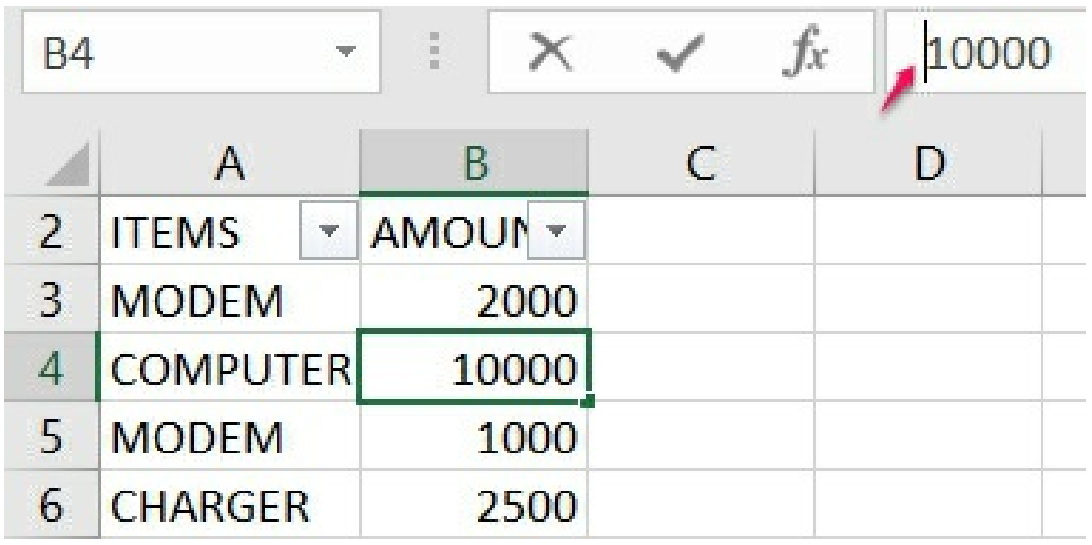
- Start typing the new entry over it and the new entry will replace the original entry.



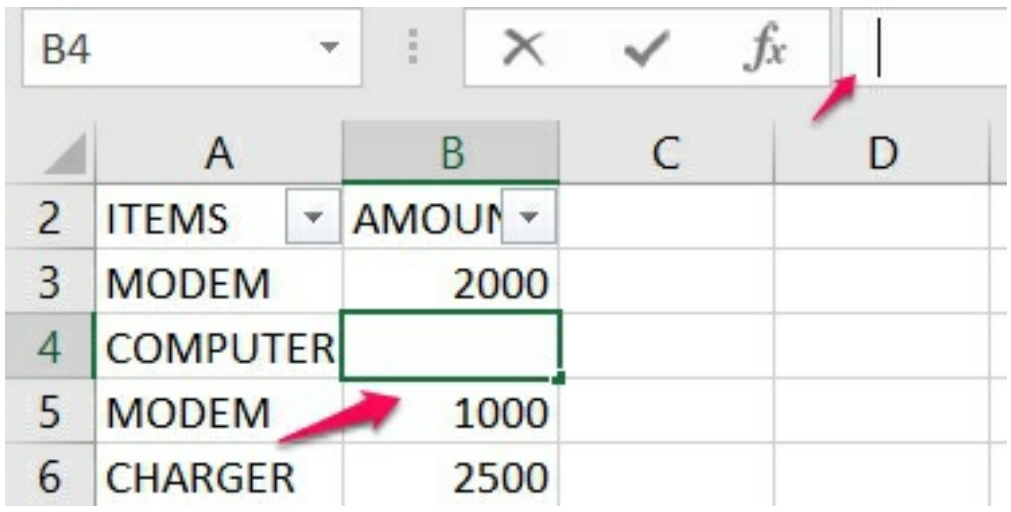
Deleting Characters in a Cell Entry

To delete characters in a cell entry, follow the steps given below

- Place the insertion point in the cell entry using the **Formula bar**, **double-clicking** in the cell, or pressing **F2**



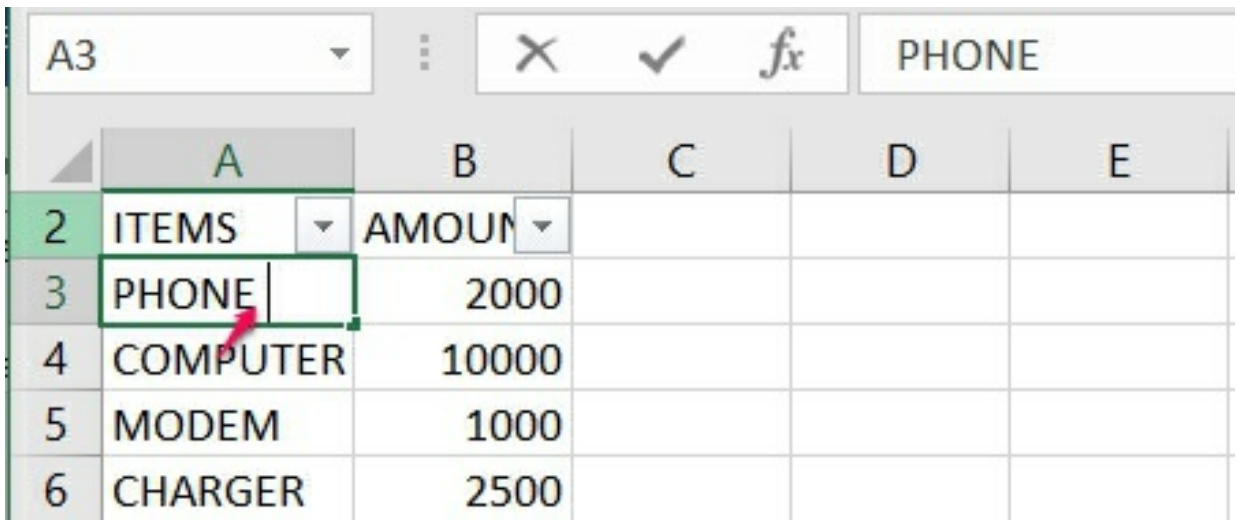
- Move the insertion point using the **Home**, **End**, or ← and → keys
- Then use the **Backspace** and **Delete** keys to delete the characters you want.



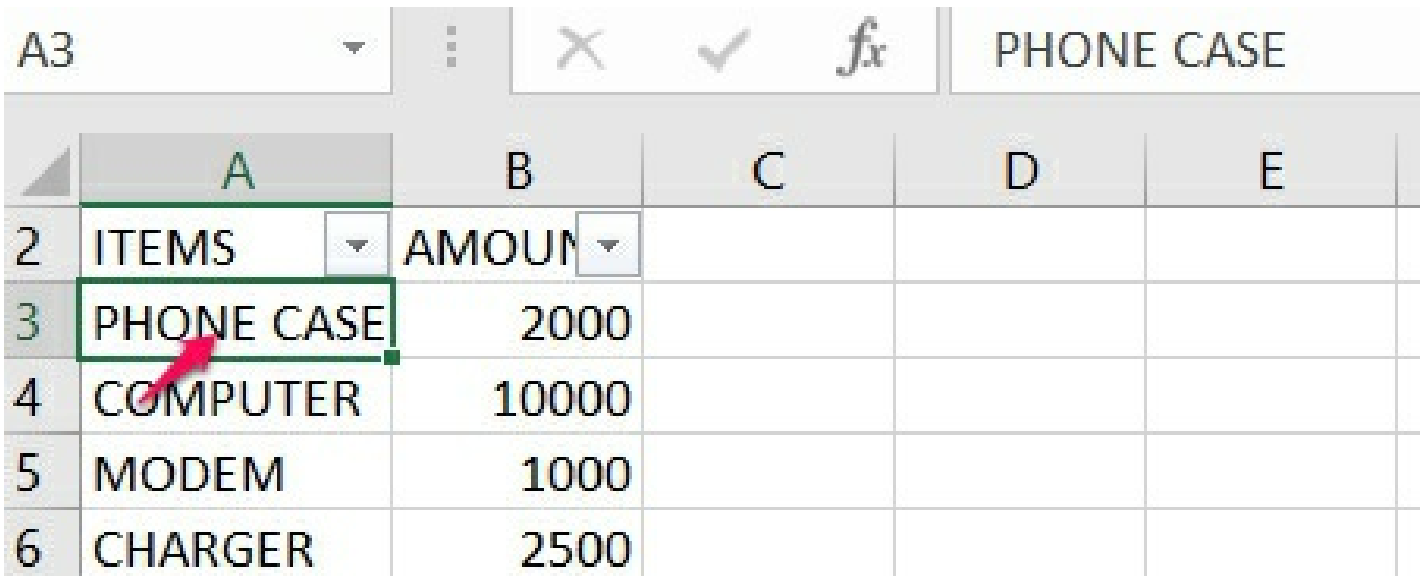
Inserting New Character in the Cell Entry

Inserting a new character in the cell entry implies that you want to add a new character to the already existing data in the worksheet. To do this, follow the steps given below:

- Place the insertion point in the cell entry using the **Formula bar**, **double-clicking** in the cell, or pressing **F2**
- Move the insertion point using the **Home**, **End**, or ← and → keys to where the new characters are needed.



- Start typing the new characters and then click on Enter button to complete the editing changes



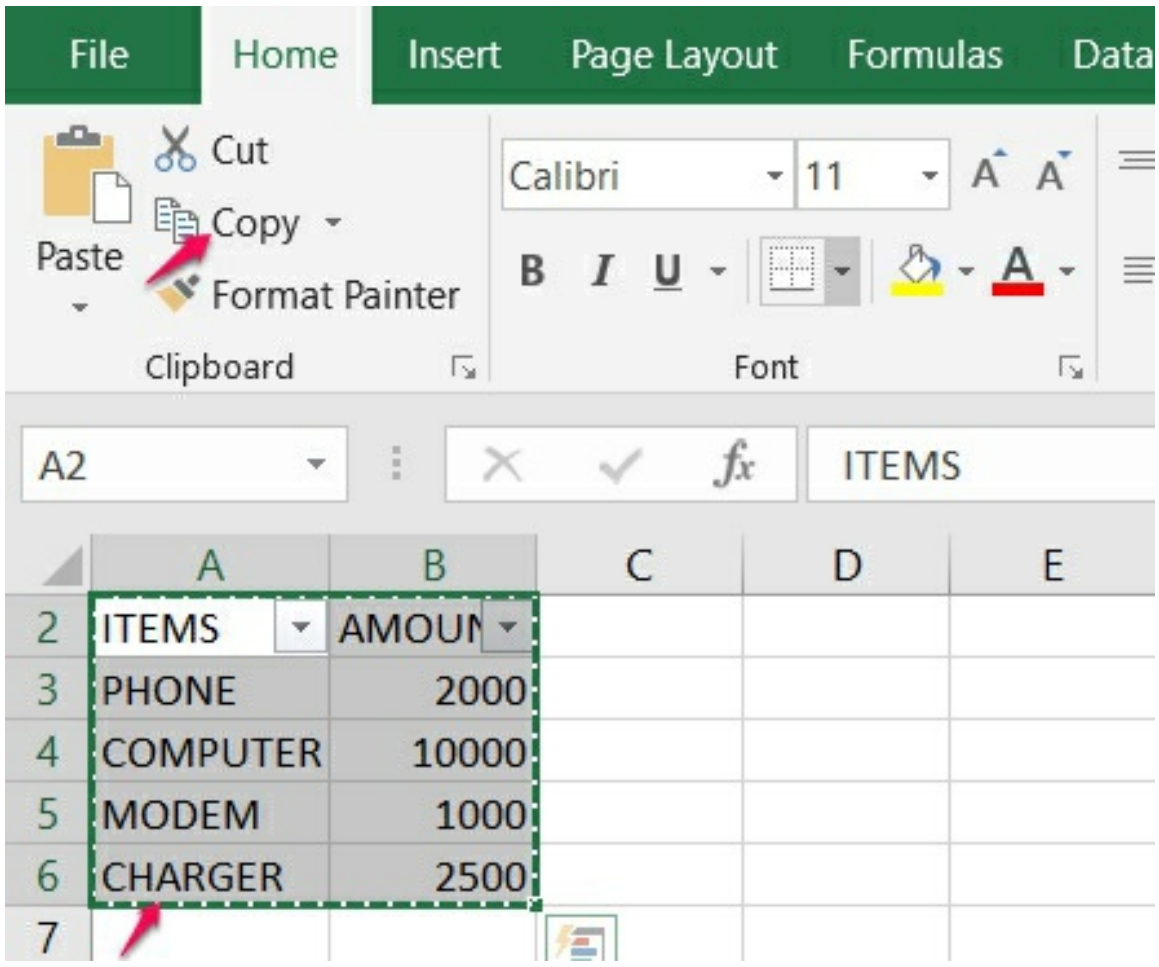
Copying and Moving Data in a Worksheet Cells

While working on the worksheet, there may be the need to copy or move the content of a cell to another location. Briefly, let's learn how to copy and move the content of a cell.

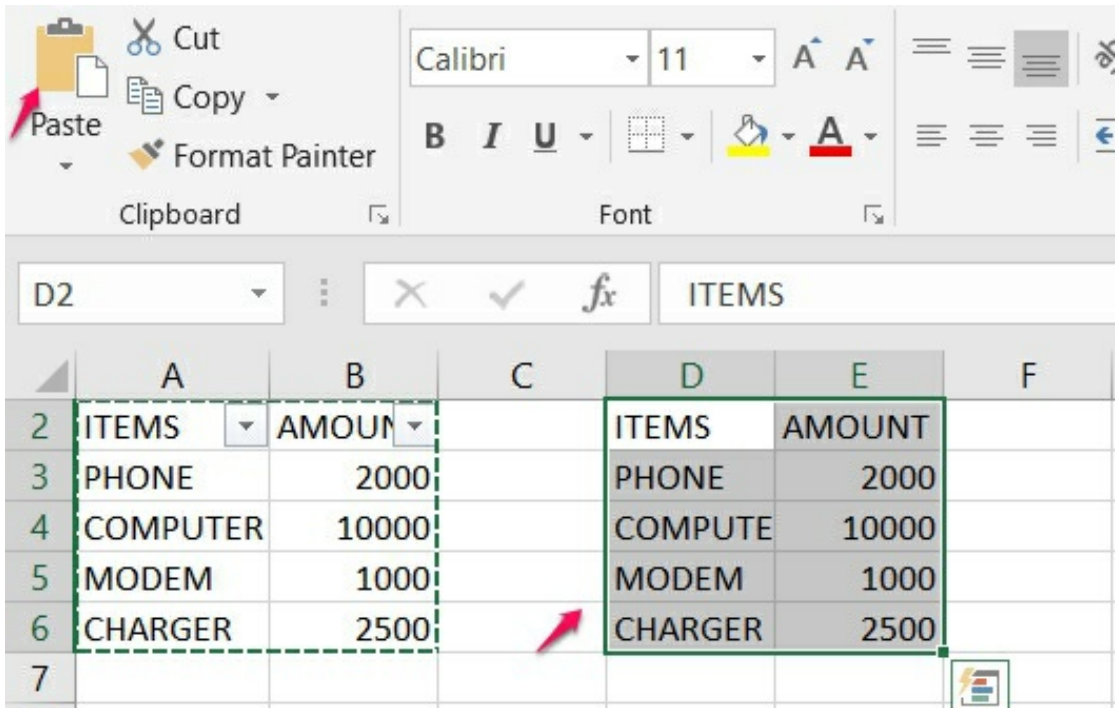
Copying Data in a Worksheet Cells

There are several ways to copy the content of a cell, but we will be using the Copy and Paste command by following the steps provided below

- Select the cell or range of cells you wish to copy.
- Go to the **Home** tab and click on **Copy** in the **Clipboard** group



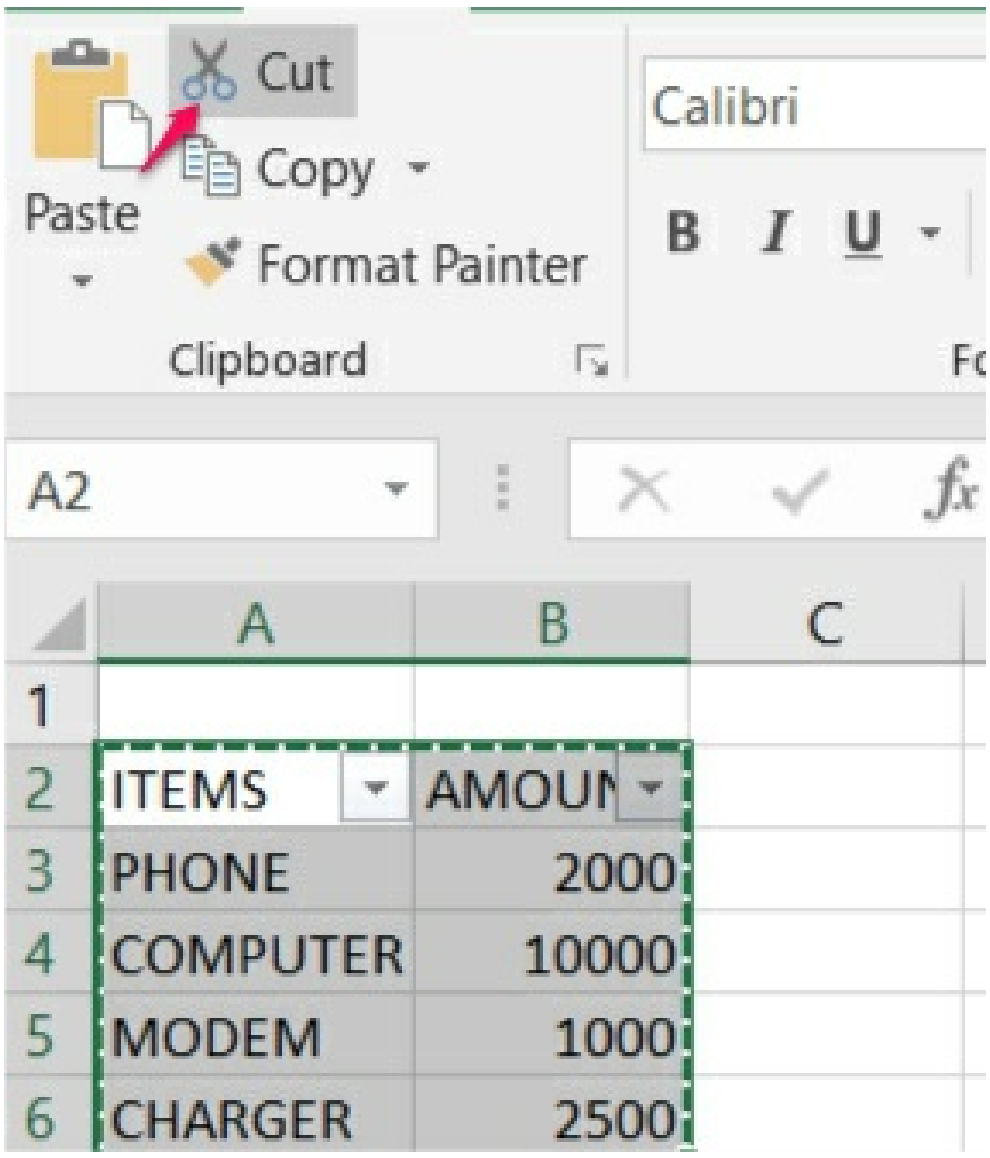
- Move the cell pointer to where you wish to paste the content of the cells, and then click on the **Paste** command in the **Home** tab or use the Ctrl V to paste



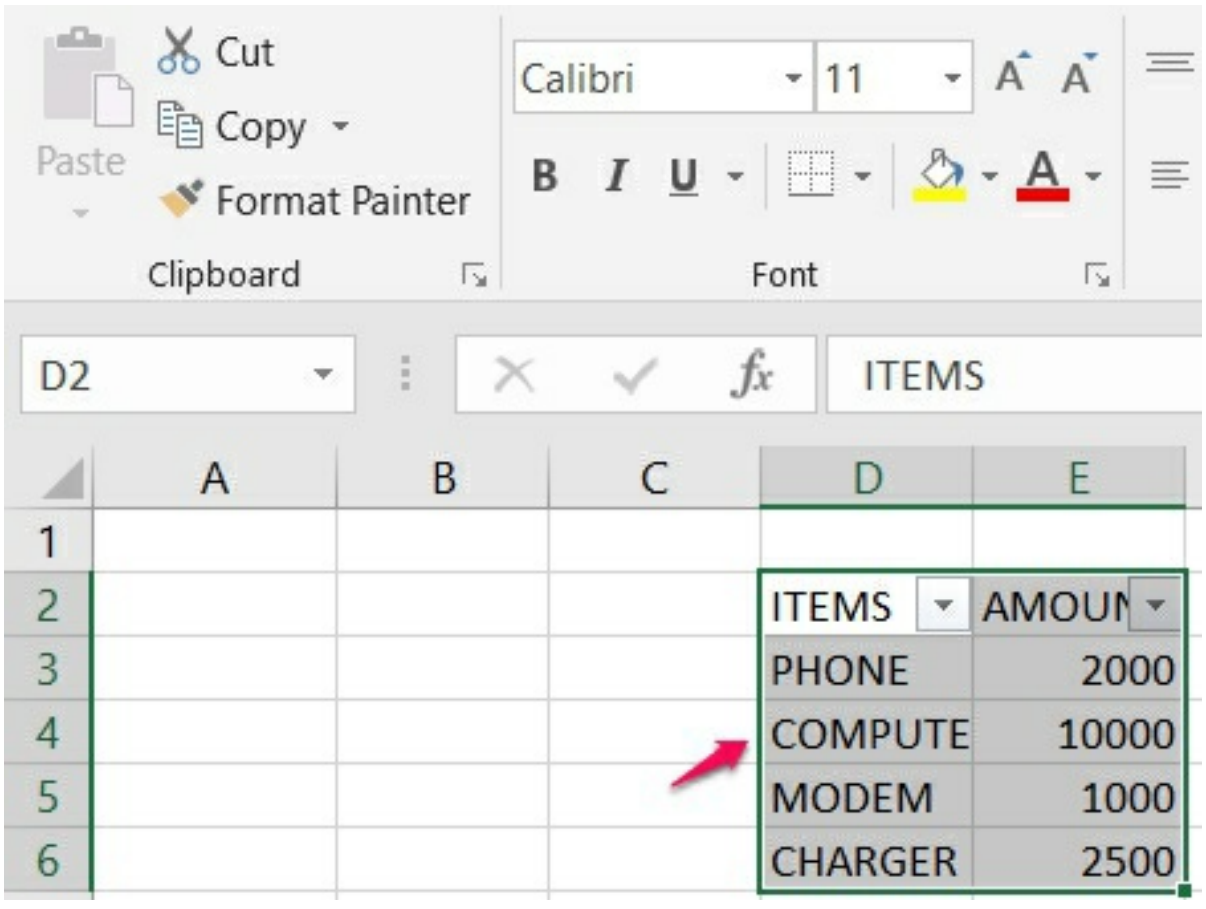
Moving Data in a Worksheet Cells Using the Cut Command

To move data from one cell to another, use the cut command following the steps provided below:

- Select the cell or range of cells you wish to move
- Go to the **Home** tab and click on **Cut** in the **Clipboard** group.



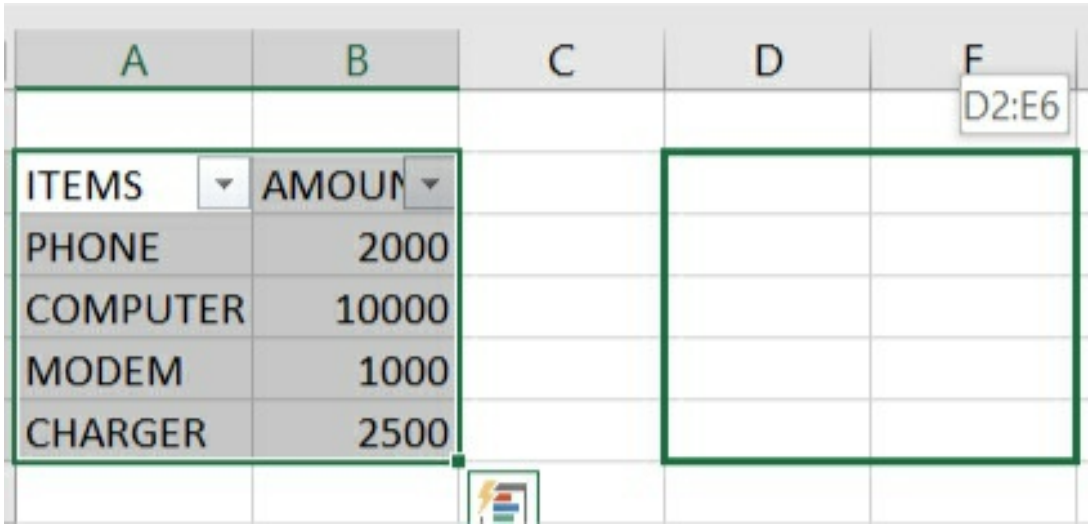
- Move the cell pointer to where you wish to paste the content of the cells, and then click on the **Paste** command in the **Home** tab or use the **Ctrl V** to paste



Moving Data in a Worksheet Cells by Dragging and Dropping

You can also move the content of a cell by dragging and dropping. To use this technique, follow the steps given below

- Select the cell or range of cells you wish to move
- Point to the border of the selected cells
- When the pointer becomes a move pointer, drag the selected cells to the desired location.



Moving Around in a Worksheet

As the worksheet becomes larger, the harder it is to move around the worksheet. Because of this, Excel provides some shortcut keys for navigating around the worksheet with ease, and they are listed in the table below:

Shortcut Keys	Functions
Home	To column A
Ctrl + Home	To cell A1; the first cell of the worksheet.
Ctrl + End	To the last cell in the last row with data in it.
←, →, ↑, ↓	To move to the next cell.
Ctrl + ←,	To move in one direction toward the nearest.
→, ↑, ↓	To move to a cell with data in it or the first or last cell in the column or row.
Page Up or Page Down	To move up or down one
Alt +Page Up or Alt + Page Down	To move to the left or right one screen's worth of columns.
Ctrl + Page Up or Ctrl + Page Down	To move backward or forward from one worksheet to another within the workbook.

Apart from the shortcut keys, you can use the techniques below to navigate from one worksheet to another within the workbook

- **Scroll Bars**: Use the vertical and horizontal scroll bars to move to different areas within the worksheet. To cover long distances, drag the scroll bar and to cover a long distance quickly, hold down the Shift keys as you drag the scroll box on the vertical scroll bar.
- **Scroll Wheel on the Mouse**: If your mouse has a scroll wheel attached to it, turn the wheel to quickly scroll up and down.
- **The Go-To Command**: One of the techniques to navigate around the worksheet is the Go-To command. To locate the Go To command, go to the **Home** tab, click on the **Find & Select** button, and then select **Go To** in the drop-down list. Enter a cell address in the reference box and click on **Ok.**
- **The Find Command:** To locate the Find command, go to the **Home** tab, click on the **Find & Select** button, and then select **Find** in the drop-down list. Enter the data you wish to find in the **Find What** box and then click on the **Find Next** button.

Applying Formatting to Numbers

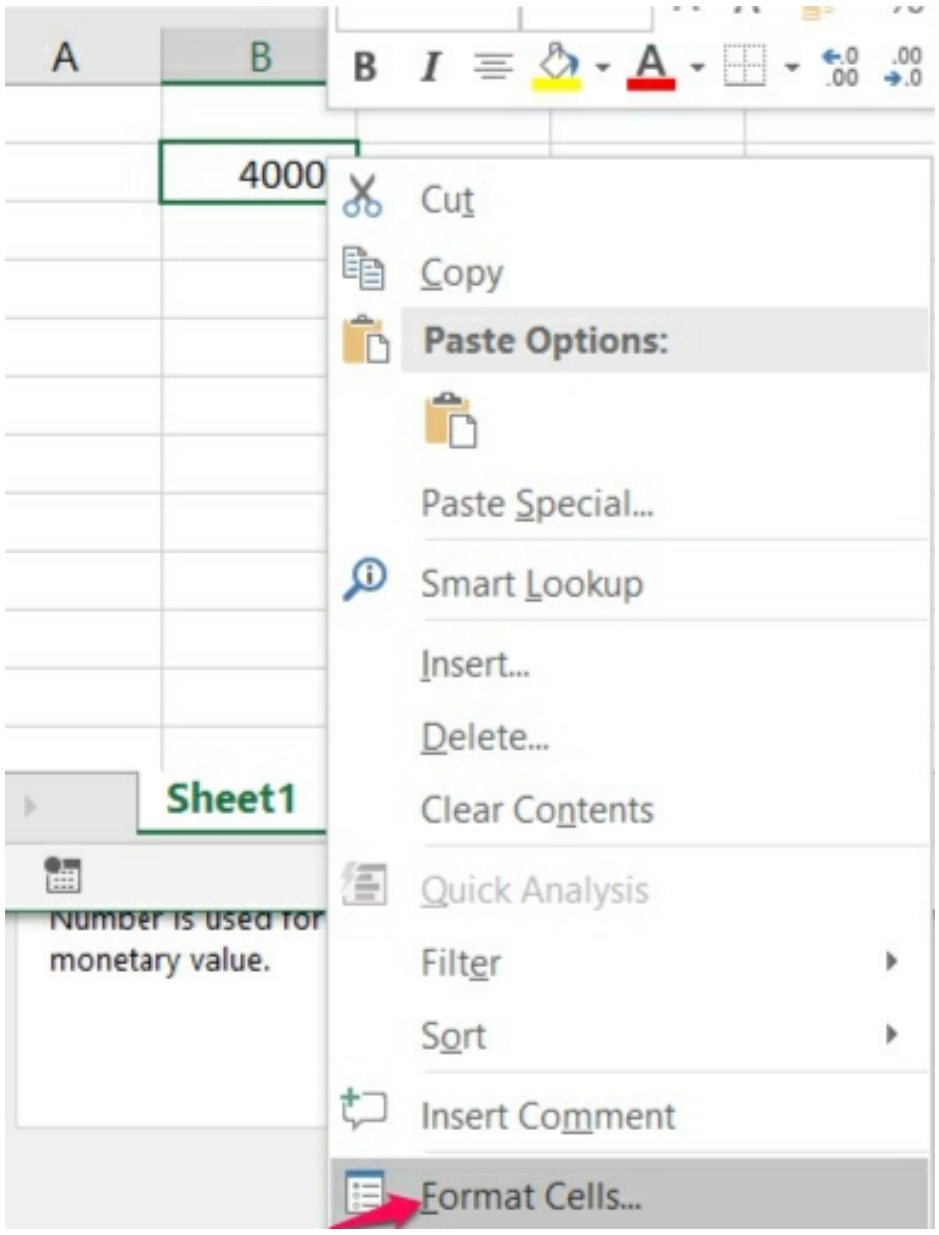
Applying formatting to numbers involves displaying numbers with thousand separators, displaying numbers with a currency symbol, displaying numbers with percentages, etc.

The number format applied on data tells the Excel worksheet the type of data you are using. In few minutes, let's check how to apply a format to numbers.

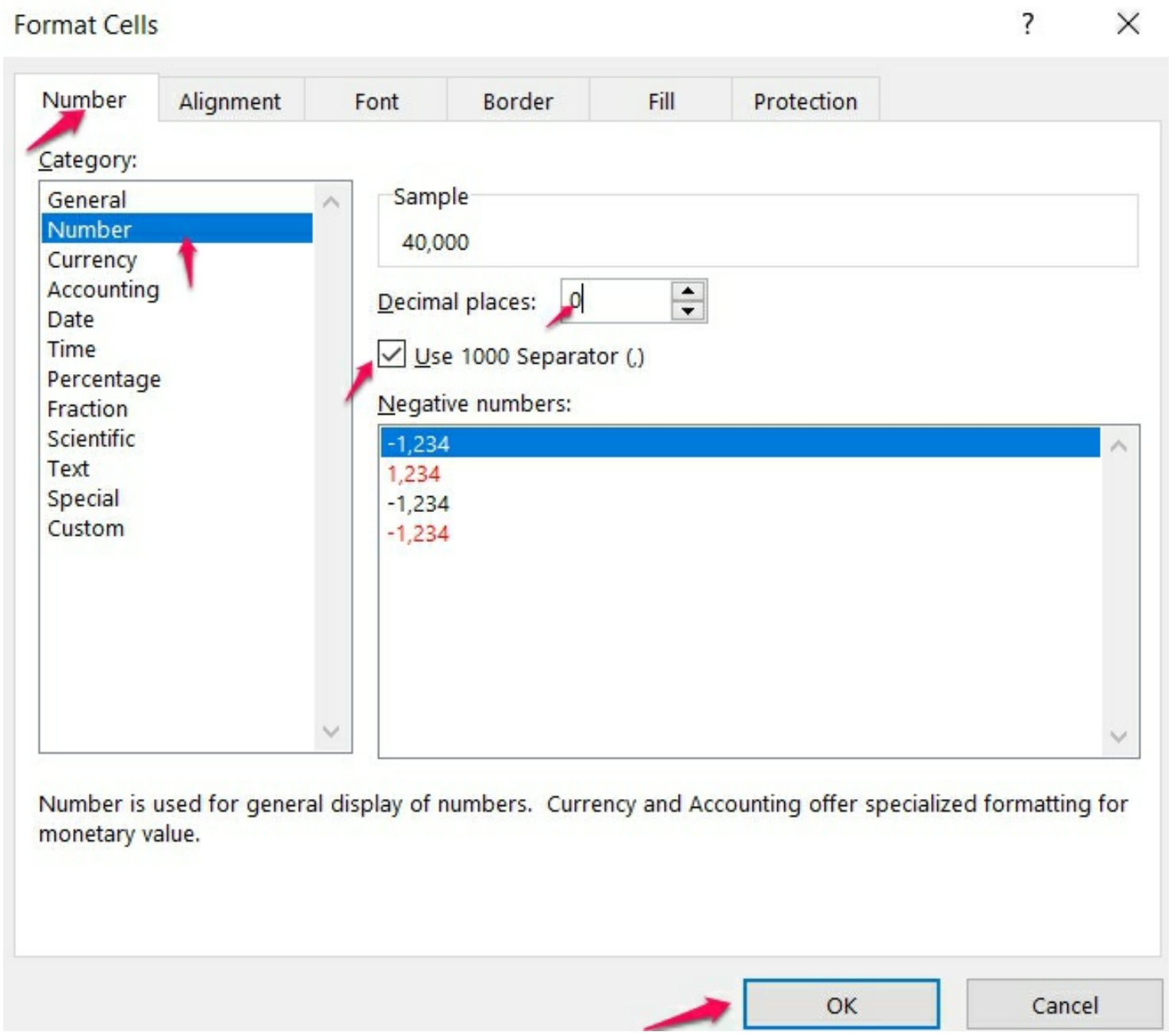
Displaying Numbers with a Thousand Separator (Comma)

You can display a number with a thousand separators using the following steps

- Right-click on the cell you wish to add a thousand separators to, and then click on **Format Cell.**



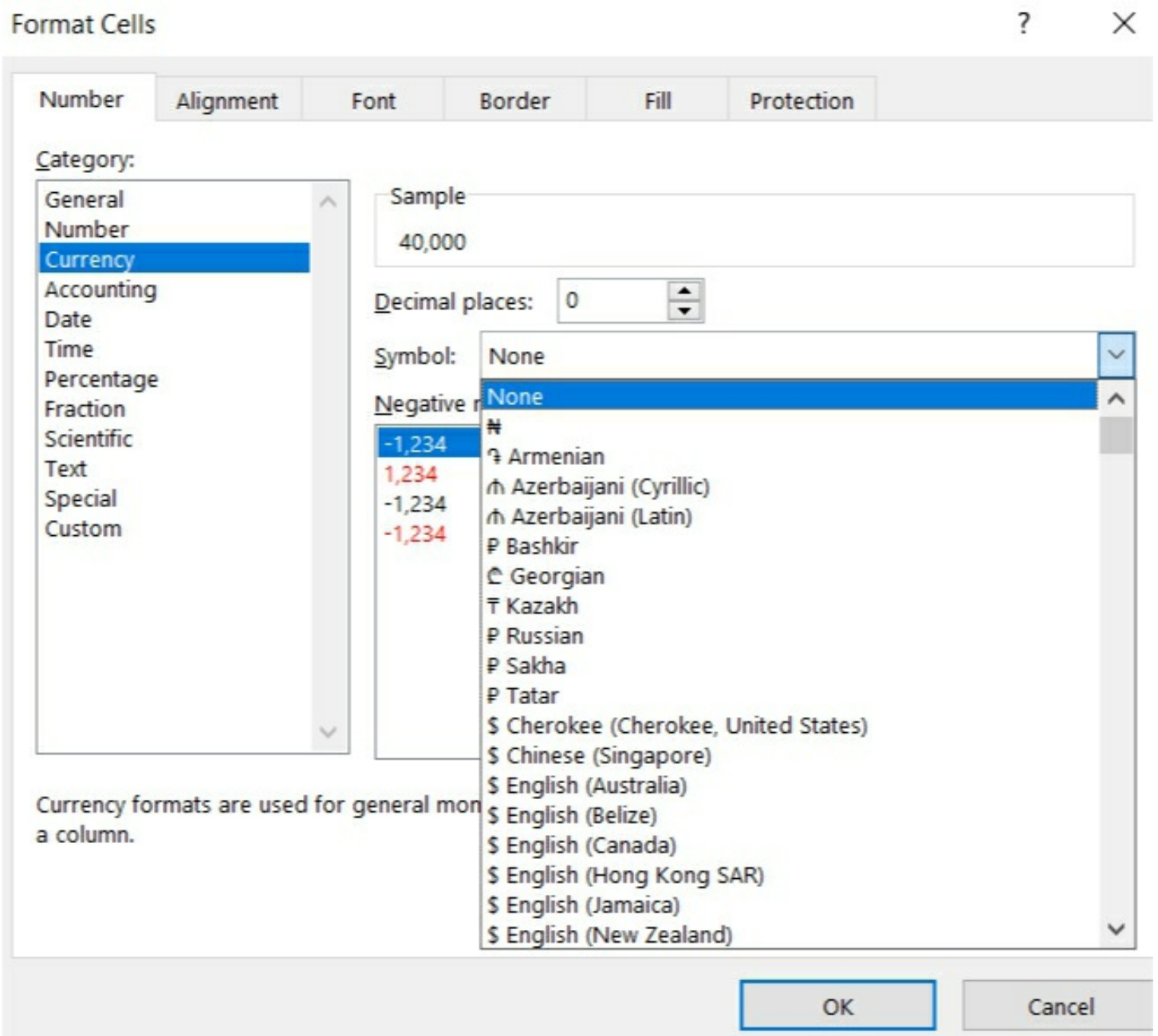
- In the **Format Cell** dialog box, click on the **Number** tab, and then select **Number** under **Categories**
- In the right-hand side of the **Format Cell** dialog box, mark Use **1,000 separator**, and change the decimal place to 0 in the **Decimal Place** button.
- Then click on **Ok** for the changes to occur in the worksheet.



Displaying Numbers with Currency Symbols

To display numbers using the currency symbols, follow the steps given below:

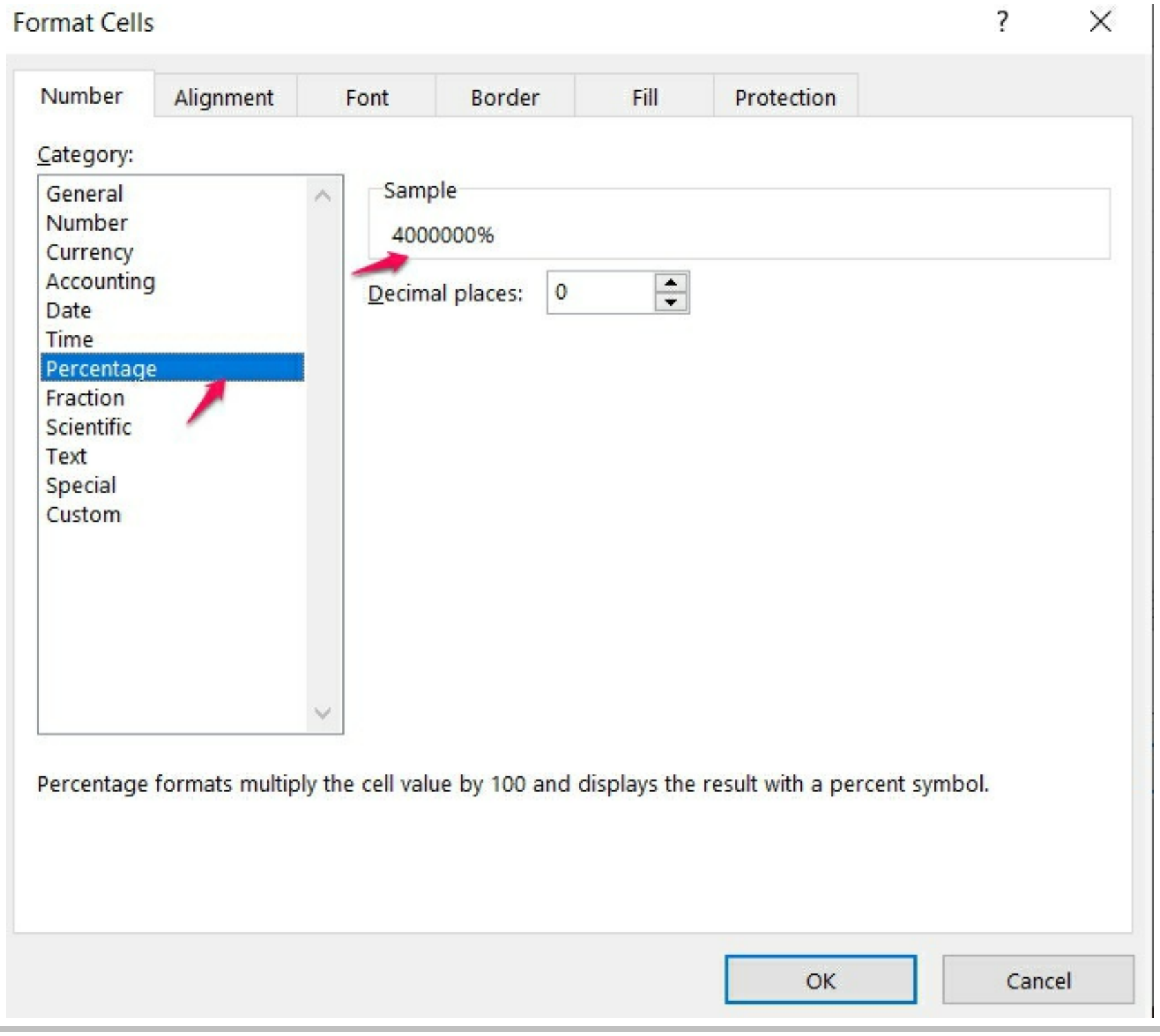
- Right-click on the cell you wish to add a currency symbol to, and then click on **Format Cell.**
- In the **Format Cell** dialog box, click on the **Number** tab, and then select **Currency** under **Categories**
- In the left-hand side of the **Format cell** dialog box, go to the **Symbo**l button and click on the **Symbol** drop-down menu to select the currency you wish to add.
- Then click on **Ok** for the changes to occur in the worksheet.



Displaying Numbers as Percentage

You can display numbers as percentages by following the steps given below:

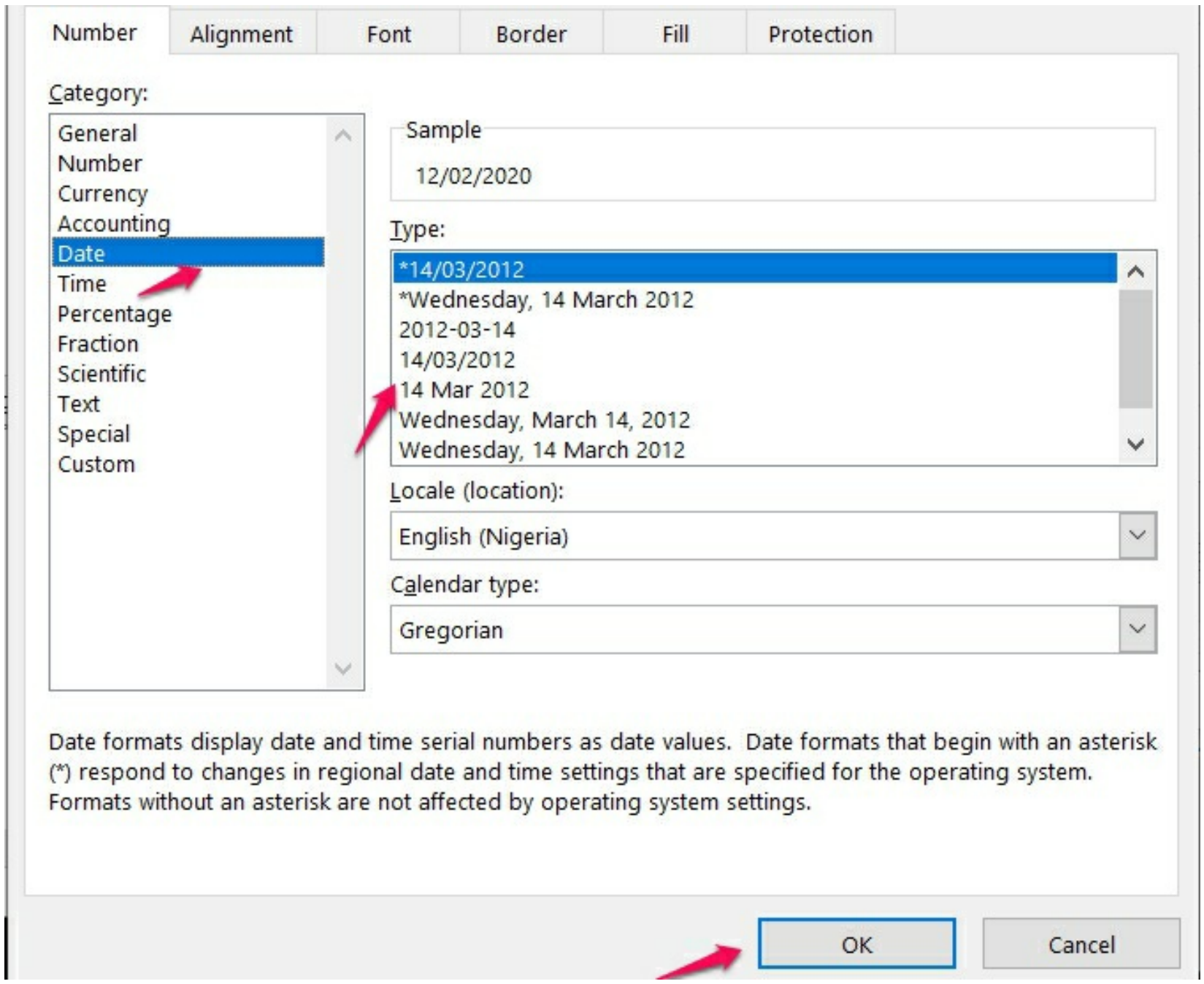
- Right-click on the cell you wish to add a percentage to, and then click on **Format Cell.**
- In the **Format Cell** dialog box, click on the **Number** tab, and then select **Percentage** under **Categories**
- Then click on **Ok** for the changes to occur in the worksheet.



Changing the Date Format in your Cell

You can change the way dates are displayed in your worksheet by following the steps given below;

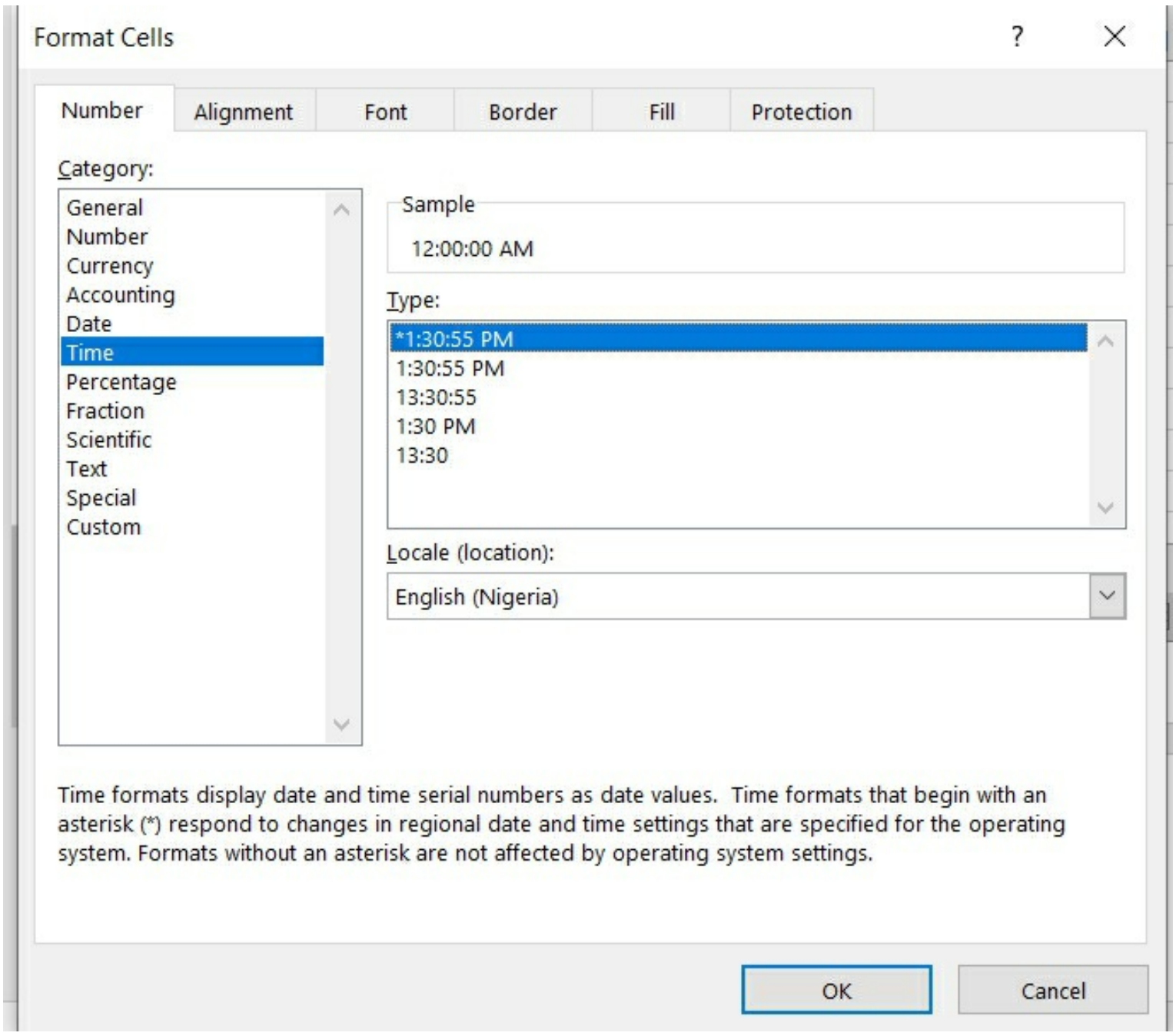
- Right-click on the cell you wish to change the date format, and then click on **Format Cell.**
- In the **Format Cell** dialog box, click on the **Number** tab, and then select **Date** under **Categories**.
- Select any of the date formats you want
- Then click on **Ok** for the changes to occur in the worksheet.



Changing the Time Format in your Cell

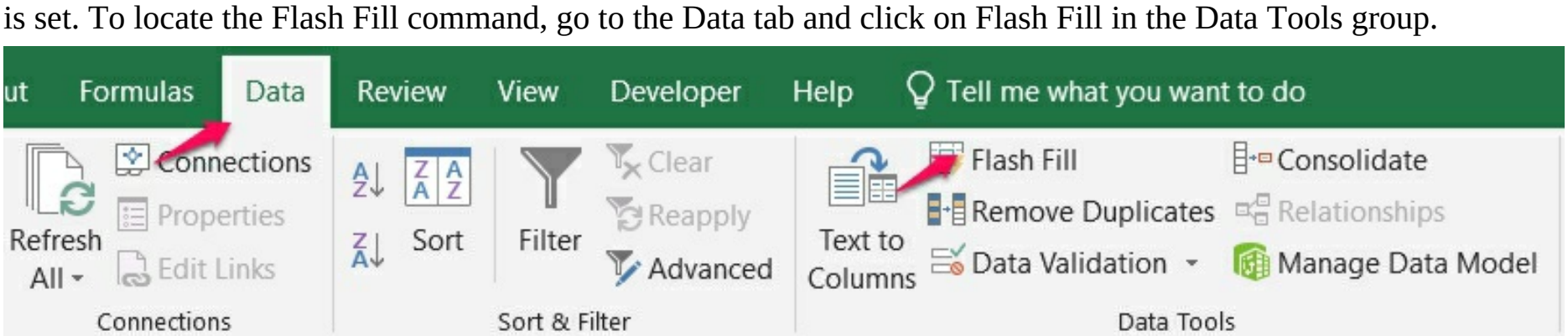
To change the time format in your cell, follow the steps provided below

- Right-click on the cell you wish to change the time format, and then click on **Format Cell.**
- In the **Format Cell** dialog box, click on the **Time** tab, and then select **Date** under **Categories**.
- Select any of the date formats you want
- Then click on **Ok** for the changes to occur in the worksheet.



The Flash Fill Command

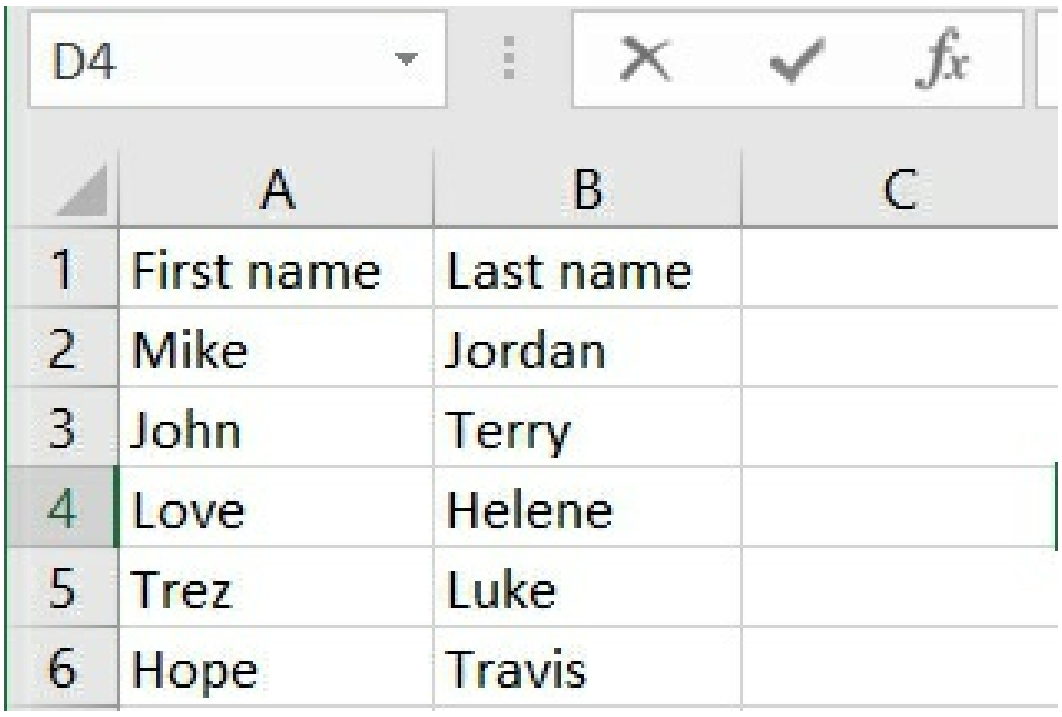
The Flash Fill is a tool that analyses the information entered in a cell and automatically fills the data when a pattern is set. To locate the Flash Fill command, go to the Data tab and click on Flash Fill in the Data Tools group.



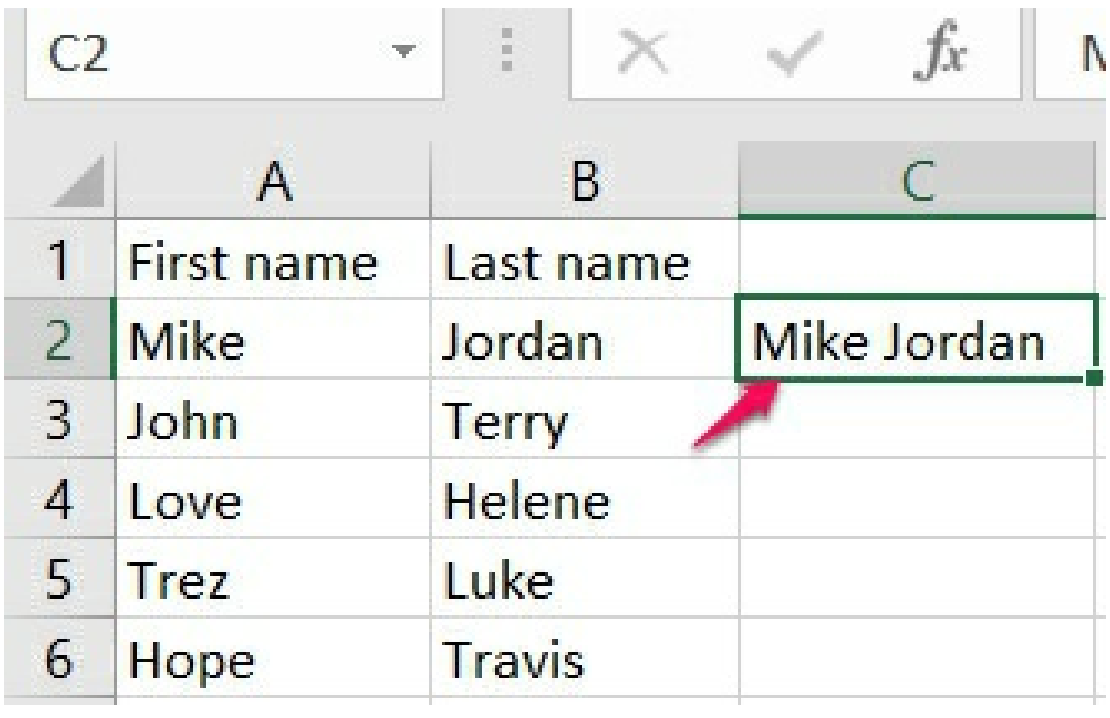
The Flash Fill command can be used to combine and extract data.

Combining Data Using the Flash Fill

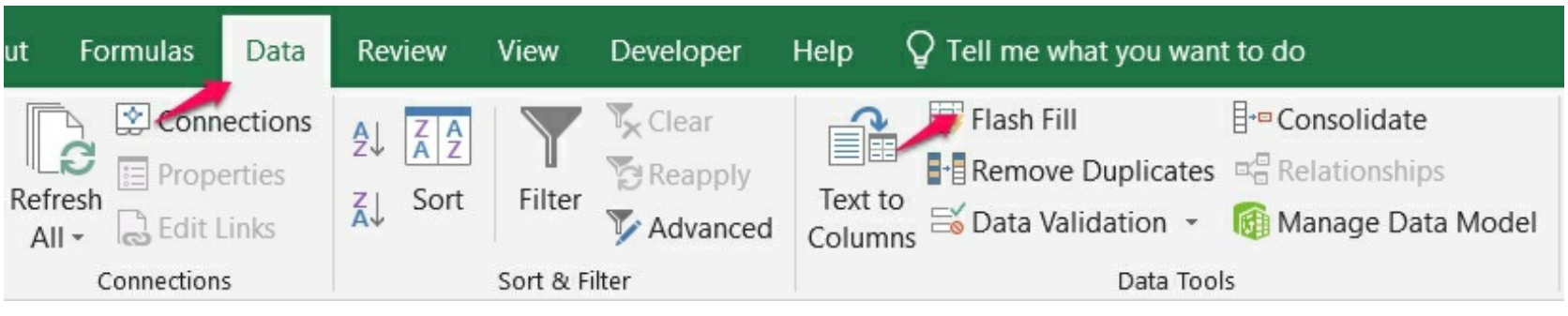
To join data together using the Flash Fill command, follow the steps given below by making use of the table provided



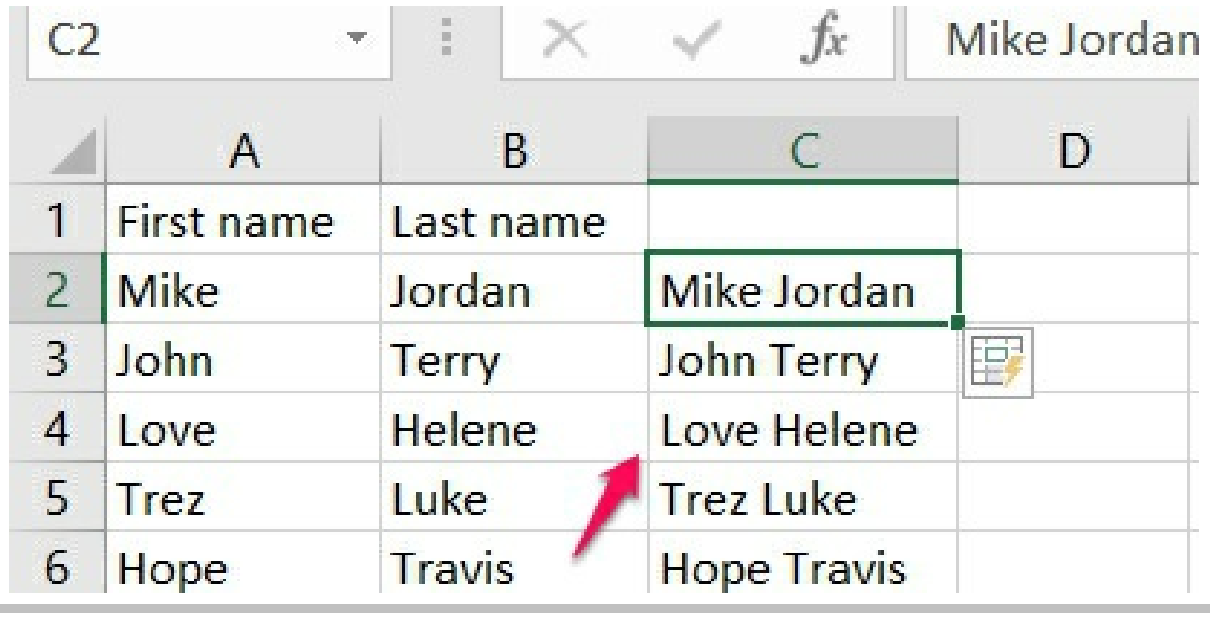
- Click into cell **C1** and type "**Mike John"**



- Go to the **Data** tab and click on **Flash Fill** in the **Data Tools** group.



- Once this is done, Excel will replicate the pattern on the worksheet



Extracting Data with Flash Fill

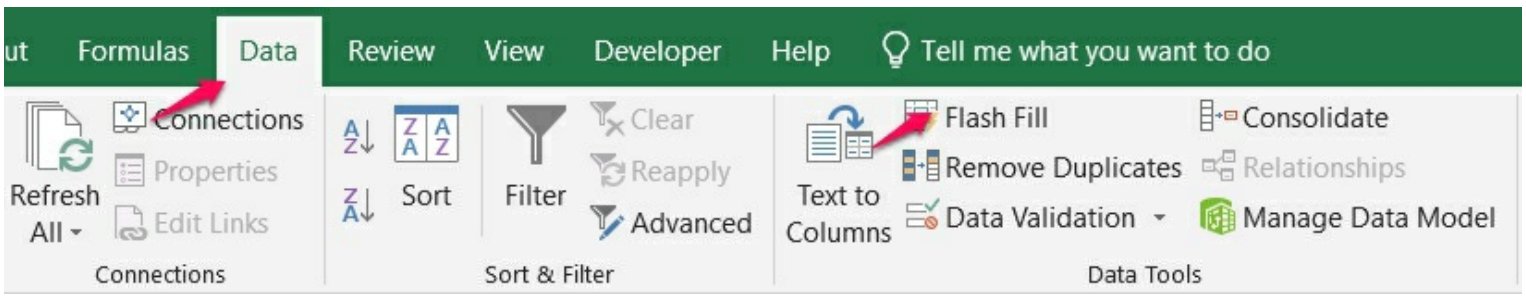
The Flash Fill does not only combine data, it can also extract data too. To extract data, follow the steps given below by making use of the table provided.

	A	B	C
1	SSN		
2	123-58-123		
3	121-32-334		
4	321-32-333		
5	452-32-323		

- Click into cell B1 and type "**123/58"**

	A	B	C
1	SSN		
2	123-58-123	123/58	
3	121-32-334		
4	321-32-333		
5	452-32-323		

- Go to the **Data** tab and click on **Flash Fill** in the **Data Tools** group.



- Once this is done, Excel will replicate the pattern on the worksheet

	A	B	C
1	SSN		
2	123-58-123	123/58	
3	121-32-334	121/32	
4	321-32-333	321/32	
5	452-32-323	452/32	

The AutoFill Command

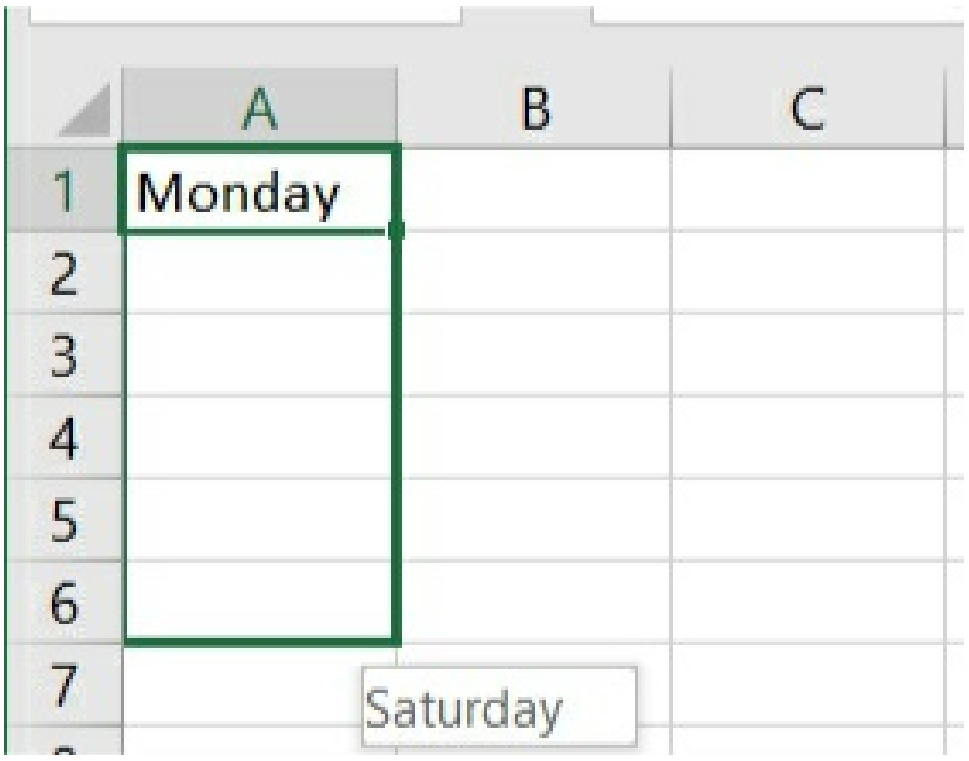
The AutoFill command is a feature that allows you to enter sequential numbers, months, or days automatically. The AutoFill command looked at the cells you have already filled in, and guess how to fill in the rest of the series. For instance, when you fill in Monday, Autofill automatically completes the following days for you.

The AutoFill is accessed by using the Fill handle. The Fill handle is a small square at the bottom-right corner of the box that allows you to fill the adjacent cells**.**

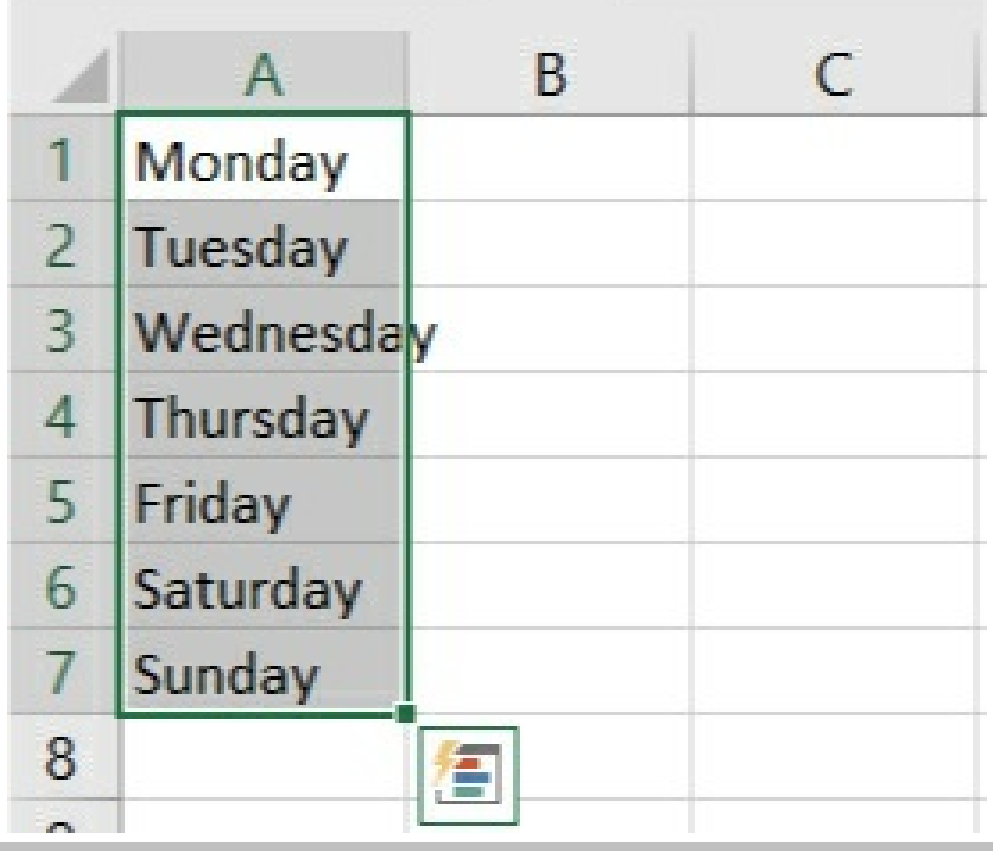
Entering a Series of Value Using AutoFill

With the AutoFill command, you can complete a series of values once the pattern has been recognized. Briefly, we will be using the AutoFill command to complete the days of the week using the following steps below:

- Select the cell with the first value of a series (**Monday**)
- Move the mouse to the bottom right corner of the cell and allows it to display a black plus symbol.
- Click and drag down or across the cell you wish to fill



- Finally, the AutoFill complete the days of the week as shown in the table below

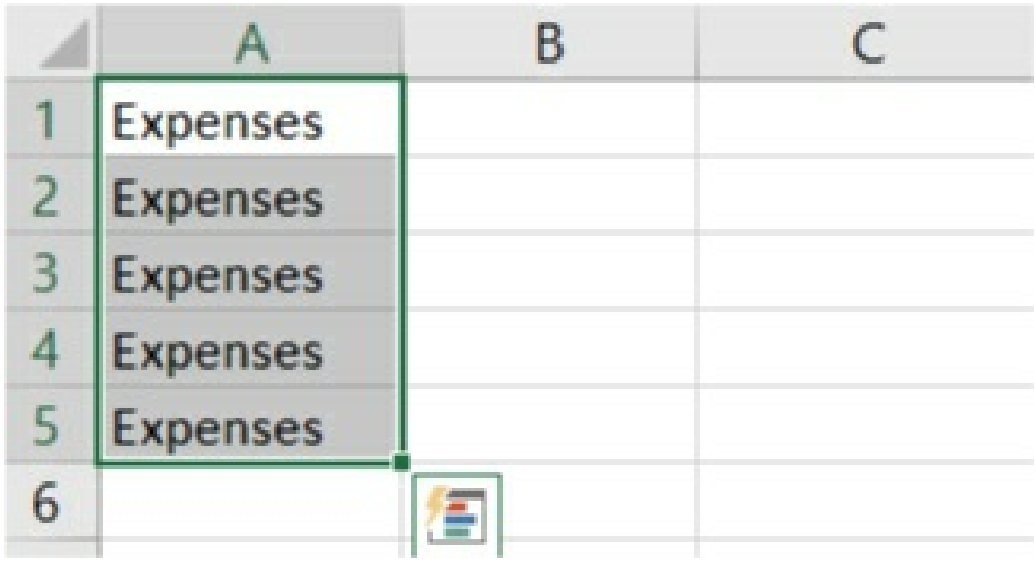


Copying Data Using the AutoFill

With the AutoFill Command, you can copy and paste data to other cells within the worksheet. To do this, follow the steps given below.

- Select the cell that contains the data you wish to copy
- Move the mouse to the bottom right corner of the cell and allows it to display a black plus symbol.
- Click and drag down or across the cell you wish to fill

- Finally, AutoFill copies the data into the designated cells.



NOTE: With the AutoFill command, you can also do the following:

- Fill formatting only
- Fill without formatting
- Fill weekdays
- Fill months
- Fill years

Saving a File

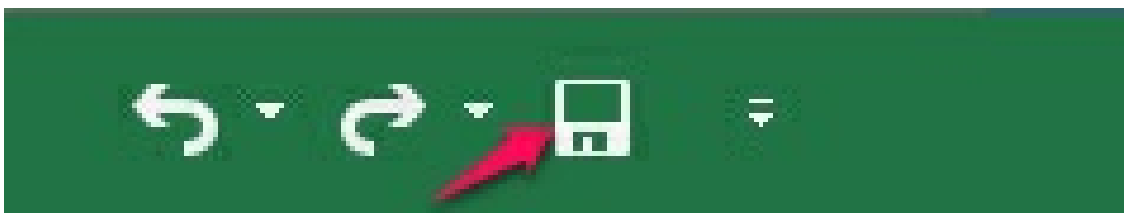
Saving a file helps to prevent file loss especially when the file is large or important. To save a file, choose any of the following techniques:

It is not enough that you create a new file, you must ensure to save it. Failure to save your file will only cause you to lose your file, especially where there is a power outage or malfunction with the computer system. It is very important to always save your file every ten minutes.

To save a file, use any of the following techniques

- Go to the **File** tab and click on the **Save** menu

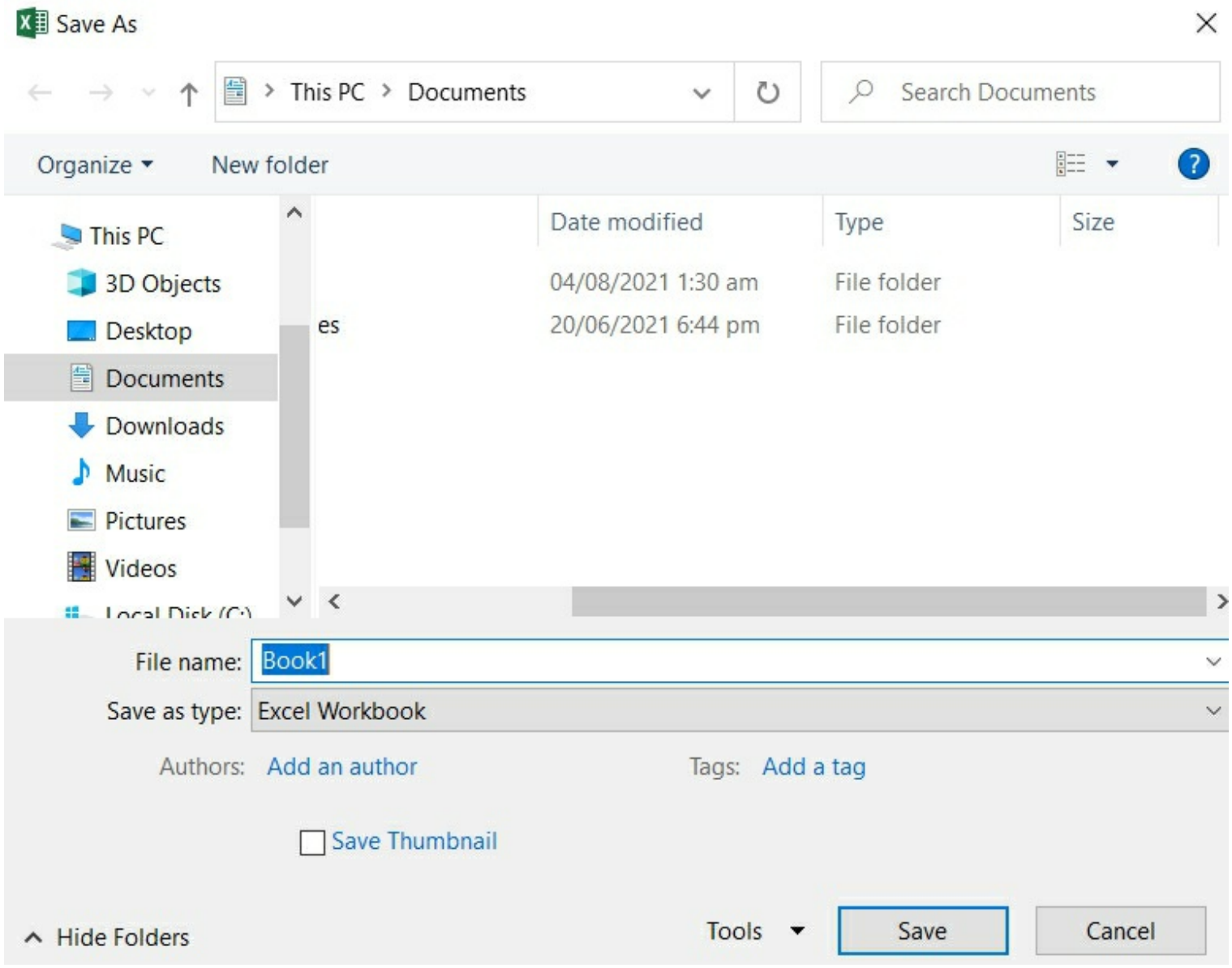
- Click the **Save** button located in the **Quick Access** toolbar



- Press **Ctrl + S**

Saving a File for the First Time

Saving a file for the first time, the Save As window appears where you enter the name of the file and the location where you want the file to be saved.

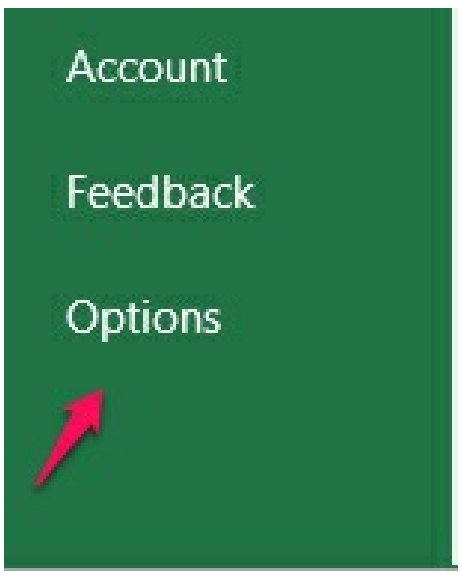


The Document Auto Recovery Command

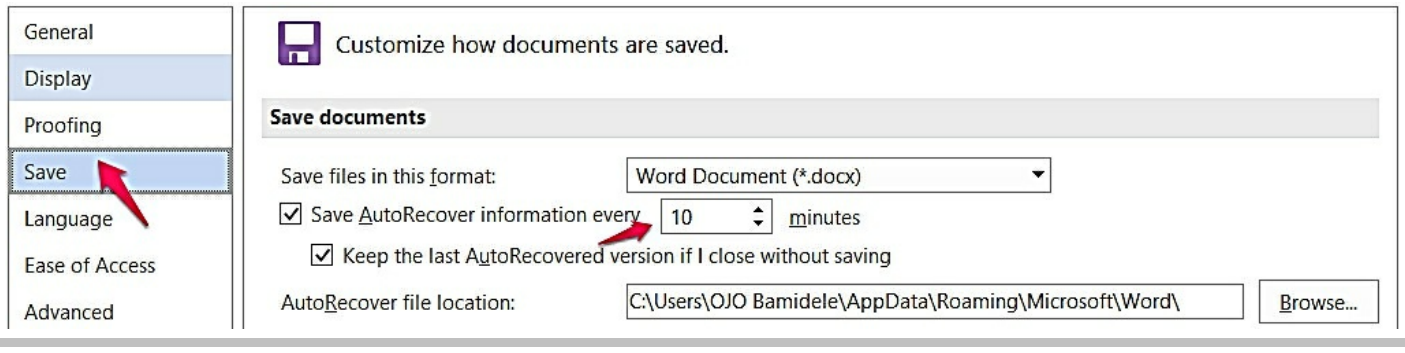
The Auto Recovery command is a feature in Excel 2021 that allows you to recover your document when lost due to a power outage, computer crash, or failure. The Auto Recovery is programmed to save changes made to the workbook automatically (For a file to use the Auto Recovery feature, the file must be saved)

To enable the Auto Recovery command, follow the steps given below

- Go to the **File** tab and click on **Options**



- In the **Options** dialog box, select the **Save** category
- Enter the minute interval in the **Save AutoRecovery Information Every** box
- Then click on **Ok**

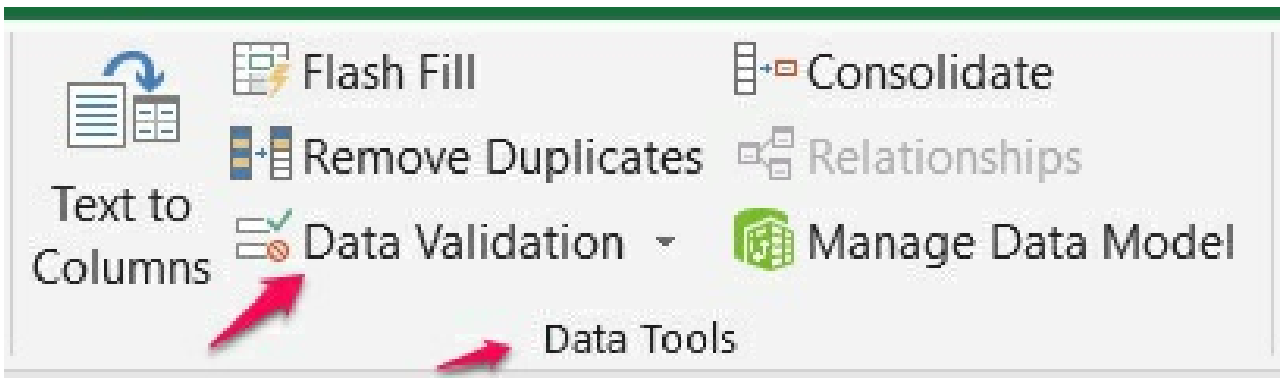


Learning Data Validation

Data Validation is a feature in Excel that determines what is to be entered in the worksheet by the users. With the Data validation feature, Excel can

- Permit only number or text values in the worksheet
- Permit number with a specific range in the worksheet
- Obstruct dates and times that are given out of the time frame
- Display a warning sign when the wrong data is inputted.
- Locate the wrong entries in the validated cells

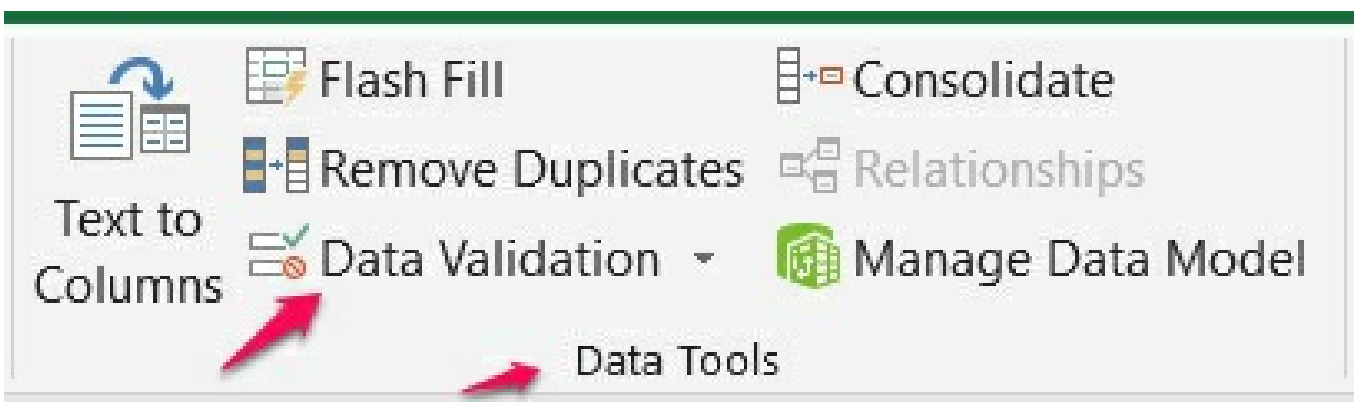
To locate the Data Validation command, go to the **Data** tab and select **Data Validation** in the **Data Tool** group



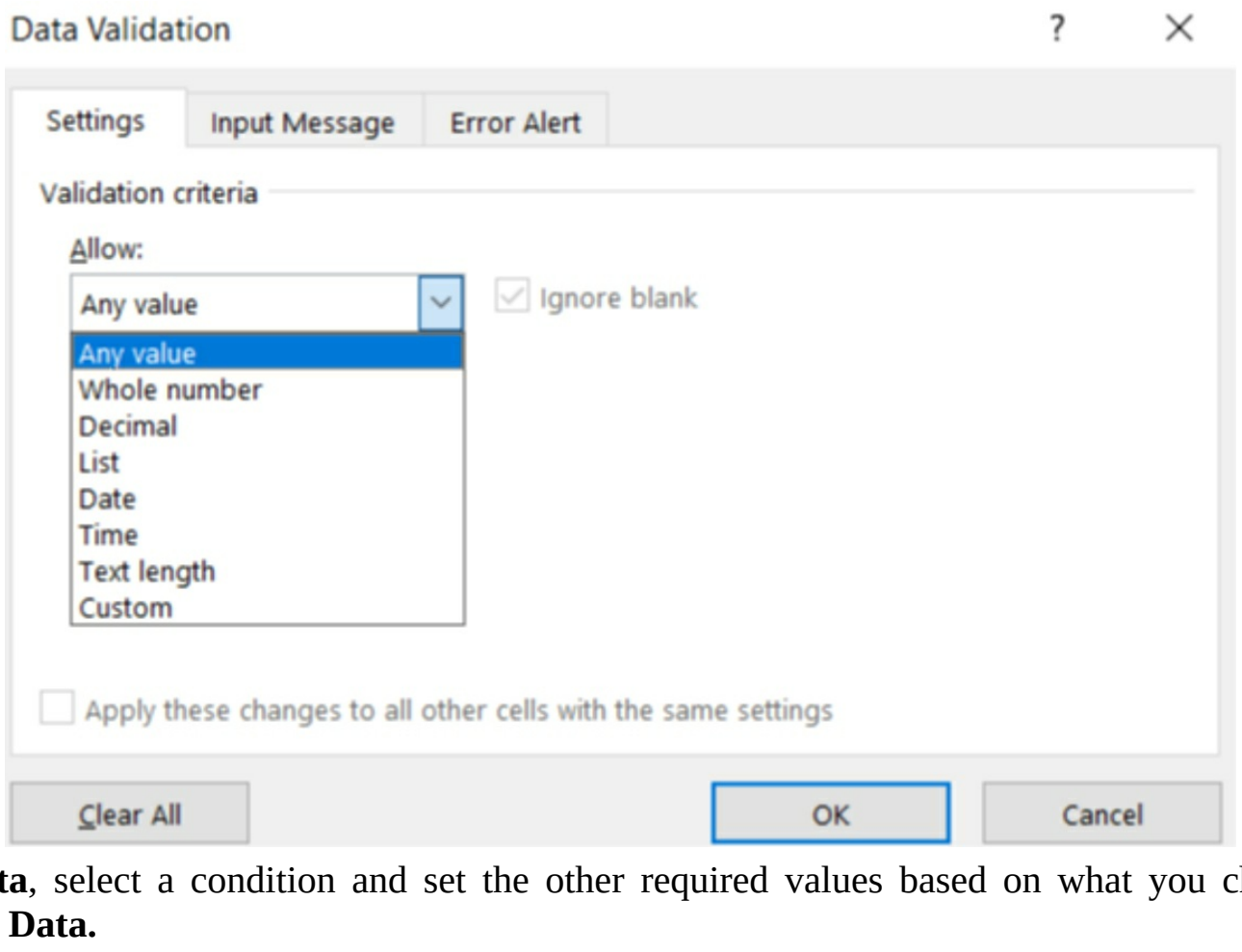
Applying the Data Validation to Cells

To apply the Data Validation to your cells, follow the steps given below:

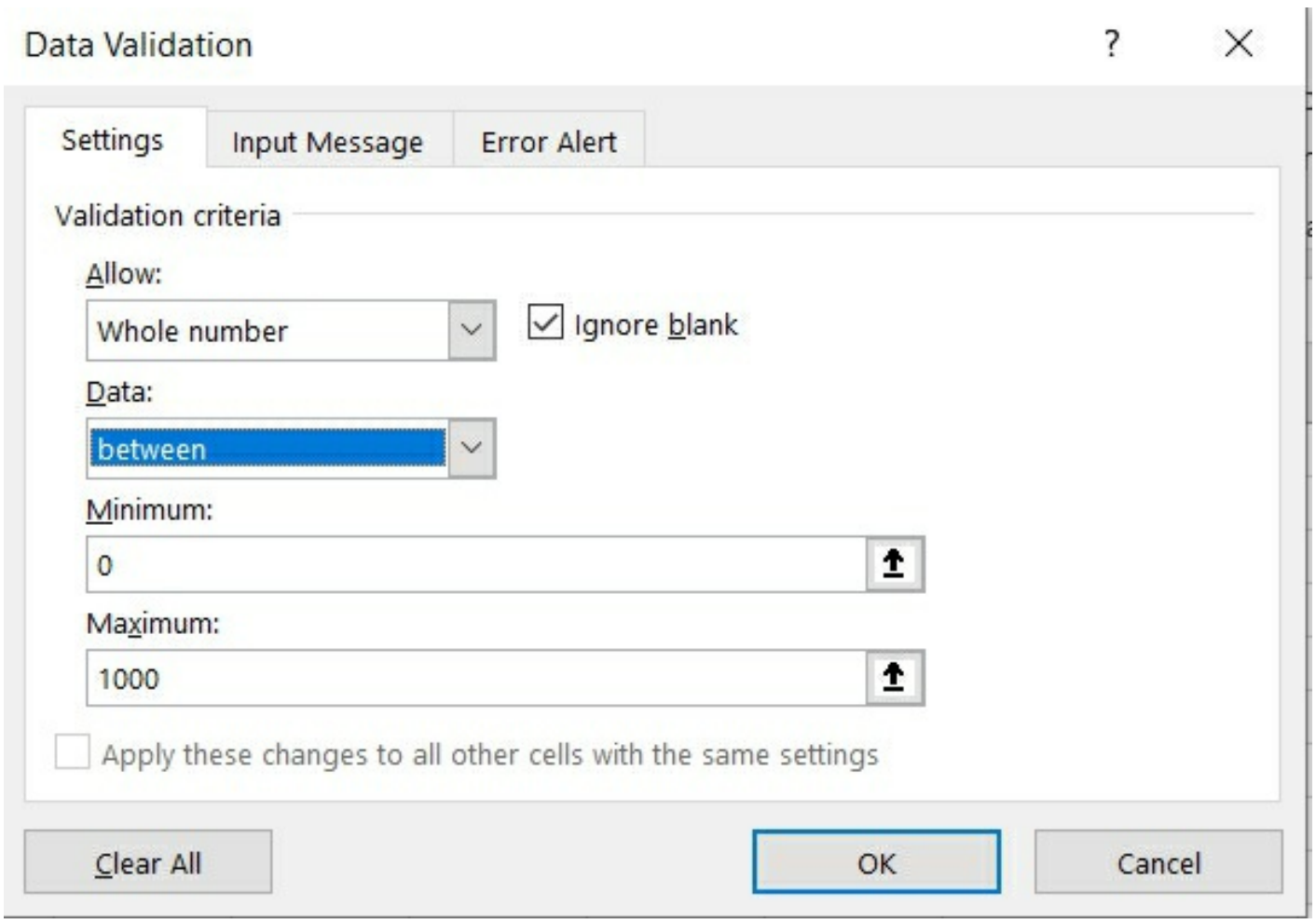
- Select the cells to apply the **Data Validation** to
- Go to the **Data** tab and select the **Data Validation** in the **Data Tool** group.



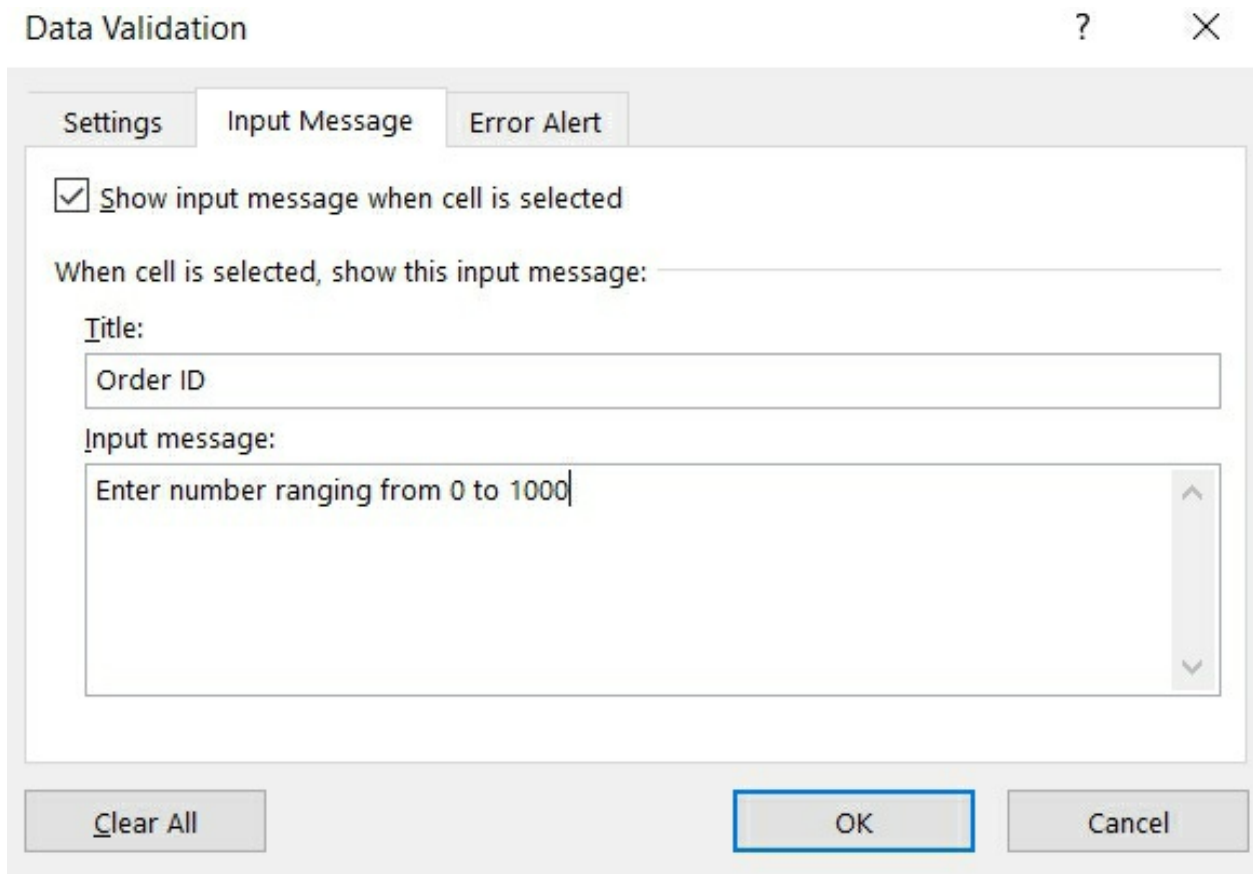
- In the **Data Validation** dialog box, go to the **Settings** tab and select any of the following options under **Allow**
    - **Whole Number:** To restrict the cell to accept only whole
    - **Decimal:** To allow the cell to accept only decimal numbers**.**
    - **List:** To pick data from the drop-down list**.**
    - **Date:** To restrict the cell to accept the only date.
    - **Time:** To restrict the cell to accept only time.
    - **Text Length:** To restrict the length of the text.
    - **Custom:** To custom formula



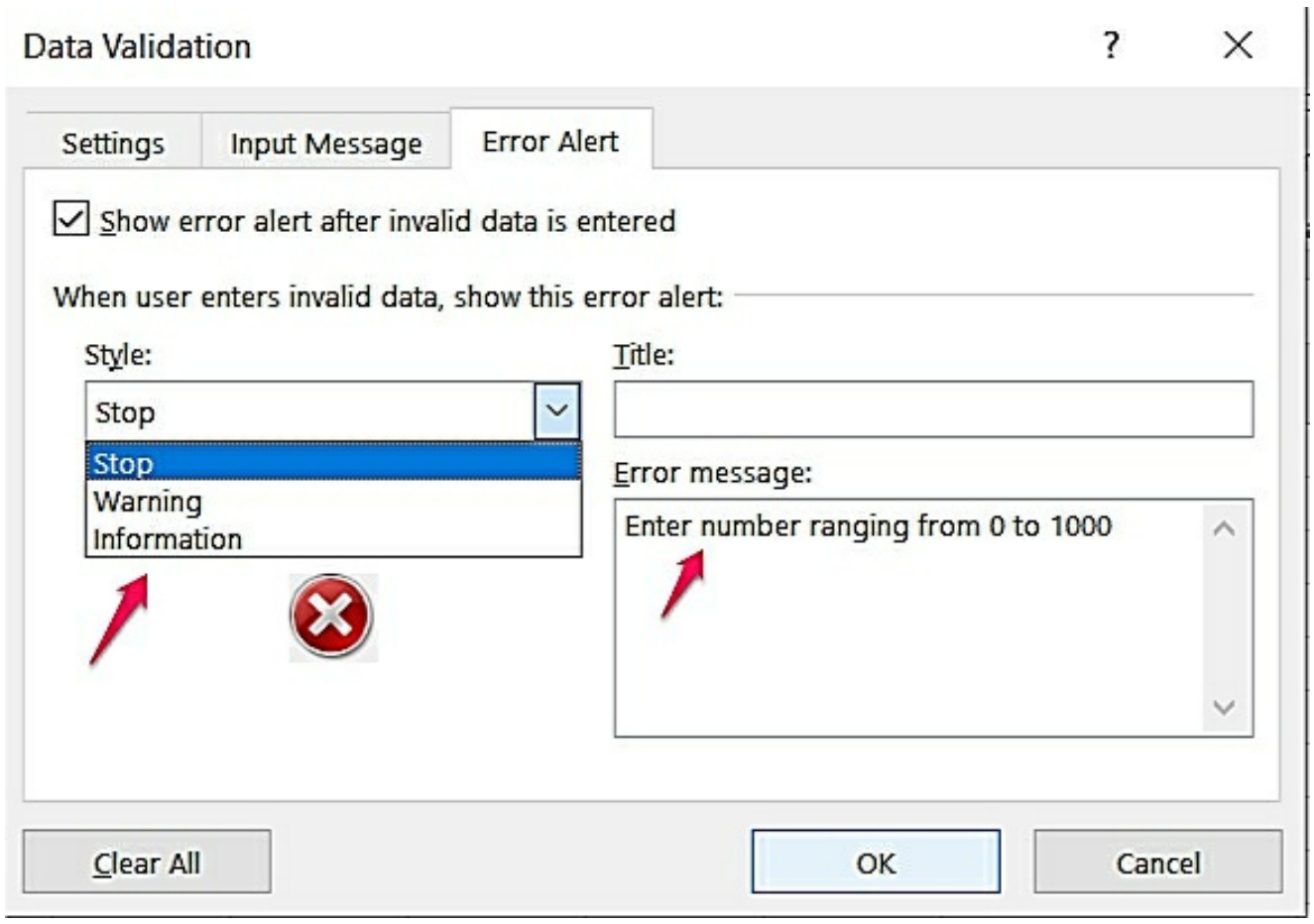
- Under **Data**, select a condition and set the other required values based on what you chose for **Allow** and **Data.**



- Click on the **Input Message** tab and enter the title and text of the message connecting to the field.
- Select the **Show input message when cell is selected** the checkbox to display the message when the user selects or moves over the selected cells



- Select the **Error Alert** tab and enter the title and text of the error message, and then click on **Style** to select the alert type.



- Then click on **Ok**

Transferring the Data Validation to Other Cells in the Worksheet

In case you applied the data validation to a cell and you wish to replicate it to the other cells in the worksheet, follow the steps below

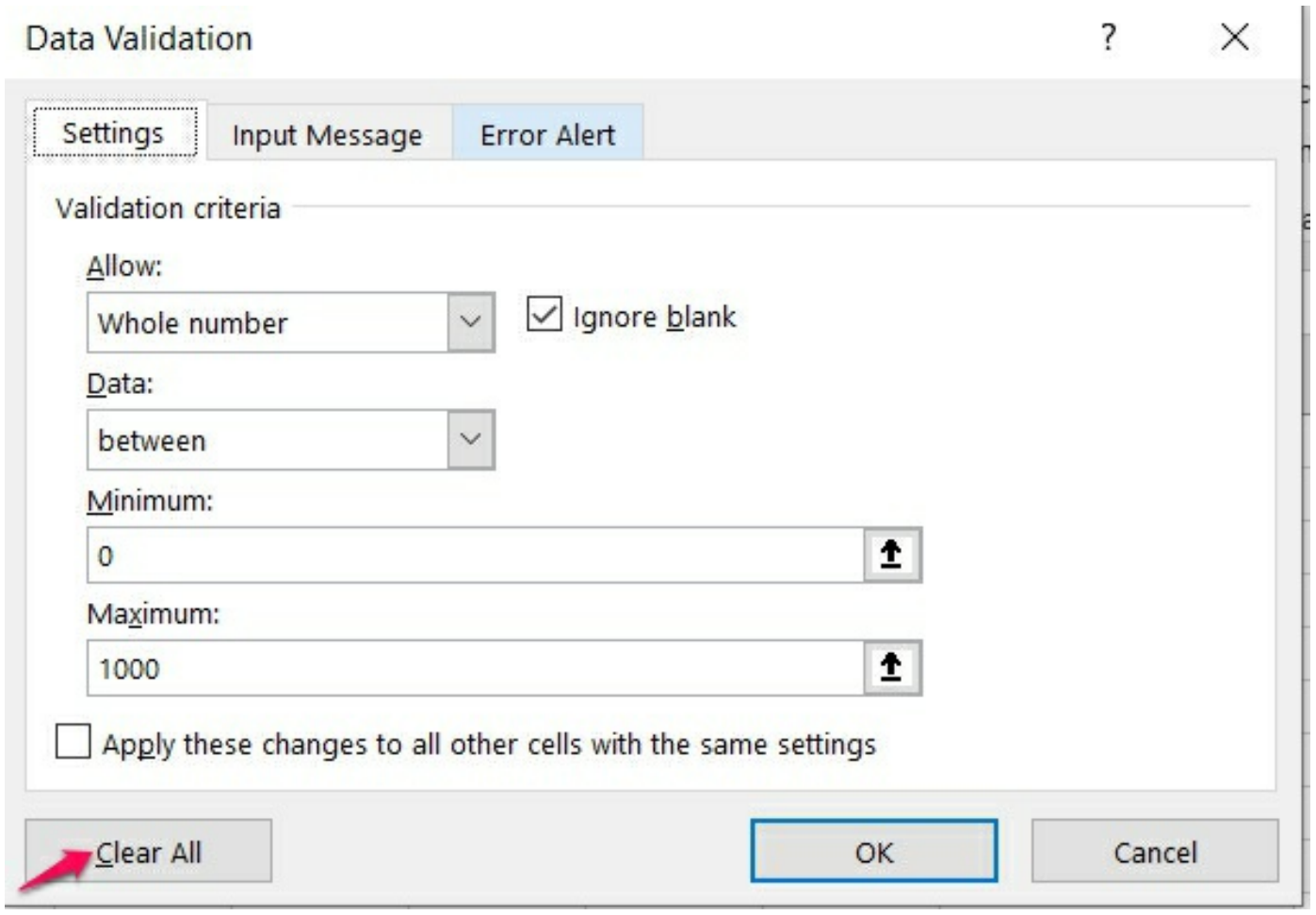
- Select the cell that contains data validating feature
- Move the mouse to the bottom right corner of the cell and allows it to display a black plus symbol.
- Click and drag down or across the cell you wish to fill

- Finally, the **AutoFill** copies the data into the designated cells.

Removing the Data Validation From your Cells

To remove the data validation from your cells, follow the steps given below:

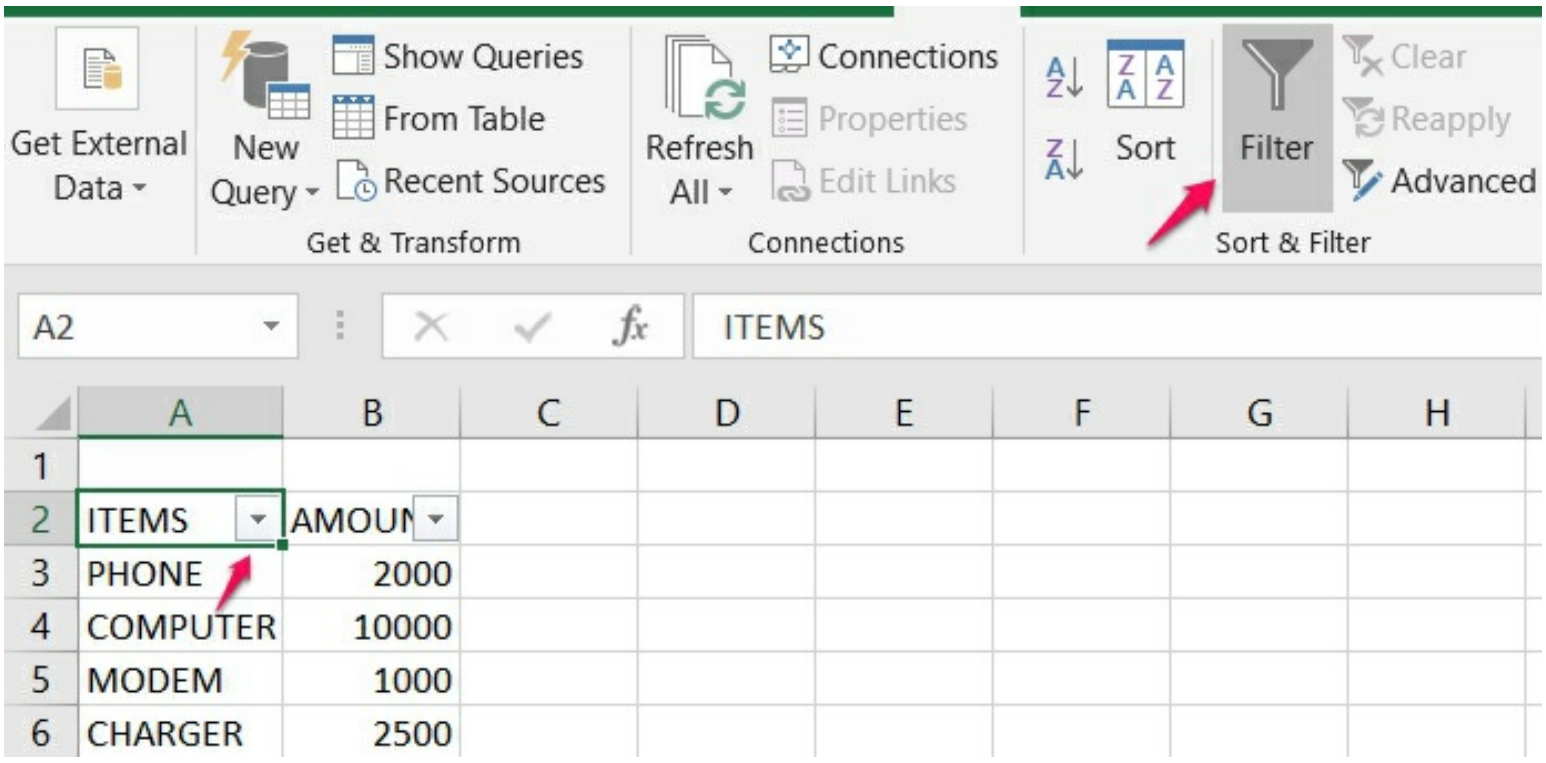
- Select the cells with data validation
- Go to the **Data** tab and select the **Data Validation** in the **Data Tool** group.
- On the **Setting** tab, select the **Clear All** button, and then click on **Ok.**



Filtering Data in Excel

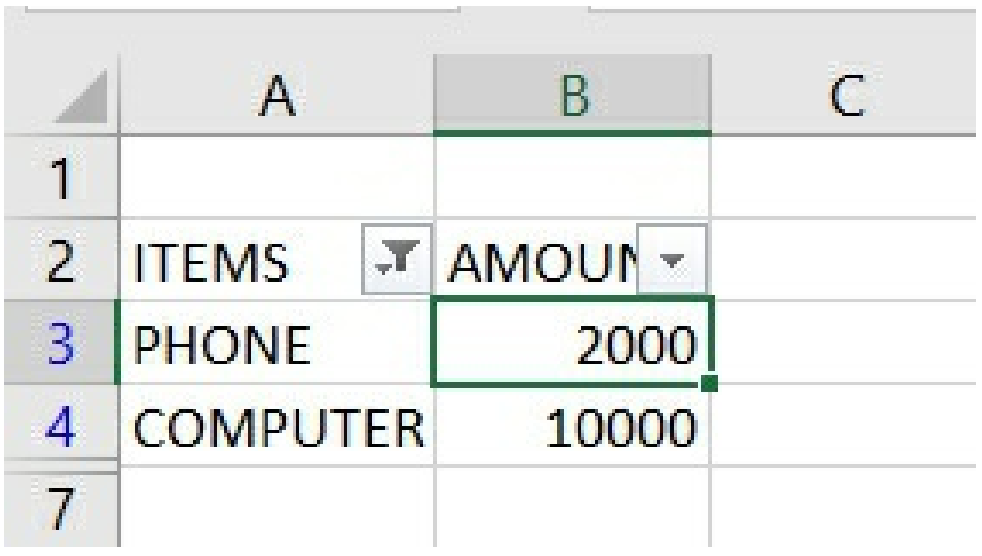
In case you are wondering how to display and hide some data in your worksheet. The Filter command is what you need to use. To use the Filter

- Click on the column of the header in the worksheet
- Go to the **Data** tab and click on **Filter** in the **Sort & Filter** group.
- Click on the **Filter** drop-down arrow that appears on the header of the column



- In the window that displays, unmark the box you don't in your worksheet, and then click

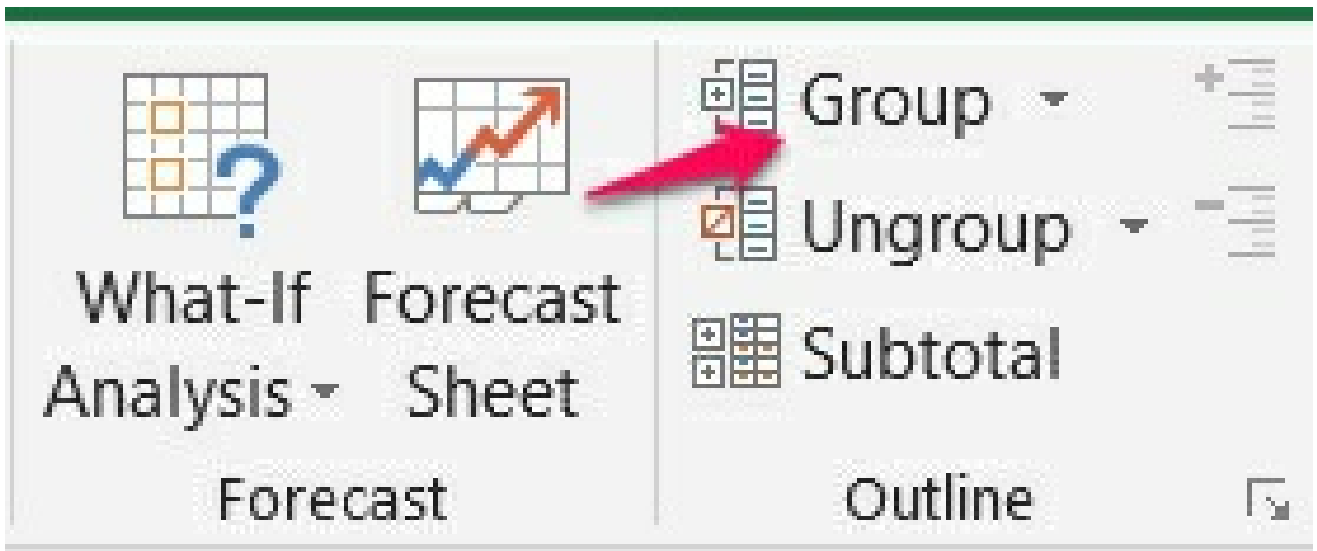
- The filtered data is shown in the table below



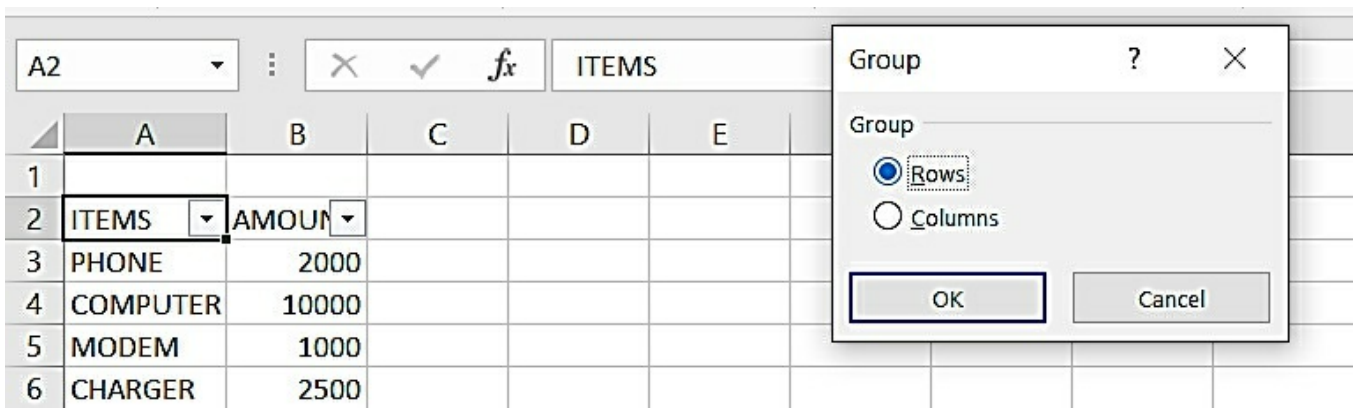
Grouping of Data in Excel

Grouping data in Excel allows you to hide data from either the rows or columns. To group data, follow the steps given below:

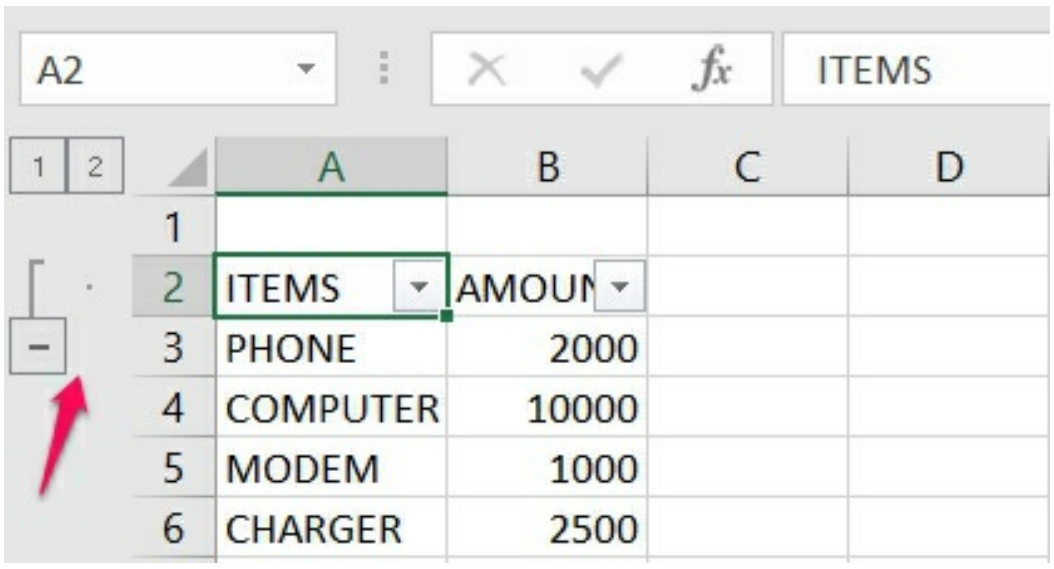
- Select the data you want to group
- Go to the **Data** tab and click on **Group** in the **Outline** group.



- Select **Row** and click on **Ok.**



- In the image below, the data in the cells are group



CHAPTER FIVE

FORMATTING AND MANAGING THE WORKSHEET

Here in this chapter, you will be learning how to format your worksheets. Formatting your worksheet includes numbers and text alignment in rows and columns, inserting rows and columns, adjusting the rows and columns, freezing, and splitting the columns and rows, number and text alignment in rows and columns, etc.

To manage a worksheet, you will be learning how to rename your worksheet, moving a worksheet, copying a worksheet, etc.

Numbers and Text Alignment in Rows and Columns

By default, Excel aligns texts to the bottom-left of the cells and numbers to the bottom right of the cells. However, these alignments can be changed to any of the alignment types you desire.

There are two types of alignments in Excel: vertical and horizontal alignments

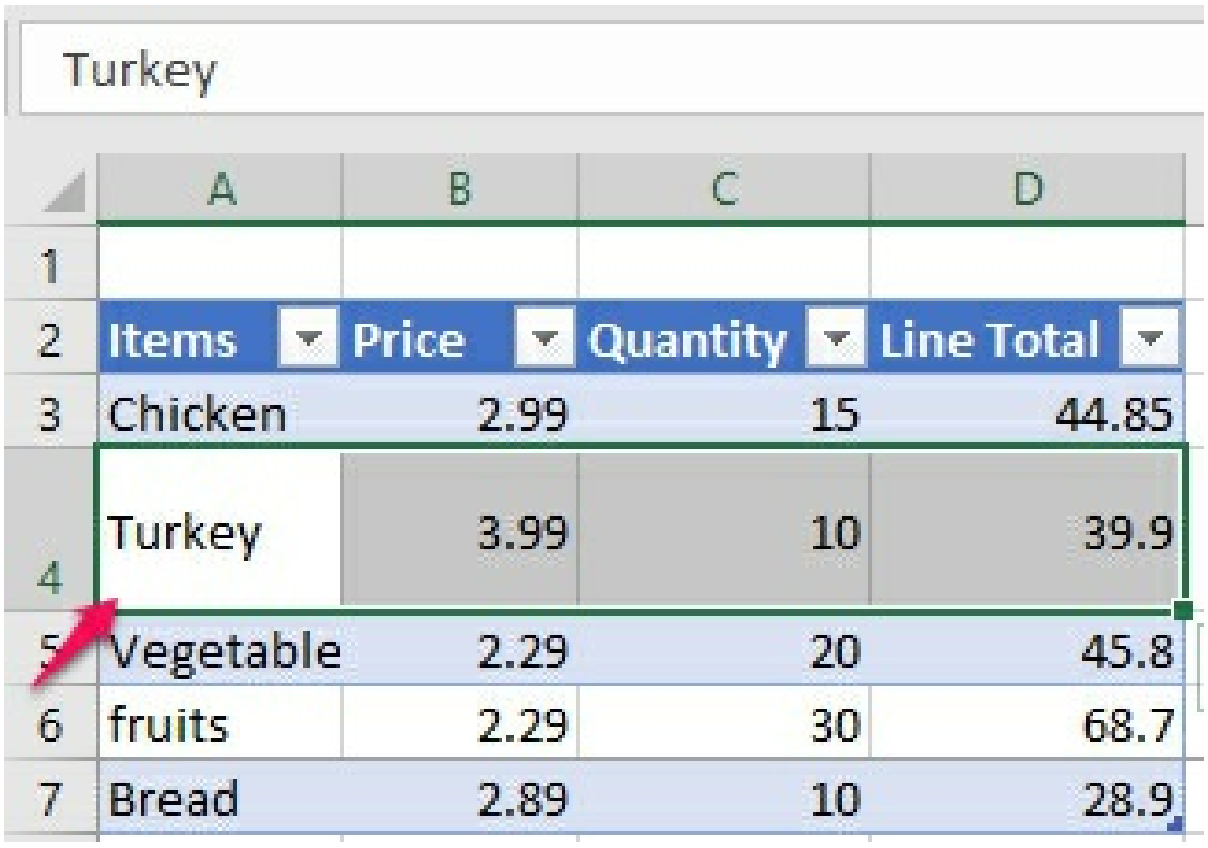
The Vertical Alignment

The vertical alignment allows you to align your texts and numbers using the following options

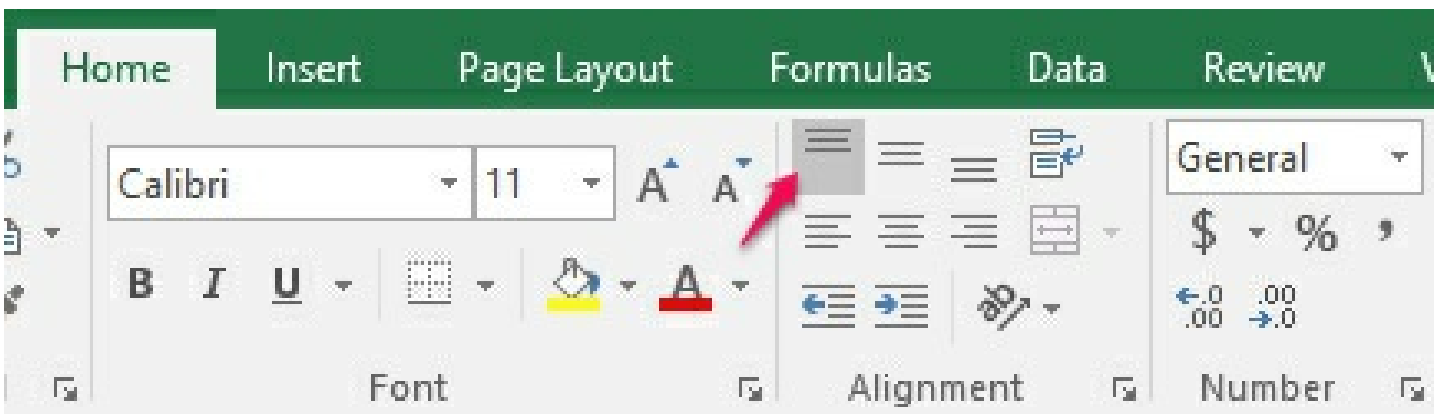
- **Top Align**: This aligns the text or numbers to the top of the cell
- **Middle Align**: This aligns the text or number to the center of the cell i.e. in between the top and bottom of the cells.
- **Bottom Align**: This aligns the text to the bottom of the cells.

To apply vertical alignment to your text or number, follow the steps given below

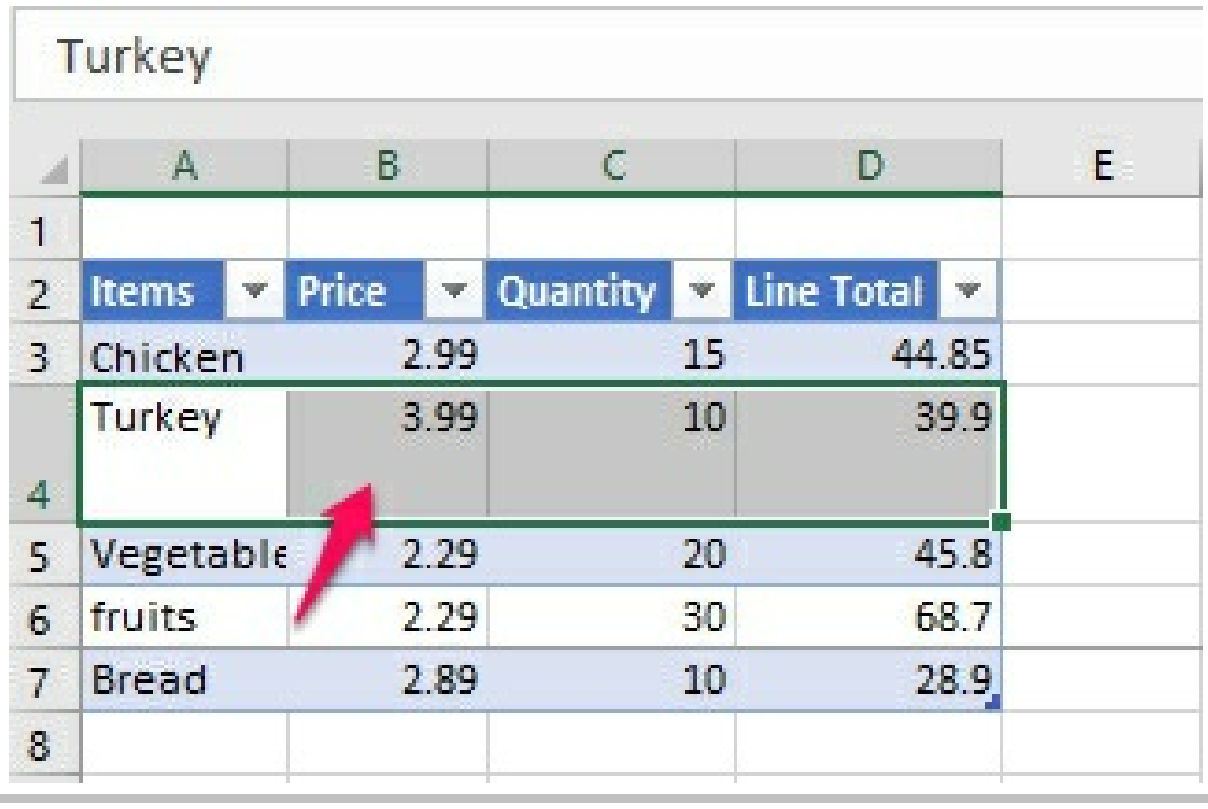
- Select the cells that contain the text or number you wish to align



- Go to the **Home** tab and click on either **Top Align**, **Middle Align,** or **Bottom Align** in the **Alignment** group. Here we will be using the **Top Align**



- In the image shown below, the selected cells are aligned to the top of the cells.



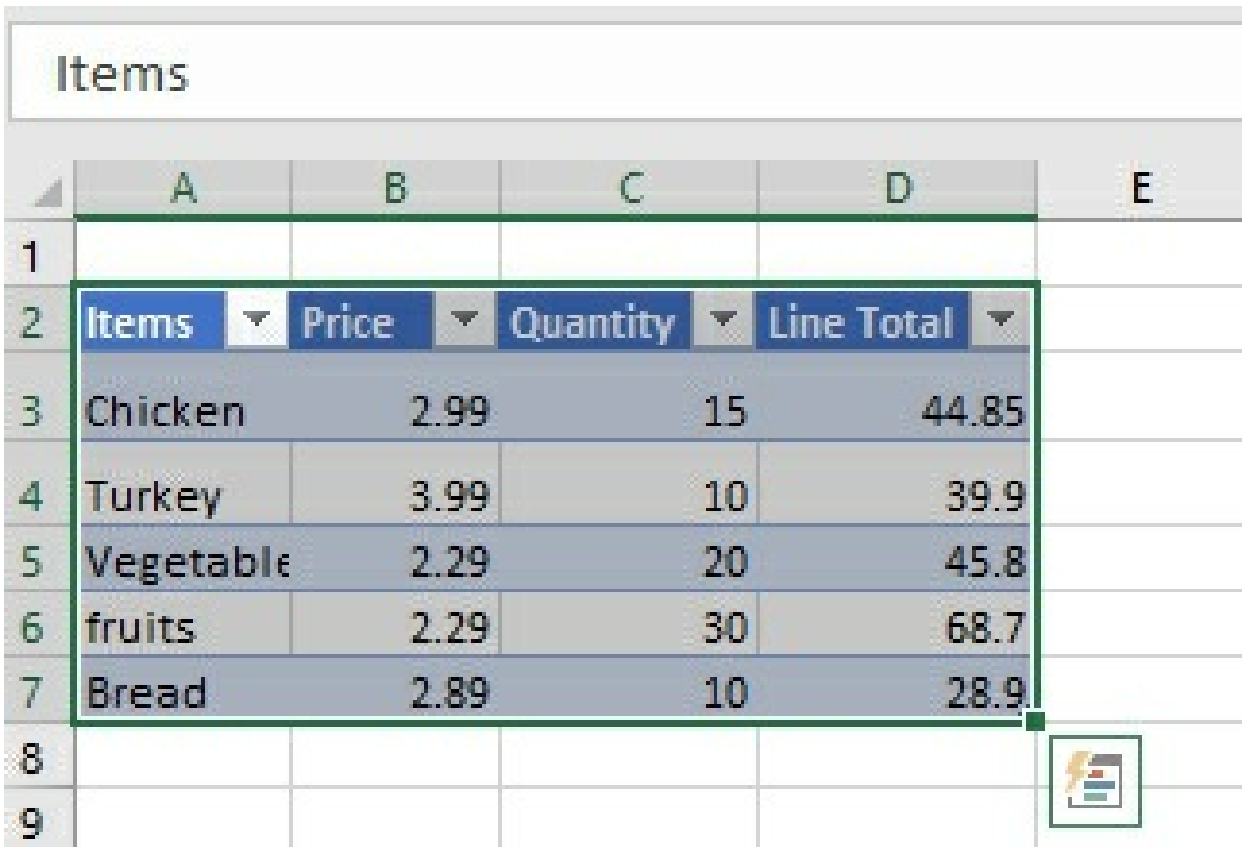
The Horizontal Alignment

Just like the vertical-horizontal, the horizontal alignment also allows you to align your texts and numbers using the following options

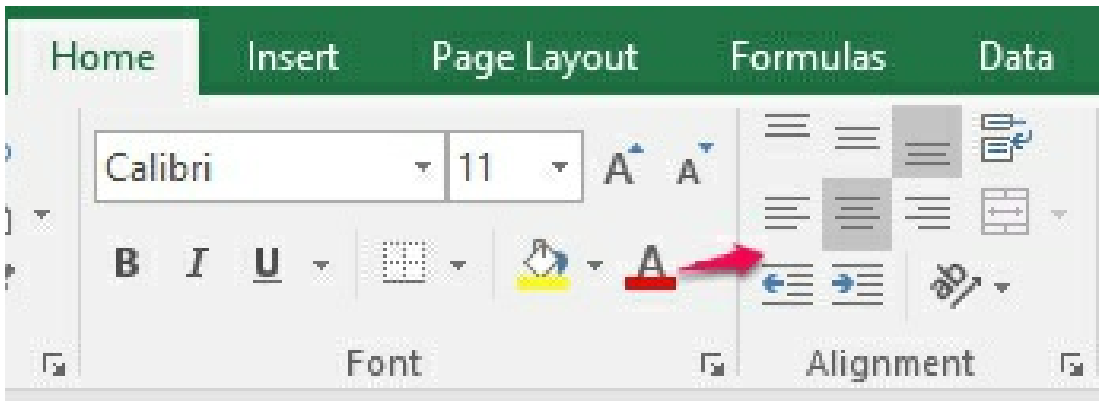
- **Align Left**: This aligns the text or numbers to the left edge of the cell
- **Center:** This aligns the text or number to the center of the cell.
- **Align Right**: This aligns the text to the right edge of the cell.

To apply horizontal alignment to your text or number, follow the steps given below

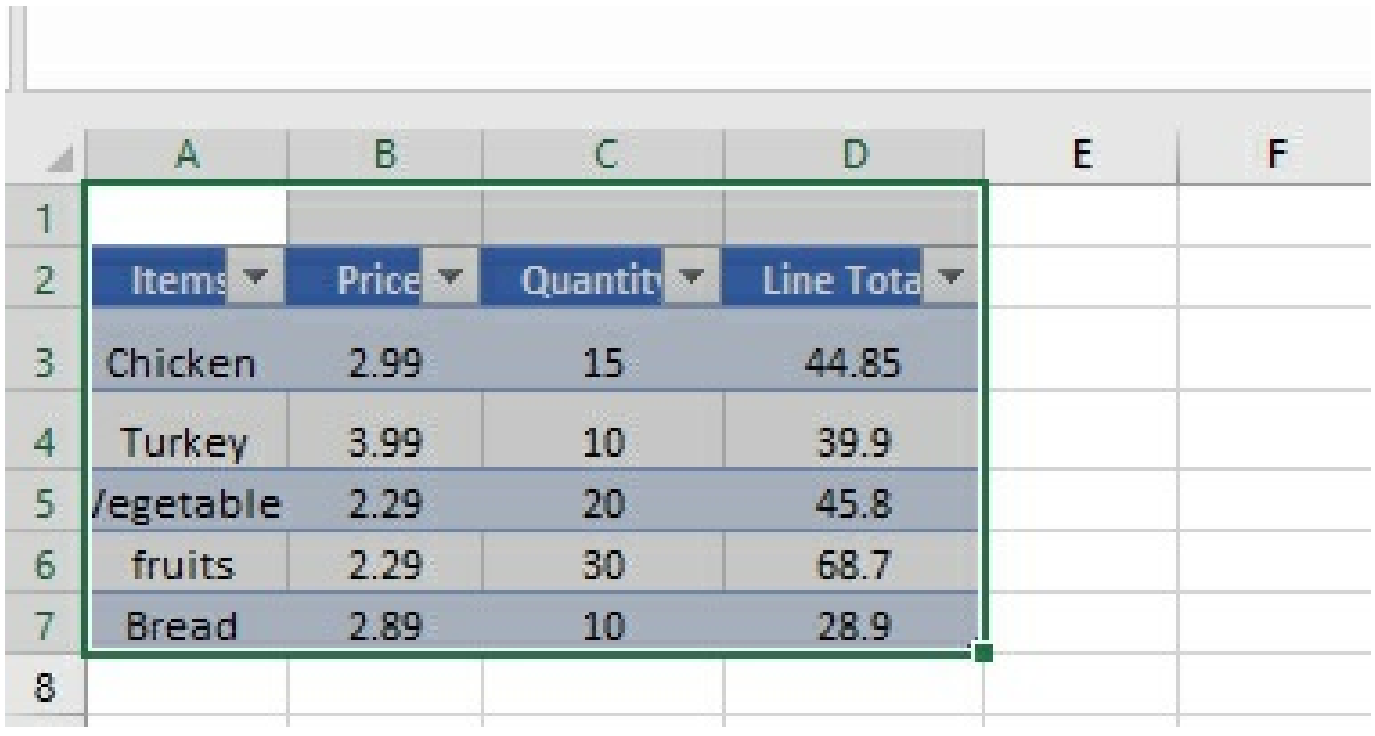
- Select the cells that contain the text or number you wish to align



- Go to the **Home** tab and click on either **Align Left**, **Middle,** or **Align Right** in the **Alignment** group. Here we will be using the **Center**



- In the image shown below, the selected cells are aligned to the center of the cells.

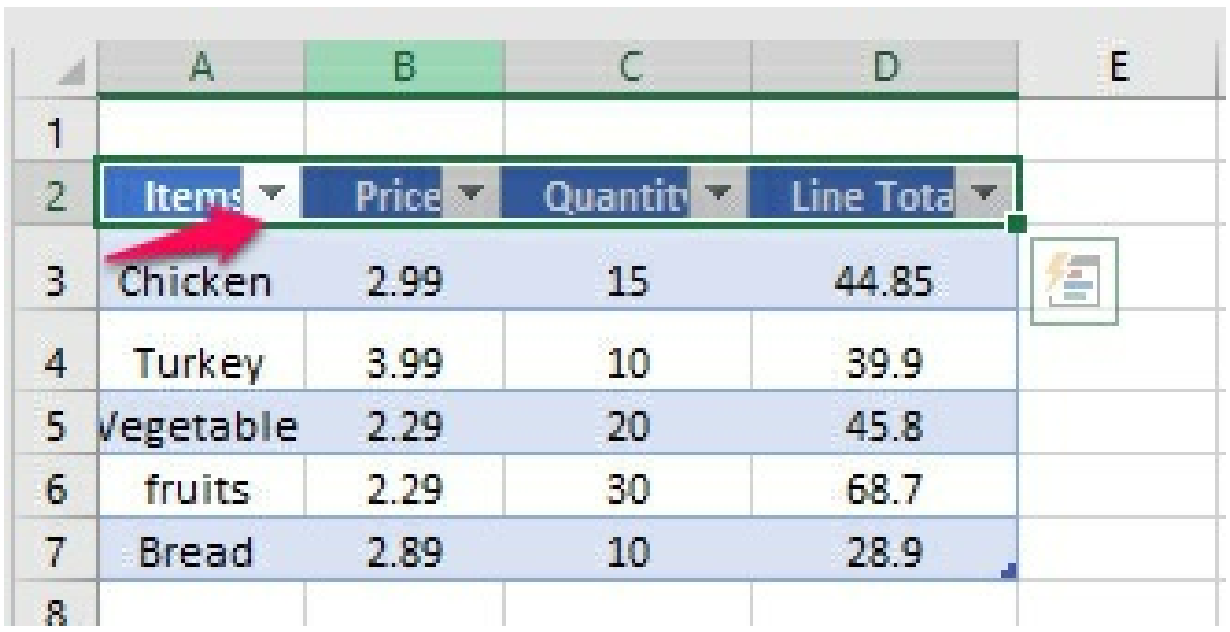


Changing Text and Number Orientation

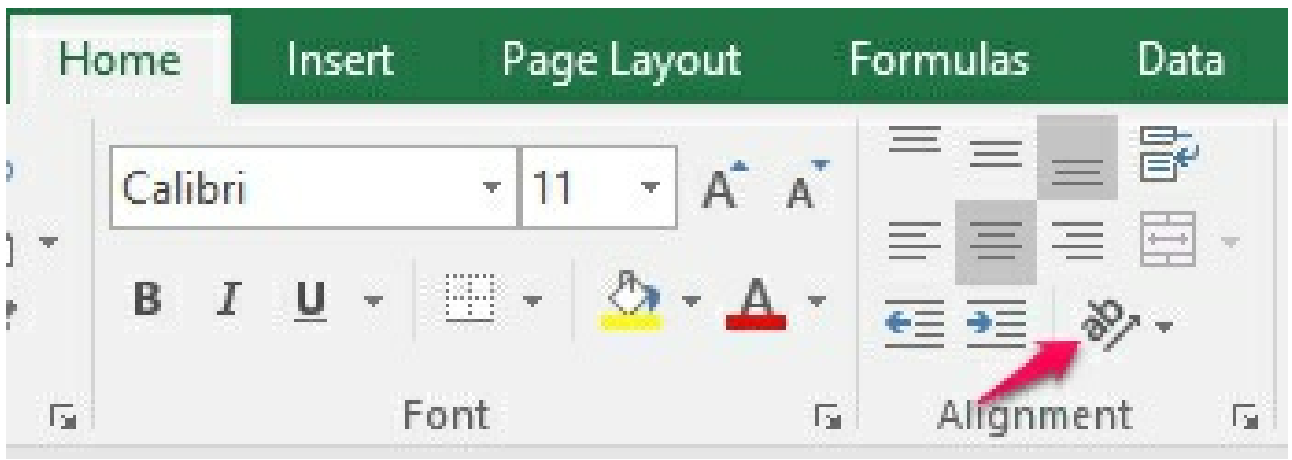
The Orientation command allows you to rotate your text or number to any angle you desire. Changing the text orientation is also a great way to label the column headings in the worksheet.

To change the text or number orientation in your worksheet, here are what to do

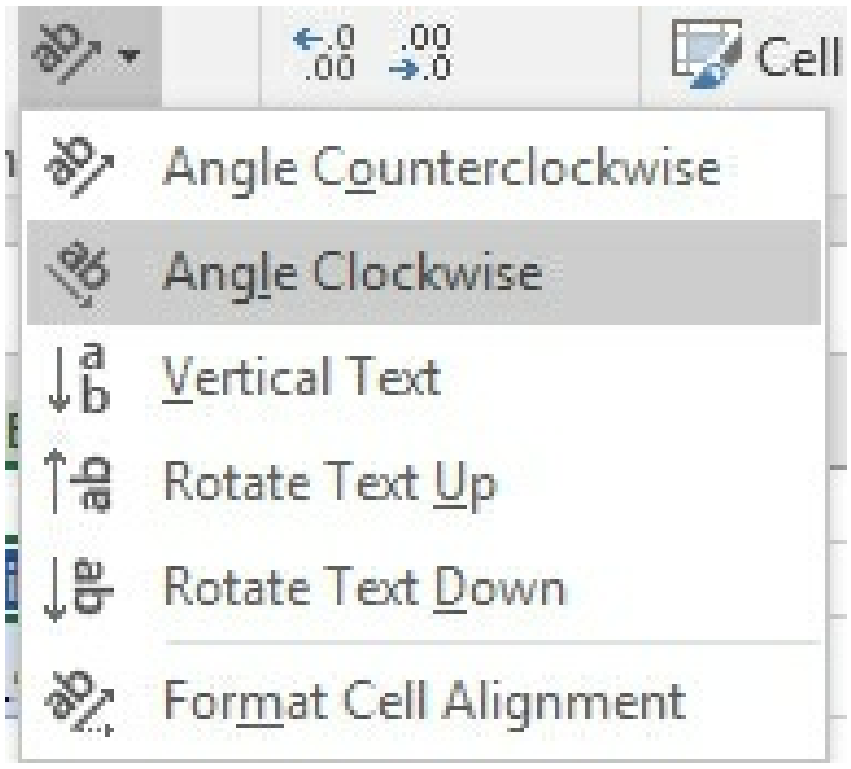
- Select cells that contain the text or numbers you wish to change



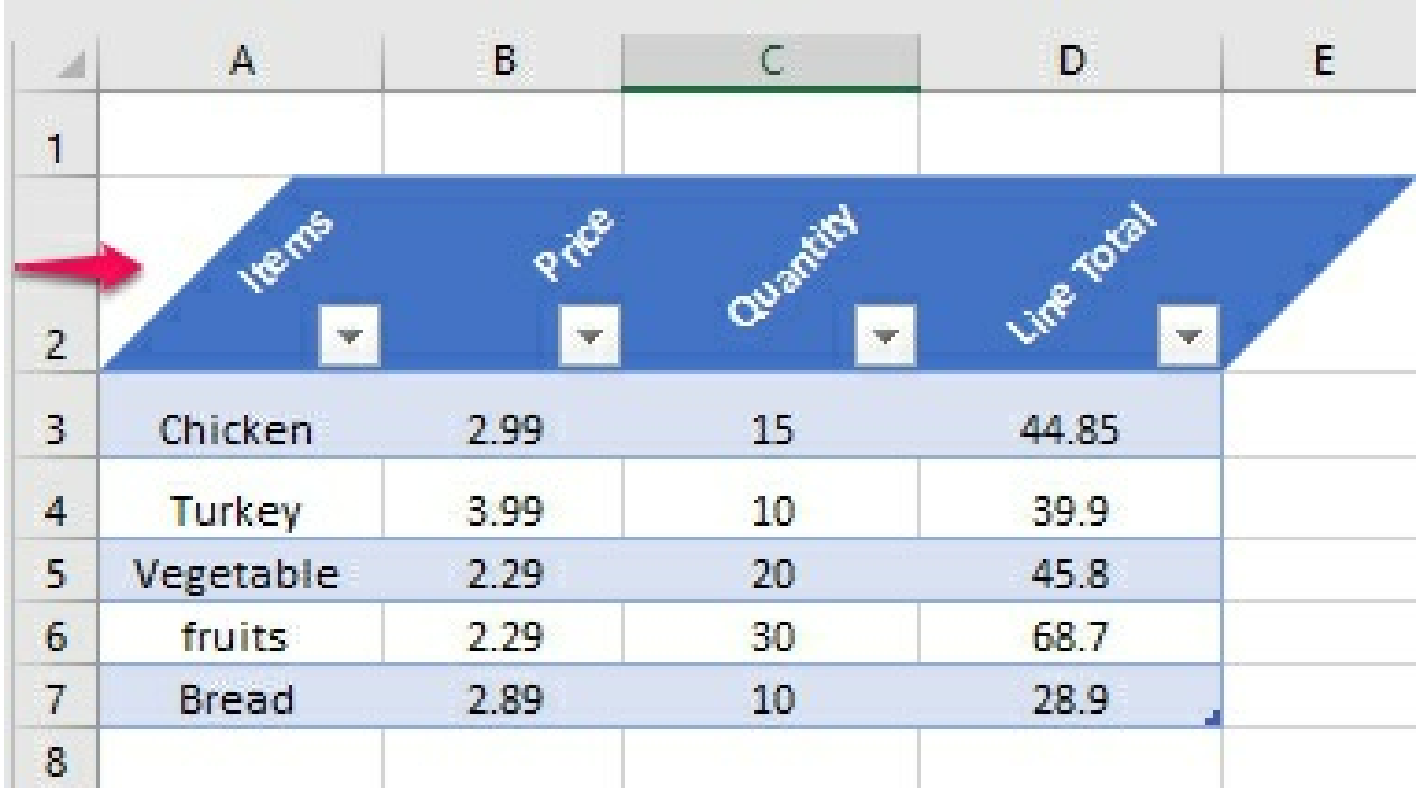
- Go to the **Home** tab and click on **Orientation** in the **Alignment** group



- In the **Orientation** drop-down menu, select any of the following options; **Angle Counterclockwise**, **Angle Clockwise**, **Vertical Text**, **Rotate Text Up**, and **Rotate Text Down**



- In the image shown below, the selected cells are rotated **Angle Counterclockwise.**



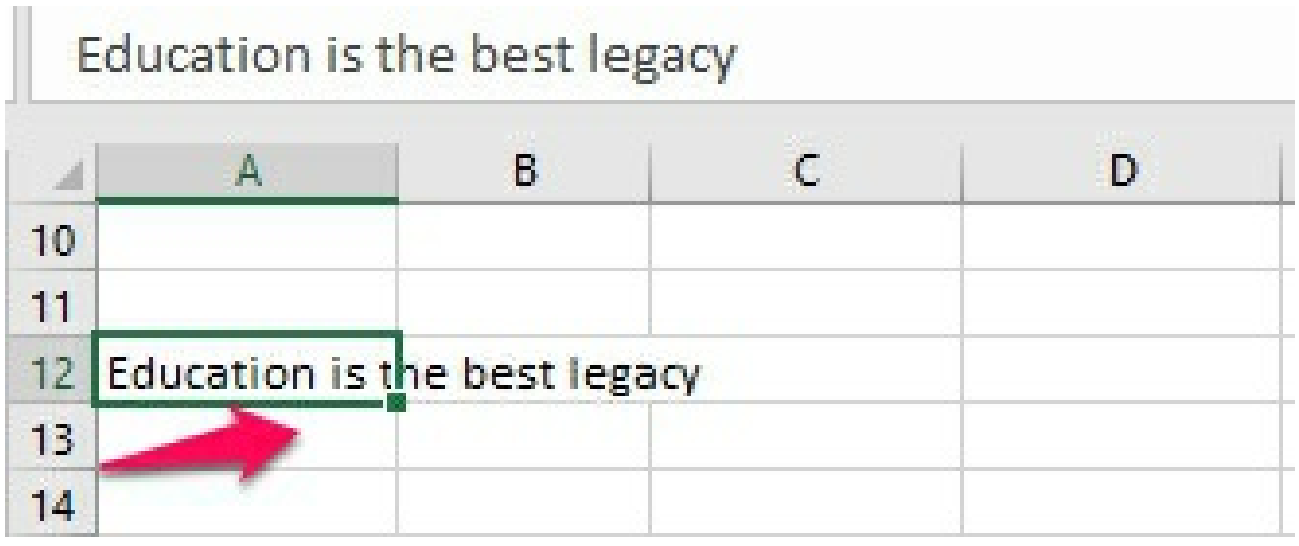
	A	B	C	D	E
1					
2	Items	Price	Quantity	Line Total	
3	Chicken	2.99	15	44.85	
4	Turkey	3.99	10	39.9	
5	Vegetable	2.29	20	45.8	
6	fruits	2.29	30	68.7	
7	Bread	2.89	10	28.9	
8					

Wrapping Text in Your Worksheet

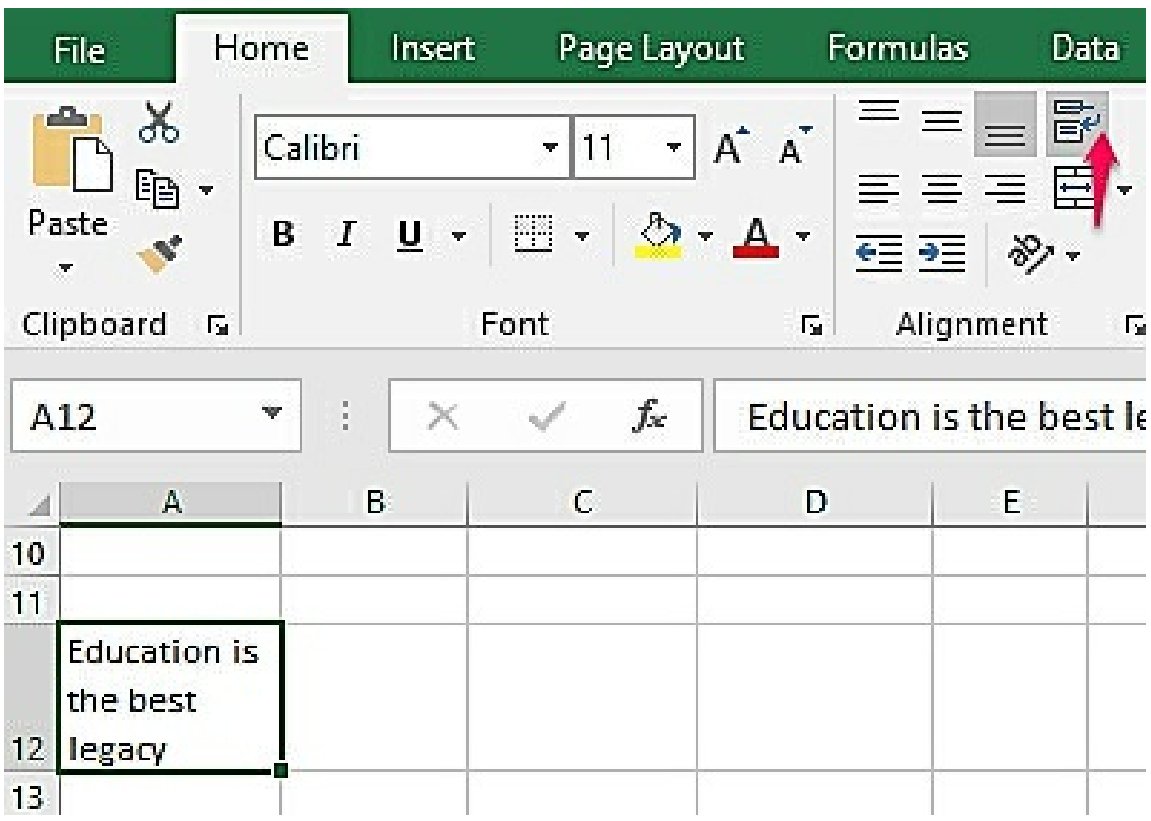
In case you have a long text string extending from a cell to another and you do not wish to adjust the size of the cell to contain the long text, all you need to do is used the Wrap command.

The Wrap command allows you to display a long text on multiple lines in a single cell. To use this command, follow the steps given below:

- Select the cell with the long text



- Go to the **Home** tab and click on **Wrap Text** in the Alignment Group. Here, the text will be adjusted to multiple lines in a single cell.

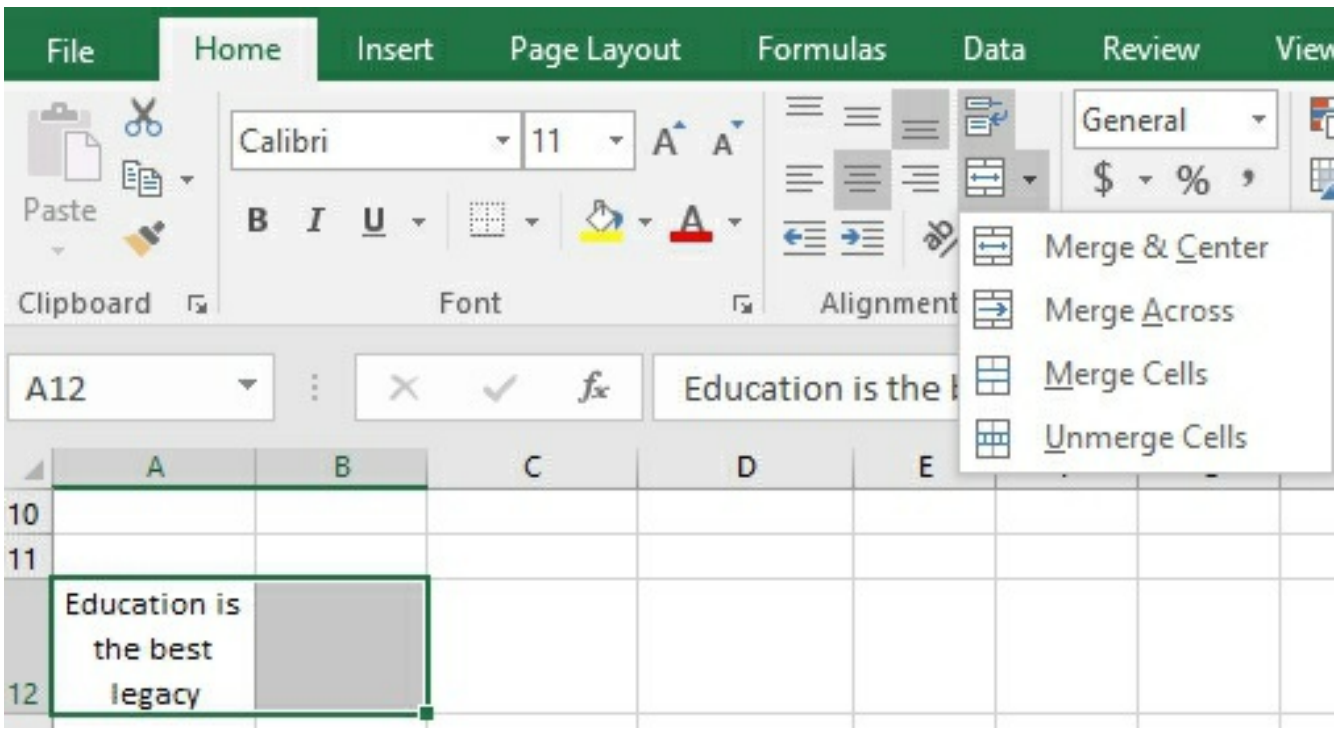


Merging Cells

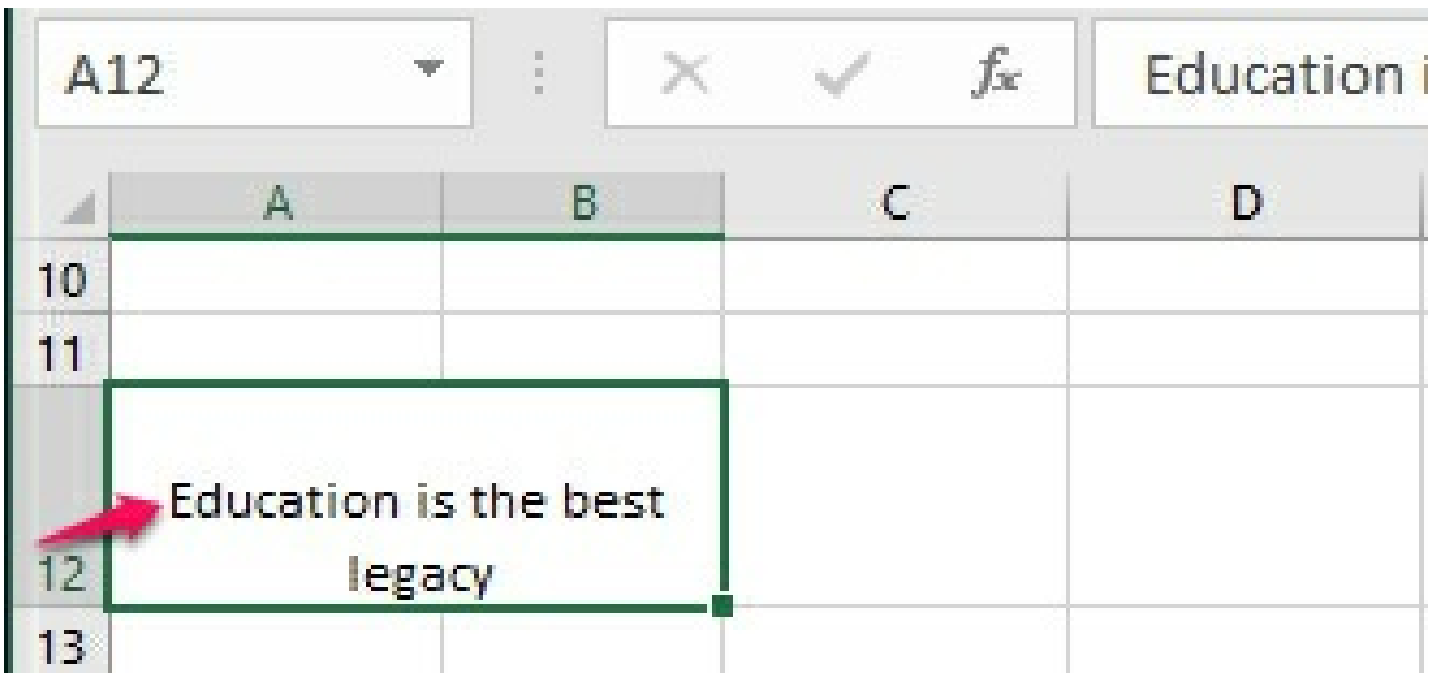
The Merge command allows you to merge or join cells together to create a larger cell without adjusting or changing the row or column size

To merge cells, follow the cells given below

- Select the cells you wish to merge
- Go to the Home tab, and click on Merge & Center in the Alignment group
- In the Merge & Center drop-down menu, select any of the following options
    - **Merge & Center**: To combine and center the contents of the selected cells into a single and larger cell.
    - **Merge Across**: To join the cells selected in the same row into a single cell.
    - **Merge Cells**: To merge the cells selected into a single cell.



- In the image shown below, the selected cells are merged using the **Merge & Center** option.



- To unmerge cells, you can click on **Unmerge Cells** in the **Merge & Center** drop-down menu

Inserting Rows and Columns

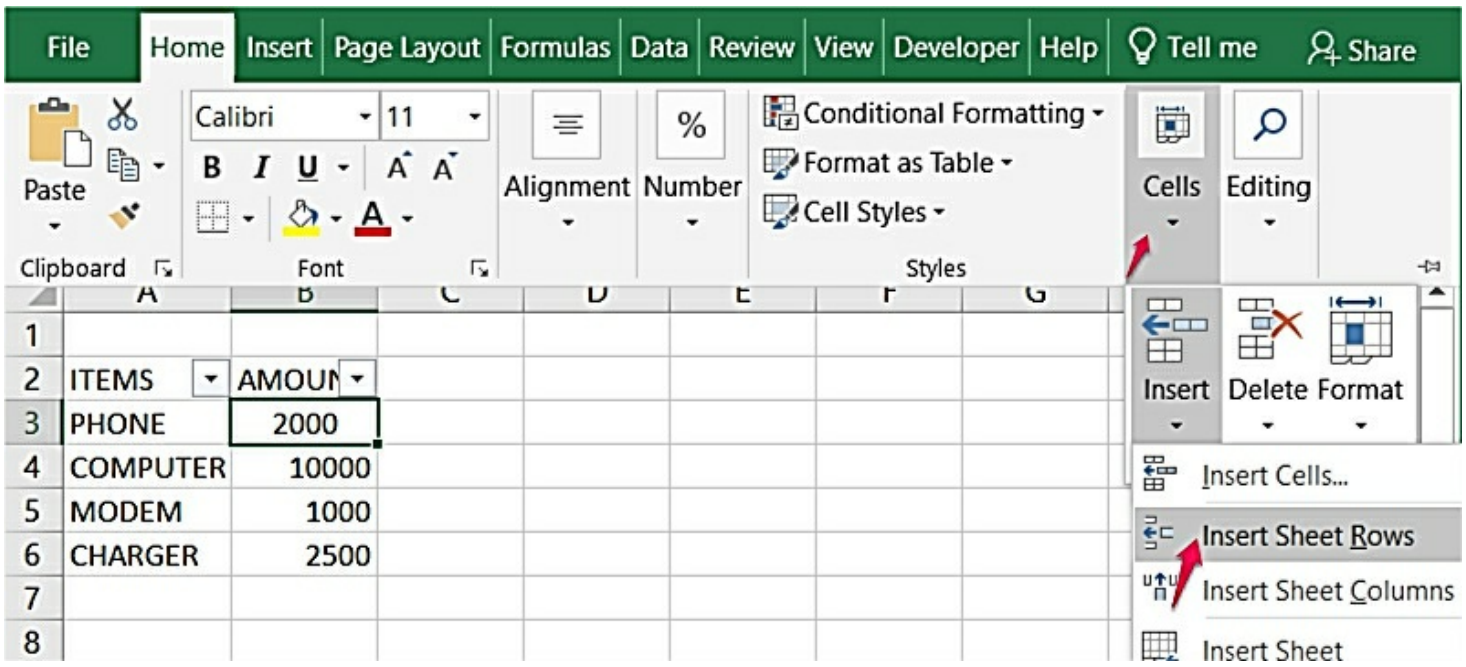
There are several ways provided by Excel to insert rows and columns, which include using the keyboard shortcuts or Insert commands. Before you insert a row or column into your spreadsheet, take note of the following

- A new row is always inserted above the row you select
- A new column is always inserted to the left of the column you select

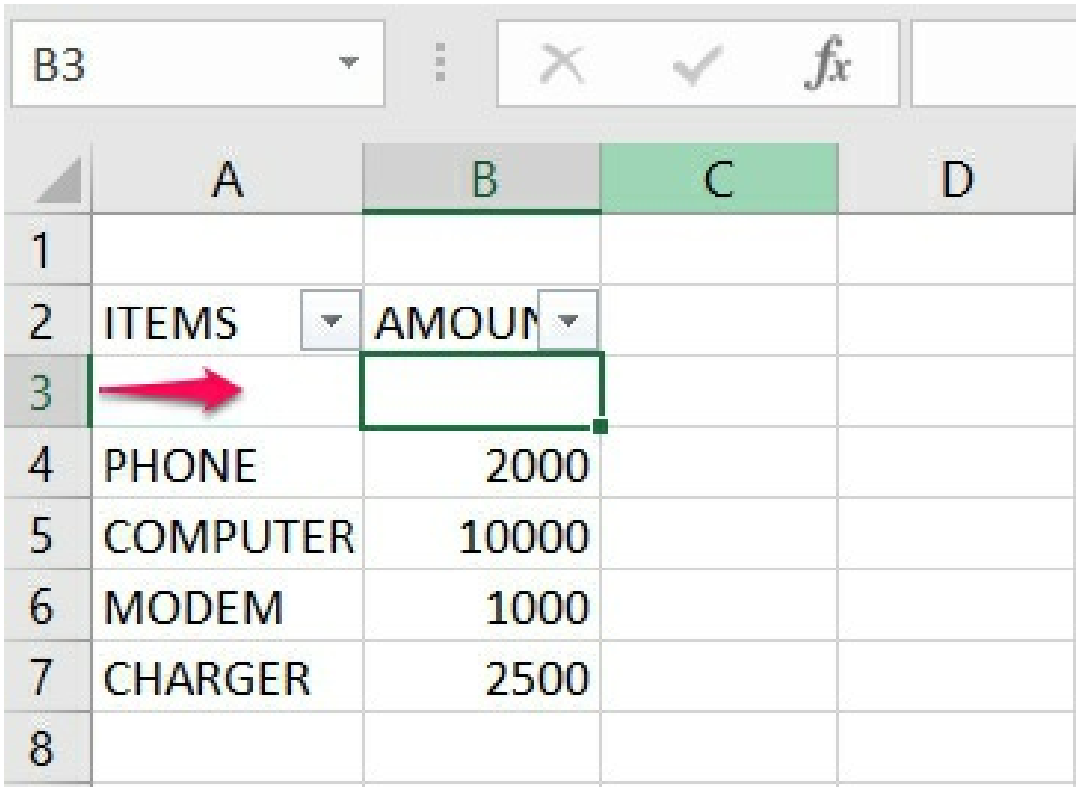
Inserting a Row

To insert a new row to your worksheet, follow the steps given below

- Select any cell within the row, go to the **Home** tab, click on **Insert** and select **Insert Sheet Rows**.



- The new rows are inserted above the selected row in the worksheet.

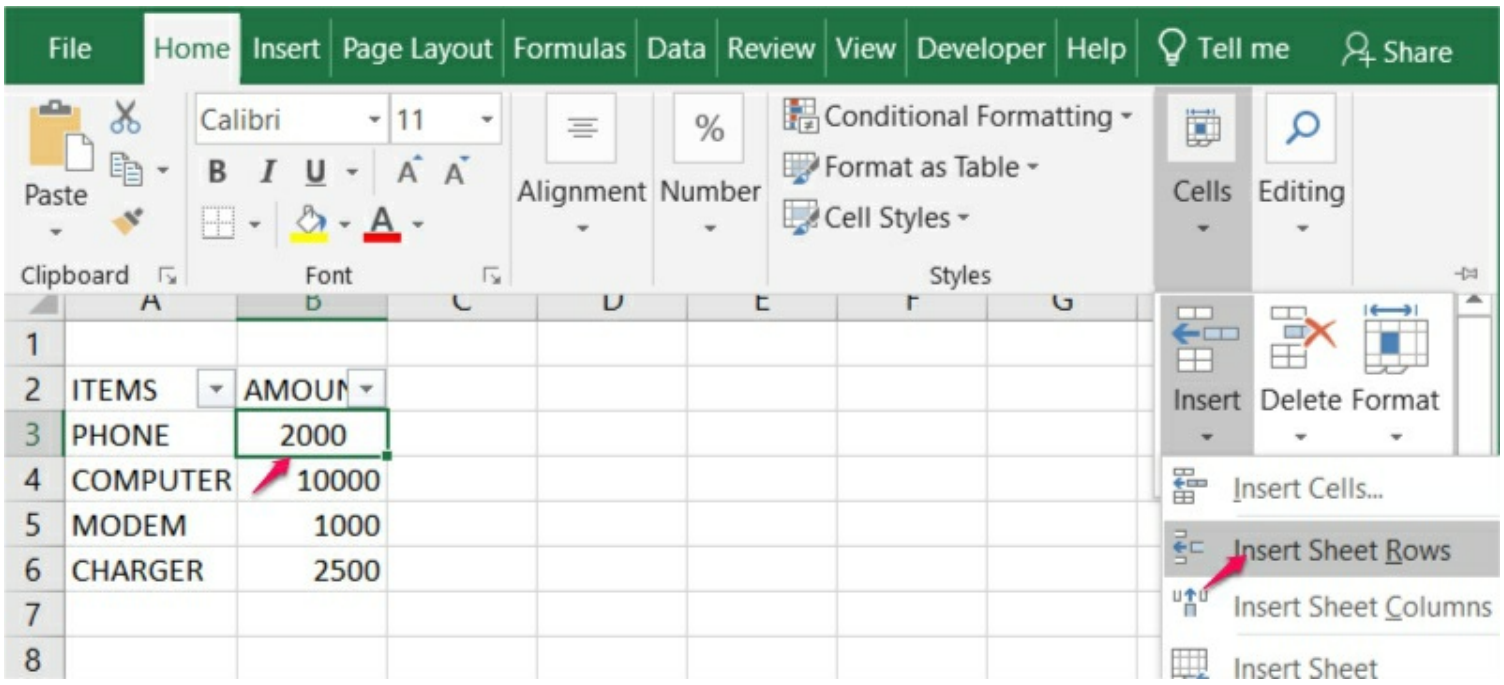


NOTE: To add a new row, you can also click on the row, select **Insert**, and then click on **Entire Row.**

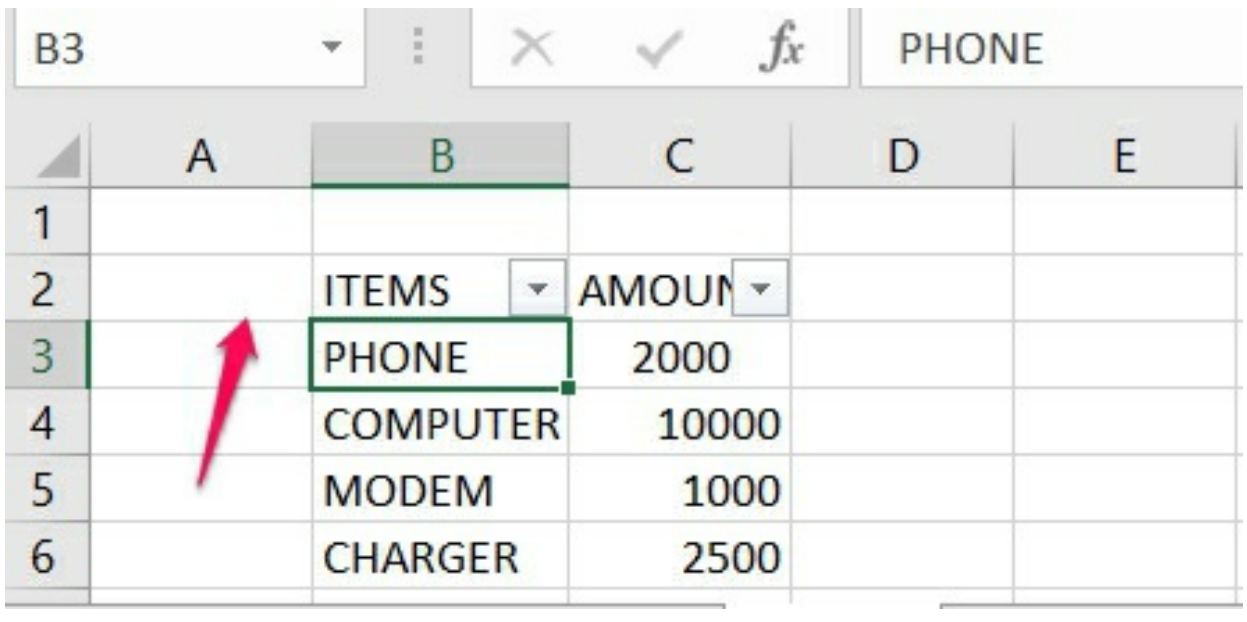
Inserting a Column

To insert a new column to your worksheet, follow the steps given below

- Select any cell within the column, go to the **Home** tab, click on **Insert** and select **Insert Sheet Columns**.



- The new columns are inserted to the left of the column you select

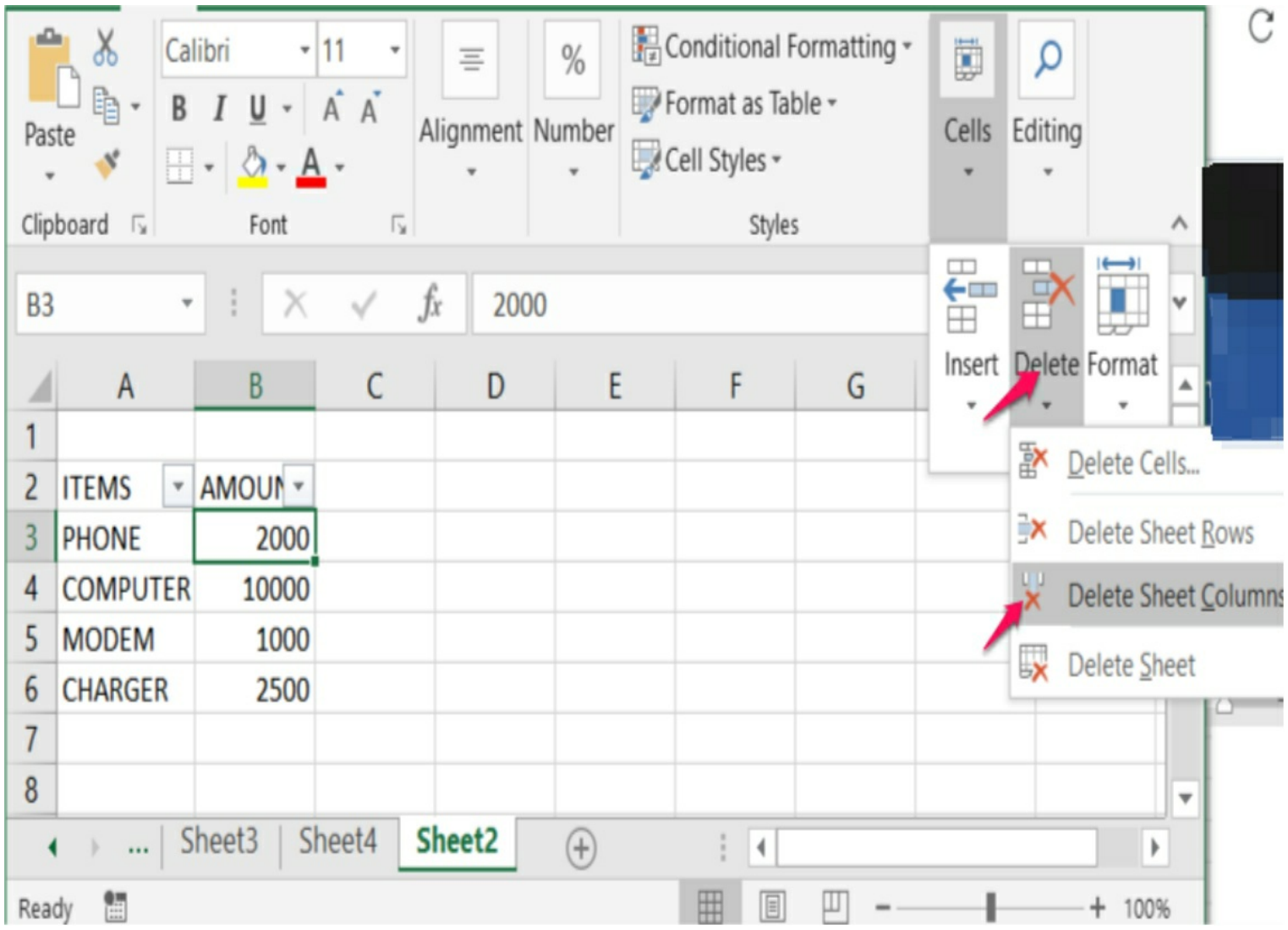


NOTE: To add a new column, you can also click on the column, select **Insert**, and then click on **Entire Column.**

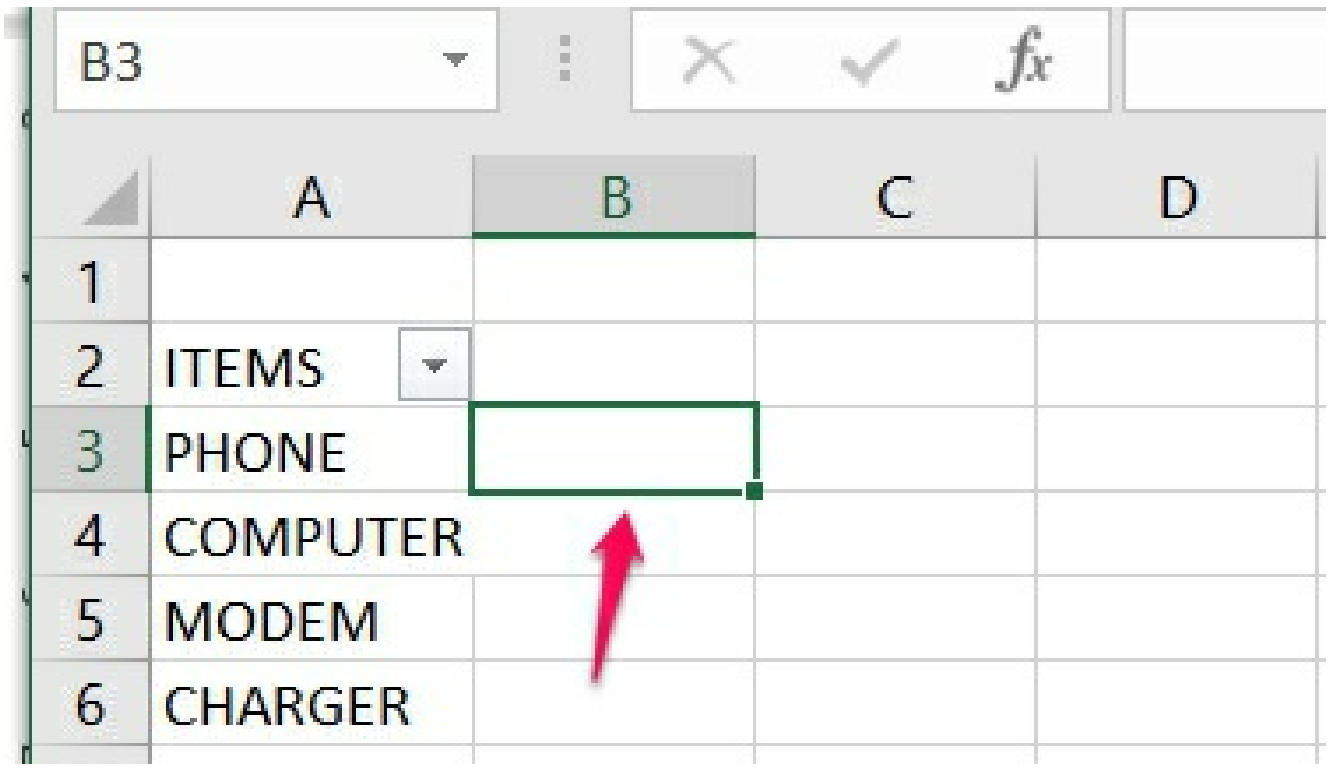
Deleting Rows and Columns

To delete a column from the worksheet, follow the steps given below

- Select any cell within the column, go to the **Home** tab, click on **Insert** and select **Delete Sheet Columns**.

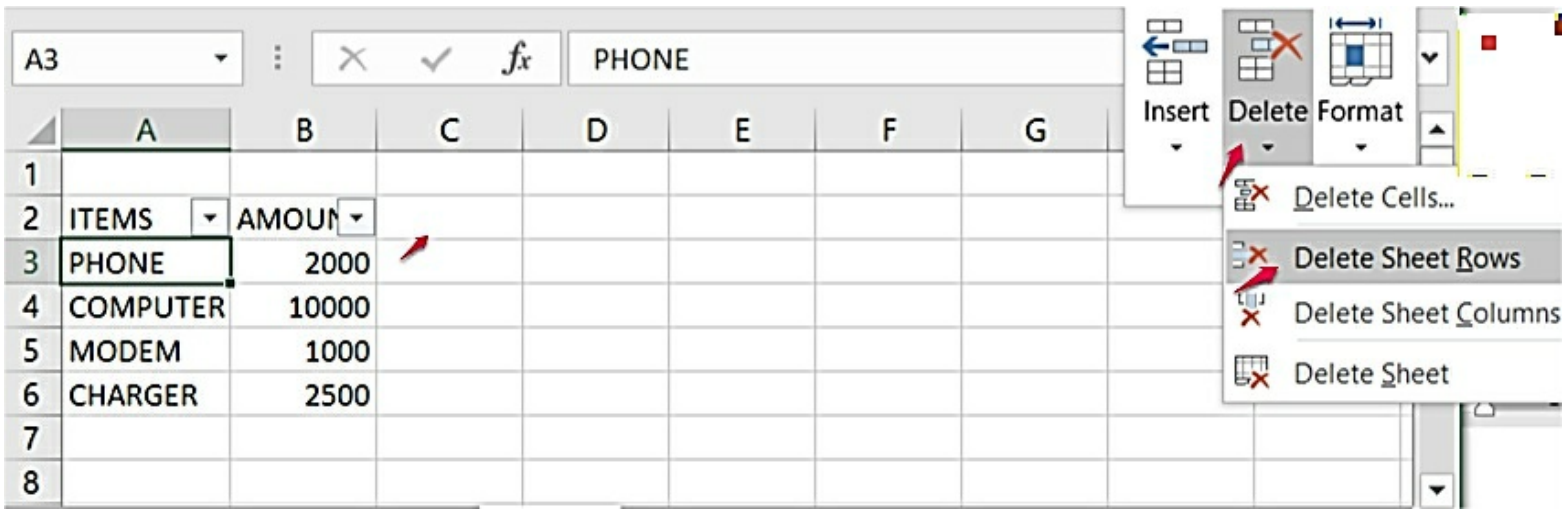


- The selected column is deleted from the worksheet

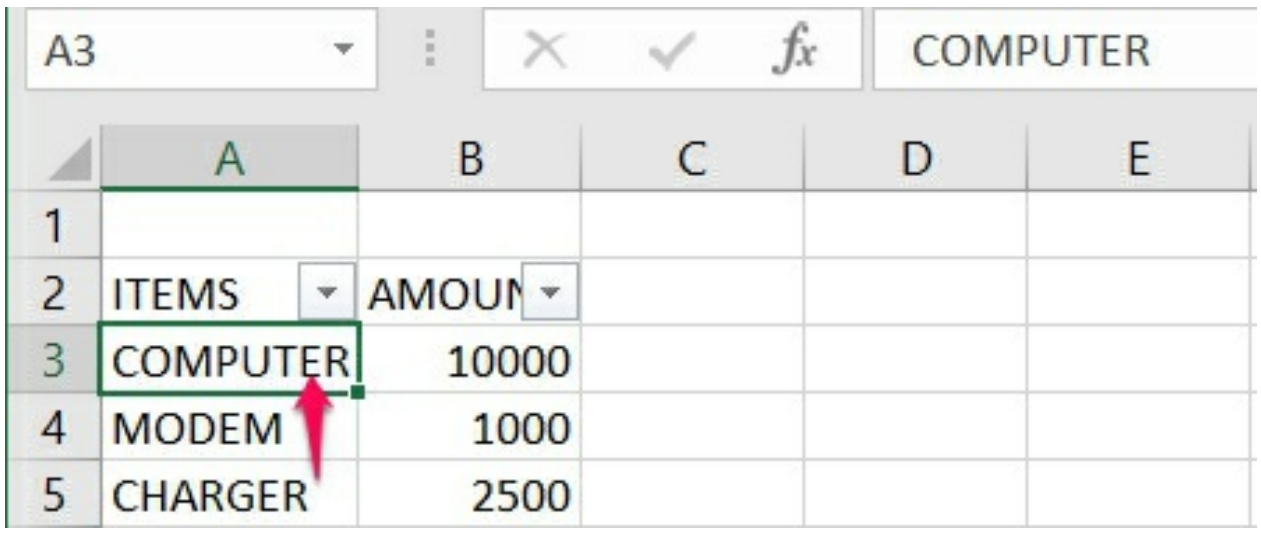


To delete a row from the worksheet, follow the steps given below

- Select any cell within the column, go to the **Home** tab, click on **Insert** and select **Delete Sheet Rows**.



- The selected column is deleted from the worksheet



NOTE: To delete a column or row, you can also click on the column or row, select **Delete**, and then click on **Entire Column** or **Entire Row.**

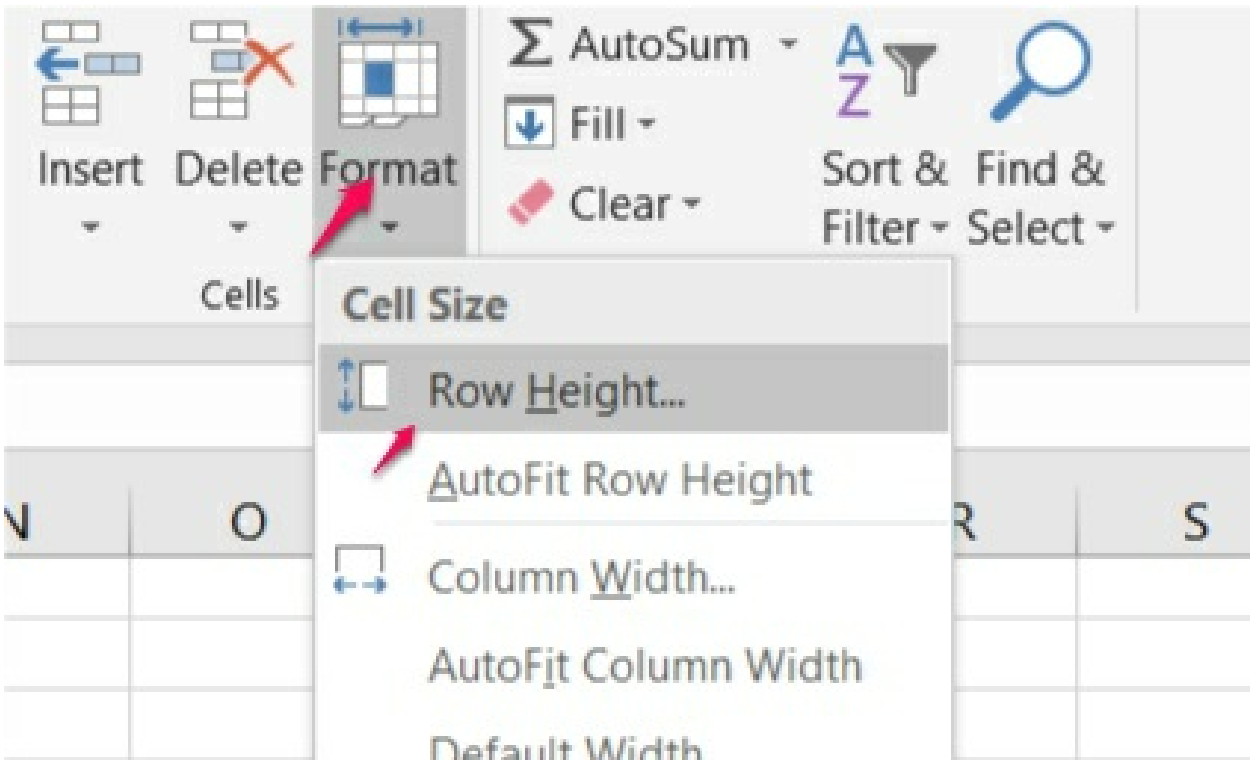
Adjusting Rows and Columns Size

While working on your worksheet, there may be the need to expand or reduce Excel's row width and column heights. There are many techniques to adjust them. Let's quickly check out one of those techniques

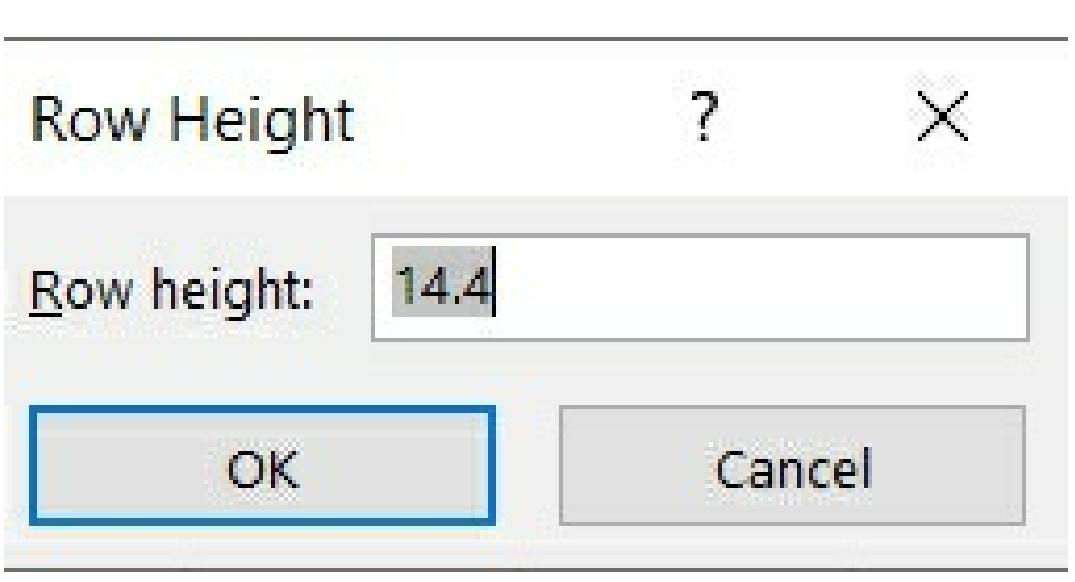
Adjusting the Height of the Row

To adjust the height of the row, follow the steps provided below

- Select a row or a range of rows you wish to change
- Go to the **Home** tab, click on the |**Format** in the **Cell** group



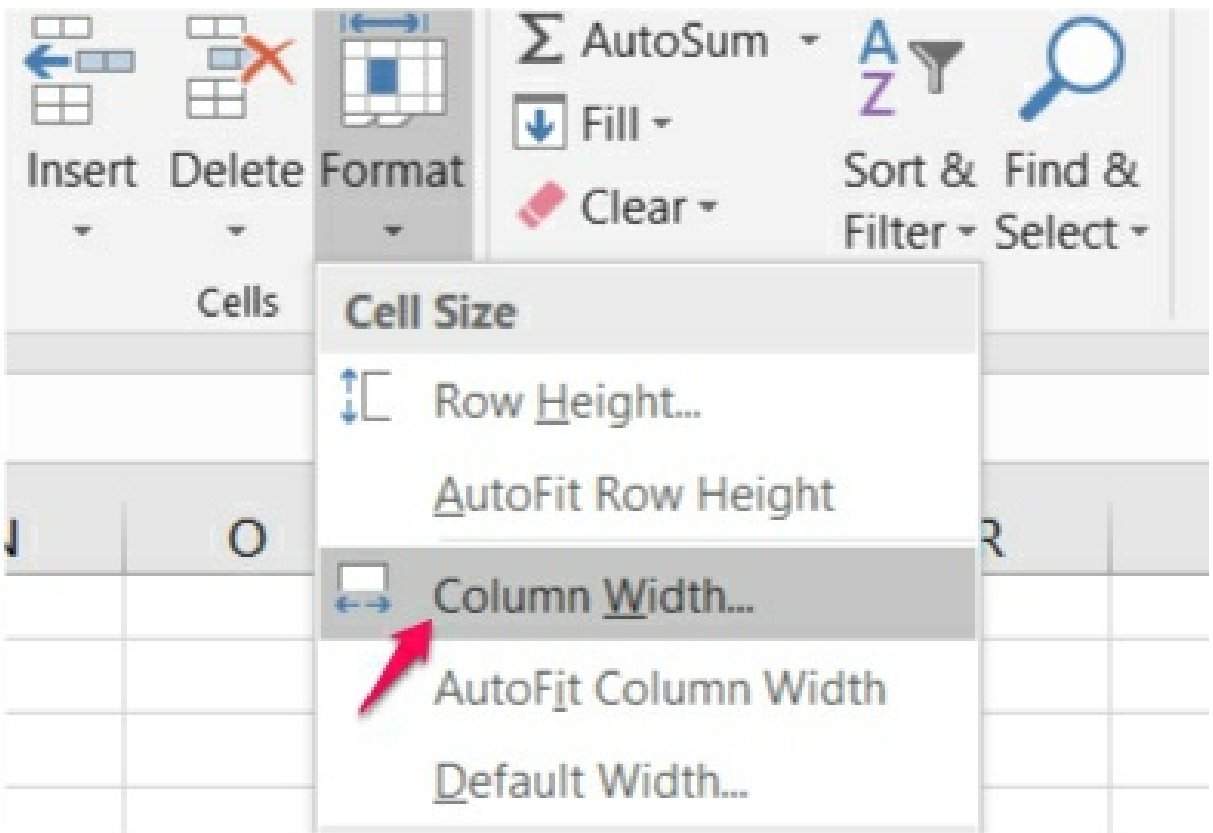
- Type in the height of the row in the **Row Height** dialog box and click on **Ok**



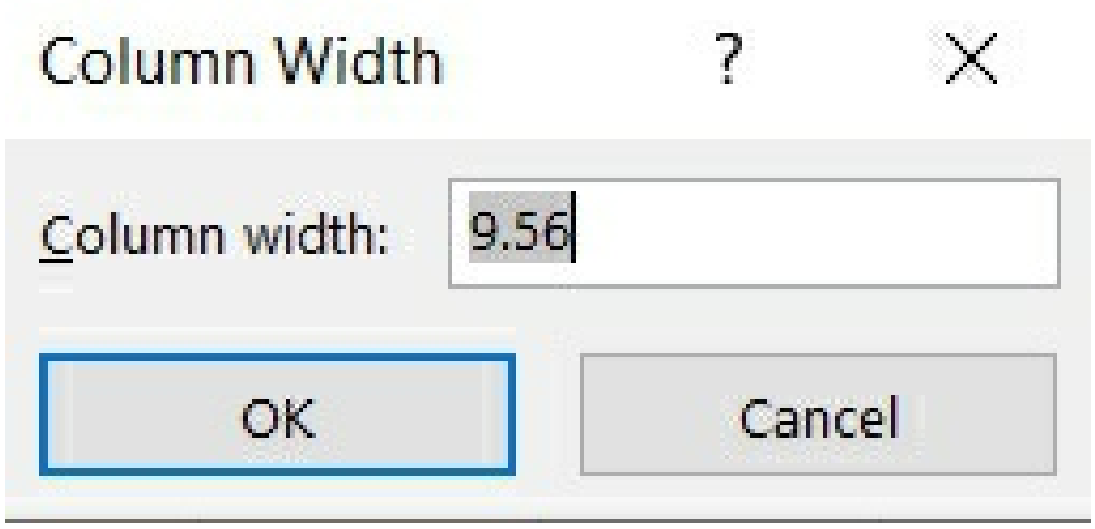
Adjusting the Column Width

To adjust the column width, follow the steps given below

- Select a column or a range of columns you wish to change
- Go to the **Home** tab, click on the |**Format** in the **Cell** group



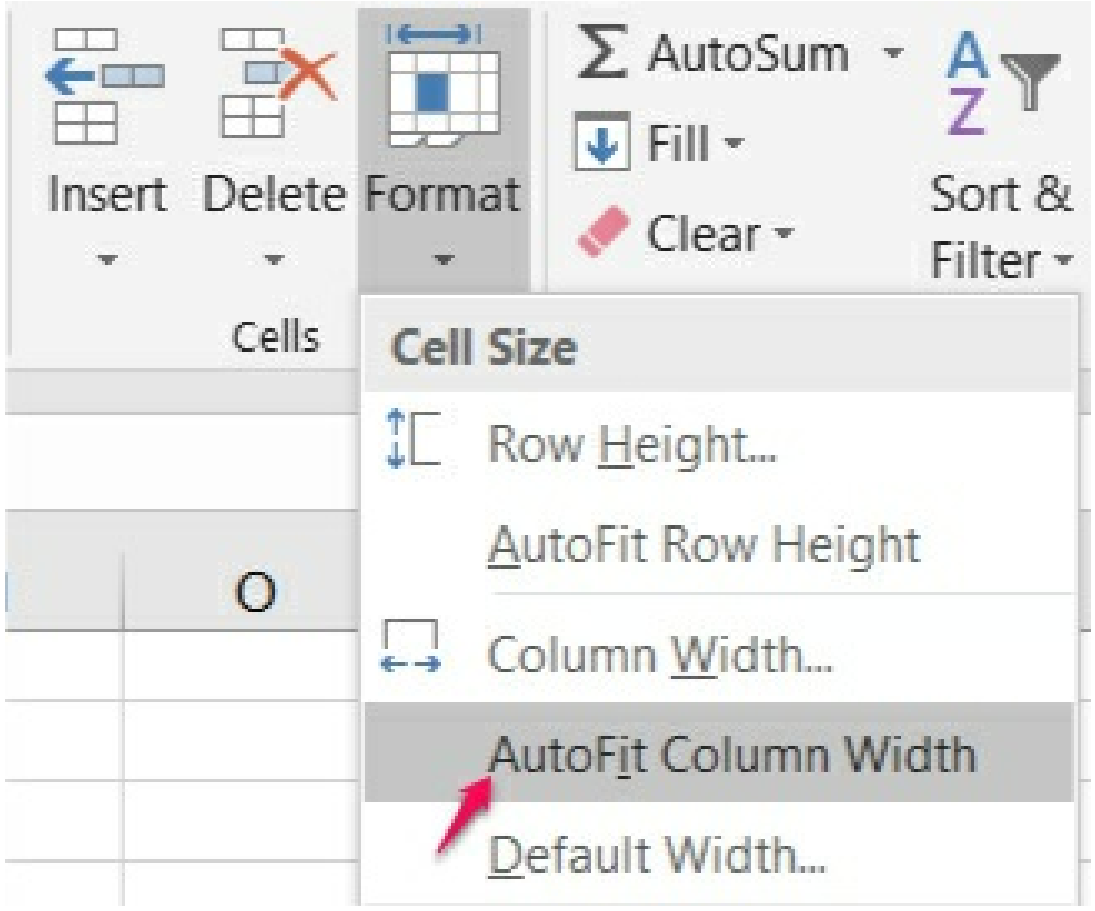
- Type in the width of the column in the **Column Width** dialog box and click on **Ok**



Changing the Column Width to Automatically Fit the Contents

You can change the column width to automatically fit the content of the cells by following the steps given below

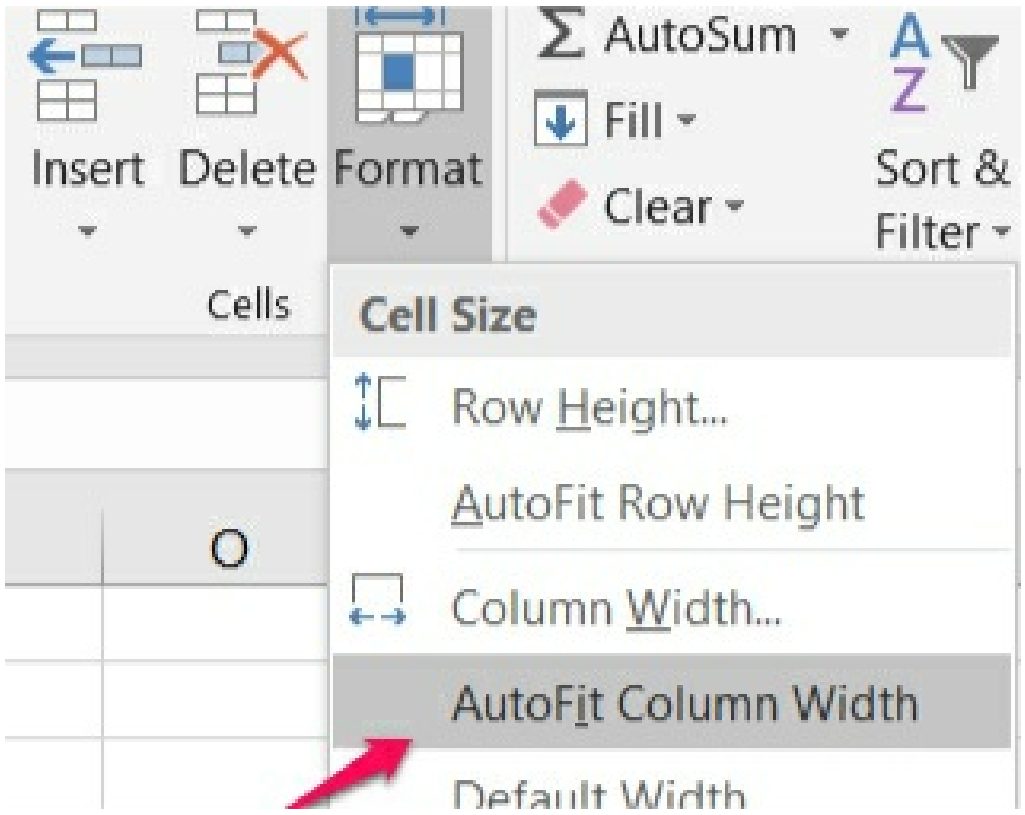
- Select a column or a range of columns you wish to change
- Go to the **Home** tab, click on the |**Format** in the **Cell** group, and then select **AutoFit Column Width**



Changing the Row Height to Automatically Fit the Contents

You can change the row height to automatically fit the content of the cells by following the steps given below:

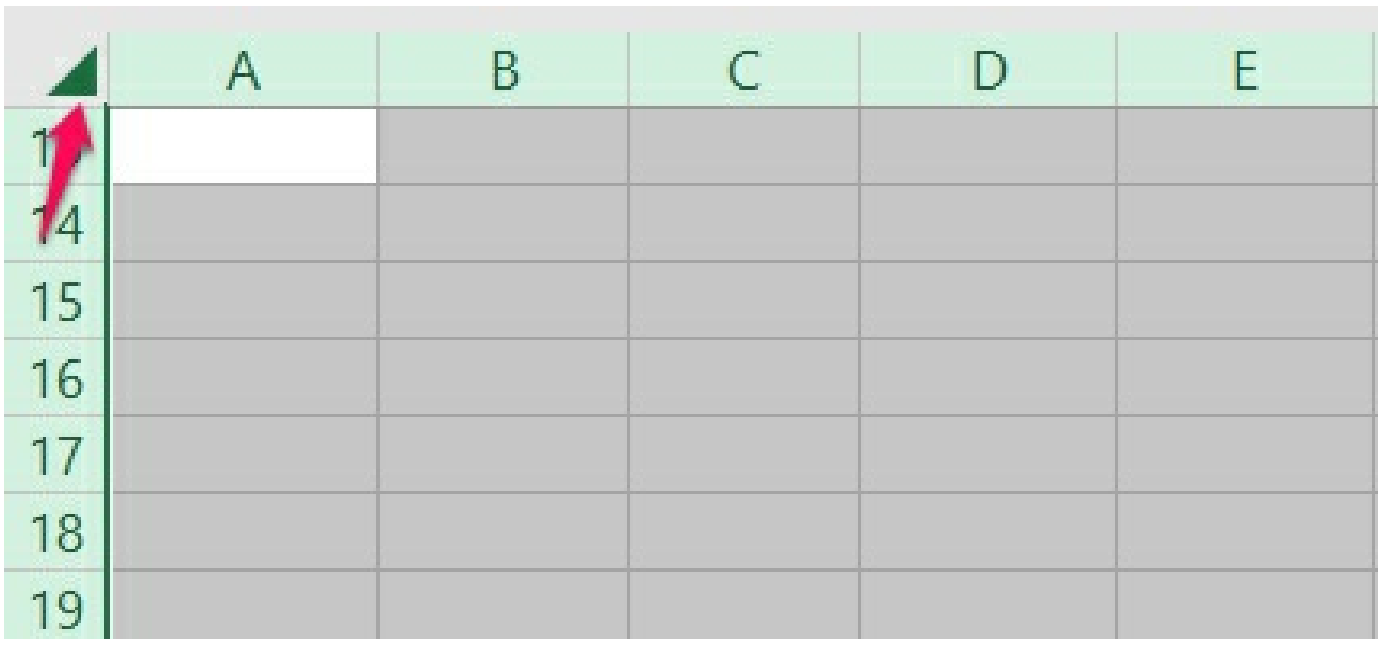
- Select a row or a range of rows you wish to change
- Go to the **Home** tab, click on the |**Format** in the **Cell** group, and then select **AutoFit Row Height.**



Resizing All Columns and Rows to Fit the Data or Content

Rather than adjusting the width of the columns or the height rows separately, you can adjust all the rows or columns at the same time. To do this, follow the steps given below

- Click on the **Select All** button at the top of the worksheet to select all columns and rows.
- Double-click on a boundary to resize the columns or rows



Freezing and Splitting Rows and Columns

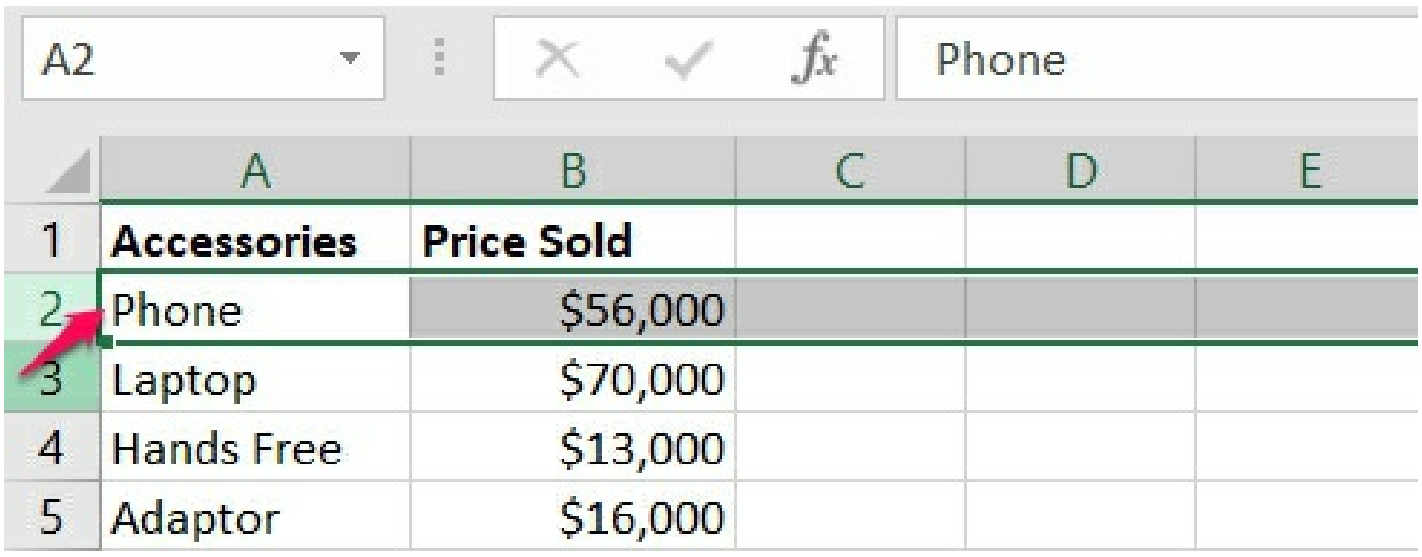
Freezing your rows and columns keeps them visible or static when you navigate through the worksheet. The Freeze pane is useful when checking out data in other parts of the worksheet without losing the header or labels.

Splitting your worksheet helps to create either two or four separate worksheet areas that you can navigate within, while the rows and columns in the non-scrolled area remain visible.

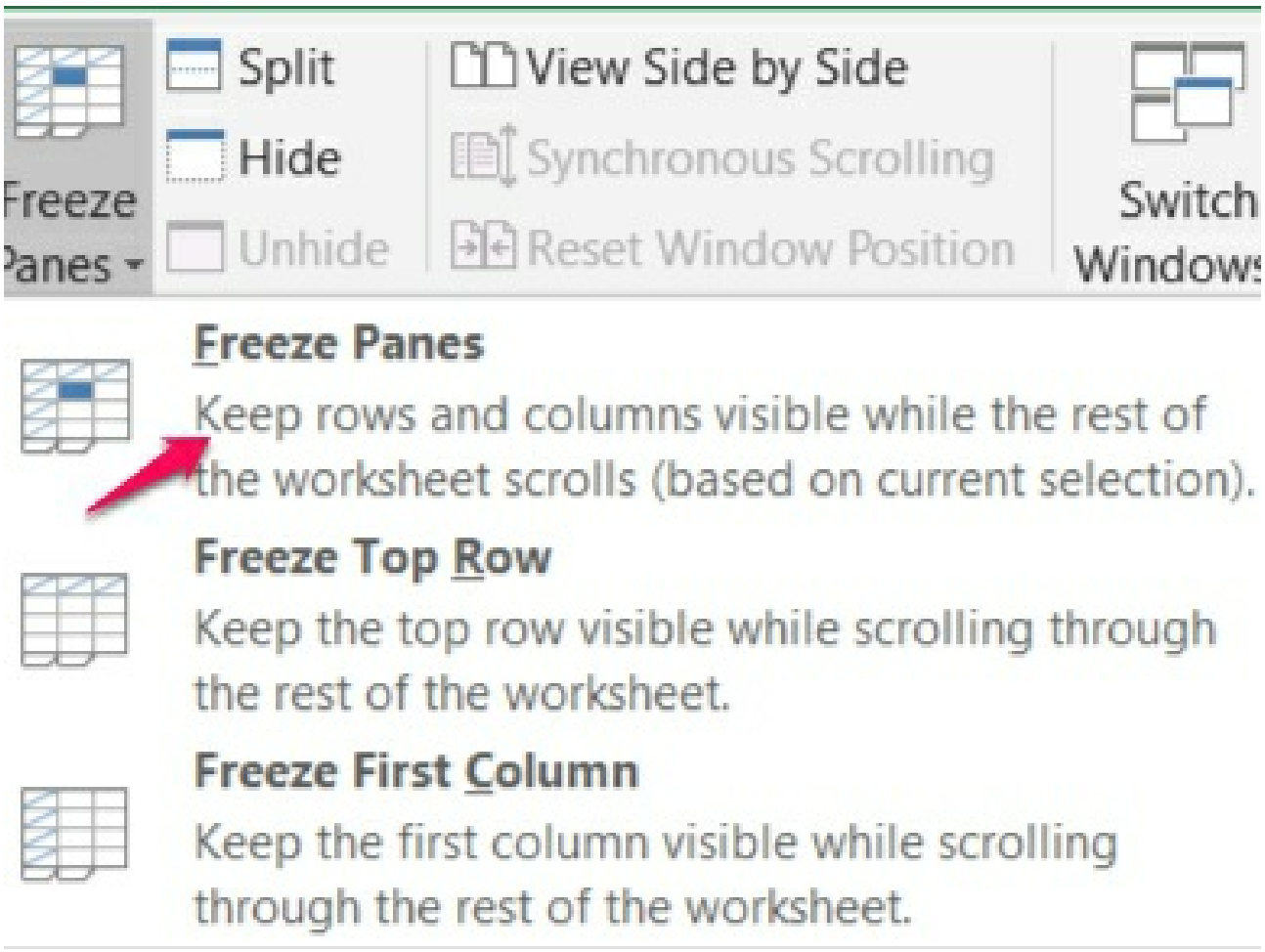
Freezing Your Rows and Columns

To freeze your row, follow the steps provided below:

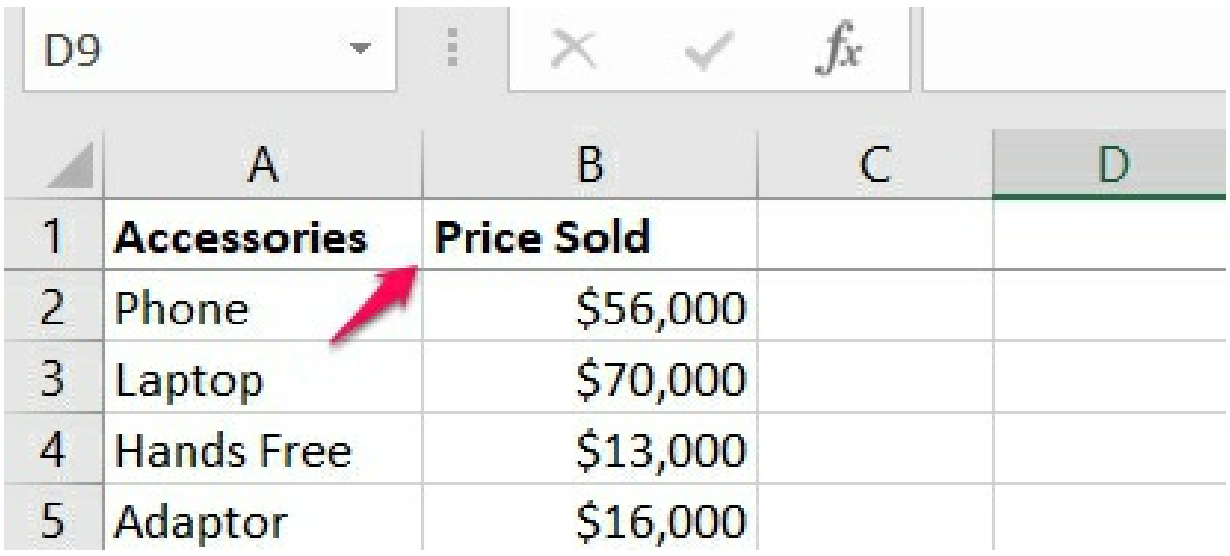
- Select the rows below the row you to freeze



- Go to the **View tab**, click on the **Freeze Panes** command in the **Window** group, and then select **Freeze Pane** from the drop-down menu

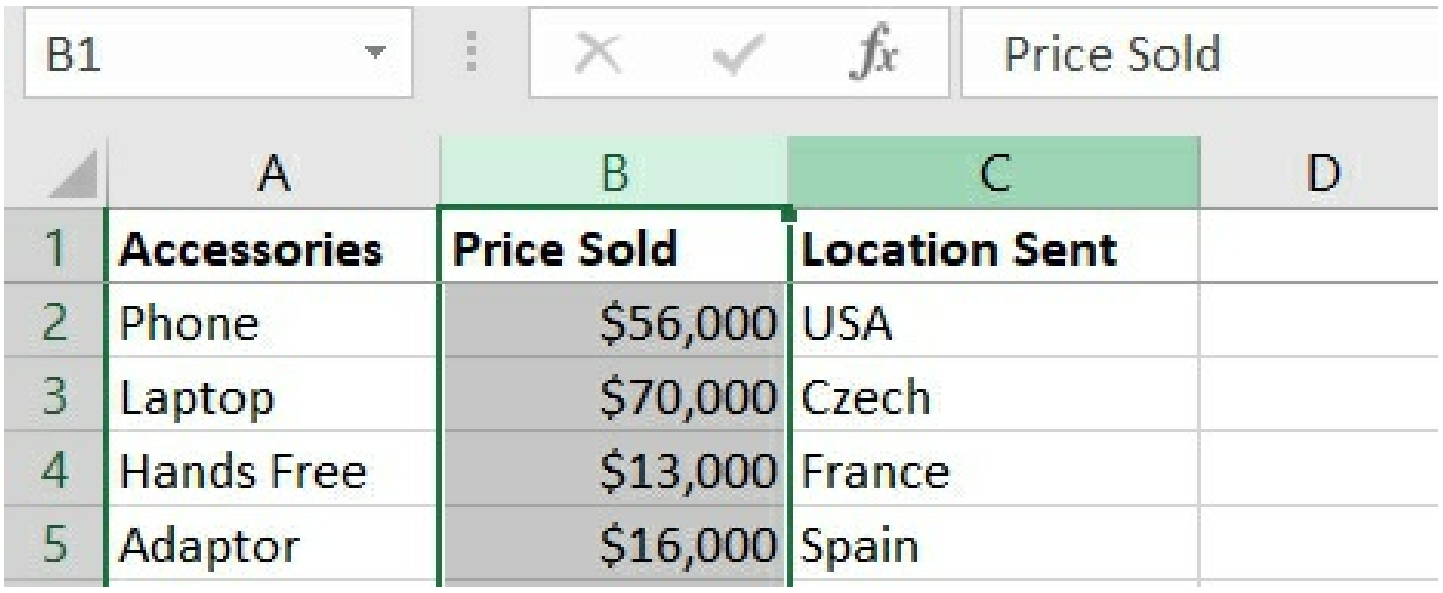


- The rows will be frozen in place indicated by a gray line.



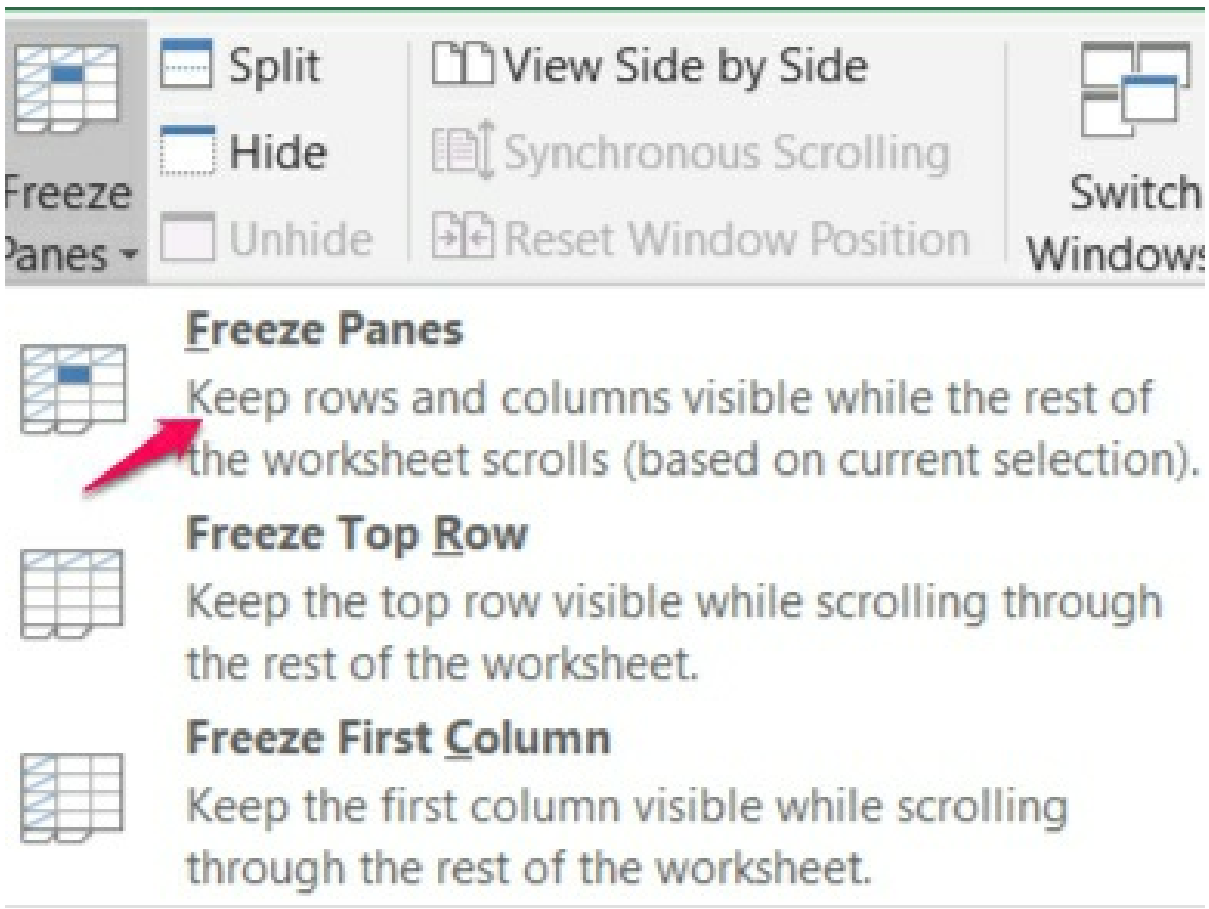
To freeze your column, follow the steps provided below:

- Select the column to the right of the column below the row you to freeze

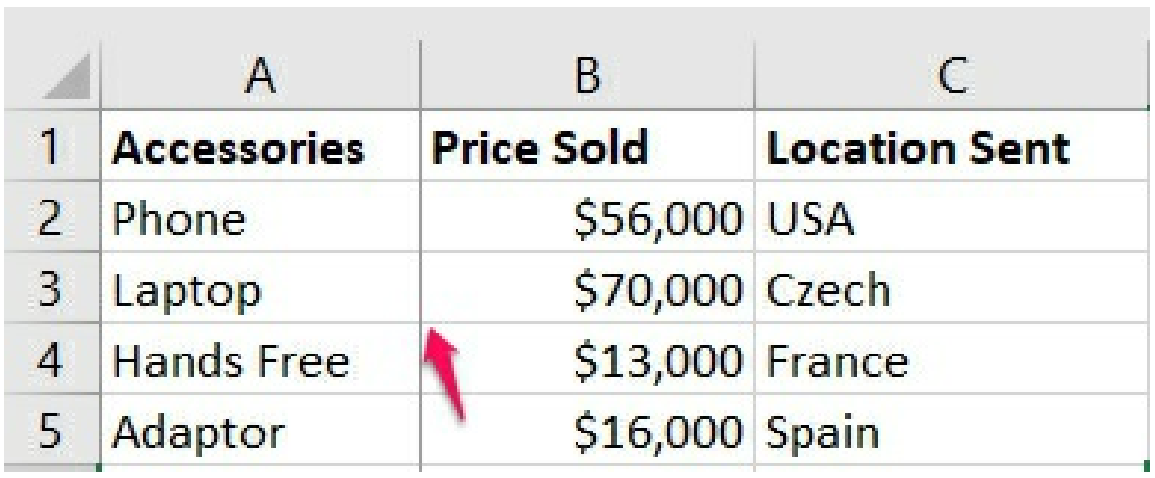


	A	B	C	D
1	**Accessories**	**Price Sold**	**Location Sent**	
2	Phone	$56,000	USA	
3	Laptop	$70,000	Czech	
4	Hands Free	$13,000	France	
5	Adaptor	$16,000	Spain	

- Go to the **View tab**, click on the **Freeze Panes** command in the **Window** group, and then select **Freeze Pane** from the drop-down menu.



- The column will be frozen in place indicated by a gray line.

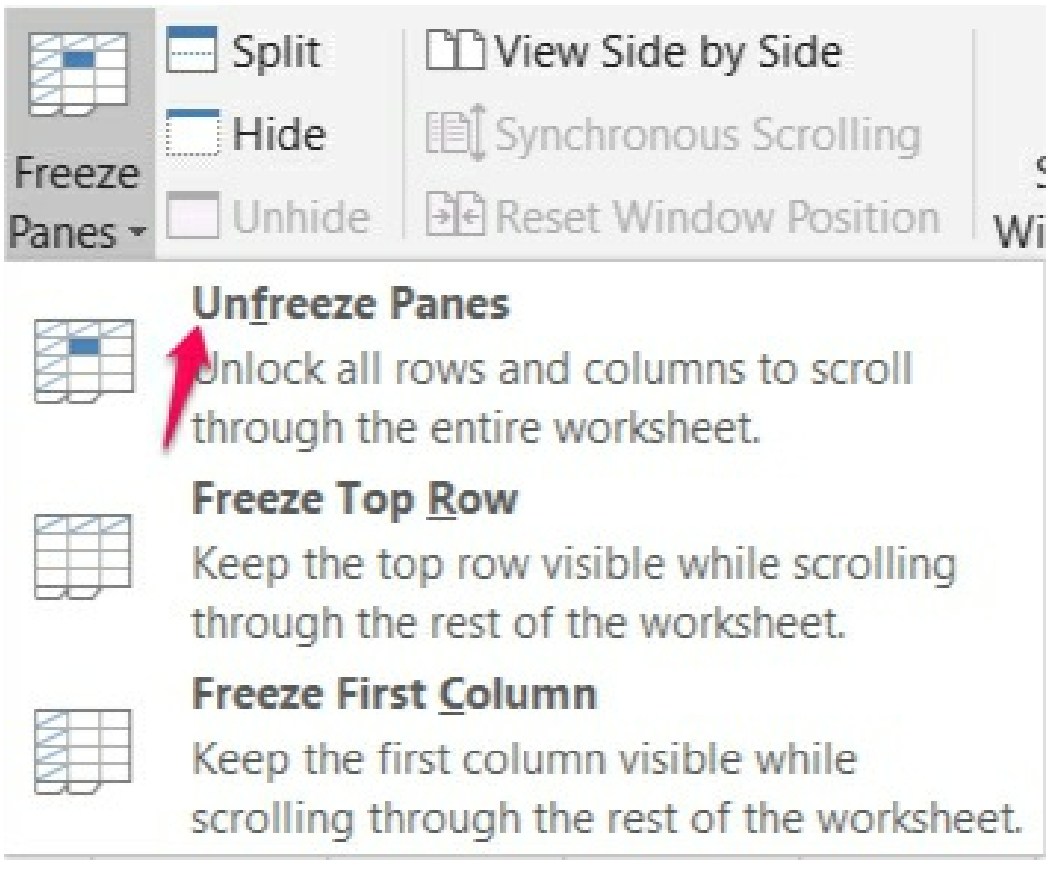


	A	B	C
1	**Accessories**	**Price Sold**	**Location Sent**
2	Phone	$56,000	USA
3	Laptop	$70,000	Czech
4	Hands Free	$13,000	France
5	Adaptor	$16,000	Spain

Unfreezing Panes Rows and Columns

To unfreeze rows and columns, follow the steps given below

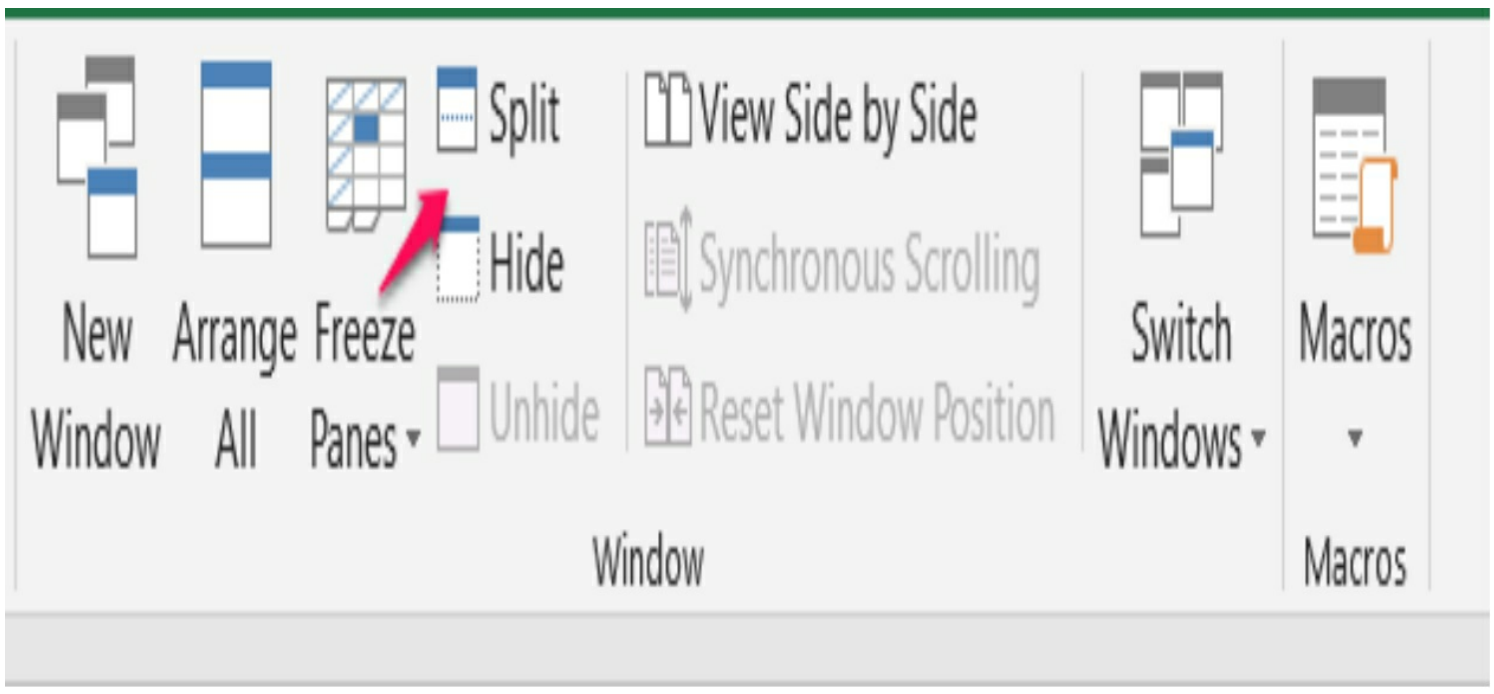
- Go to the **View tab**, click on the **Freeze Panes** command in the **Window** group, and then select **Unfreeze Pane** from the drop-down menu.



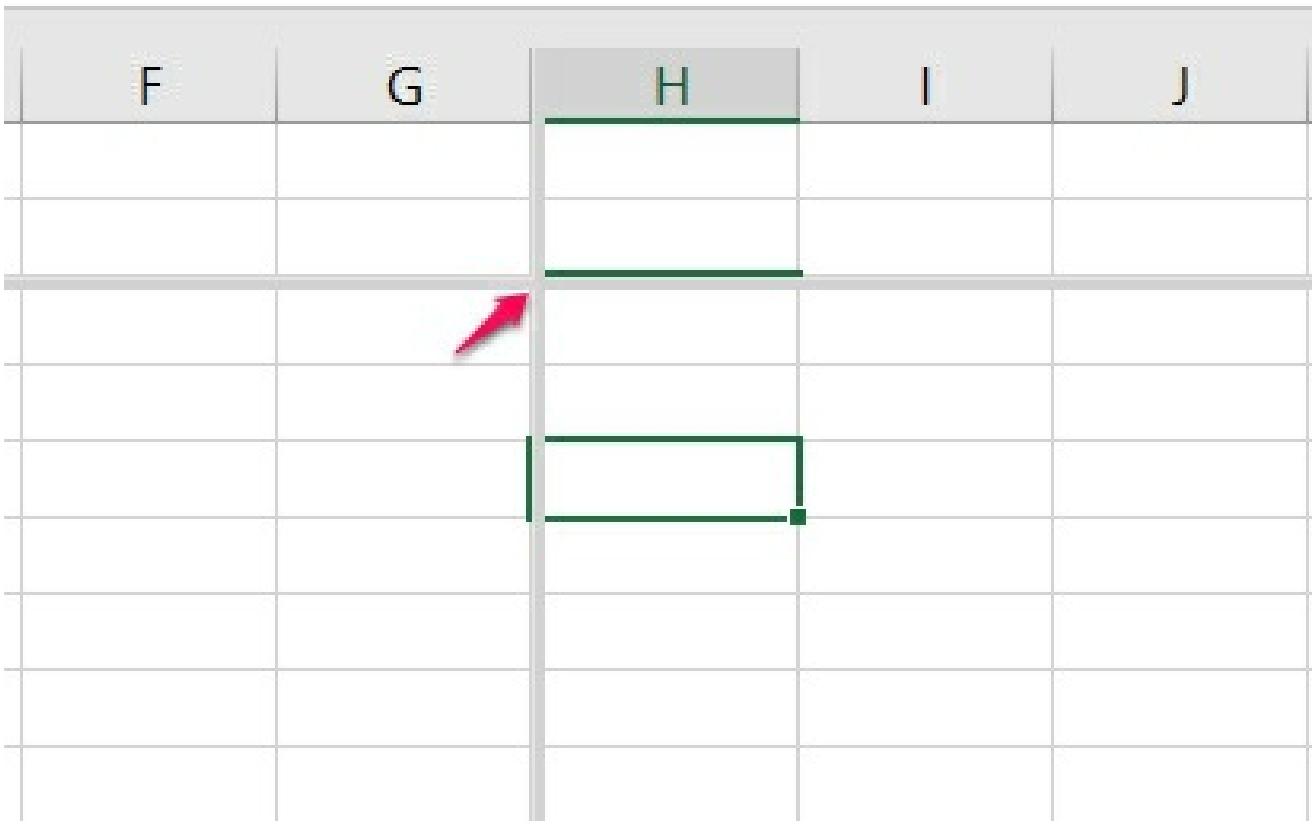
Splitting in Worksheet

To split a worksheet, follow the steps below

- Select the cell you wish to split the worksheet
- Go to the **View tab**, click on the **Split** command in the **Window** group.



- The Workbook is split into different panes.



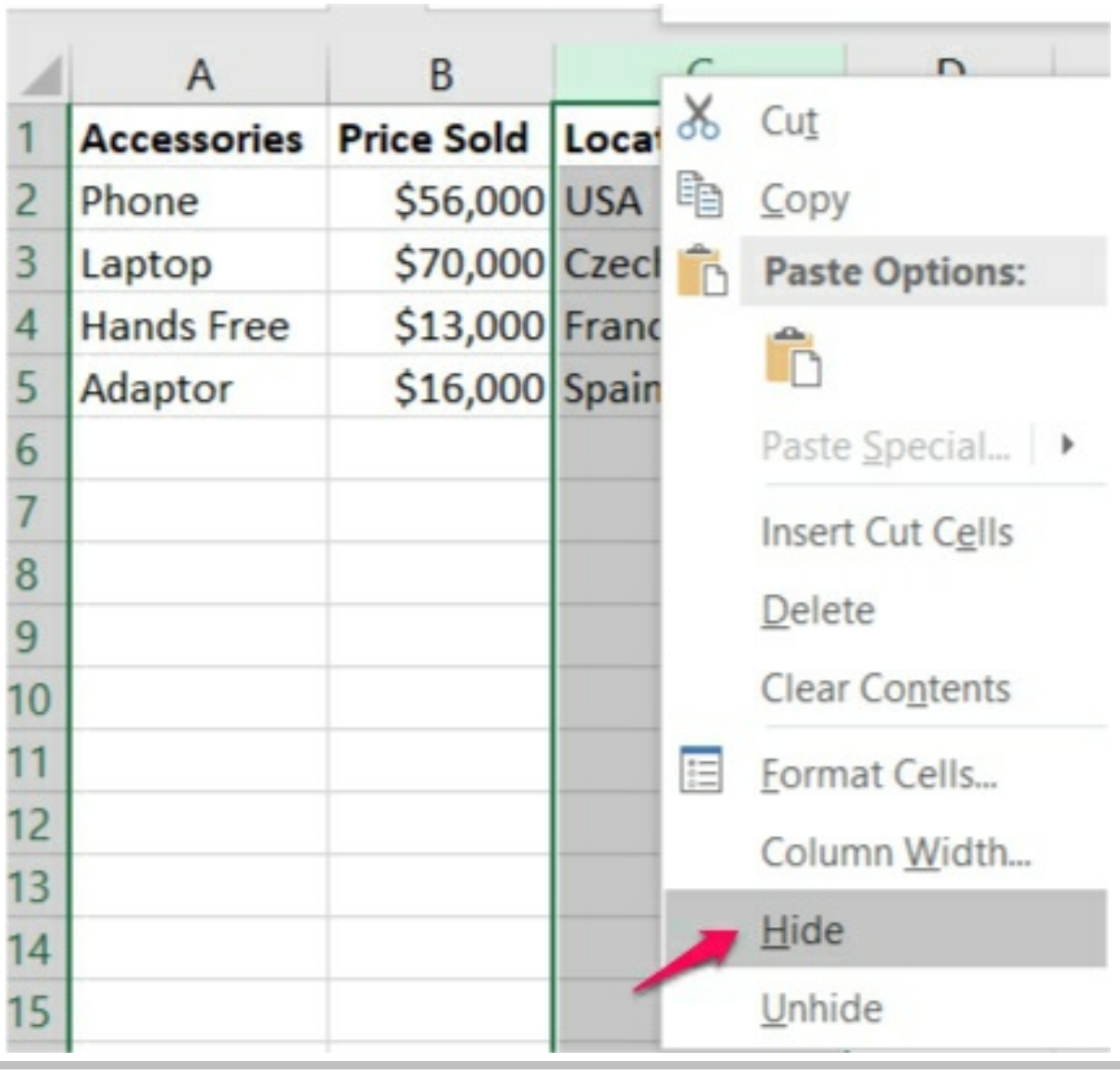
Hiding and Unhiding the Rows and Columns

There are times you want to hide and unhide your rows and columns rather than deleting them. With these commands, you can determine which data you want other users to see or the data you wish to print out. Now let's talk about how to hide and unhide rows and columns.

Hiding the Columns

To hide the columns in your worksheet, follow the steps provided below:

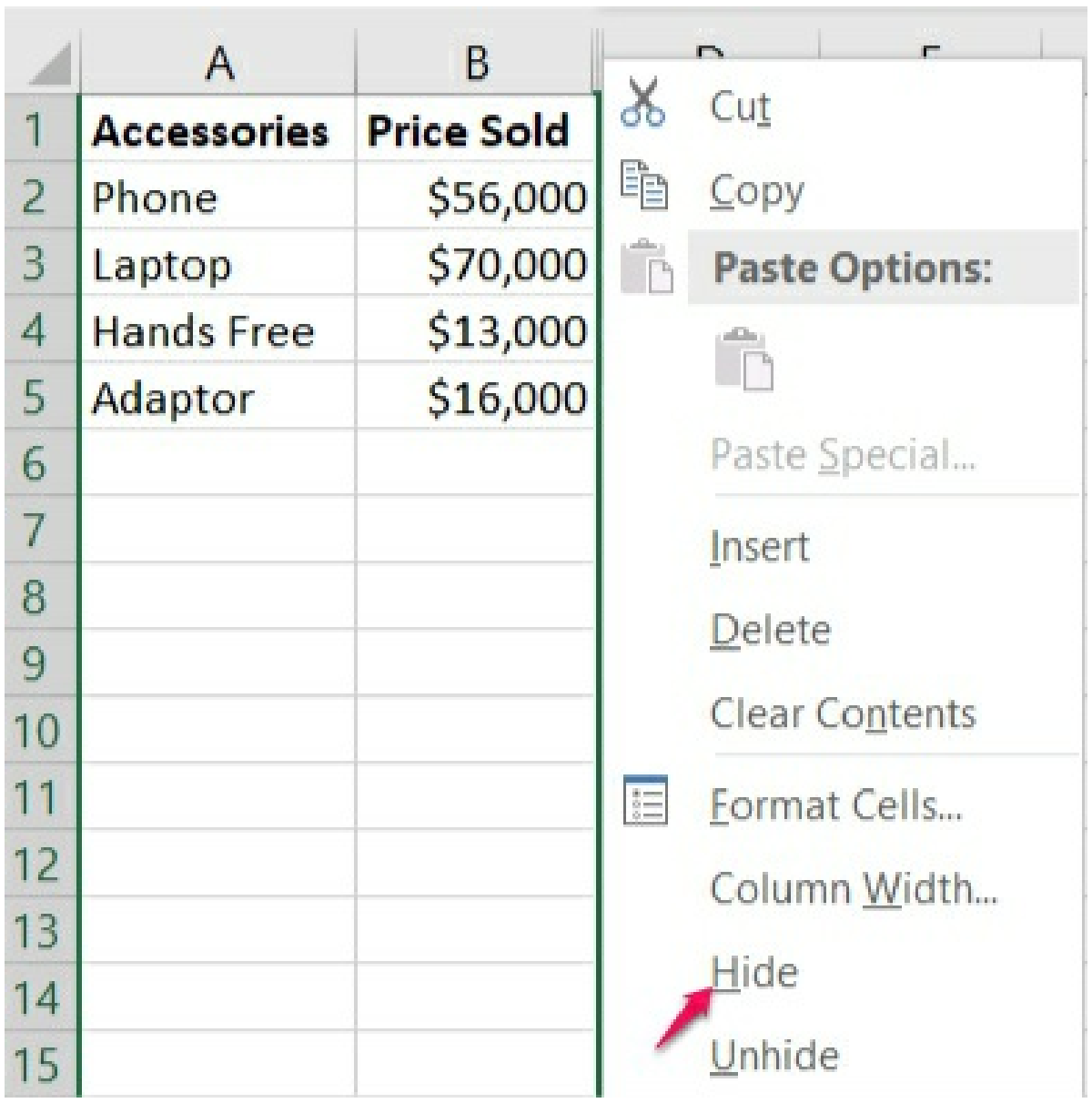
- To select a column, click on its heading
- Right-click on the selected columns, and then **Hide**



Unhiding the Columns

To unhide the columns in your worksheet, follow the steps given below

- Select the adjacent columns for the hidden column
- Right-click the selected column, and then select **Unhide**

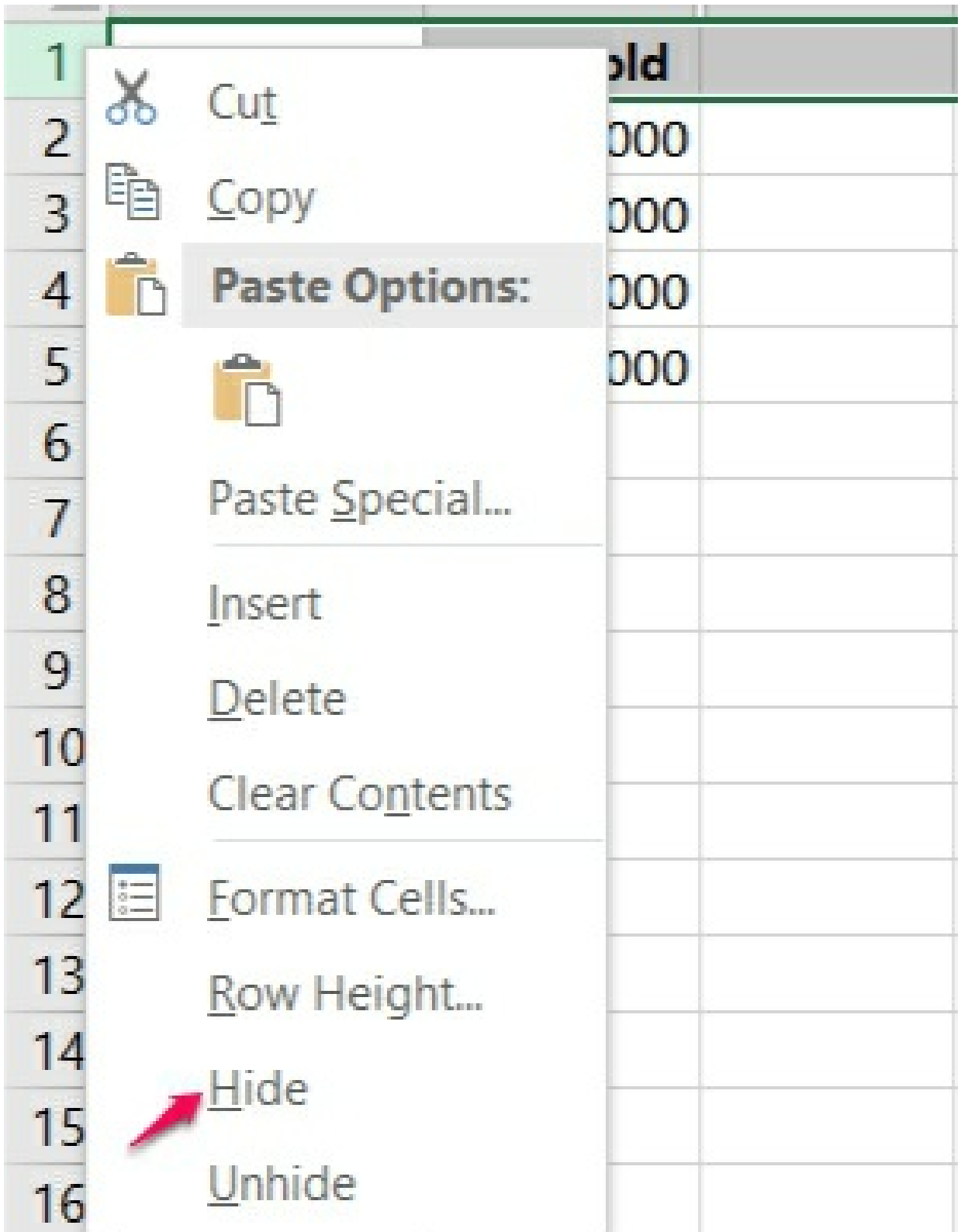


- You can also double-click the double line between two columns where the hidden columns exist.

Hiding the Rows

To hide the rows in your worksheet, follow the steps provided below:

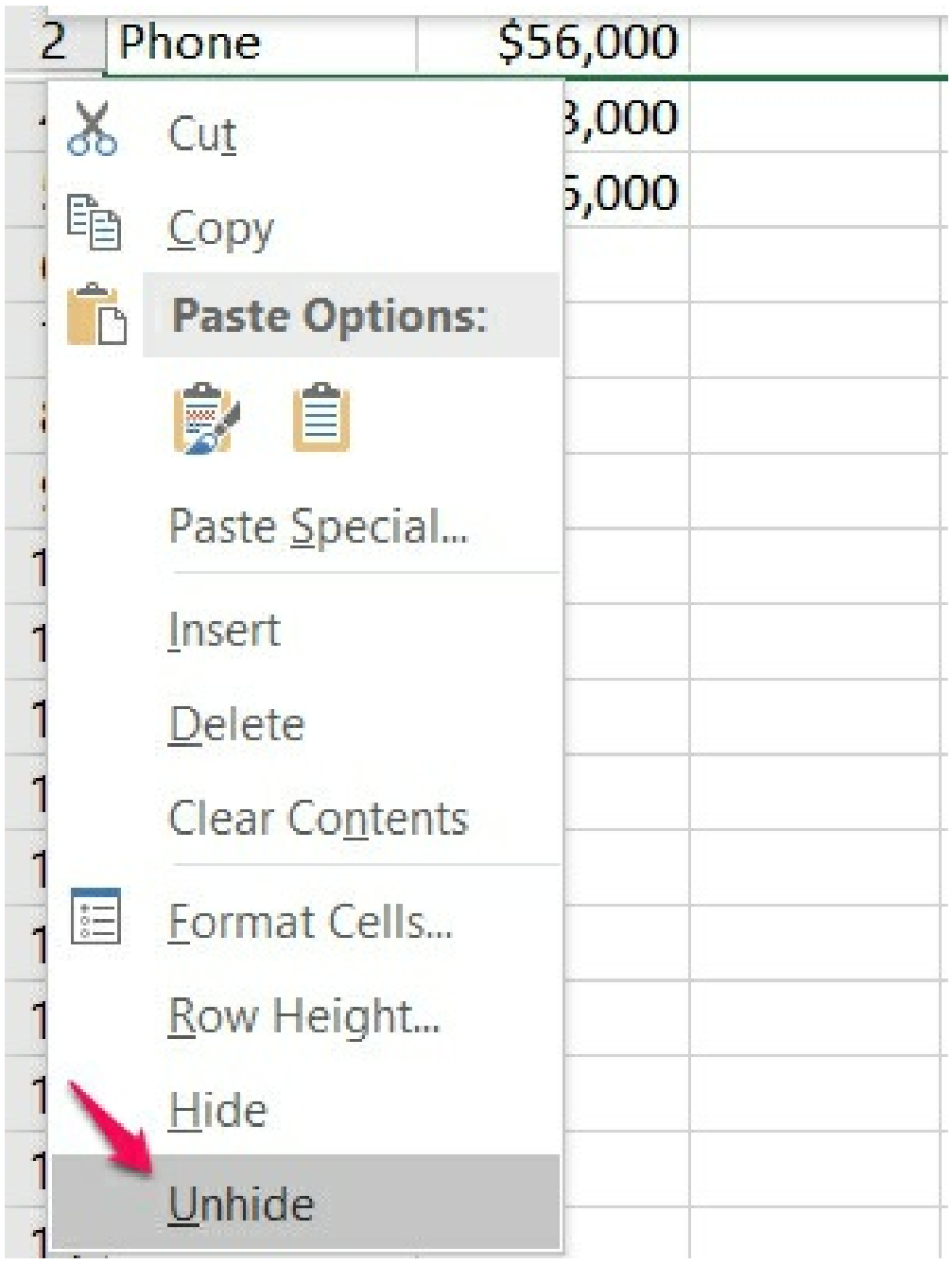
- To select a row, click on its heading
- Right-click on the selected rows, and then **Hide**



Unhiding the Rows

To unhide the rows in your worksheet, follow the steps given below

- Select the adjacent columns for the hidden column
- Right-click the selected rows, and then select **Unhide**



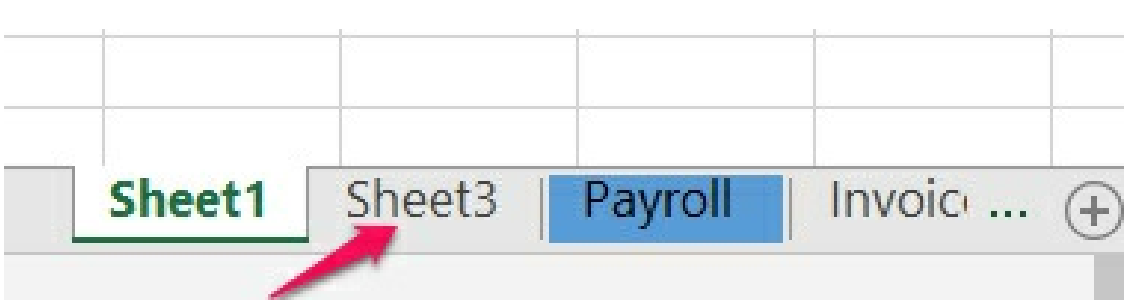
Managing Your Worksheet

As earlier said at the beginning of this chapter, managing your worksheet involves renaming a worksheet, moving a worksheet, copying a worksheet, etc. Now let's go into full details on how to manage your worksheet.

Renaming Your Worksheet

When you open a new worksheet, the default name that comes with it is Sheet 1, Sheet 2 depending on how many new worksheets you open. However, you can rename the worksheet to any name of your choice. To rename a worksheet, use any of the following techniques

- Right-click the sheet tab, click **Rename** and type the new name.
- Double-click the sheet tab, and type the new name
- Use the Shortcut Keyboard Alt + H > O R, and then enter the new name.



Selecting Worksheets.

There are so many ways of selecting a worksheet in a Workbook. Use any of the following techniques

- To select a single tab, click on the worksheet's tab
- To select several worksheets, use Ctrl + click their tabs, or click the first tab and then press Shift + click the last tab in the set.
- To select all the worksheets, right-click on the tab, and then choose **Select All Sheets** on the shortcut menu.

Rearranging Worksheets

You can choose to change the location of your worksheet by using any of the following techniques

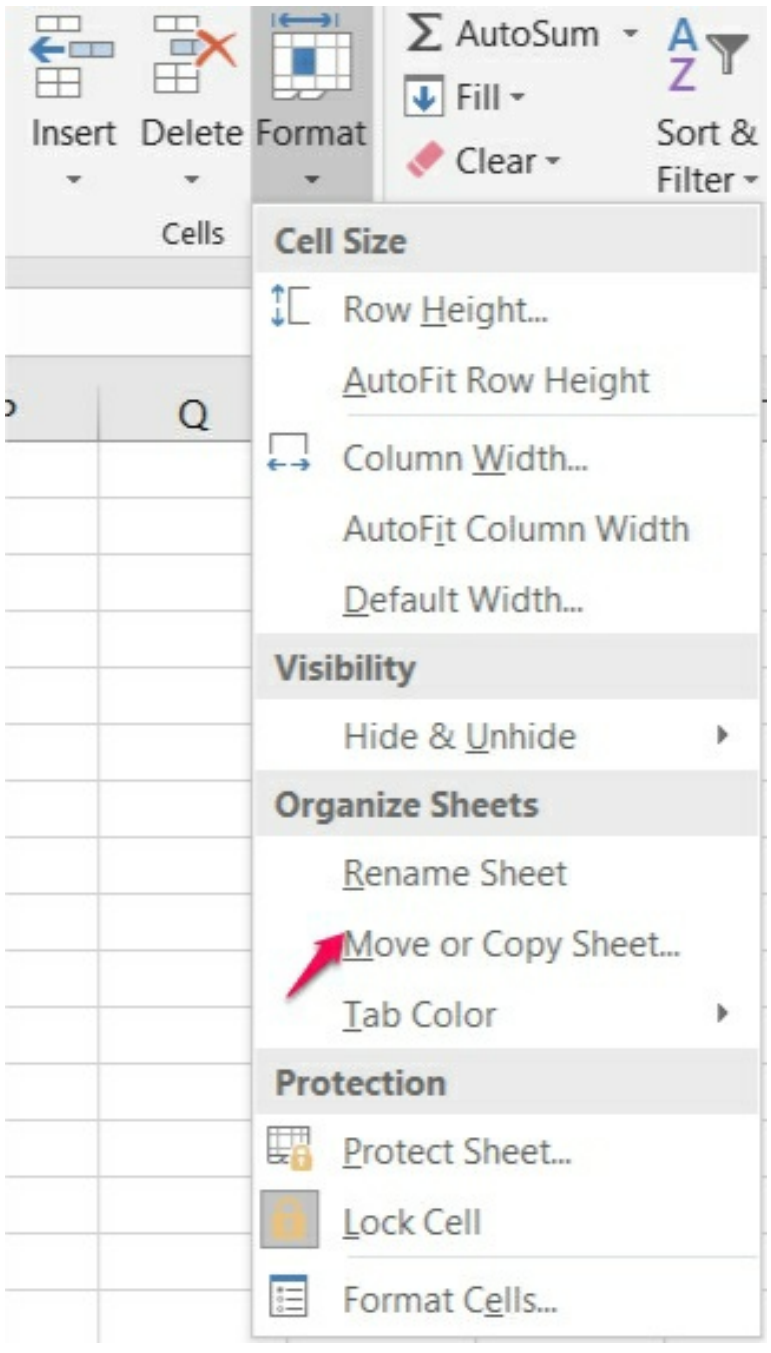
Dragging the Worksheet

To rearrange the worksheet, click and drag the worksheet tab to a new location. As the worksheet tab is dragged, a tiny black arrow appears, and a page icon is displayed to where the worksheet will land when the mouse button is released.

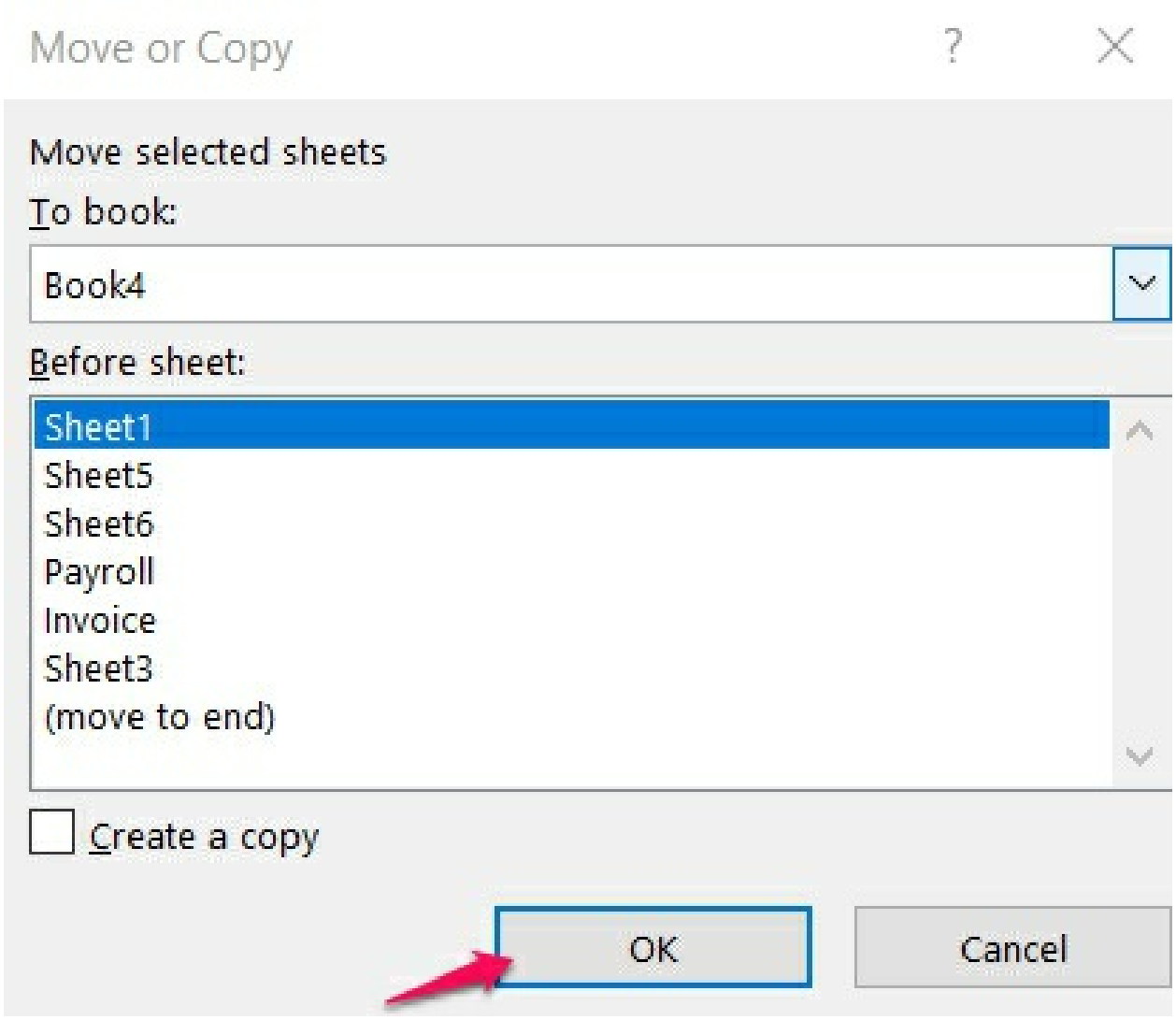
The Format Button

To rearrange the worksheets using the Format button, follow the steps provided below

- Go to the **Home** tab, click on Format in the **Cell** group, and select **Move or Copy Sheet**



- In the **Move or Copy** dialog, click on where you want the sheet to be located, and then click on **Ok**



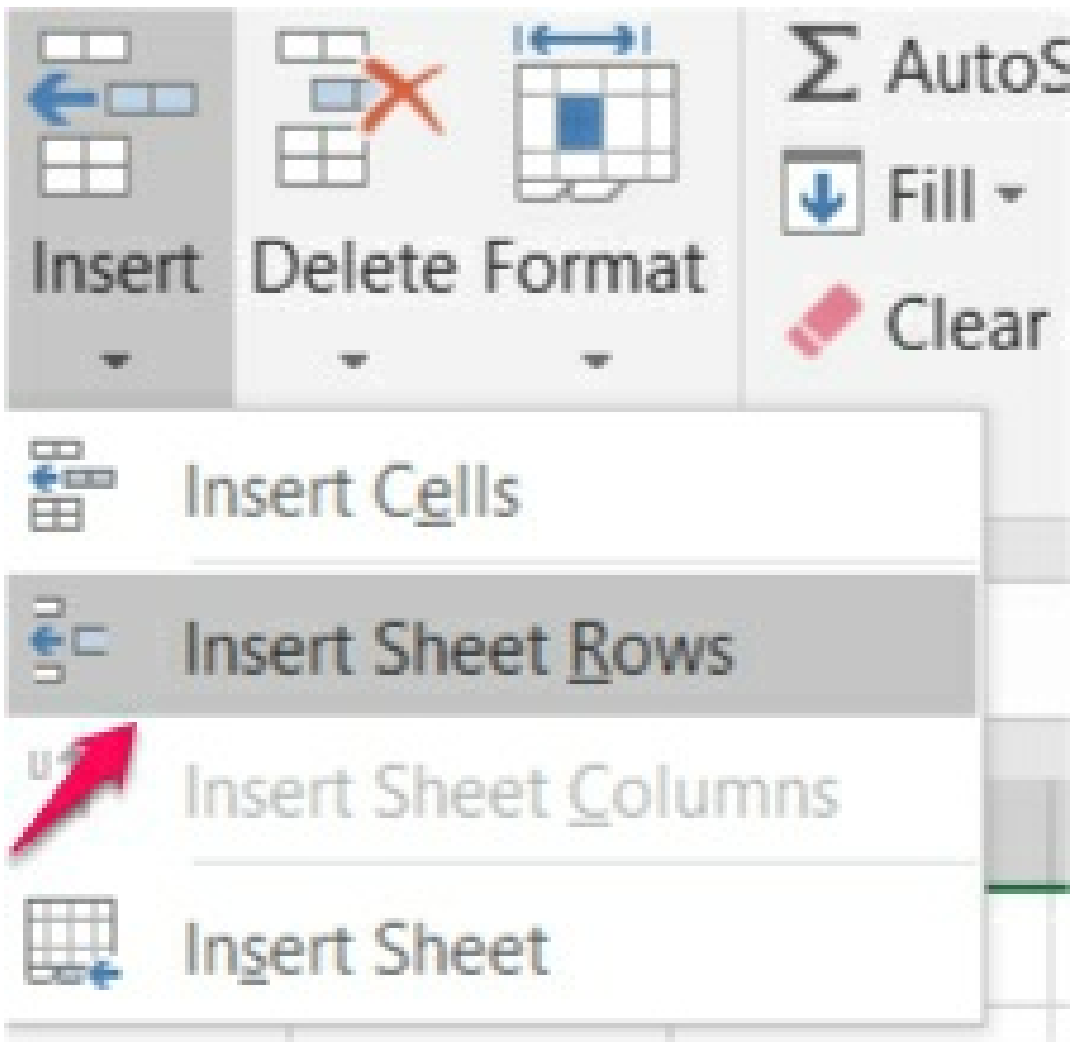
Inserting a New Worksheet

To insert a new worksheet in your workbook, use any of the following techniques

The Insert Button

To use the Insert button, follow the steps given below:

- Go to the **Home** tab, select the **Insert** button in the **Cell** group, and click on **Insert Sheet.**



Using the New Sheet Tab

To use the New Sheet tab, right-click on the **New Sheet** tab at the right lower side of the worksheet.

NOTE: You can also use the shortcut key Shift + F11 to insert a new worksheet.

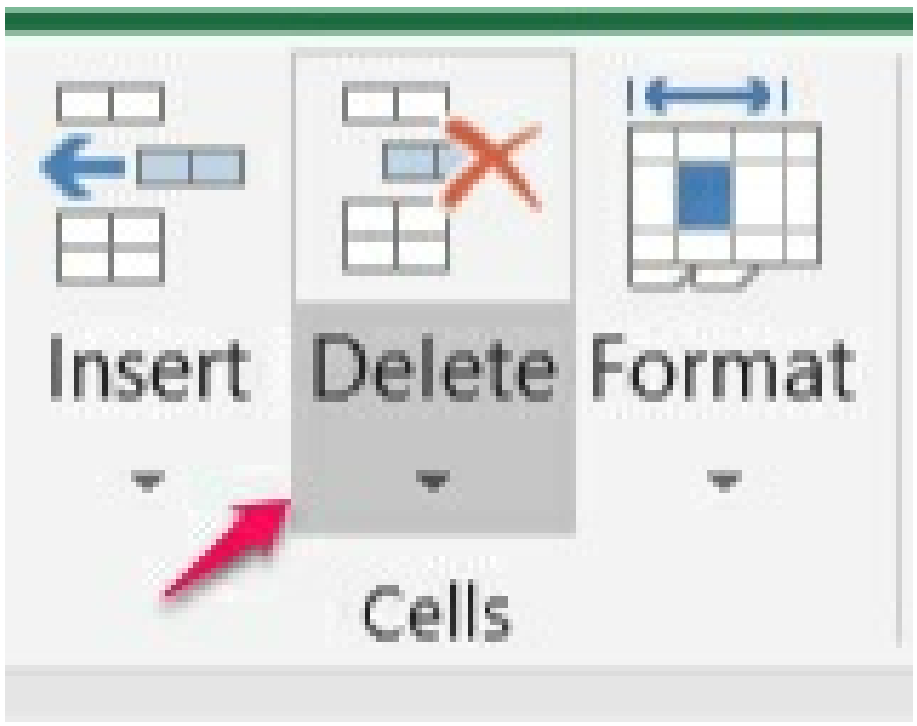
Copying a Worksheet

To copy a worksheet, hold down the Ctrl key and drag the worksheet tab to a new location.

Deleting a Worksheet

To delete a worksheet, follow the steps provided below

- Select the worksheet you wish to delete
- Go to the **Home** tab and click on the **Delete** button in the **Cell** group.



NOTE: You can also right-click on the worksheet tab and select **Delete.**

Adding Color to the Worksheet Tab

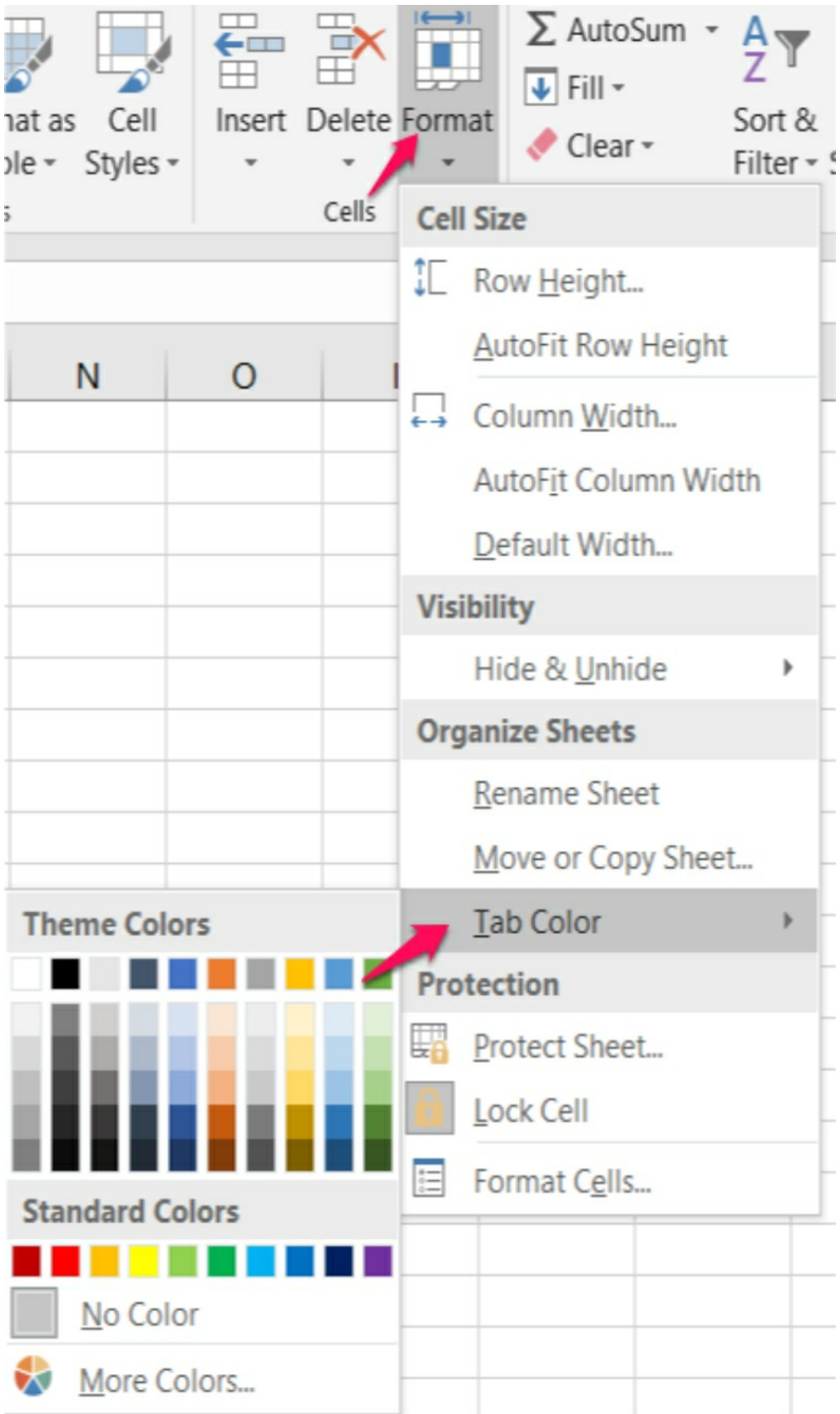
To add color to the worksheet tab, use any of the following techniques

The Format Button

To use the Format button to add color to your worksheet tab, follow the steps provided below:

- Select the worksheet tab

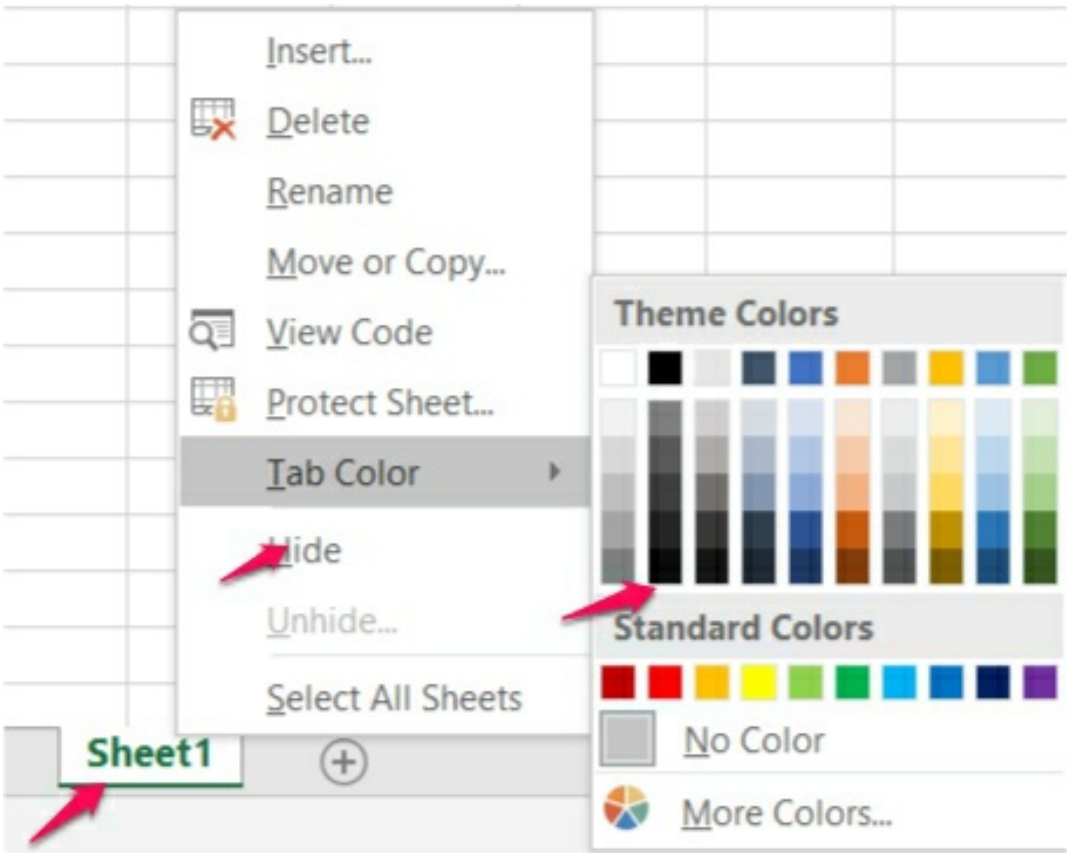
- Go to the **Hom**e tab, click on the **Format** button under the **Cell** group.
- Click on the **Tab Color** and then select any color from the submenu.



Using the Right-click

You can use the right-click to add tab color to your worksheet tab. To do this, follow the steps provided below:

- Right-click on the worksheet tab
- Click on the **Tab Color** and then select any color from the submenu.



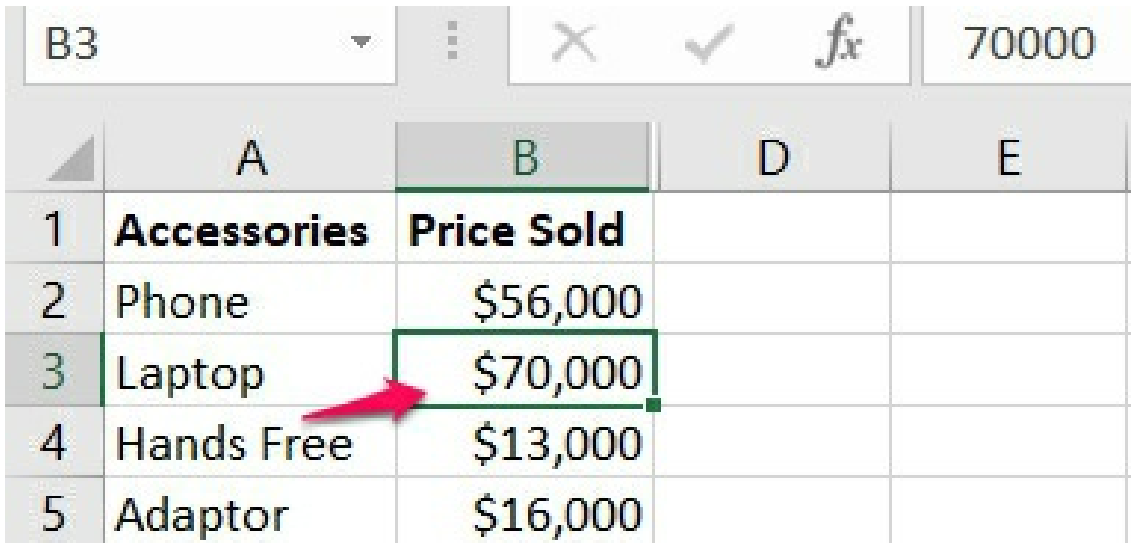
Using the Comments in Your Worksheet

The Comment command is one of the features in Excel that allows users to collaborate easily and effectively and make suggestions within themselves. Here, we will be learning how to insert a comment, delete comments, view comments, and lots more.

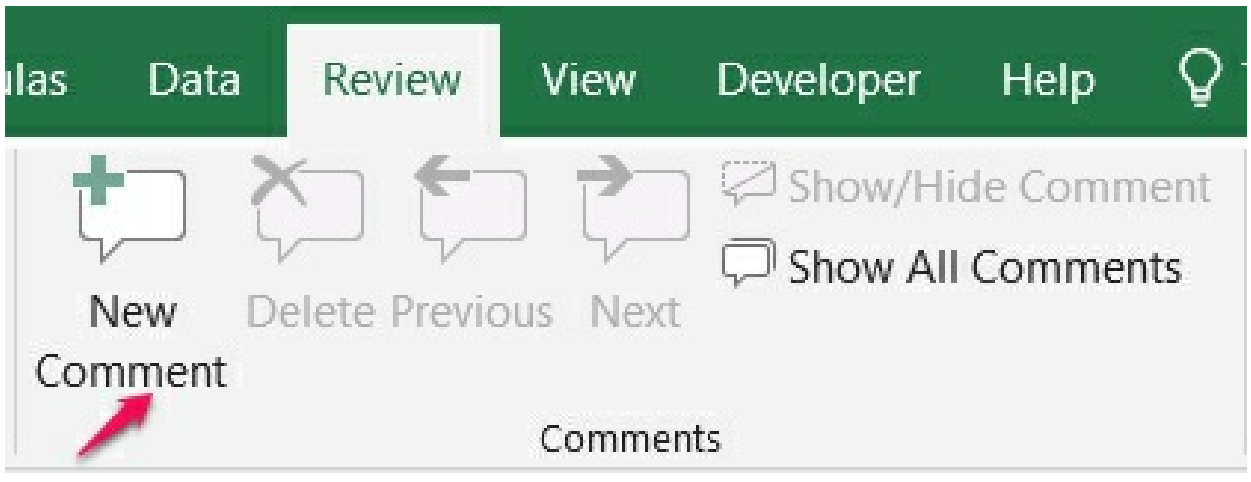
Adding Comment to Your Worksheet

To add a comment to your worksheet, follow the steps provided below

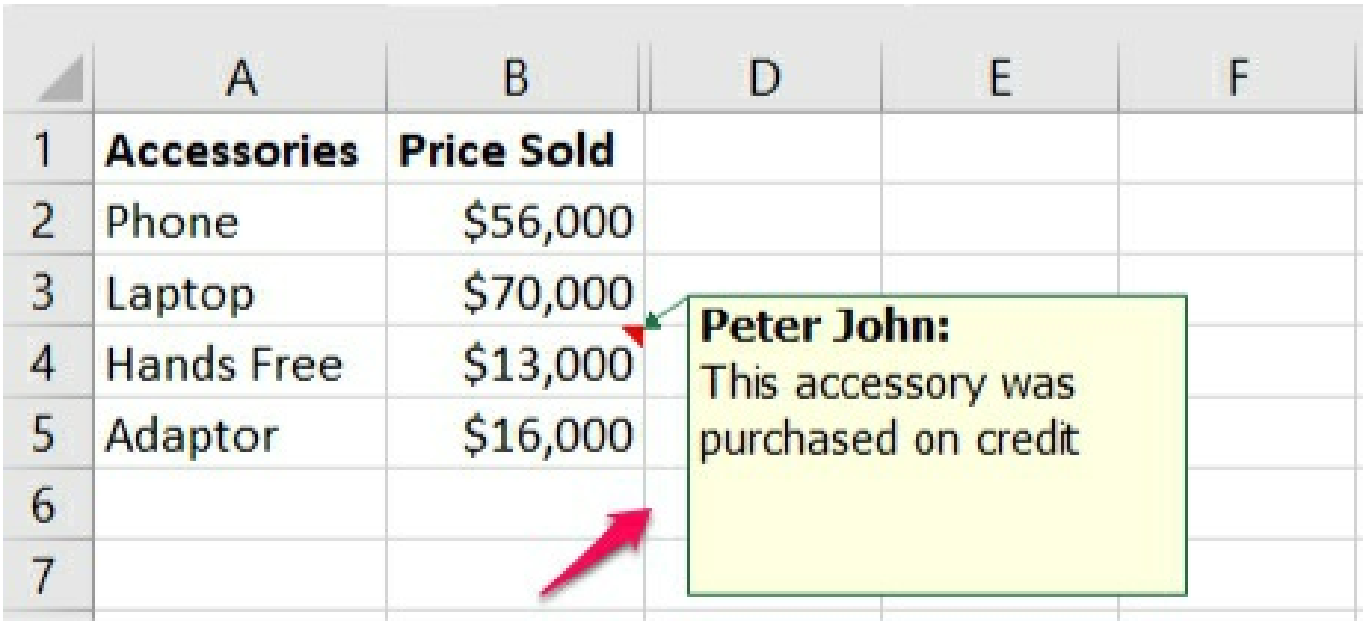
- Select the cell you wish to add the comment



- Go to the **Review** tab and click on the **New Comment** in the **Comment** group



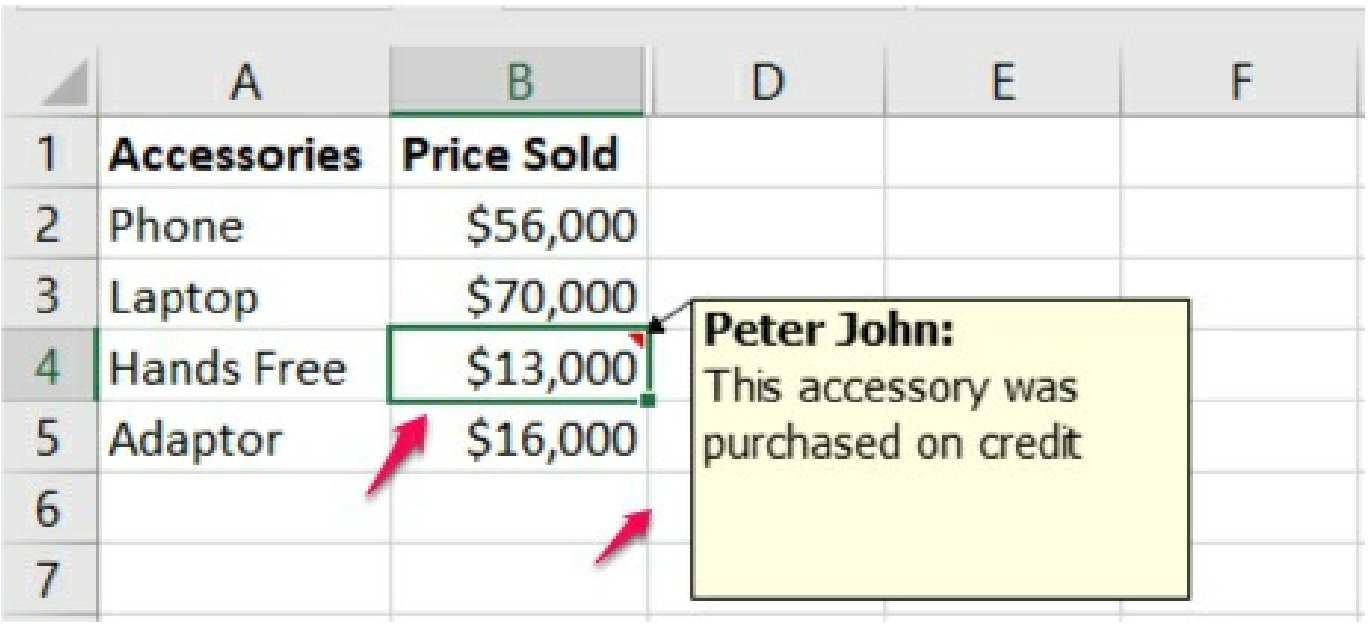
- In the comment box that appears, type the comment, and then click anywhere outside the box to close the comment.



- The comment added to the cell is represented or indicated by a red triangle in the top-right corner.

Viewing the Comment on the Your Worksheet

To view the comment on your worksheet, select the cell again

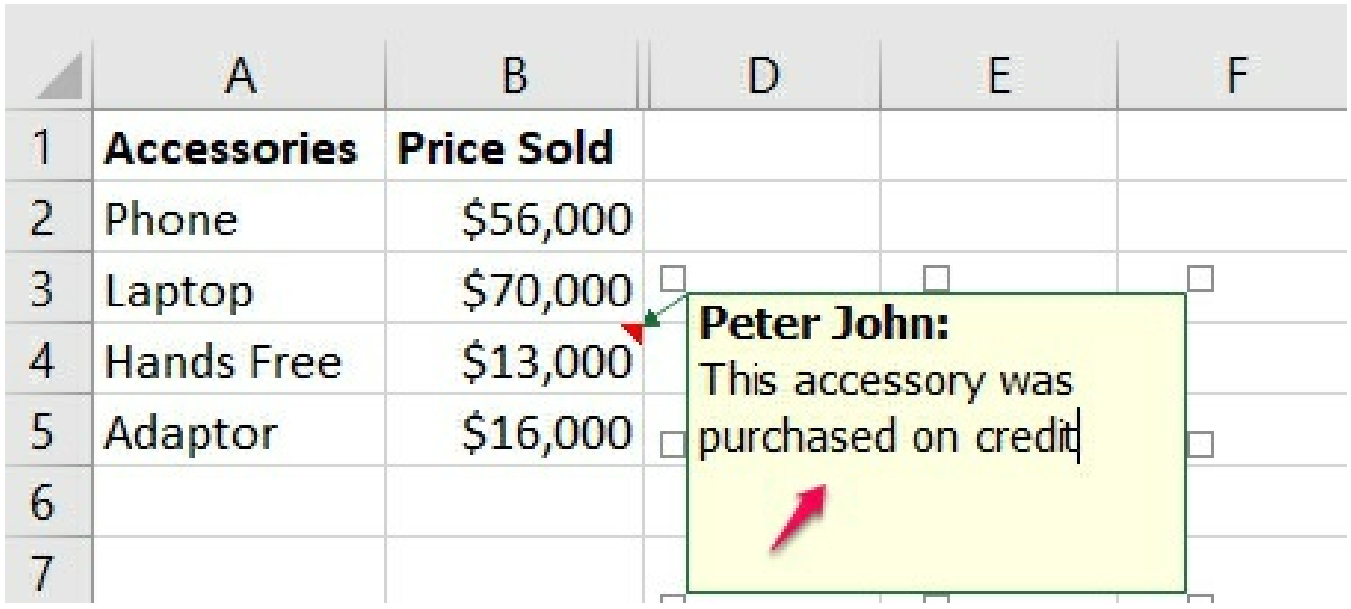


Editing a Comment in Your Worksheet

To edit a comment in your worksheet, follow the steps given bellow

- Select the cell you wish to edit its comment
- Go to the **Review** tab and click on the **Edit Comment** in the **Comment** group.

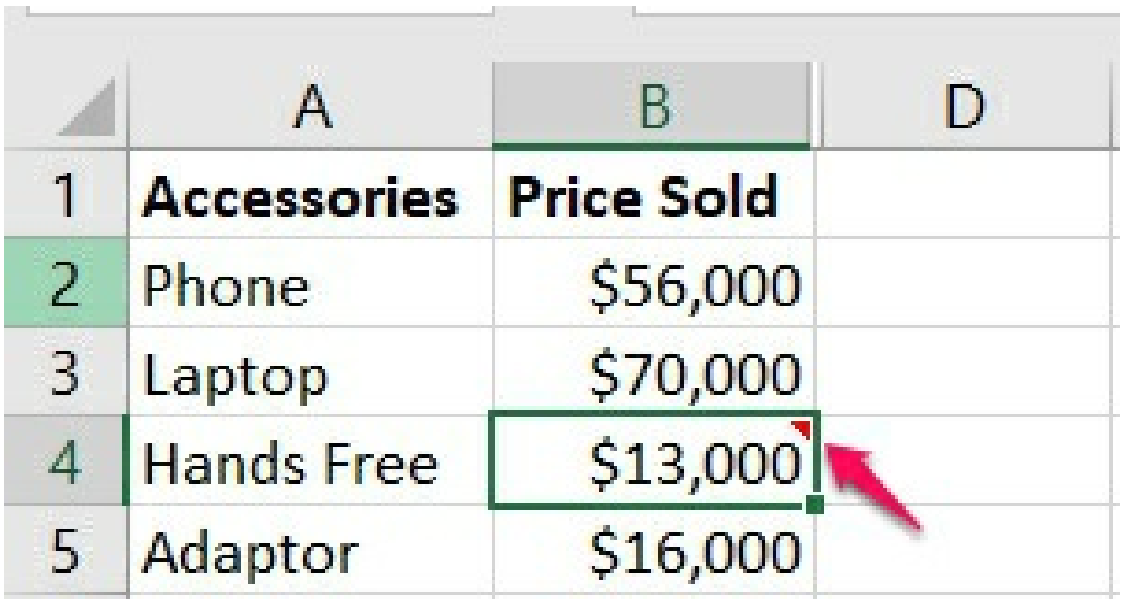
- In the comment box that appears, edit the comment, and then click anywhere outside the box to close the comment.



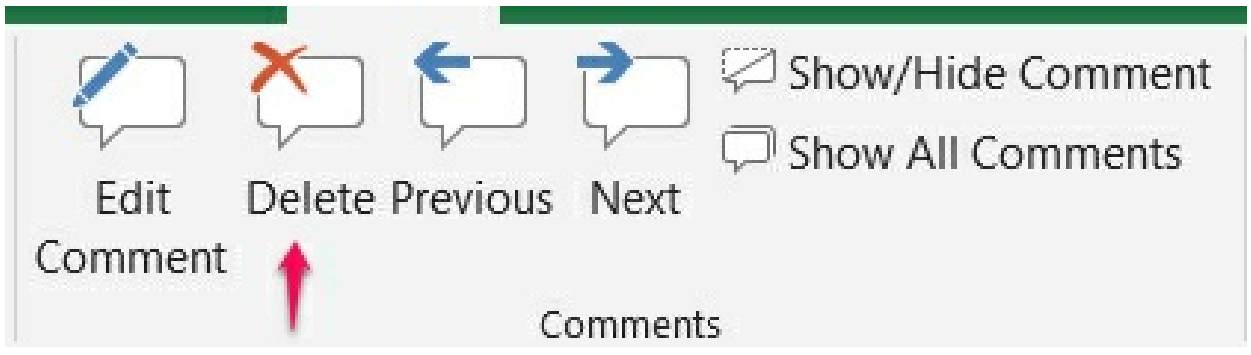
Deleting a Comment

To delete a comment from your worksheet, follow the steps given below:

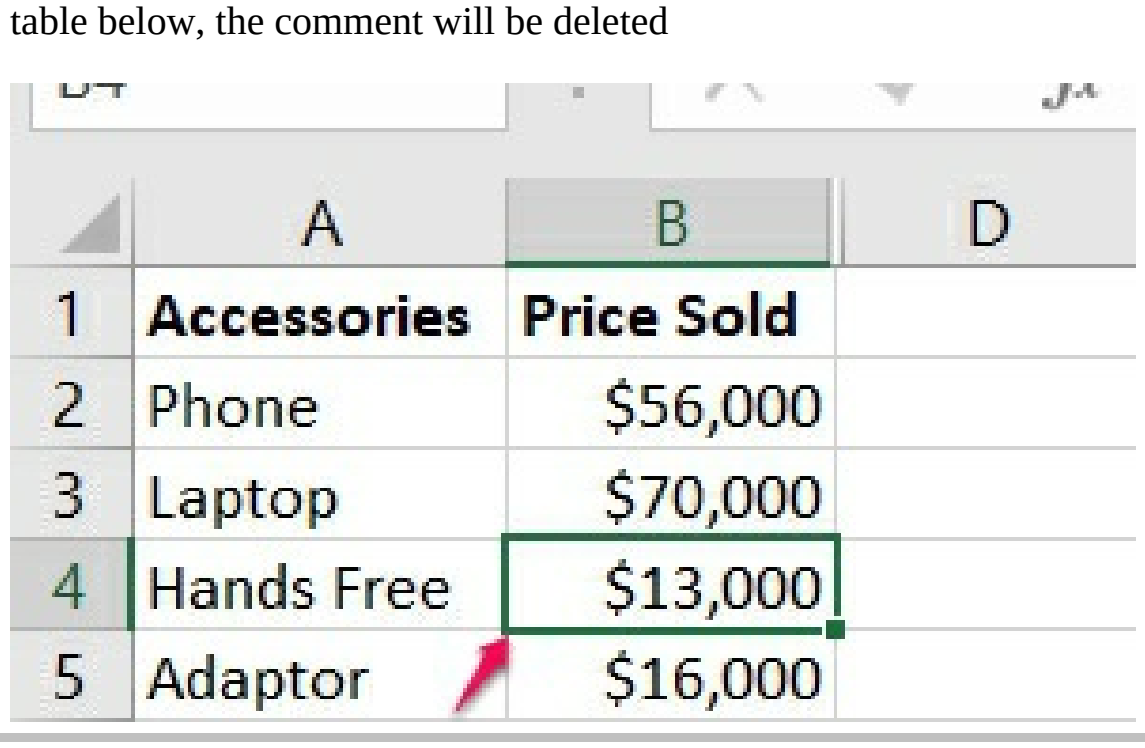
- Select the cell containing the comment you wish to delete



- Go to the **Review** tab and click on the **Delete Comment** in the **Comment** group.



- In the table below, the comment will be deleted



Showing or Hiding All Comments

To show or hide all comments, do the following

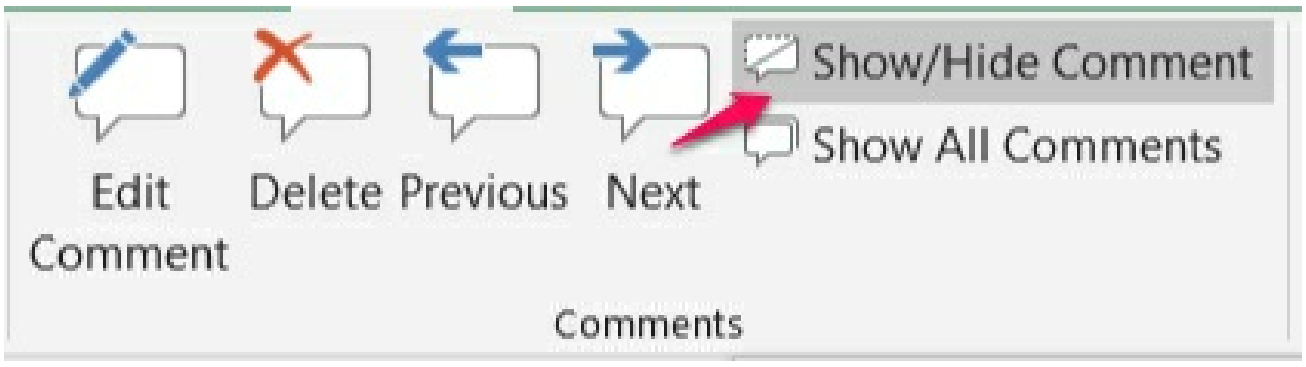
- Go to the **Review** tab and click on the **Show All Comments** in the **Comment** group, and all the

comments in your worksheet will be displayed. To hide all comments, follow the same procedures as showing all comments.

Showing or Hiding Comments Individually

You can hide or show individual comments by following the steps provided below

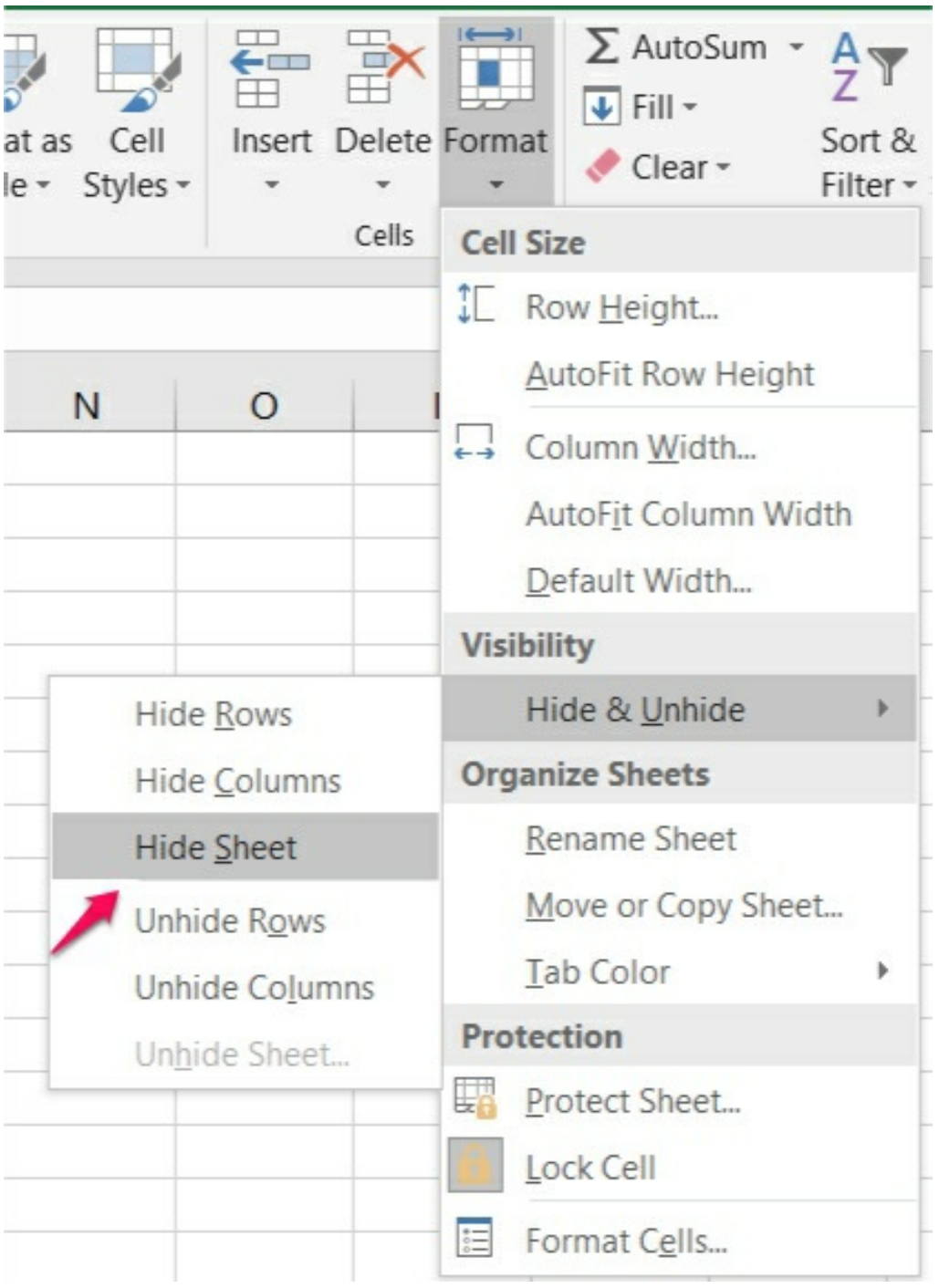
- Select the cell you wish to show or hide comment
- Go to the **Review** tab and click on the **Show/Hide Comments** in the **Comment** group



Hiding Your Worksheet

You can choose to hide or remove your worksheet from view, by using the Hide command. Hiding your worksheet is different from deleting them. When you hide your worksheets, you can still reference them in formulas, and charts found on other worksheets or other workbooks. To hide the worksheet, follow the steps provided below

- Select the worksheet tab you wish to hide
- Go to the **Home** tab and select the **Format** button in the Cell group.
- Click on **Hide & Unhide** and select **Hide Sheet**

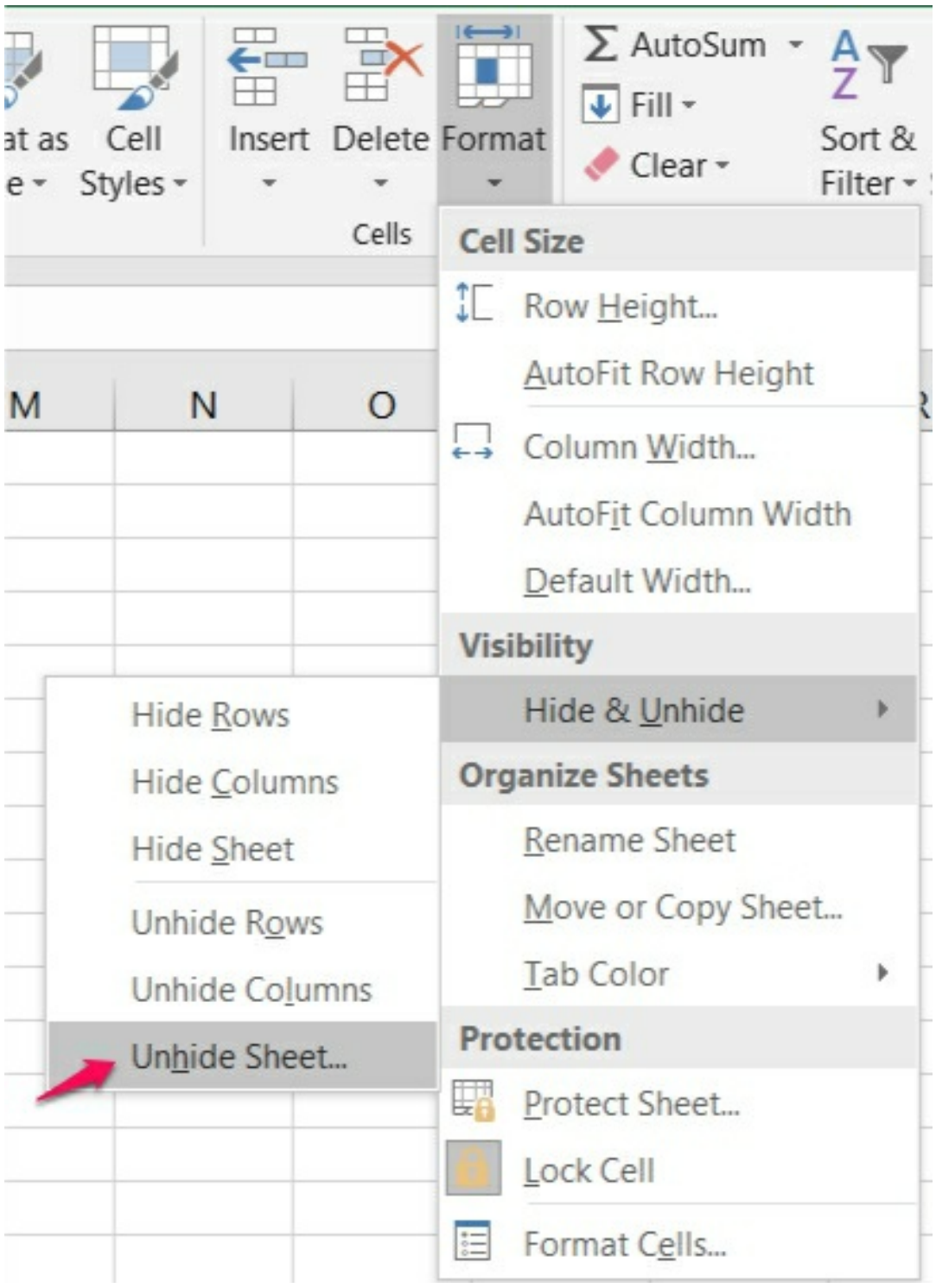


NOTE: You can also hide your worksheet by right-clicking on the worksheet to open the contextual menu. Click on the Hide option to hide the selected worksheet.

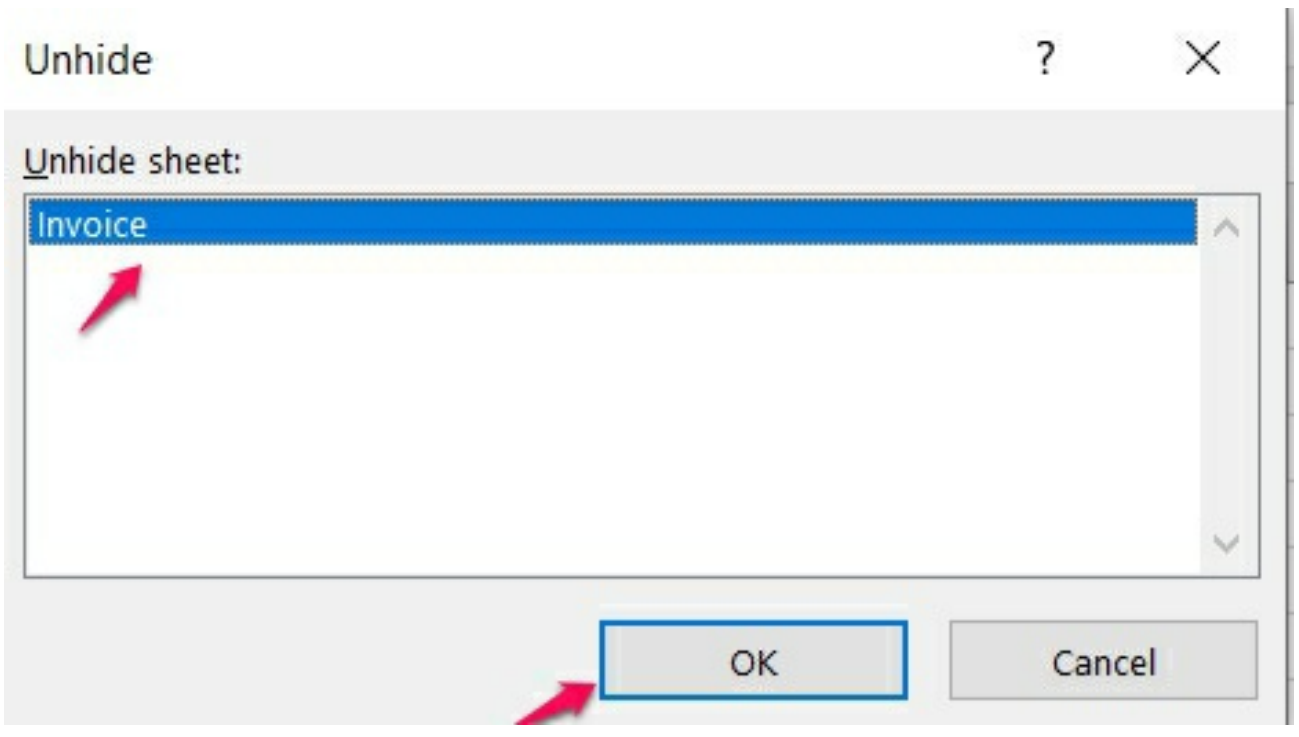
Unhiding Your Worksheet

To unhide your worksheet, follow the steps provided below:

- Select the worksheet tab you wish to hide
- Go to the **Home** tab and select the **Format** button in the Cell group.
- Click on **Hide & Unhide** and select **Unhide Sheet**



- Select the sheet you wish to unhide in the list that pops up and then click on **OK.**



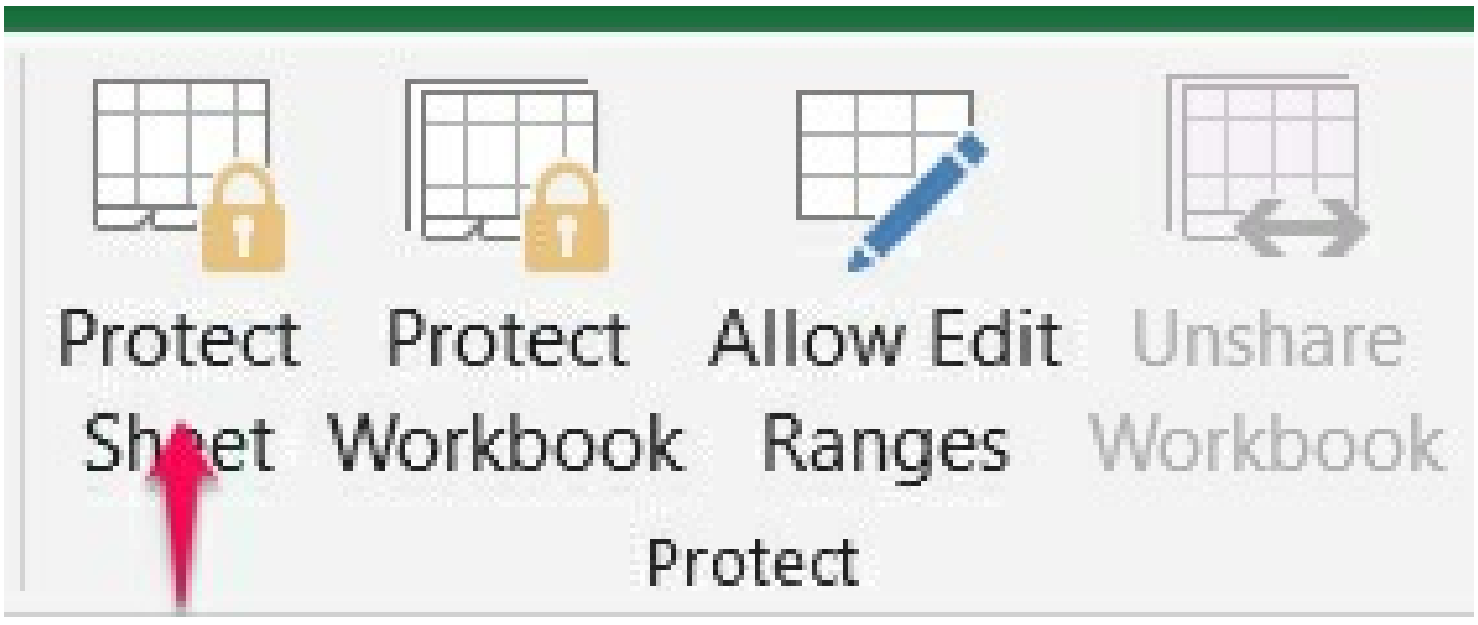
NOTE: You can also unhide your worksheet by right-clicking on the worksheet to open the contextual menu. Click on the Unhide Sheet, click on the sheet you wish to unhide in the list that pops up, and then click on **OK.**

Protecting Your Worksheet

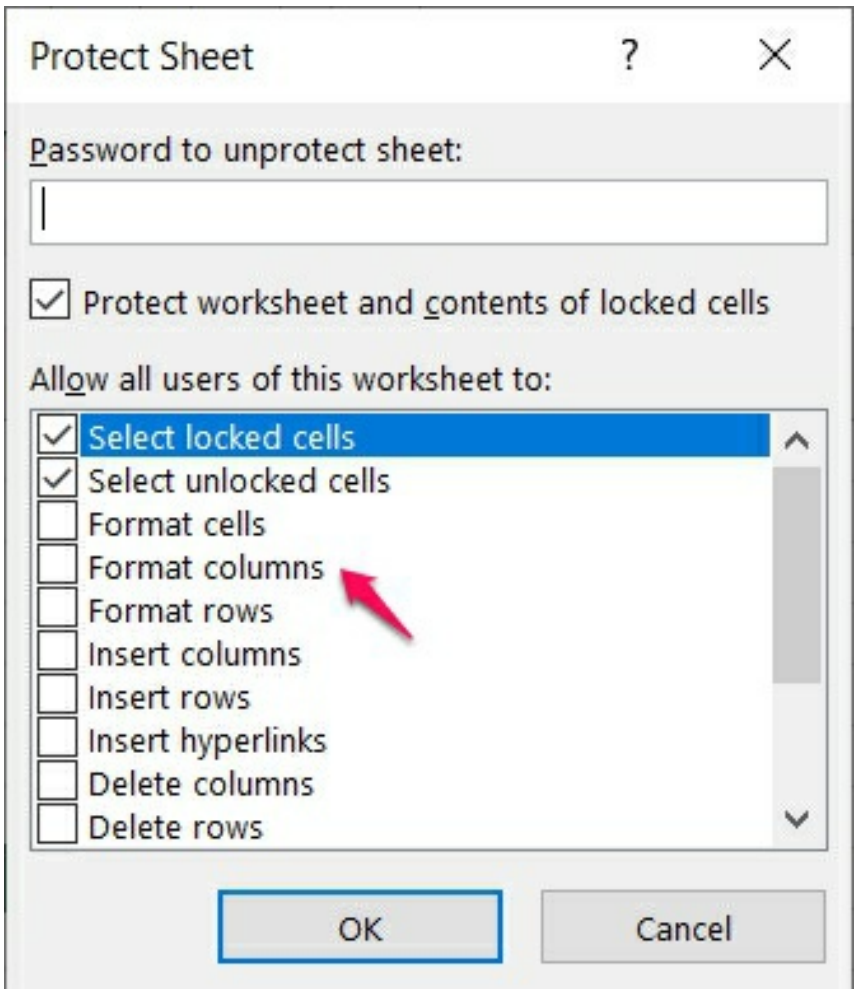
To restrict others from intentionally or unintentionally changing, formatting, inserting new rows and columns, deleting rows and columns, and many others, you can activate the protection features to lock your worksheet with a password.

To protect your worksheet from being tampered with by other users, follow the steps given below

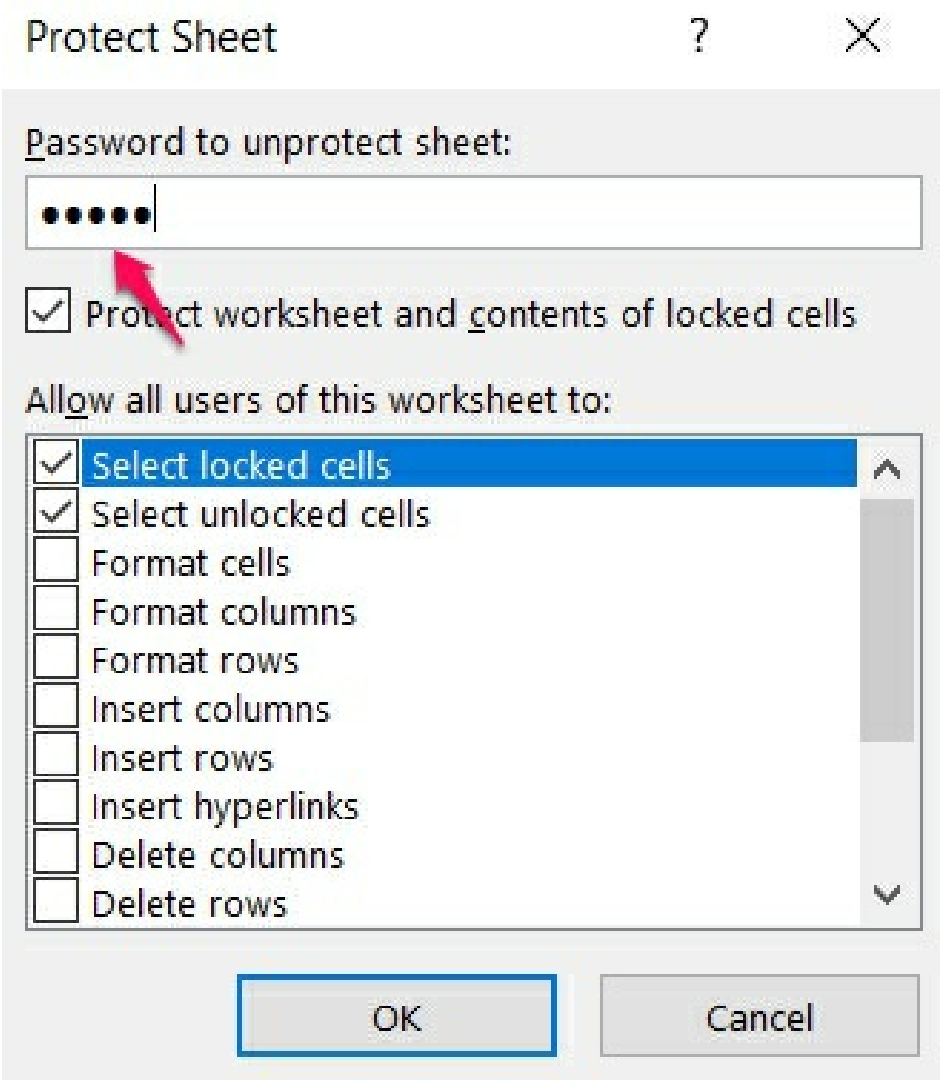
- Select the worksheet you wish to protect
- Go to the **Review** tab and click on **Protect Sheet** in the **Protect Group**.



- In the **Protect Sheet** dialog box, select the elements you want people to change in the **Allow all users of the worksheet** to list.



- In the **Password to unprotect sheet** box, enter the password, and click on **Ok**



- Re-enter the password in the **Confirm Password** dialog box, and then click **on Ok**

CHAPTER SIX
CUSTOMIZING THE WORKSHEET

Looking at the Excel default worksheet is just boring, and this is because the default worksheet looks so plain, with nothing attractive about it. To make the excel worksheet captivating and exhilarating, you will be learning some important techniques that include changing the theme of the worksheet, changing the theme color of the worksheet, adding borders to the worksheet, changing the font color and sizes, and many others. Now let's take our time to explore how to customize Excel's worksheet.

Changing the Worksheet Theme

The worksheet theme uses a unique set of colors, fonts, and effects to create a consistent look and feel. To change the worksheet theme to another, follow the steps provided below:

- Go to the **Page Layout** and click on **Theme** in the **Theme** group

- In the **Theme** drop-down menu, select any theme of your choice

Changing the Theme Color

Changing the theme color of your worksheet will affect the colors available in your color picker and the color used in the worksheet. The theme colors change all the colors used in the worksheet by selecting a different color palette. To change the theme color, follow the steps given below:

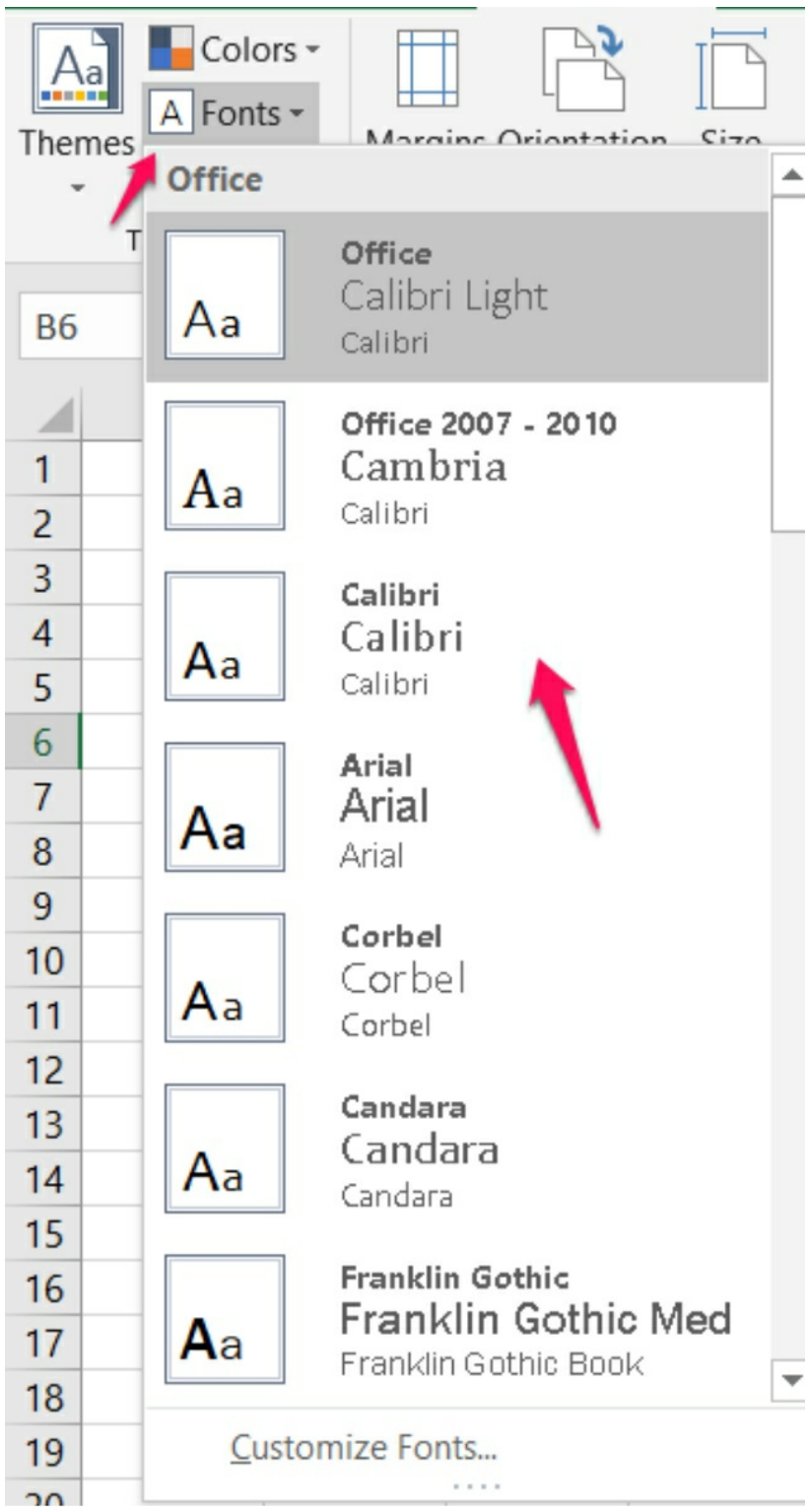
- Go to the **Page Layout** and click on **Theme Color** in the **Theme** group
- In the **Theme Color** drop-down menu, select any theme color of your choice

Changing the Theme Fonts

The theme fonts change the entire text in your worksheet by picking a new font set.

To change the theme fonts of your worksheet, follow the steps below:

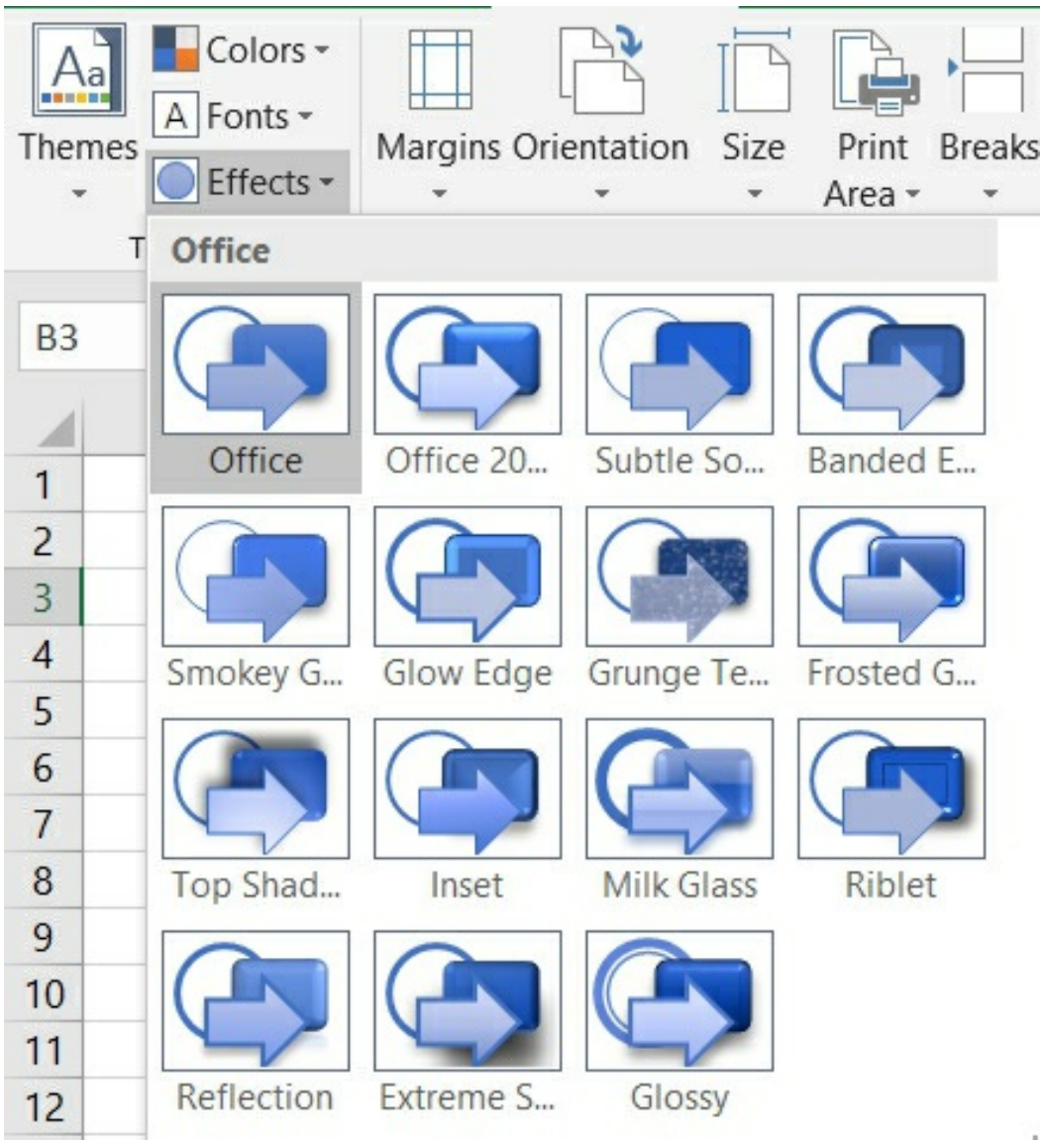
- Go to the **Page Layout** and click on **Theme Font** in the **Theme** group
- In the **Theme** F**ont** drop-down menu, select any theme font of your choice



Changing the Theme Effects of Your Worksheet

Changing the theme effect in your worksheet affects the look of objects inserted in your worksheet. To change the theme effects in your worksheet, follow the steps given below

- Go to the **Page Layout** and click on **Theme Effects** in the **Theme** group
- In the **Theme Effects** drop-down menu, select any theme font of your choice.



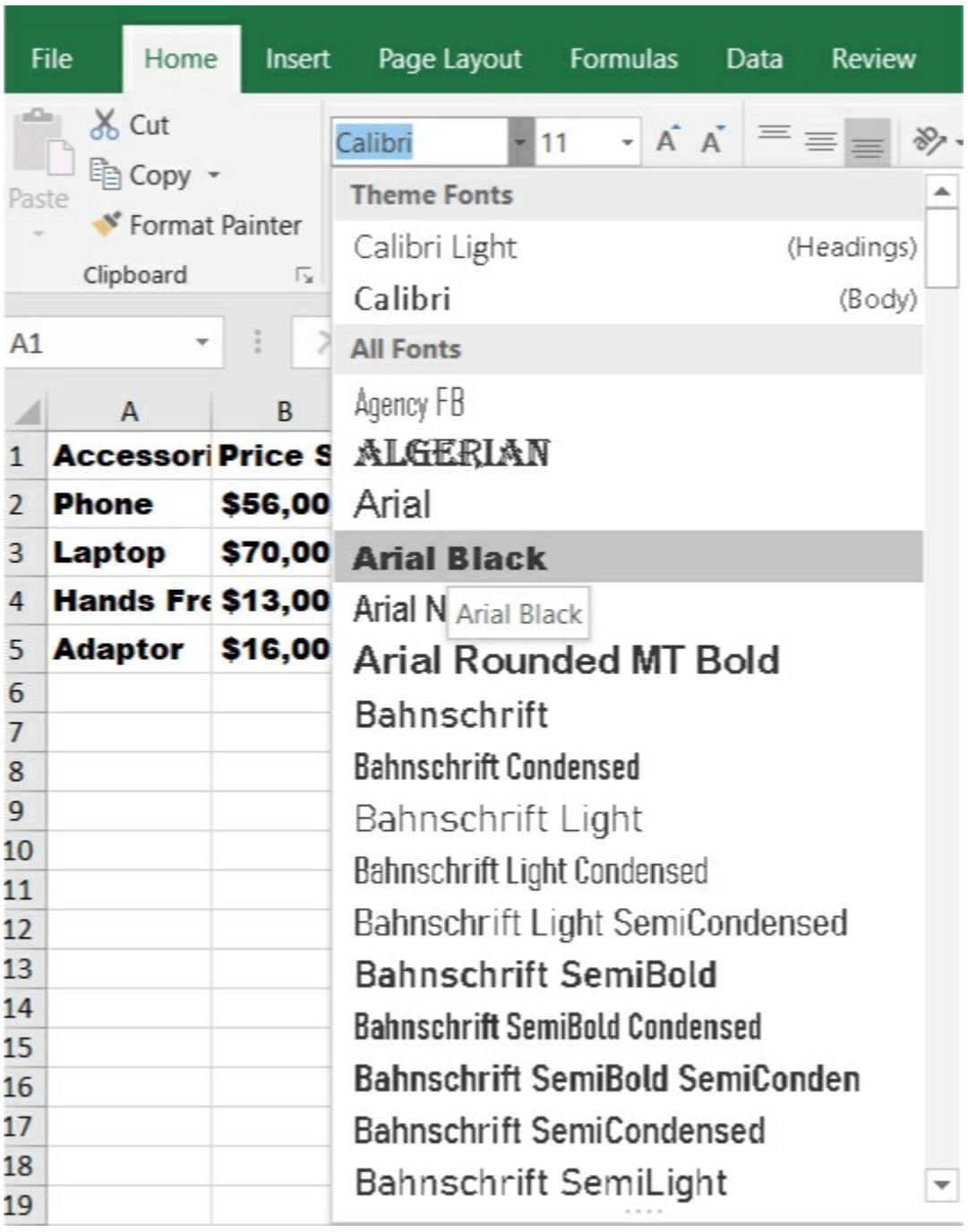
Changing the Font, Font Style, and Font Size

Apart from using the Theme features to change the font, you can use the Font group to change the font. With the Font group, you can also change the font style, font sizes, and lots more

Changing the Font of Your Worksheet

To change the font of your worksheet, follow the steps given below:

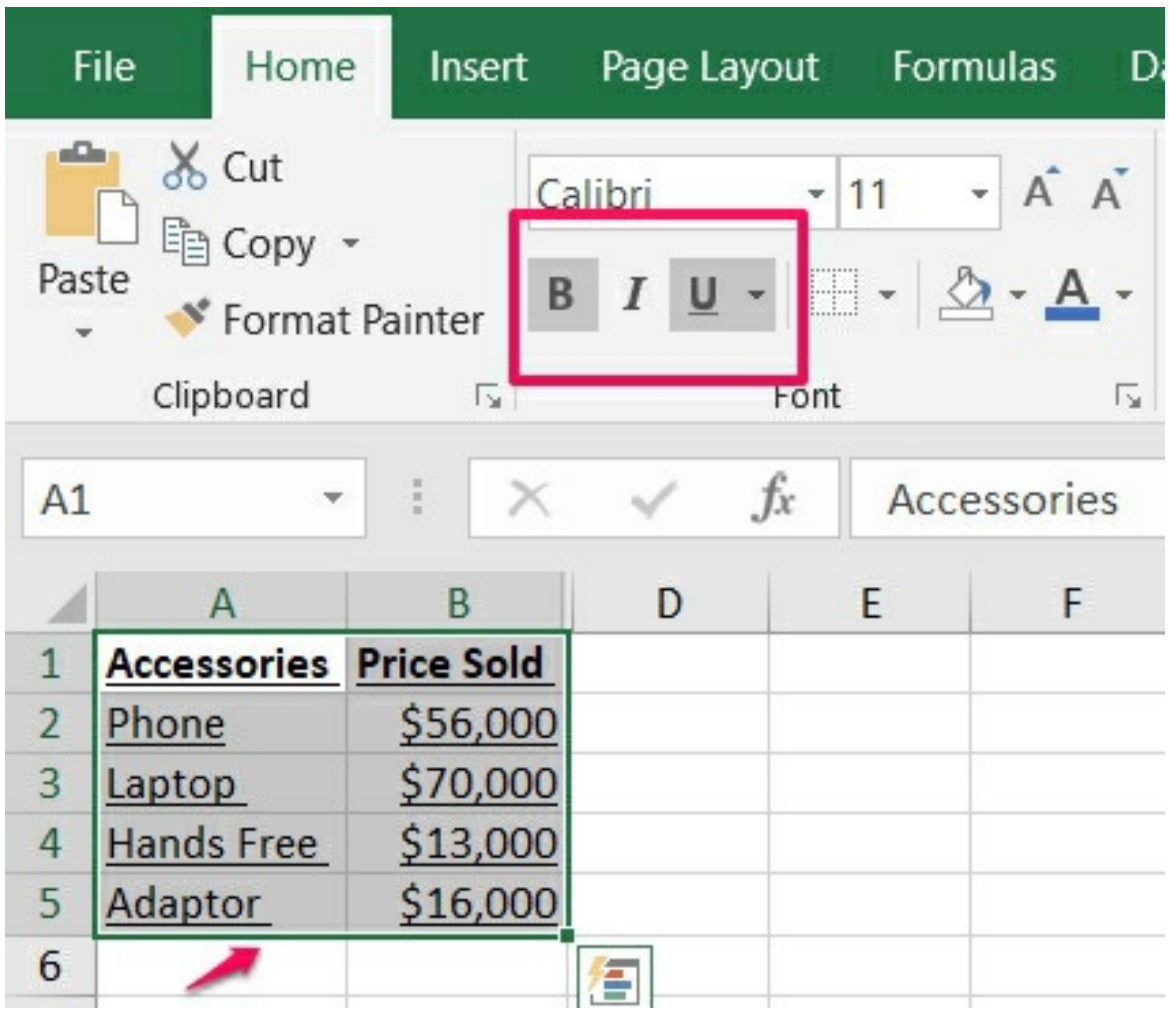
- Select the cell or a range of cells you wish to change the font.
- Go to the **Home** tab and click on **Font** and in the **Font** group.
- In the **Font** drop-down - menu, select any font of your choice



Changing the Font Style of Your worksheet

To change the font style of the cells in your worksheet to either bold, italics, or underline, follow the steps provided below:

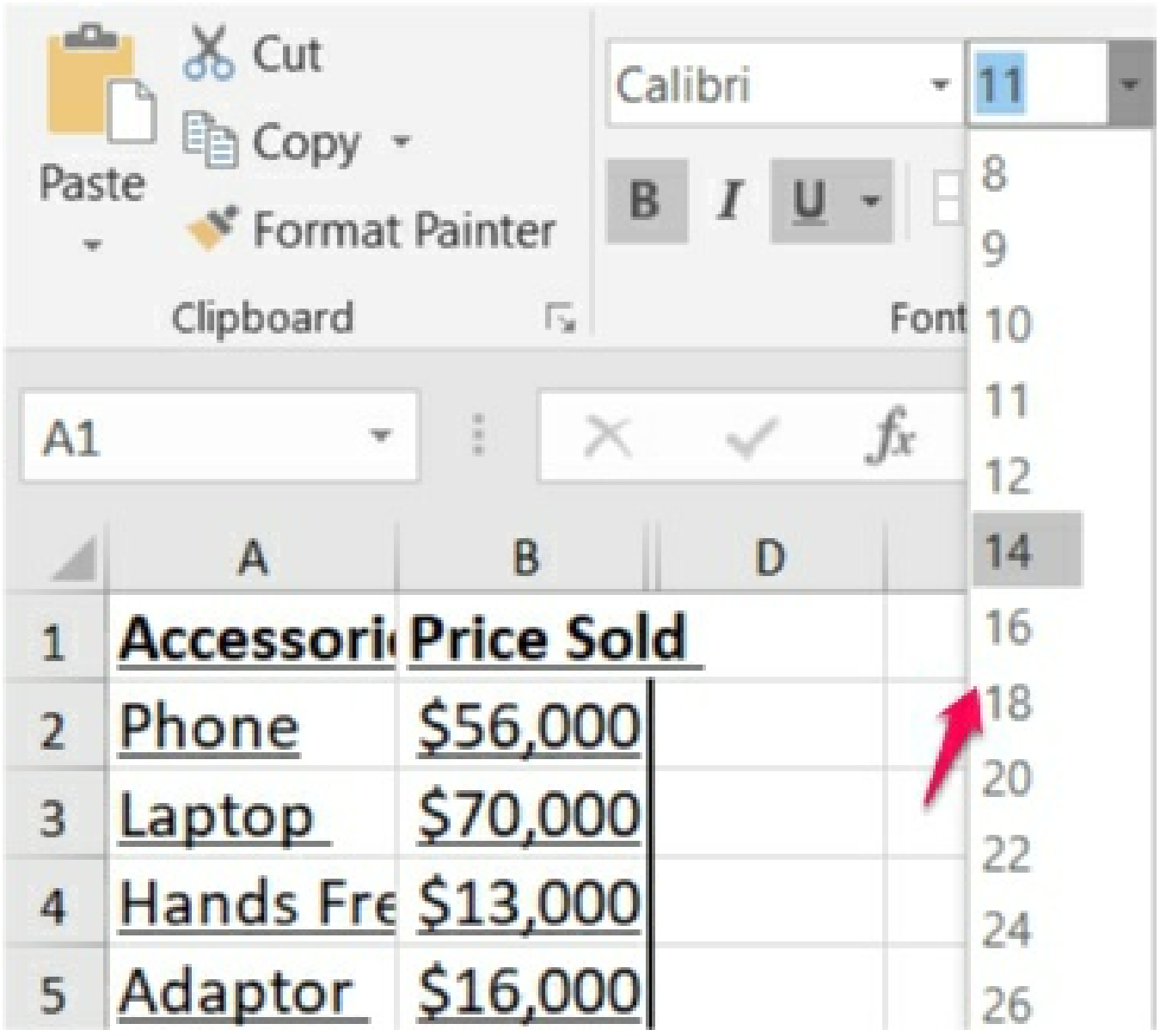
- Select the cell or a range of cells you wish to change the font.
- Go to the **Home** tab and click on **Bold**, **Italics** or **Underline** in the **Font** group to change the font style



Changing the Font Size of Your Worksheet

To change the font size of your worksheet, follow the steps provided below

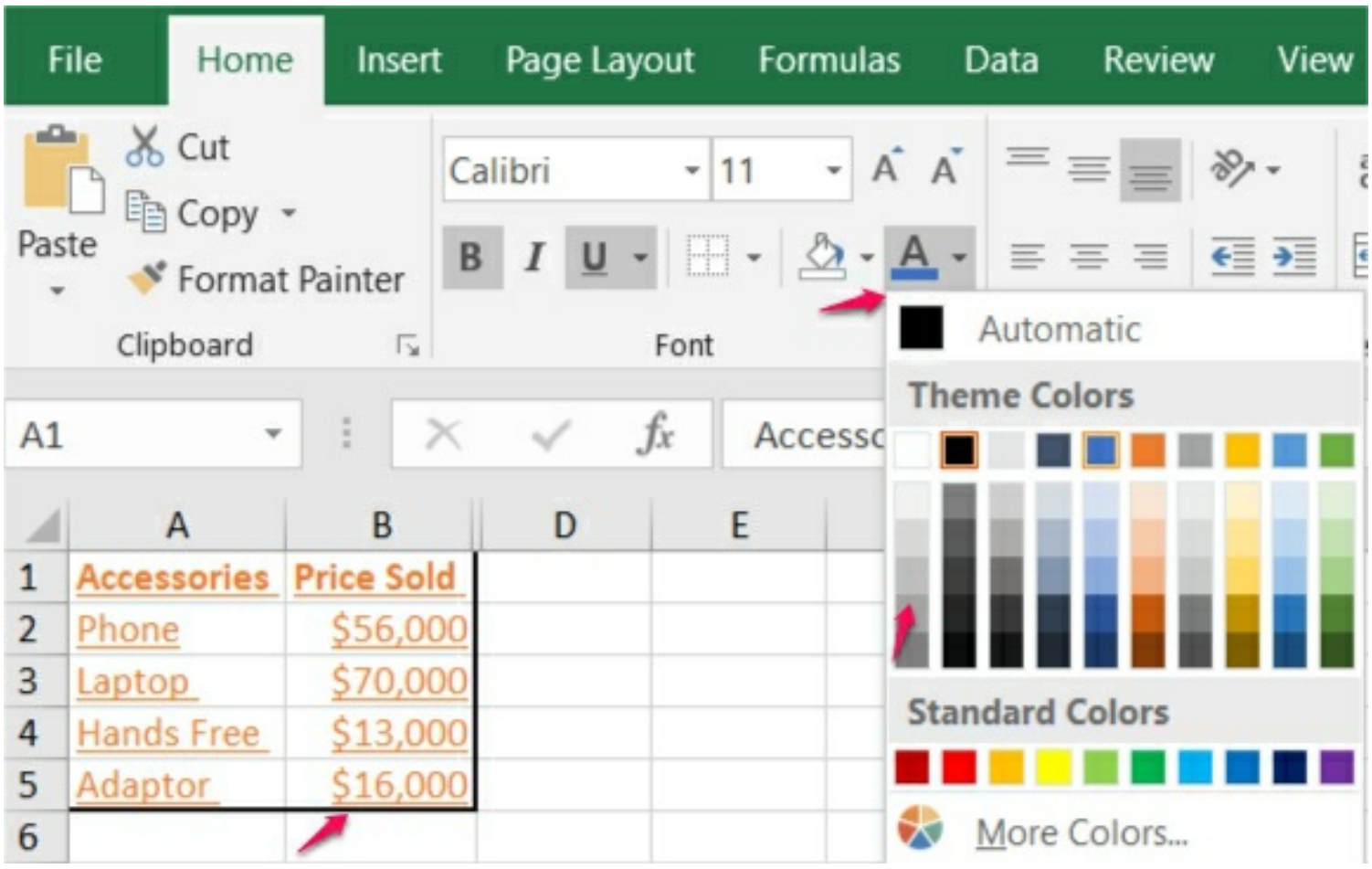
- Select the cell or a range of cells you wish to change the font.
- Go to the **Home** tab and click on **Font Size** and in the **Font** group.
- In the **Font Size** drop-down menu, select any font size of your choice



Changing the Font Color of Your Worksheet

To change the font color or the text color of your worksheet, follow the steps provided below:

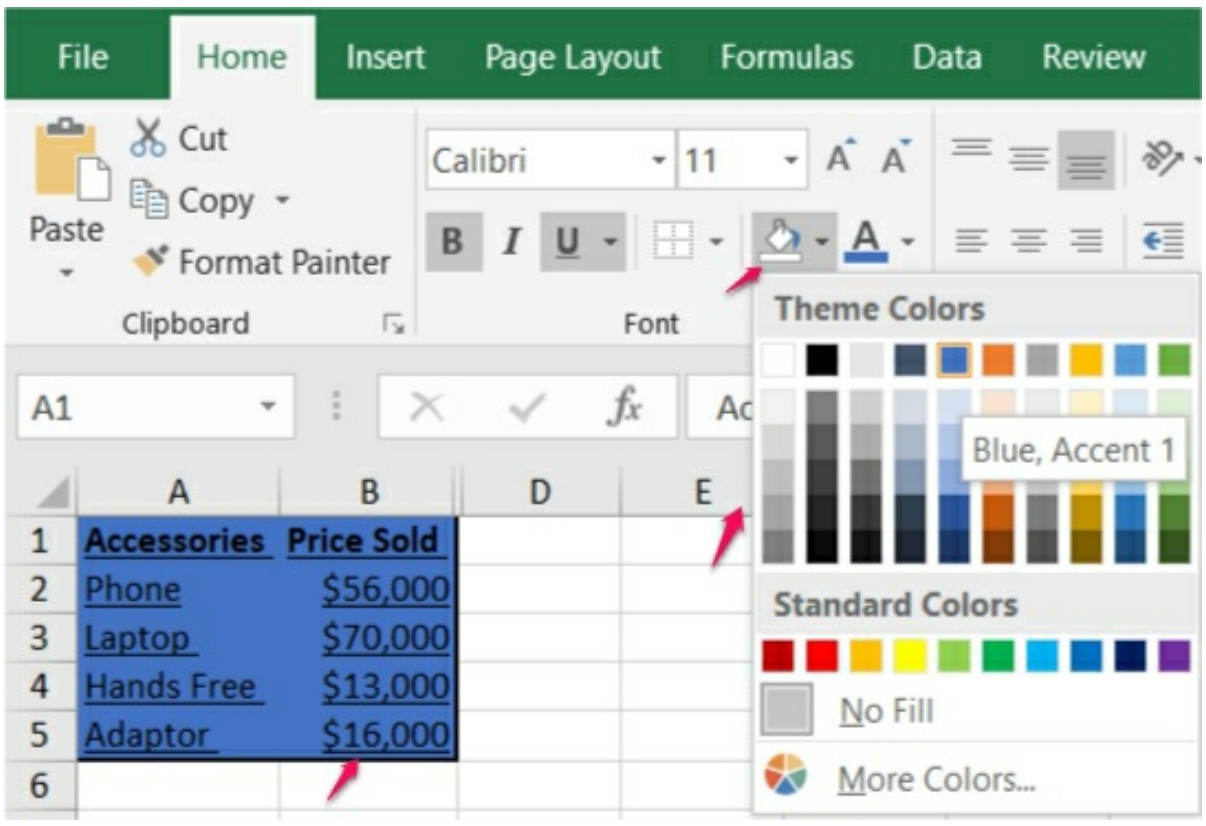
- Select the cell or range of cells that contain the text you wish to change
- Go to the **Home** tab and click on **Font Color** and in the **Font** group.
- In the **Font Color** drop-down menu, select any color of your choice



Changing the Cell Background Color of Your Worksheet

To change the cell background color of your worksheet, follow the steps given below

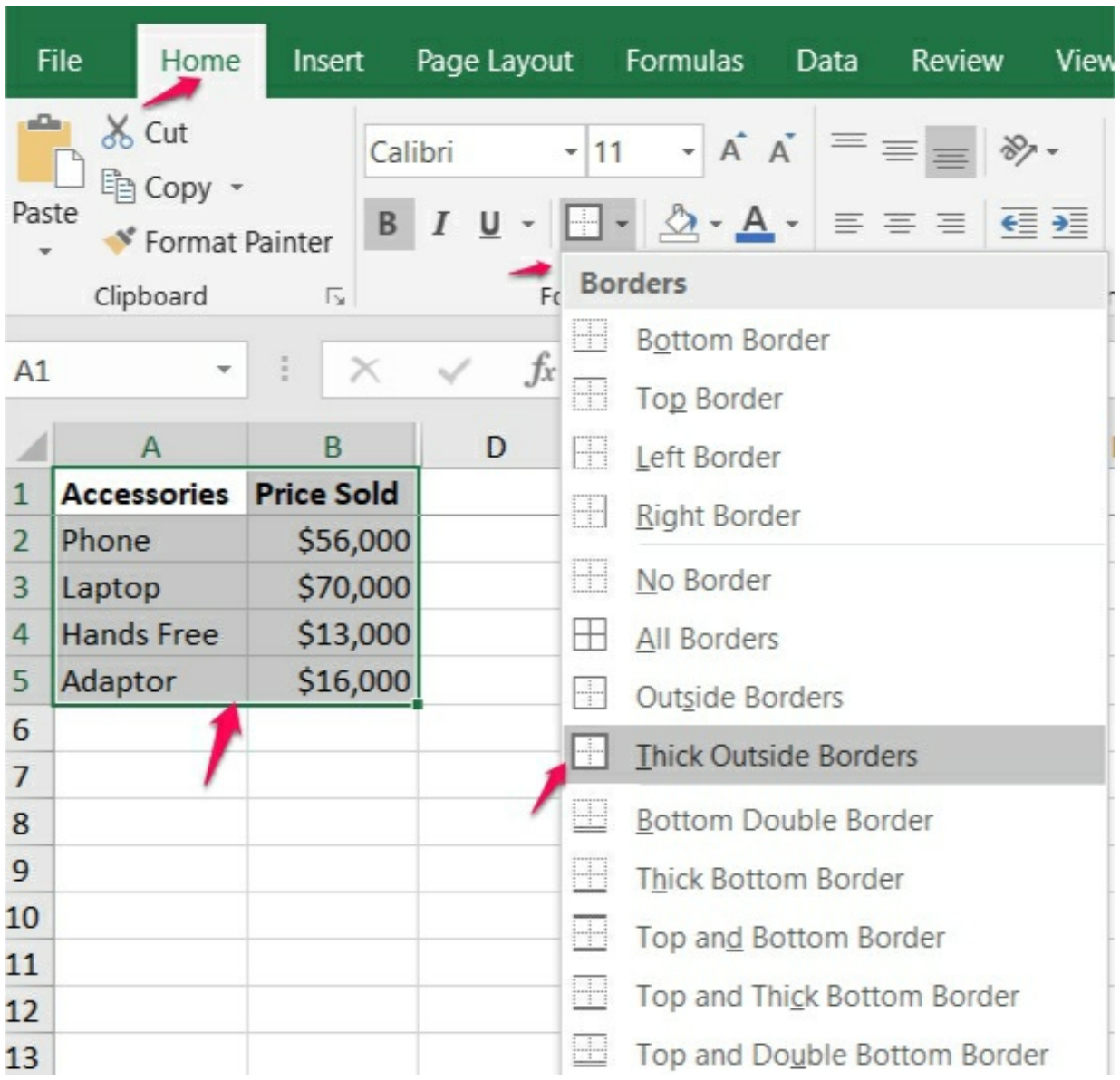
- Select the cell or range of cells you wish to change the background color
- Go to the **Home** tab and click on **Fill Color** in the **Font** group.
- In the Fill Color drop-down menu, select any color of your choice



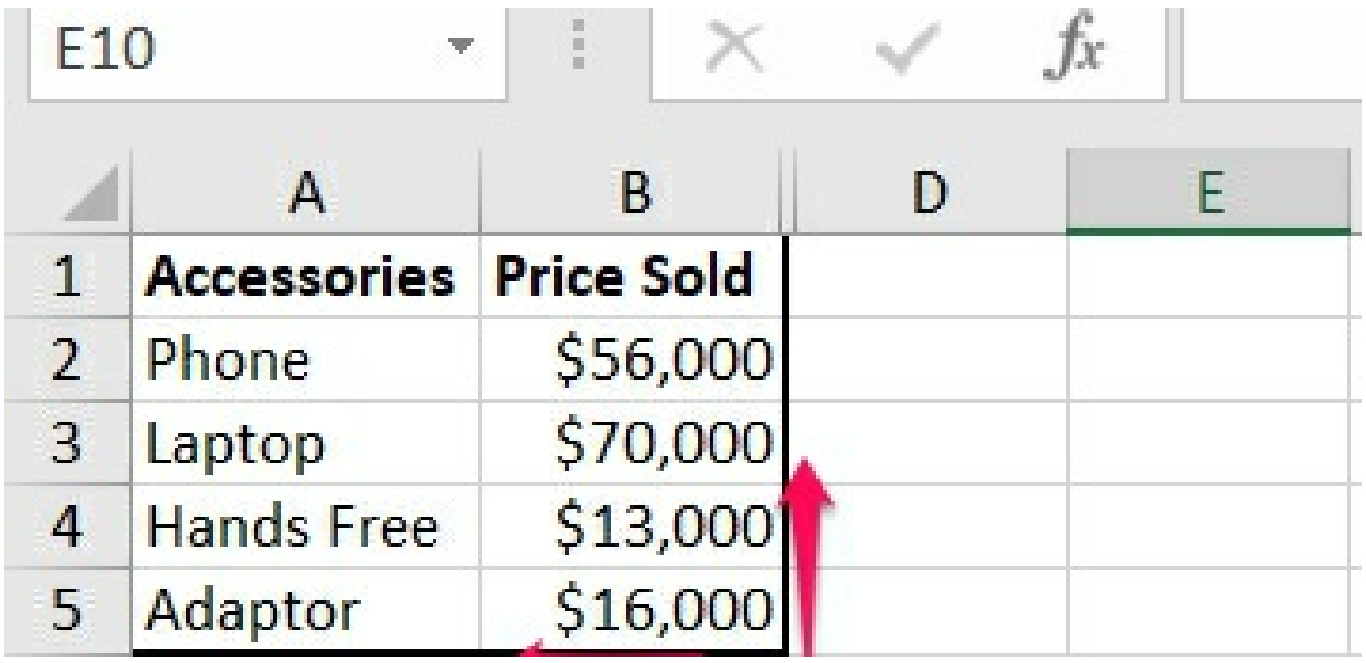
Applying Borders to Your Worksheet

To apply a border to your worksheet, follow the steps given below

- Select the cell or range of cells you wish to apply the border.
- Go to the **Home** tab and click on **Border** in the Font group
- In the **Border** drop-down menu, select any of your choices



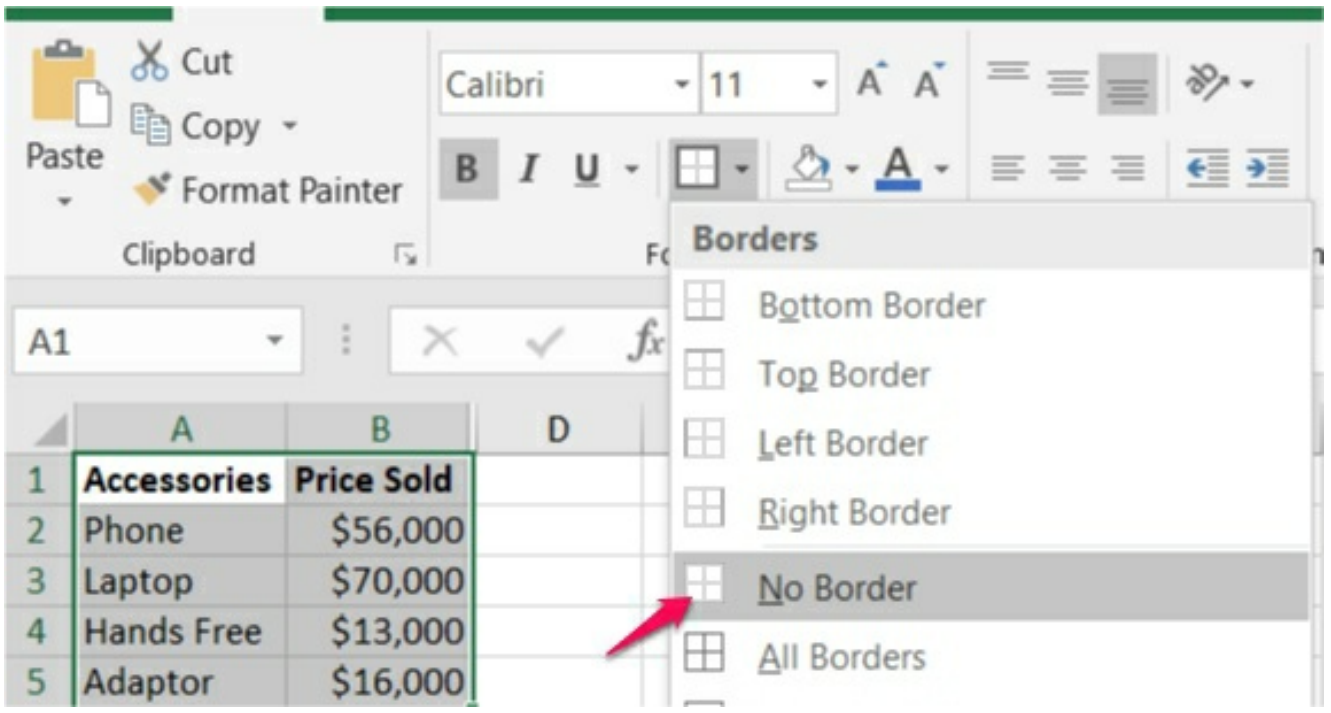
- Here the border is applied to the selected cells in the worksheet



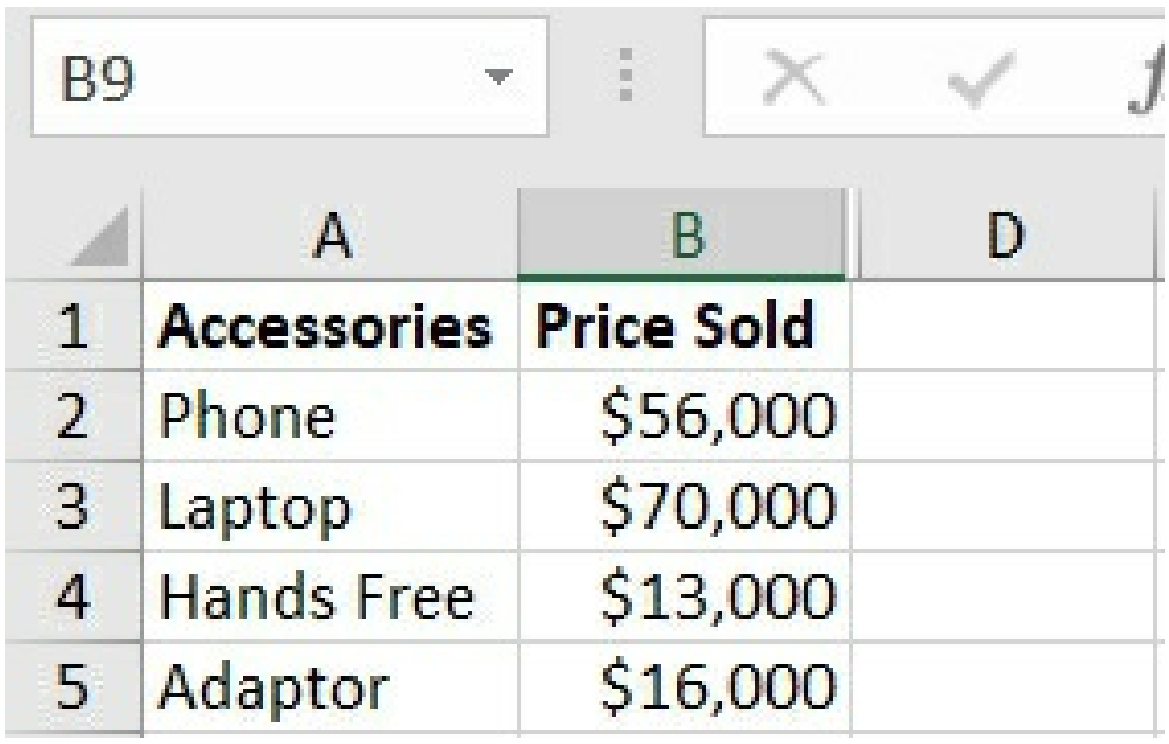
Removing Border from Your Worksheet

To remove the border from your worksheet, follow the steps provided below:

- Select the cell or range of cells with border
- Click the **Border** drop-down in the **Font** group and select **No Border**



- Here the border applied to the selected cells in the worksheet is removed

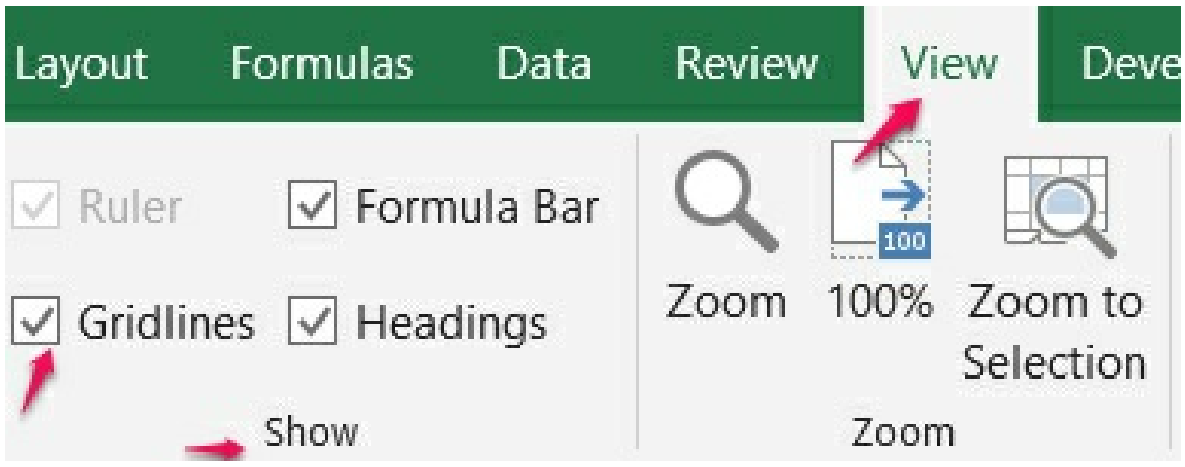


Removing Gridlines From Your Worksheet

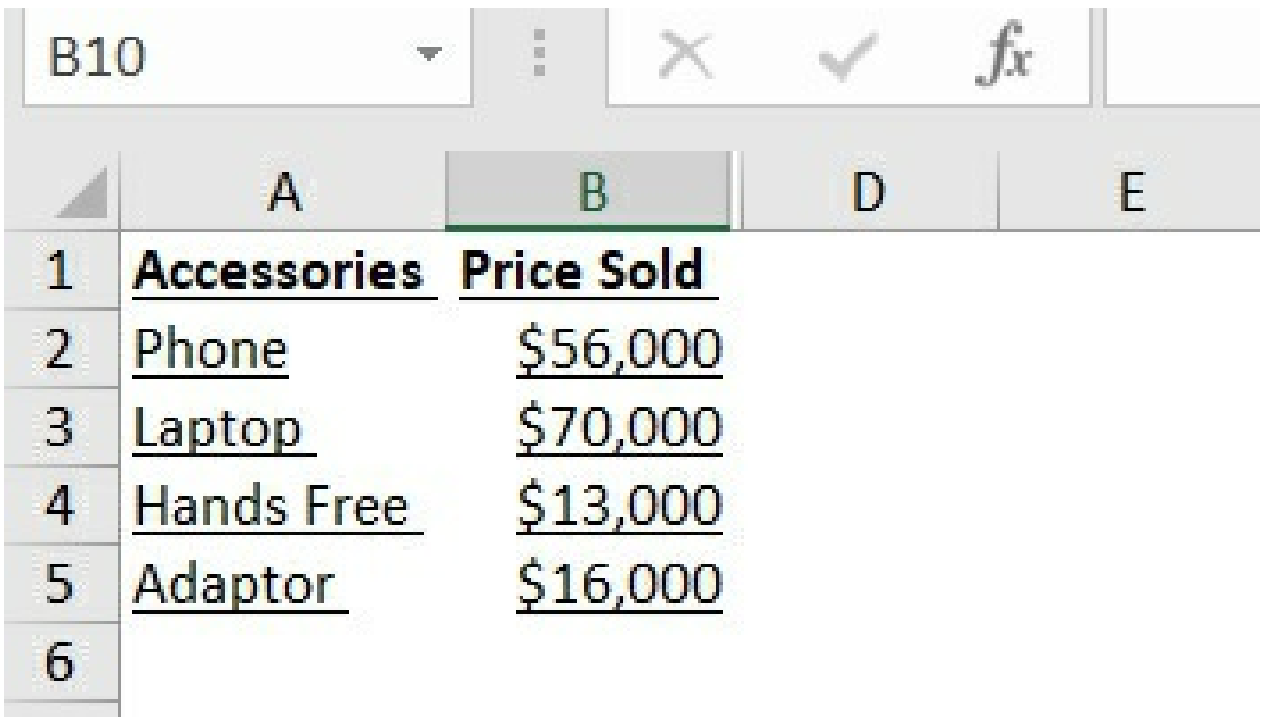
The gridlines are lines in the Excel worksheet that help divide cells from each other inside a worksheet. With the gridlines, data are separated and organized concisely,

To remove gridlines from your worksheet, follow the steps provided below

- Go to the **View** tab and click on **Gridlines** in the **Show** group.



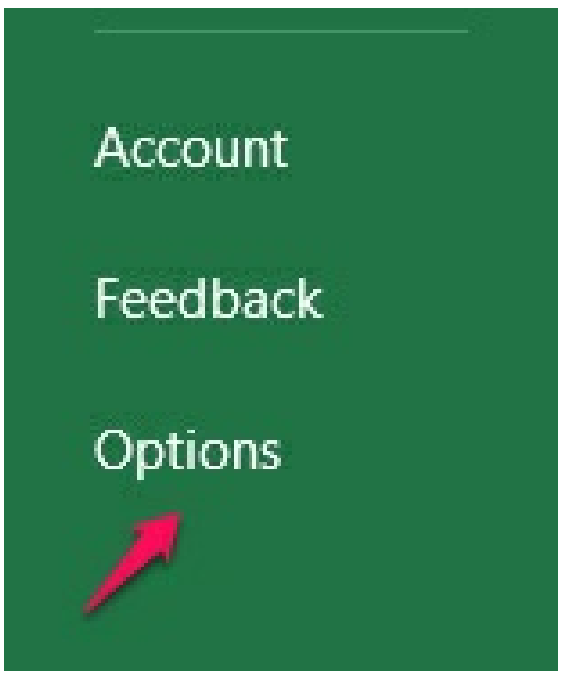
- When you uncheck the gridlines, the gridlines are removed from the worksheet as shown in the image below



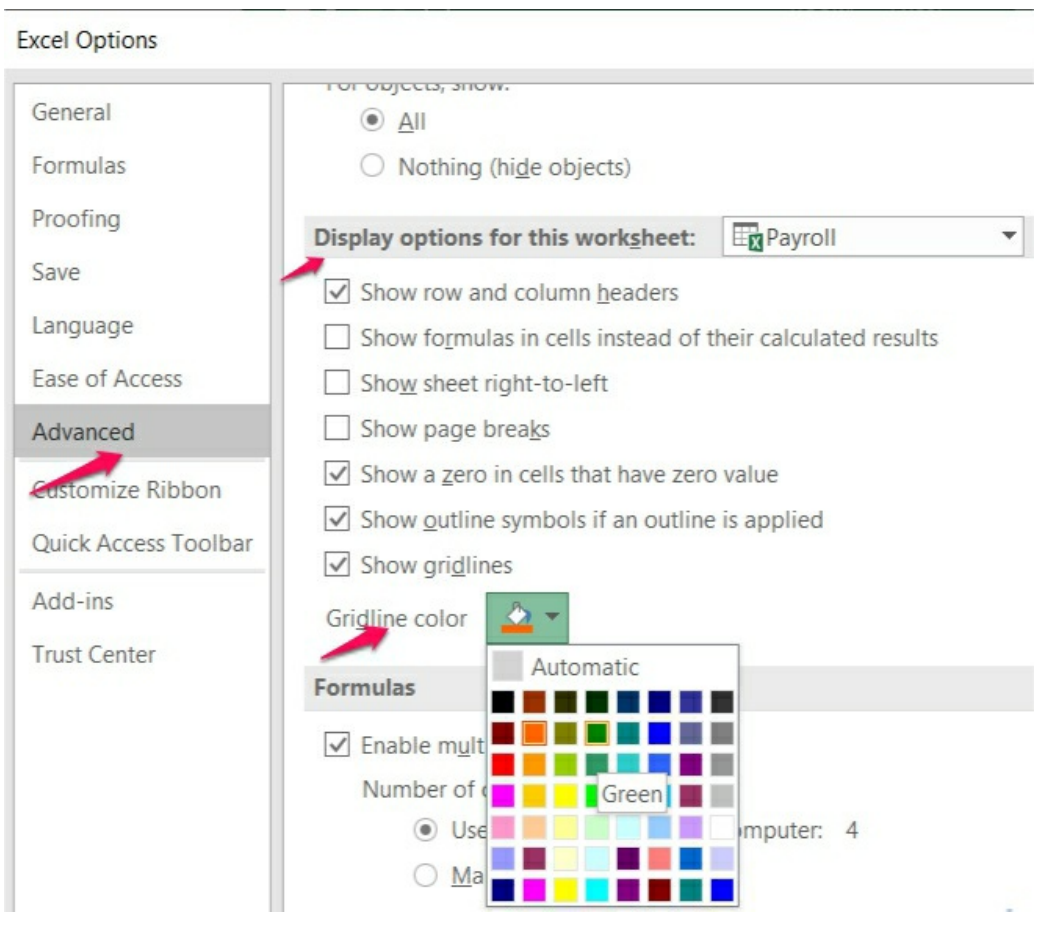
Changing the Color of Gridlines in a Worksheet

By default, the gridline's color is black. However, you can change the color of gridlines. To do this, follow the steps provided below:

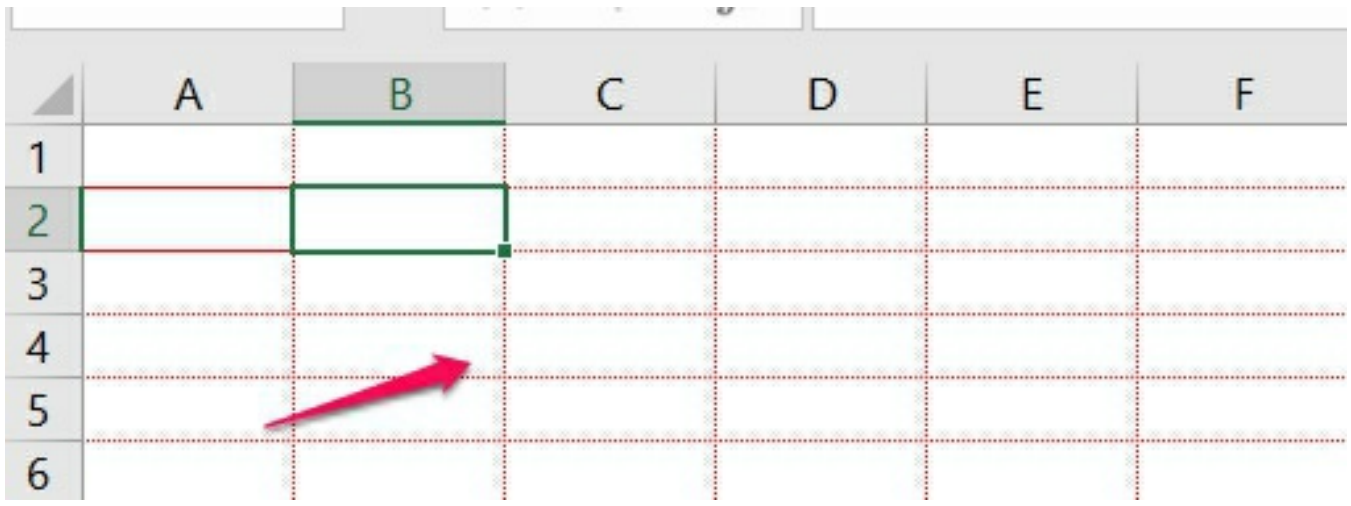
- Select the worksheet you wish to change the gridline color
- Go to the **File** tab, select Excl and click on **Options.**



- In the **Advanced** category, under **Display options for this worksheet**, click on the **Gridline color** box to select any color of your choice and click on **Ok**



- The gridlines of your worksheet are changed to the desired color as instructed.



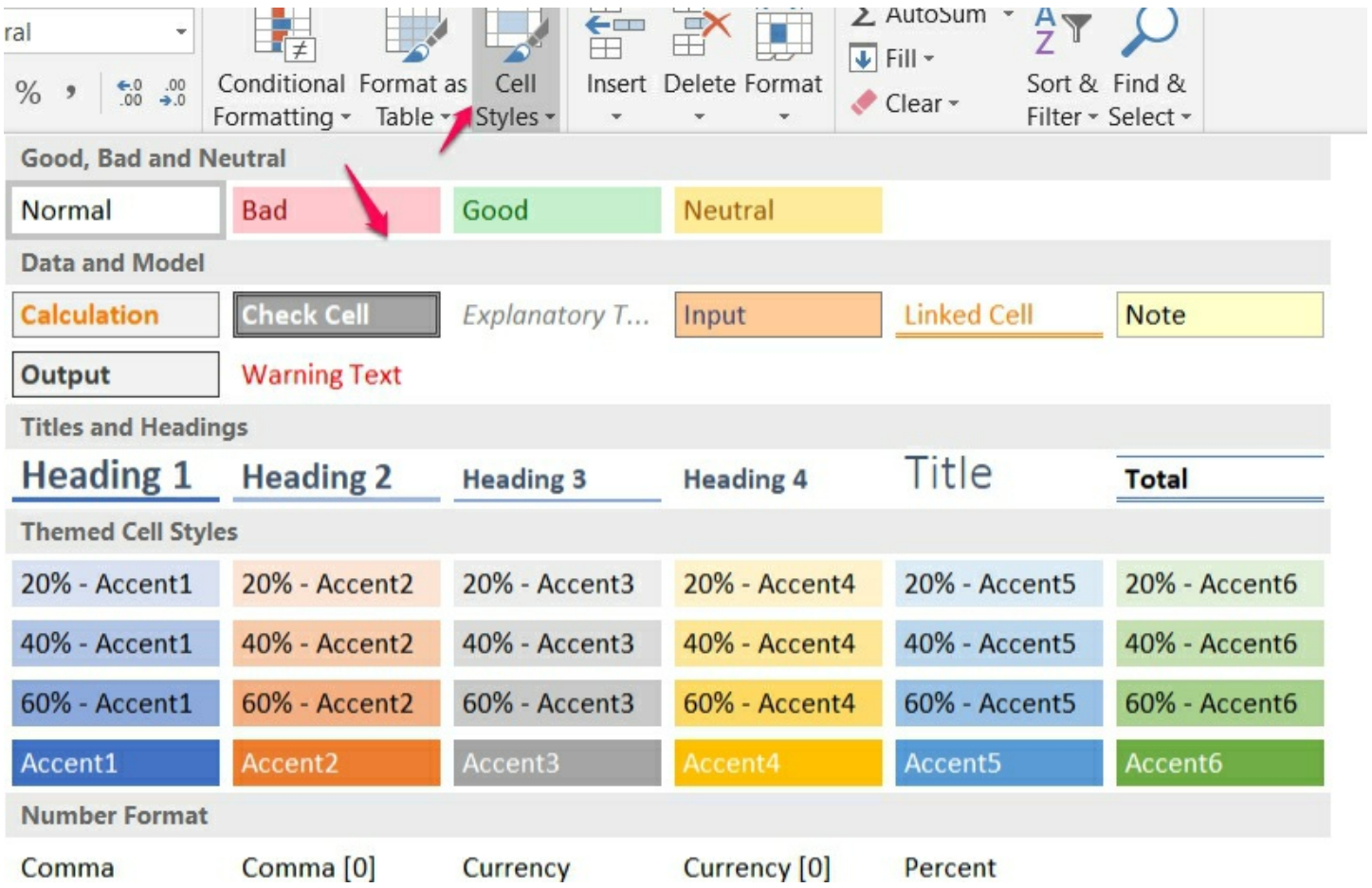
Using the Cell Styles in Your Worksheet

A cell style comprises several formatting options such as font size, font styles, font colors, number formats, cell borders, and shading that constitute a worksheet. The cell styles are related to the themes in the worksheet. Anytime the theme is changed, the cell styles change as well.

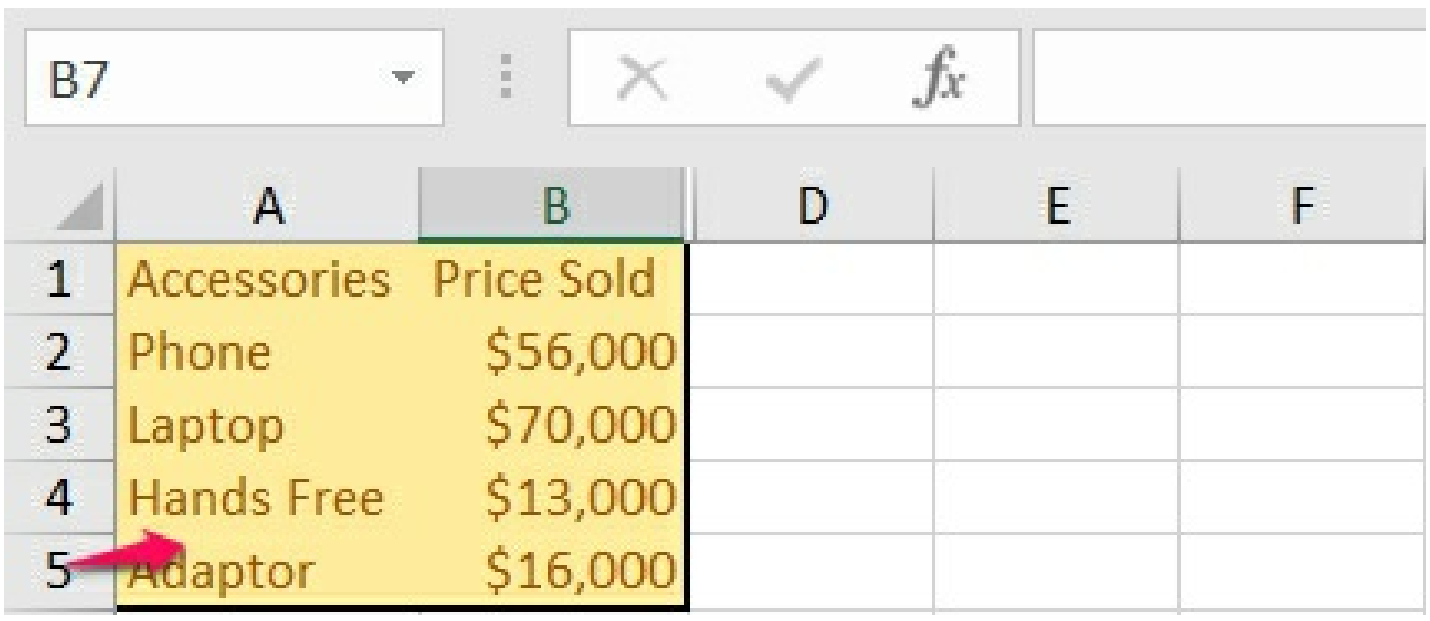
Applying Cell Styles to Your Worksheet

To apply a cell style to your worksheet, follow the steps given below

- Select the cell or range of cells you wish to apply the cell style to.
- Go to the **Home** tab, click on **Cell Styles** in the **Styles** group, and then select any cell style in the **Cell Style** drop-down menu.



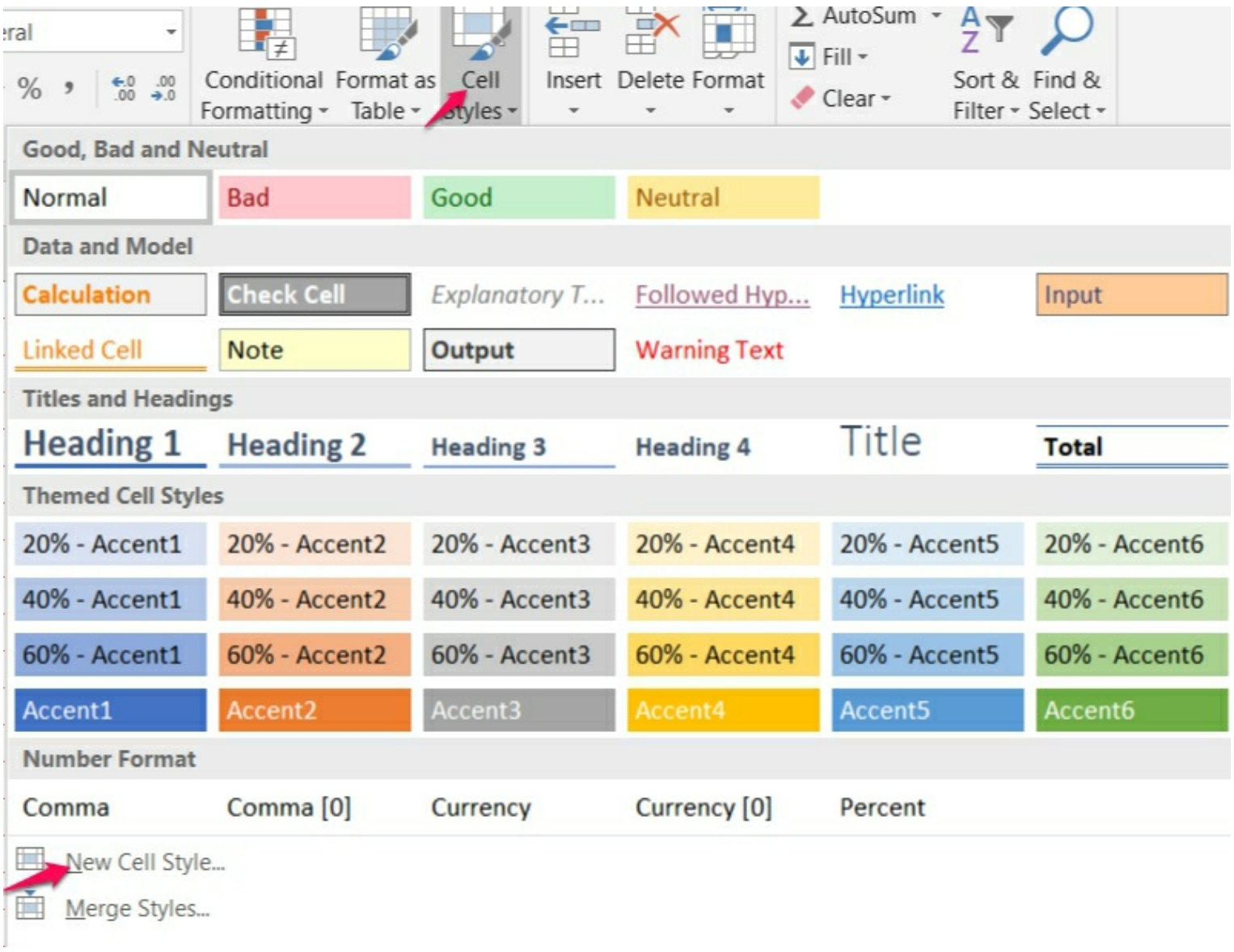
- The selected cell style will appear in the worksheet



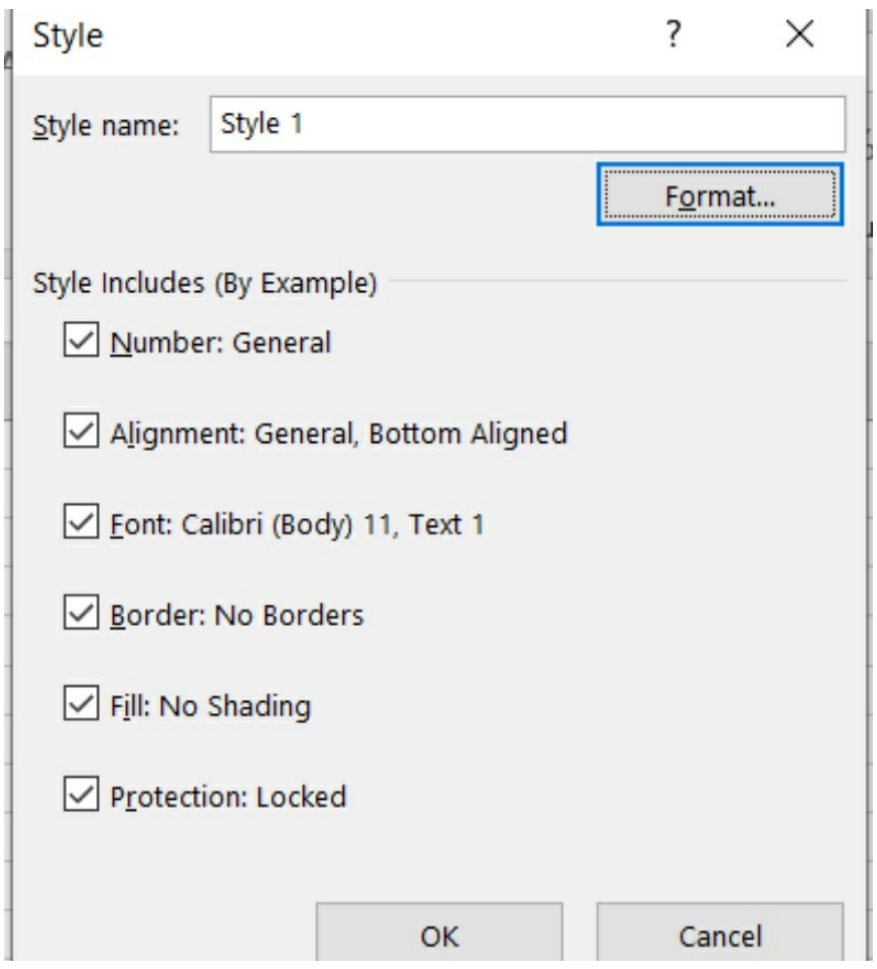
Creating a Custom Cell Style

Rather than using the built-in cell style, you can create your own cell style. To do this, follow the steps provided below

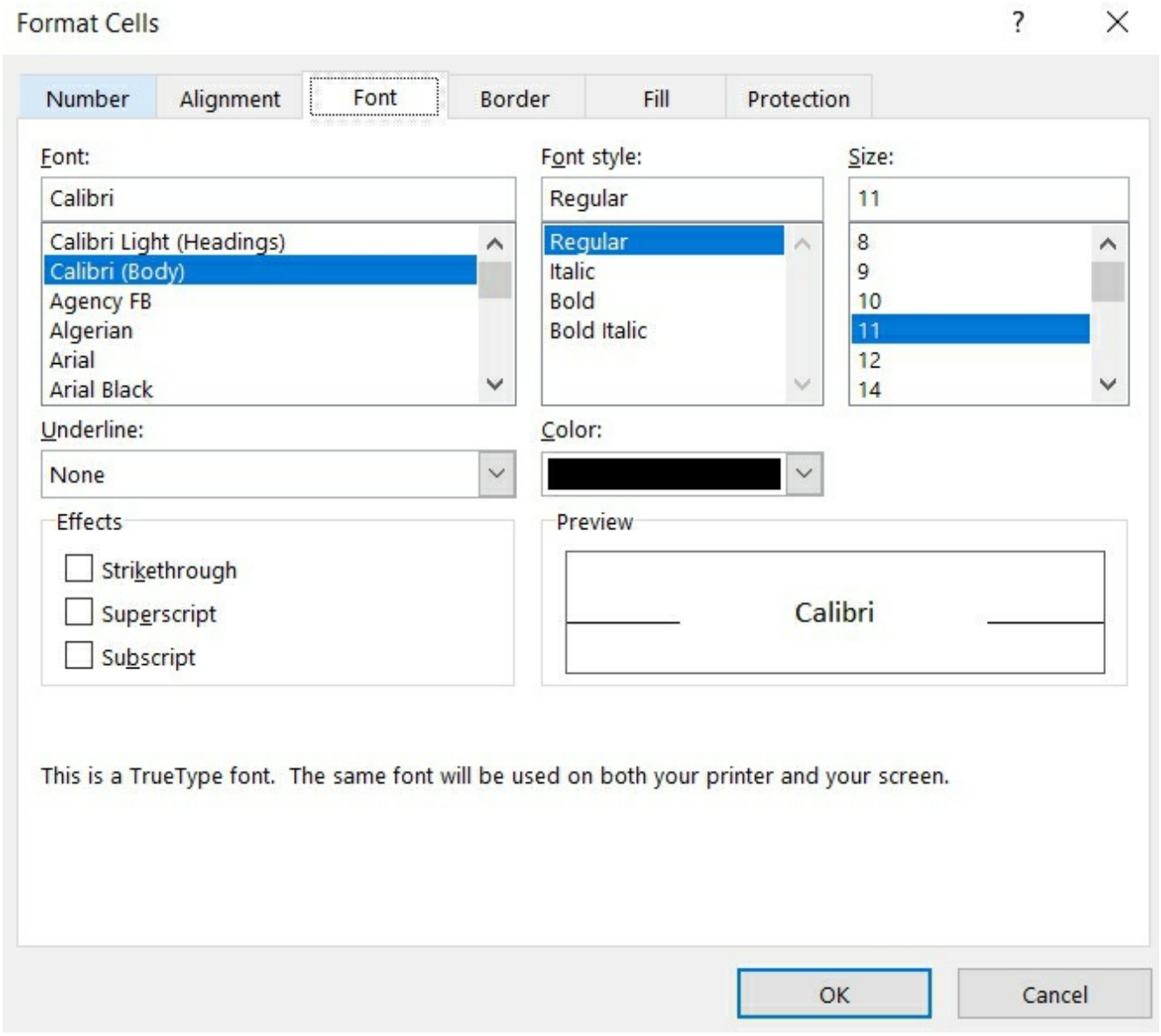
- Go to the **Home** tab, click on **Cell Styles** in the **Styles** group, and then select **New Cell Style** in the **Cell Style** drop-down menu



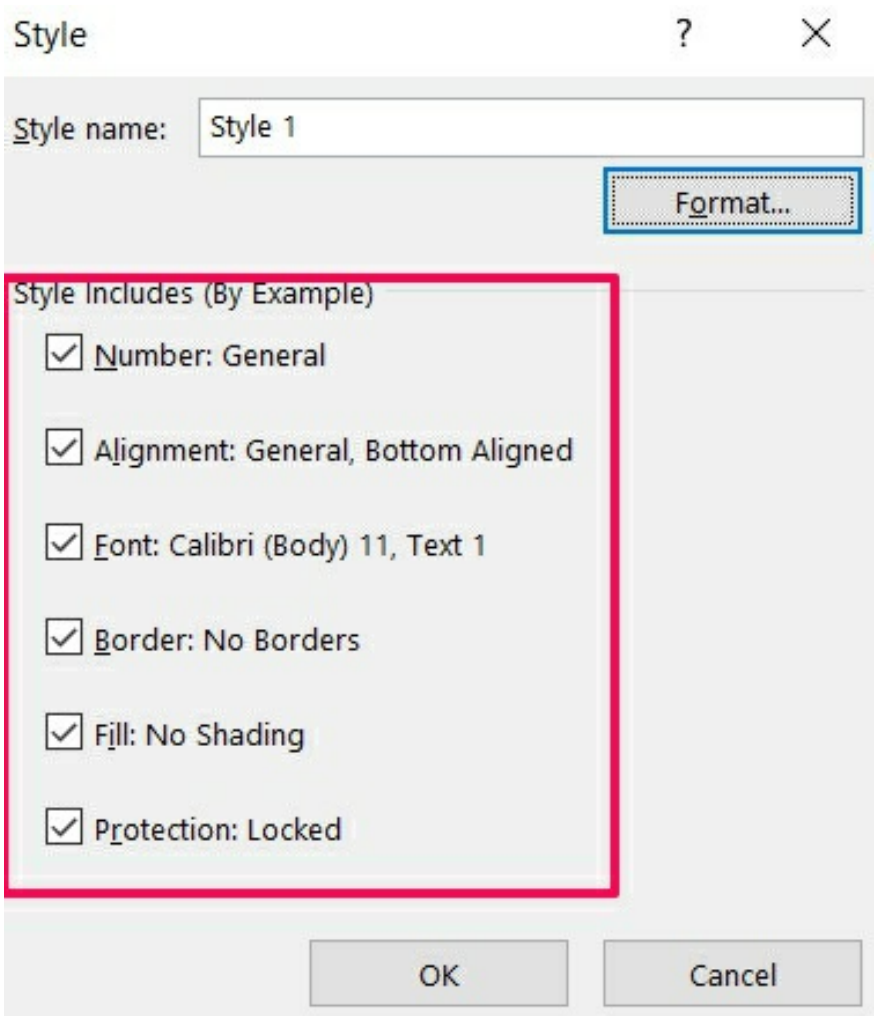
- In the **Style** dialog box, enter the name of the new cell style in the **Style name** box



- Click on Format to open the **Format Cell** dialog box, where you select the formatting you want, and then click on **OK.**



- Go back to the **Style dialog** box to clear the checkboxes of any formatting you don't want in the cell style under the **Styles Includes (By Example)**



- Click on Ok and a new custom cell style will be created.

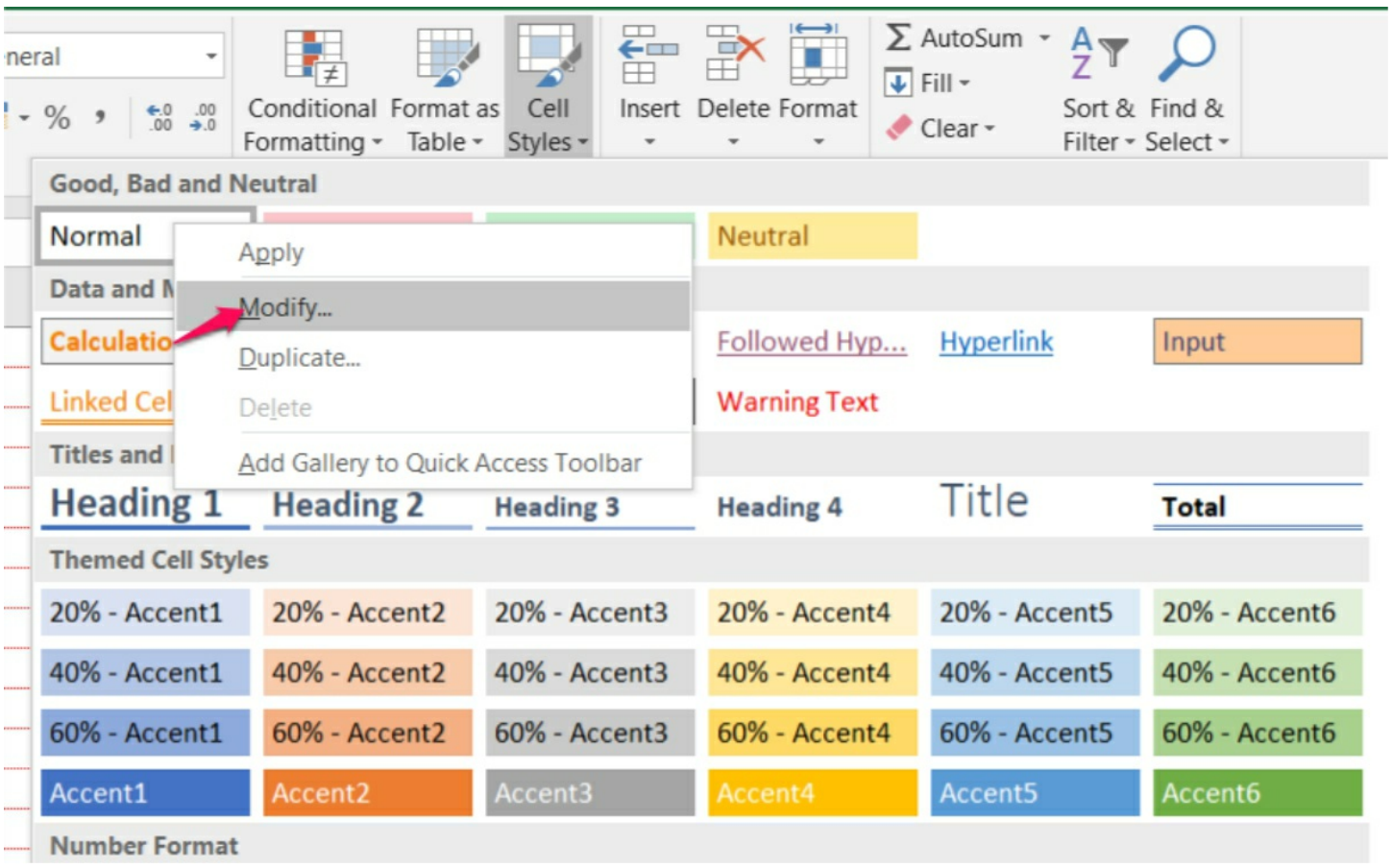
Creating a Cell style by Modifying an Existing cell Style

Rather than starting from scratch to create a new cell style, you can modify the existing cell style to create your own cell style, using some of the formatting options in the existing cell style.

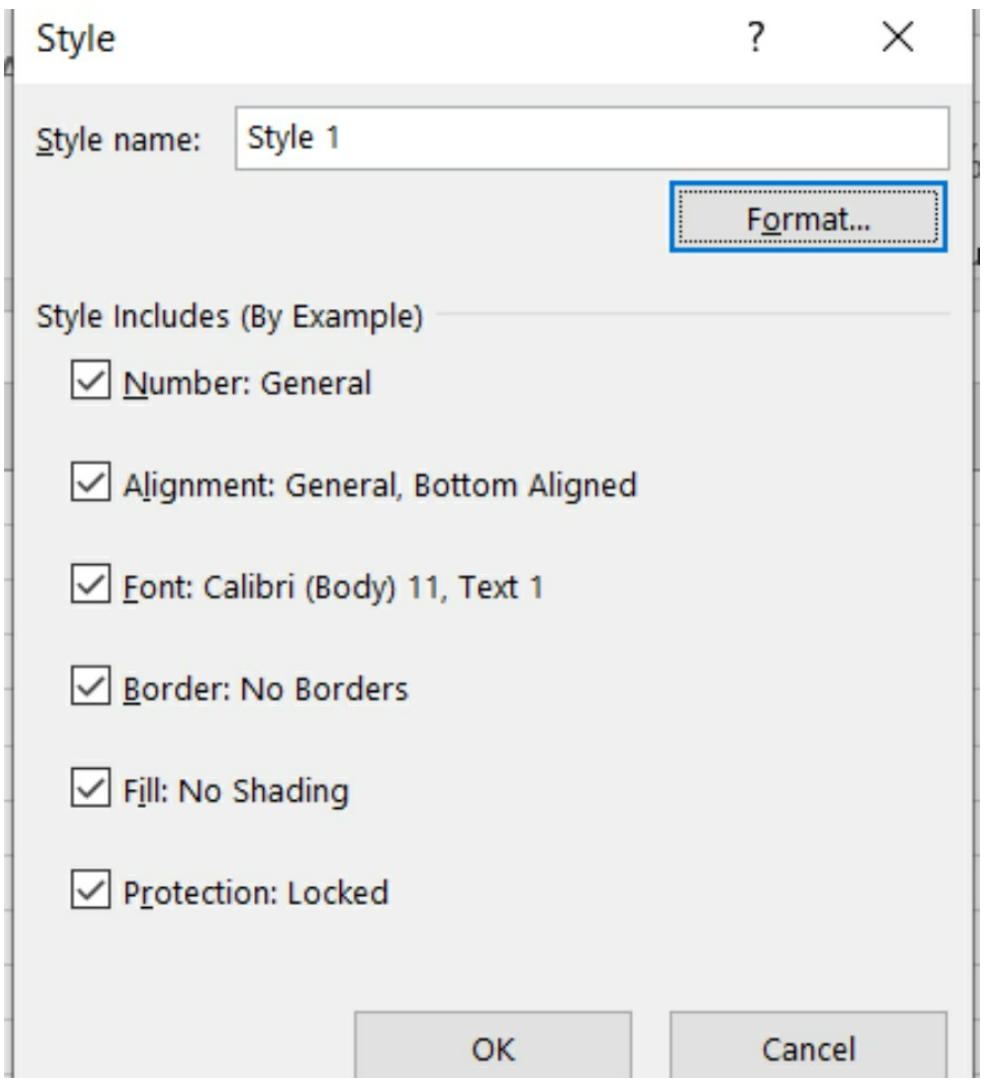
To create a cell style by modifying the existing cell style, follow the steps below:

- Go to the **Home** tab and click on **Cell Styles** in the **Styles** group
- In the **Cell Style** drop-down menu, right-click on any cell style to open the context menu, and then

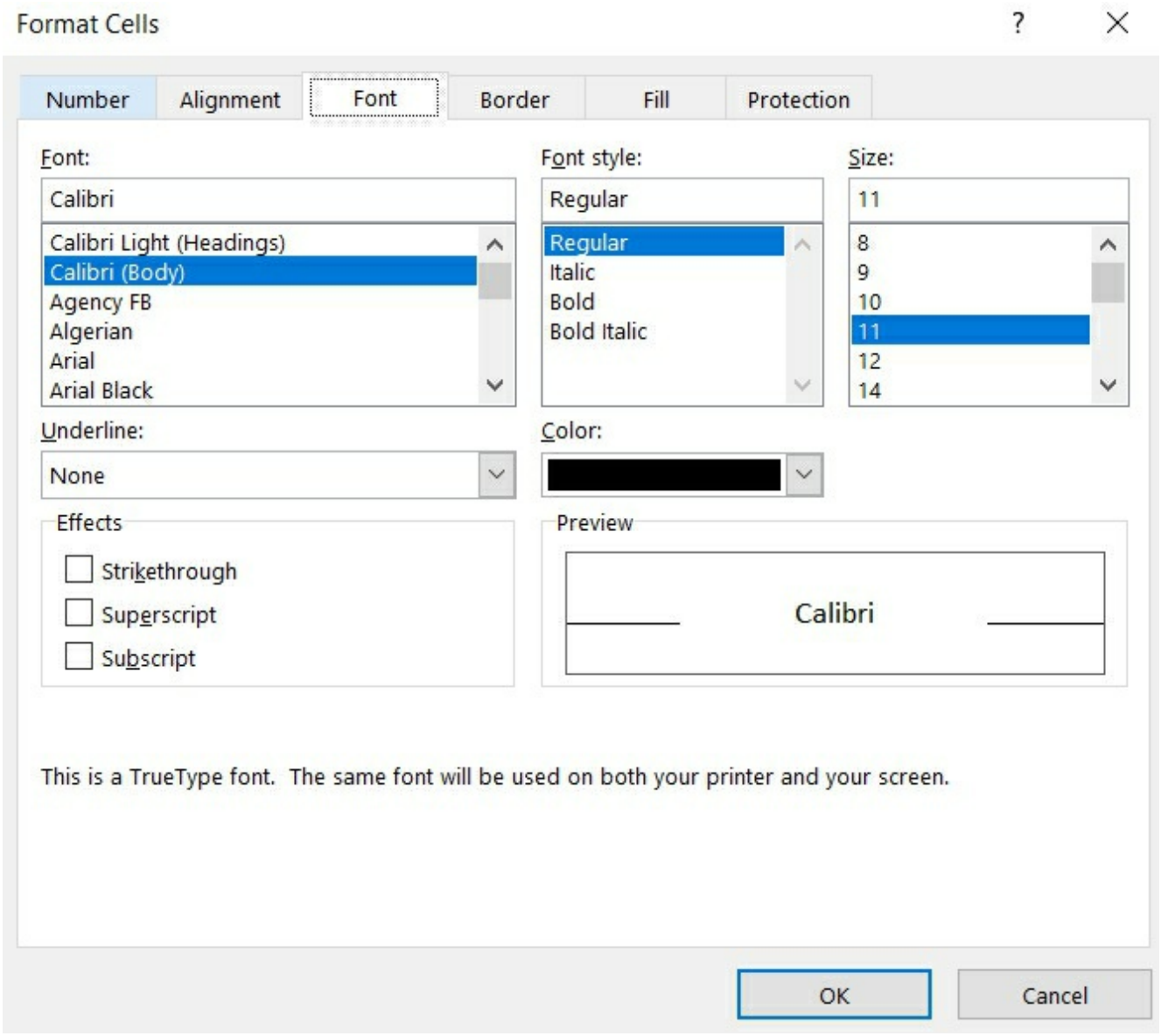
select **Modify**



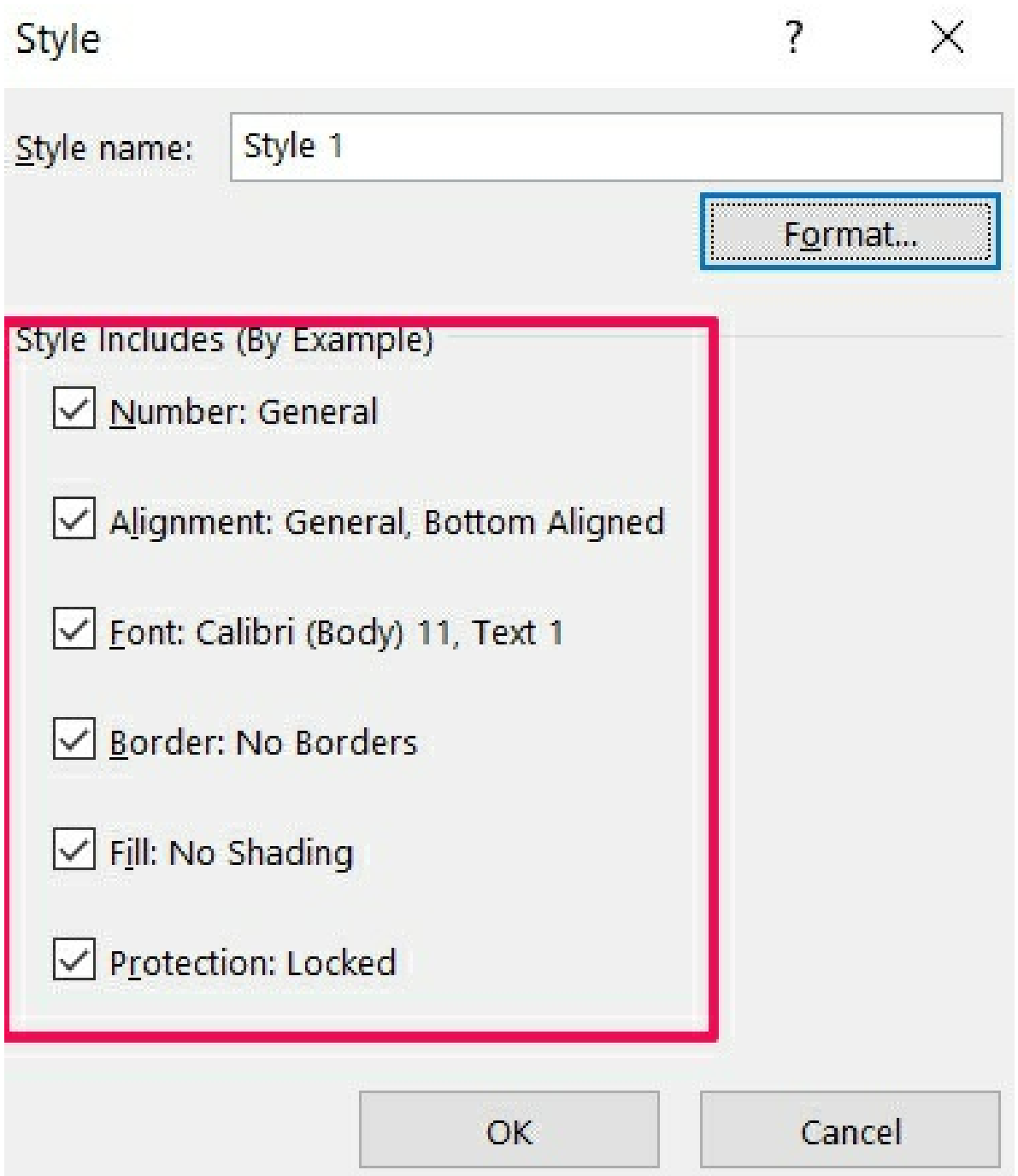
- In the **Style** dialog box, enter the name of the new cell style in the **Style name** box



- Click on Format to open the **Format Cell** dialog box, where you select the formatting you want, and then click on **OK.**



- Go back to the **Style dialog** box to clear the checkboxes of any formatting you don't want in the cell style under the **Styles Includes (By Example)**

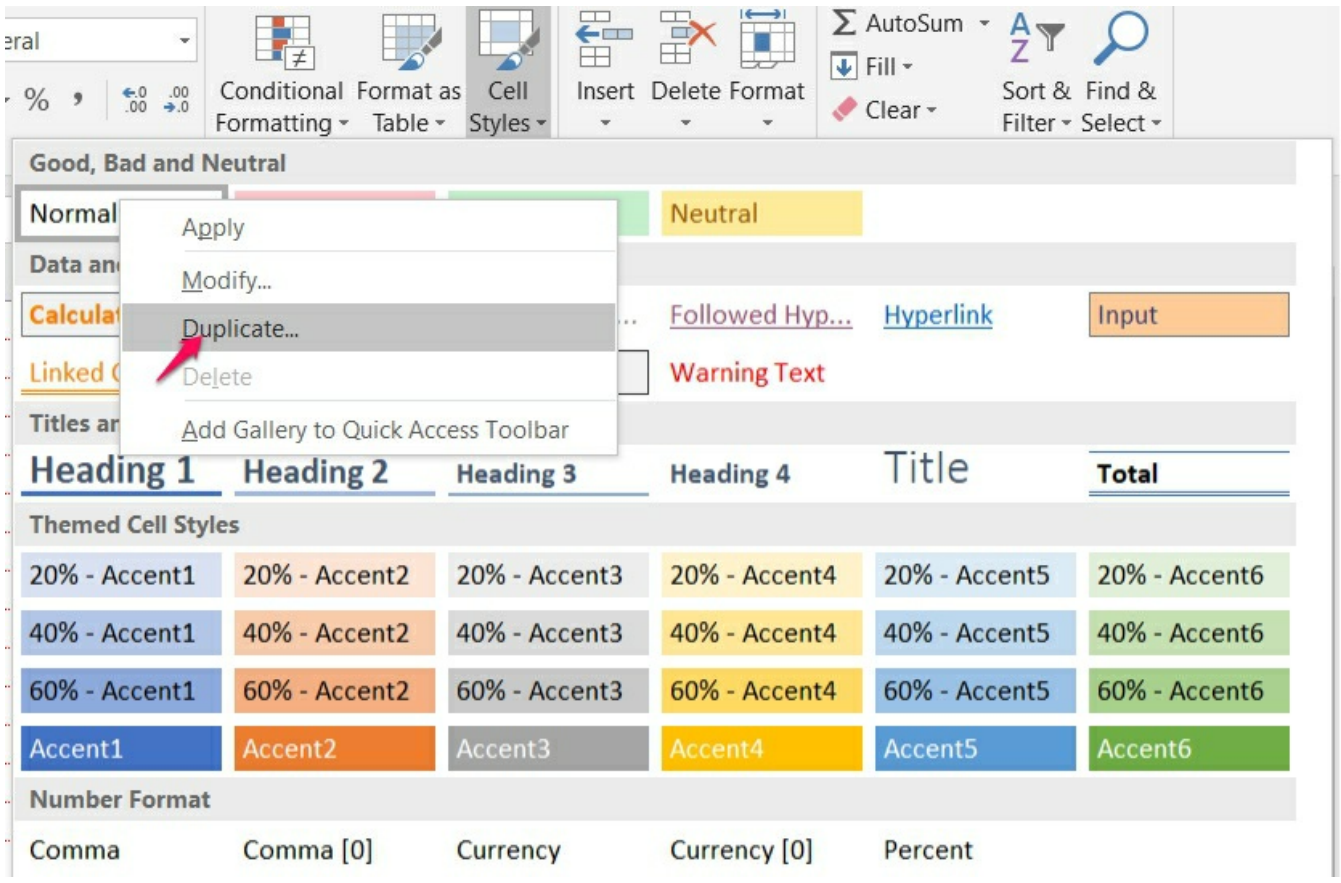


- Click on **OK** and the cell style modified will be updated to effect the changes made to it.

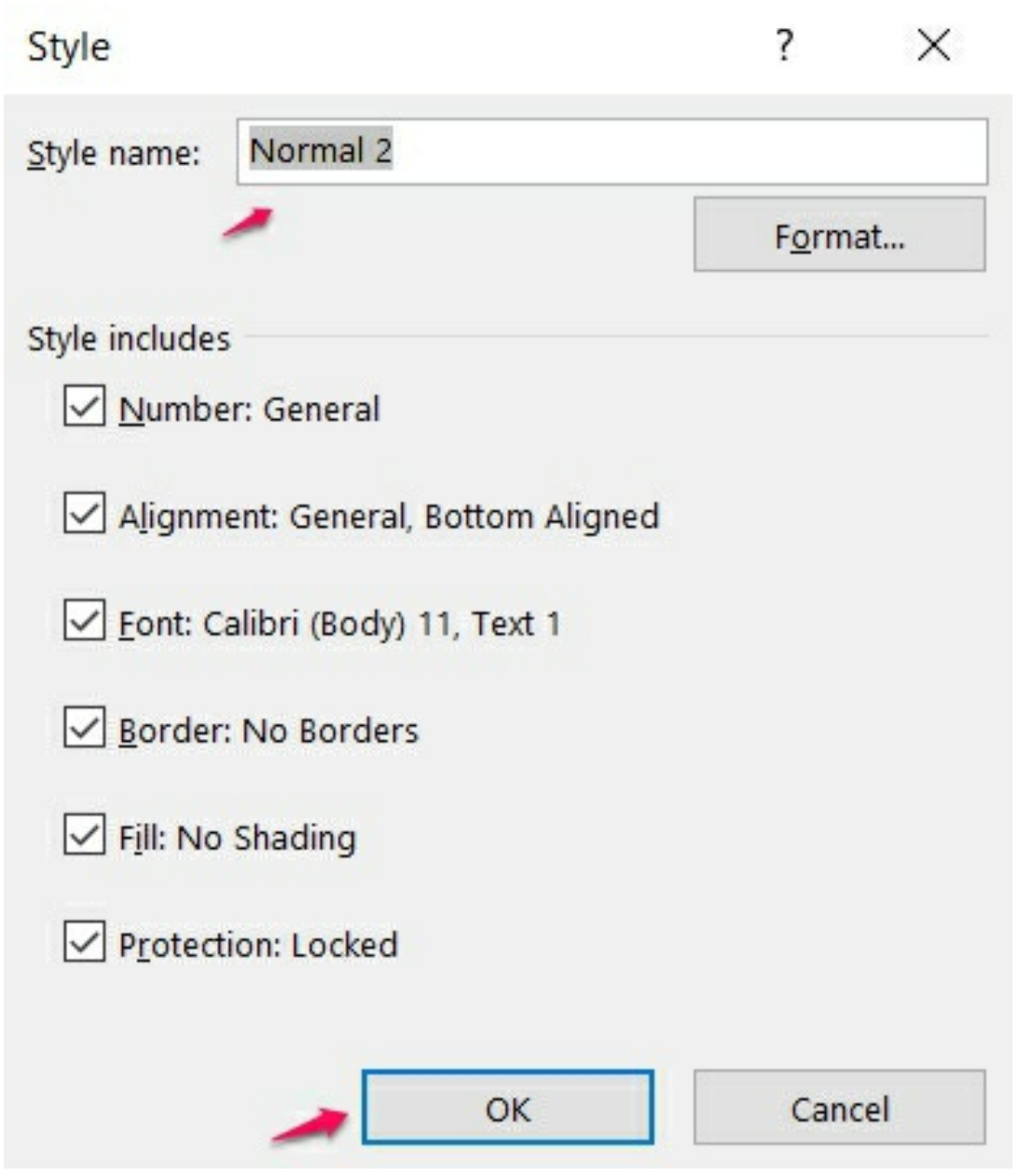
Duplicating an Existing Cell Style

You can create a duplicate of a built-in cell style or custom cell style, all you need to do is follow the steps below:

- Go to the **Home** tab and click on **Cell Styles** in the **Styles** group
- In the **Cell Style** drop-down menu, right-click on any cell style to open the context menu, and then select **Duplicate.**



- In the Style dialog box, enter the name of the new style, and click on the Ok button to close the dialog box and return to the worksheet.



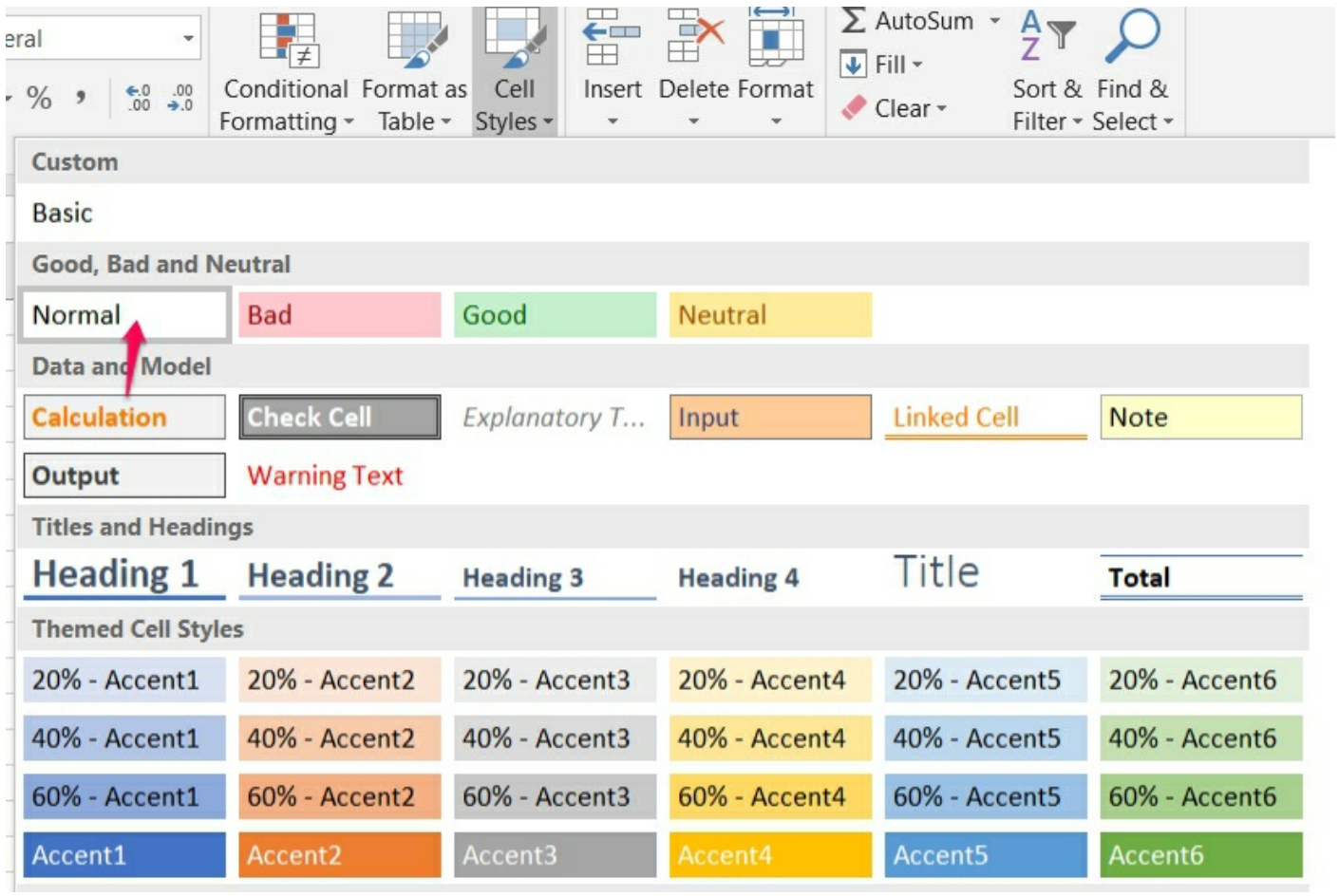
- After closing the Style dialog box, the duplicated cell style will be updated to reflect the changes.

Removing Cell Styles from a Worksheet

You can remove the cell styles from your worksheet without the need to delete the cell styles. To do this, follow the steps provided below

Select the cells you wish to remove the cell style

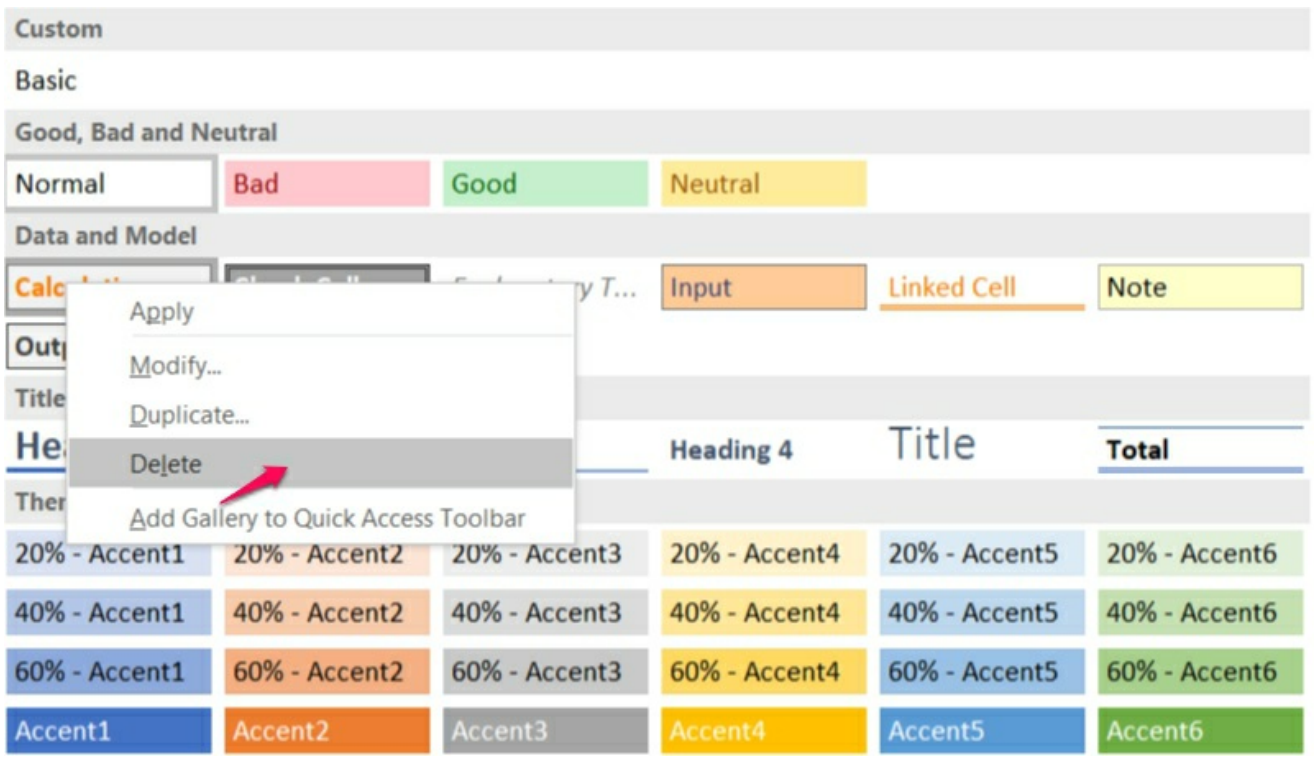
- Go to the **Home** tab and click on **Cell Styles** in the **Styles** group,
- In the **Cell Style** drop-down menu, select **Normal** under **Good, Bad**, and **Neutral.** Here, the cell-style formatting will be removed from the worksheet.



Deleting a Cell Style from a Worksheet

All other cell styles such as the built-in and custom styles in the Styles group can be deleted, except for the Normal styles. To delete a cell style from your worksheet, follow the steps provided below

- Go to the **Home** tab and click on **Cell Styles** in the **Styles** group
- In the **Cell Style** drop-down menu, right-click on any cell style you wish to delete to open the context menu, and then select **Delete.**



- When this is done, the cell style is deleted completely from the cell style gallery.

CHAPTER SEVEN

THE EXCEL FORMULA AND FUNCTIONS

Before you begin to go through this chapter, keep this in mind, this chapter is the most important and complicated part of this book. Despite knowing this, do not fret because everything you will be learning here will be done with simplicity.

In this chapter, we will be emphasizing everything you need to know about formulas and functions, and how they can be applied in the worksheet. Before we go, we must understand what formula and a function are all about.

What is a Formula

A formula is an expression that is used to calculate the values of cell or range cells. The formula begins with an equal sign, followed by the cell addresses that will be calculated upon, making use of the right operand (this is also known as the order of operations). For instance, **=A2+A3+A4** calculates the sum of the cell range from cell A2 to cell A4.

What is a Function

A function is a predefined formula containing a special name and purpose. The function begins with an equal sign, followed by the function's name, and ends with its arguments.

The functions help to remove the stress of entering your data manually. For instance, =SUM (A2:A6) sums all the values from A2 to A3

Getting Familiar with The Formula Tab

The Formula tab is one of the tabs in Excel used to insert functions, define names, create name ranges, review formulas, etc.

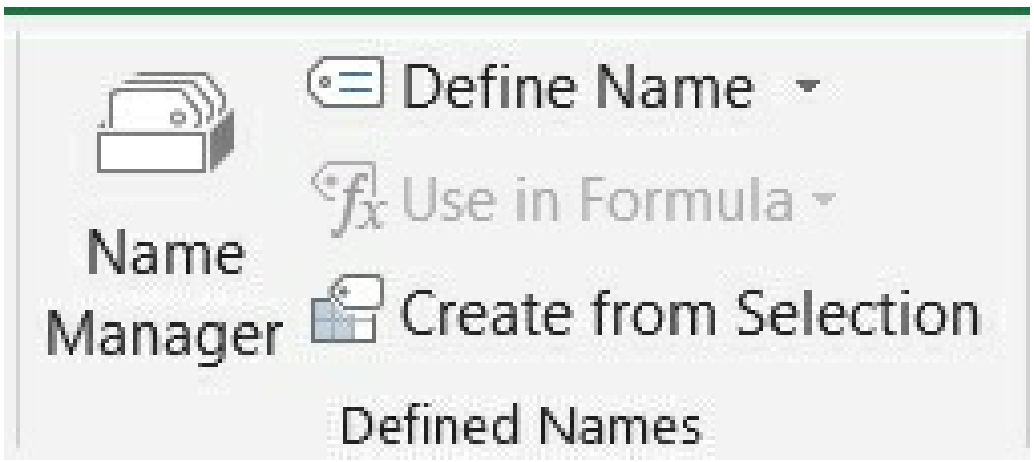
The Formula tab is divided into five groups

- *Function library*
- *Defined Names*
- *Formula Auditing*
- *Calculation*
- *Solutions*

Function Library: The Function Library group contains the 461 functions and it contains the following options;

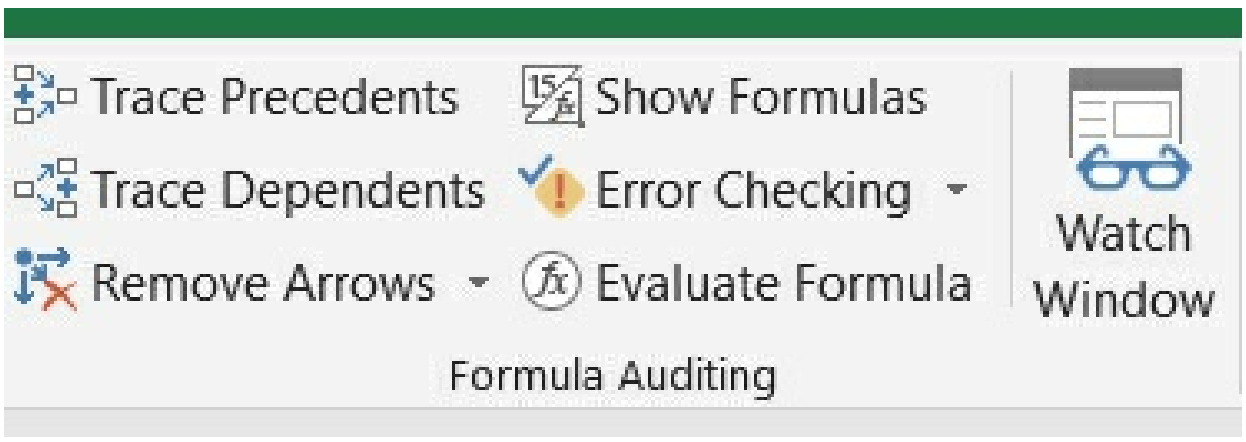
- **Insert Function**: This is what displays the Insert Function dialog box which allows you to search for a particular function or display the list of functions by category.
- **AutoSum**: This option allows you to insert functions such as Sum, Average, Count Numbers, Max, Min, or More Functions.
- **Recently Used**: This option gives quick access to the 10 functions that were recently used.
- **Financial**: This option provides quick access to all functions in the Financial category.
- **Logical:** This option provides quick access to all functions in the Logical category.
- **Text:** This option provides quick access to all functions in the Text category.
- **Date & Time**: This option gives quick access to all the functions in the Date & Time category.
- **Lookup & Reference**: This option provides quick access to all functions in the Lookup & Reference category.
- **Math & Trig:** This option provides quick access to all functions in the Math & Reference category.
- **More Functions:** This provides access to the Statistical, Engineering, Cube, Information, Compatibility, and Web categories.

Define Names: With this Define Names group, you can define the name of a cell. Not only that, this allows you to view the named sections on the worksheet in the Name Manager, and edit then them to the name you want or desire. The Define Names contains the following:



- **Define Name:** This button contains two commands; Define Names and Apply Names. The Define Names are used to create a workbook and worksheet level named ranges, and the Apply Name shows the Apply Name dialog box.
- **Use in Formula:** This contains a list of all the named ranges in the workbook alongside the Paste Names command.
- **Create from Selection**: With this option, you can name a cell or range of cells selected making use of the row or column title that has been previously entered.

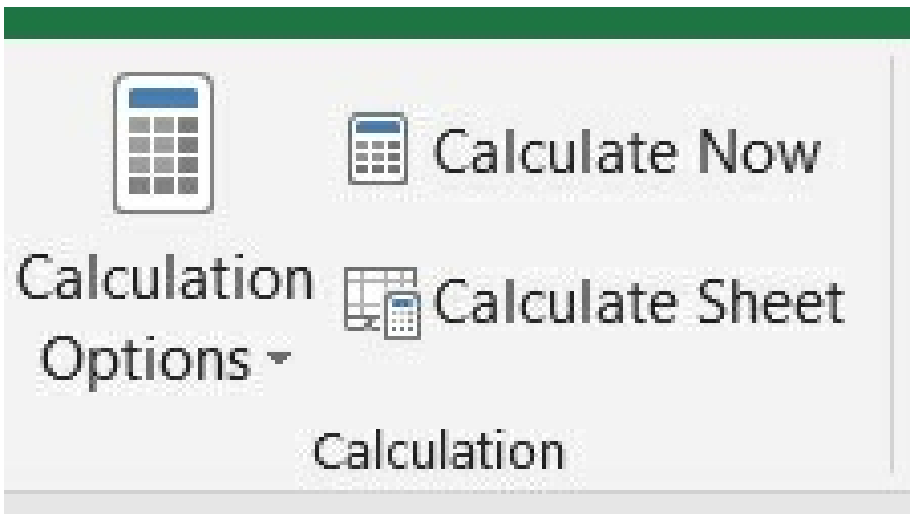
Formula Auditing: The Formula Auditing group is responsible for checking and correcting formulas. The following are the options in Formula Auditing



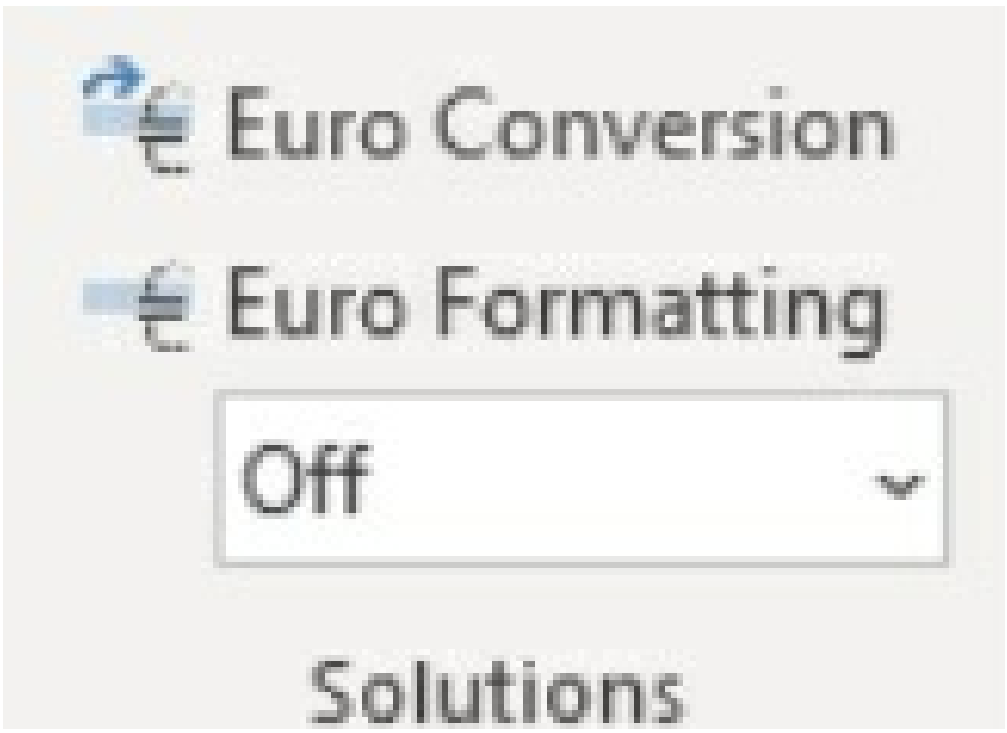
- **Trace Precedents:** This helps to know the cells that affect the value of the currently selected cell.
- **Trace Dependents:** This helps to know the cells that are affected by the value in the cells that are currently selected.
- **Remove Arrows:** This is the option that removes all the arrows drawn by the trace precedents and trace dependents.
- **Show Formulas:** This is what displays the formula instead of the result in the worksheet.
- **Error Checking**: This is what checks the errors in a formula on the worksheet.
- **Evaluate Formula**: This allows you to thoroughly go through a formulation
- **Watch Window**: This option shows you where to view and monitor all the contents of the cells and their result as changes as made.

Calculation: The Calculation group help to switch from calculation from automatic to manual. The following are the options in Calculation

- **Calculation Options:** This option allows you to change the calculation in your active workbook from manual to automatic except for the data in tables. If you make a change that affects a value, Excel will automatically recalculate it.
- **Calculate Now:** This is used to calculate the entire workbook now. This is only used when the automatic calculation is turned off.
- Calculate Sheet: This is used to calculate the entire active cell, and it is used when the automatic calculation is turned off.



Solutions: The Solution group is only displayed when there is a Euro Currency Tool add-in loaded in Excel. The following are the options in the Solution group:



- **Euro Conversion**: This launches the Euro Conversions Wizard
- **Euro Formatting:** This is used to apply Euro formatting to the cells selected.
- **Quick Conversion:** This is used to execute quick conversions

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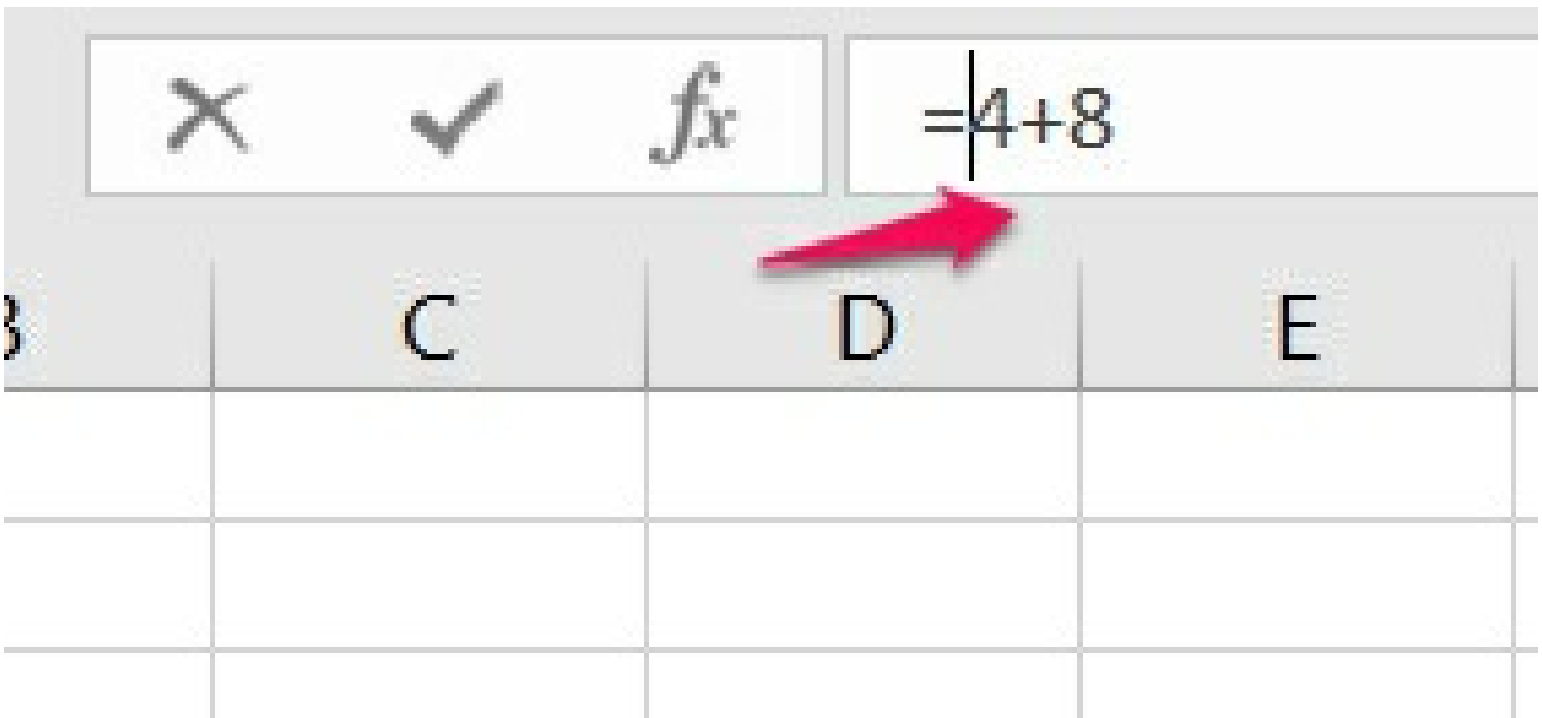
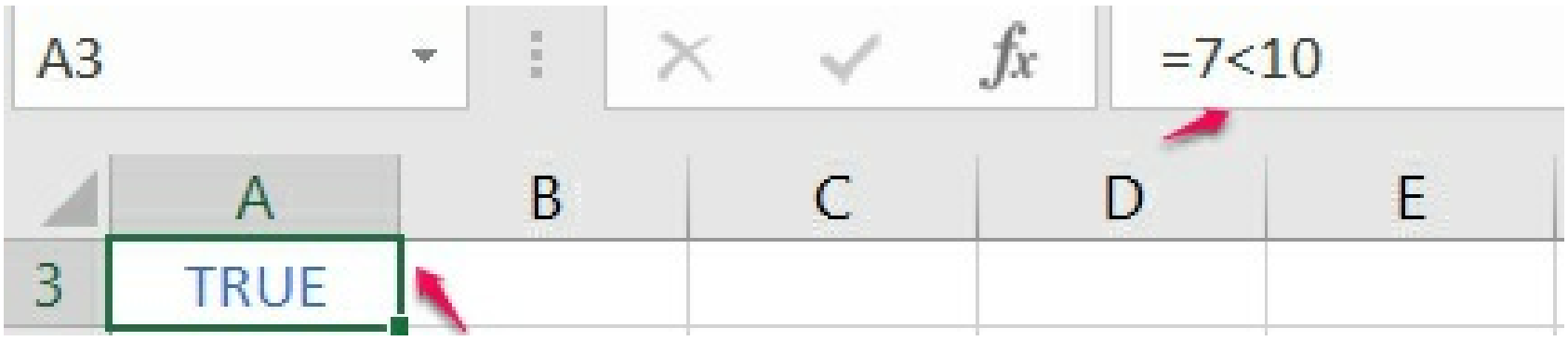
Categories of Data Excel's Formula Accepts

The Excel formula is characterized by the data values it accepts, and anything short of this data value may not work. These data values are highlighted below:

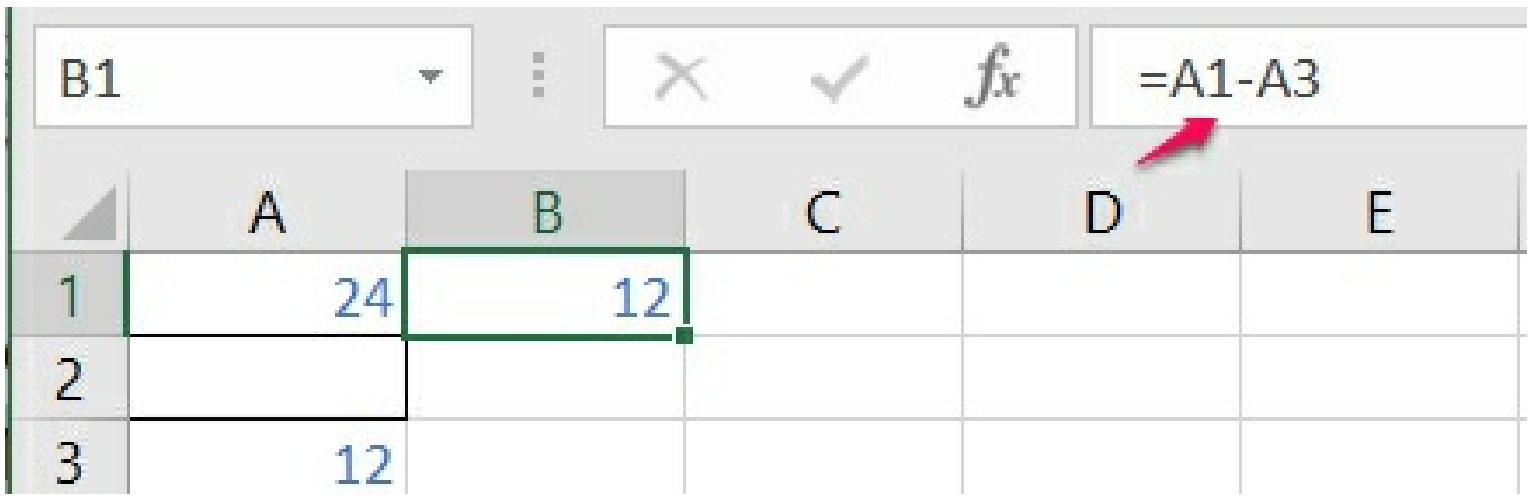
Constant: These are numbers inserted directly into the formula bar. For instance, inputting =**4+8** into the formula bar to get **12**



Operators: These are symbols used in Exel to perform arithmetic operations (addition, subtraction, multiplication, etc.), comparing values (greater than or less than), and merging values (&). For instance, entering =7<10 into the formula bar returns the value to TRUE; this is because 7 is less than 10



Cell Reference: This is a cell or a range of cells on the worksheet that can be used in a formula so that Excel can find the values or data you want the formula to calculate. For instance, entering **=A1-A3** connotes that Excel will subtract the value in cell A3 from cell A1

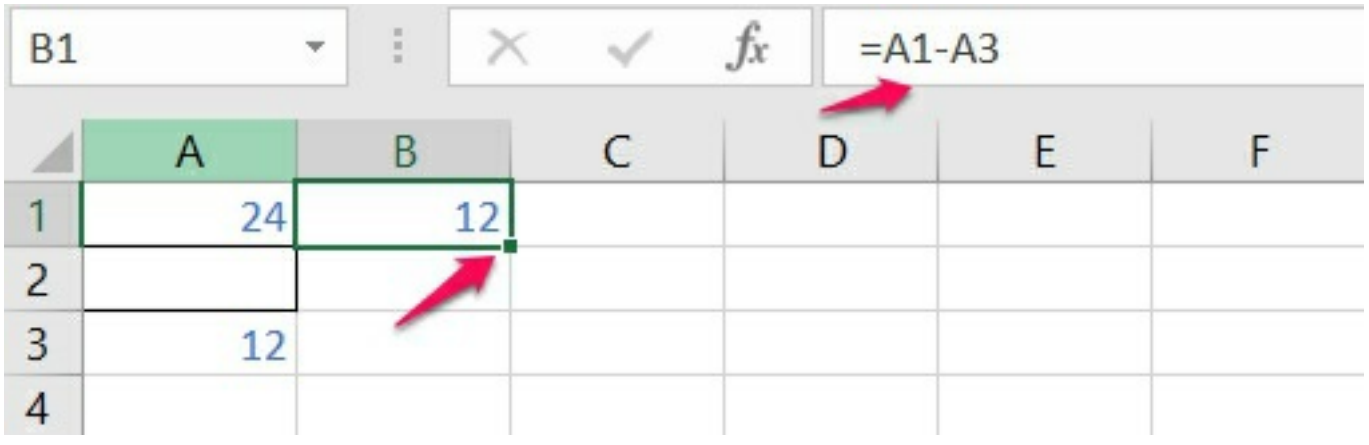


Inserting Formulas into your Worksheet

Learning how to enter formulas into your worksheet is very important. So, you will be learning how to insert formulas in your worksheet using several methods, and they are highlighted below

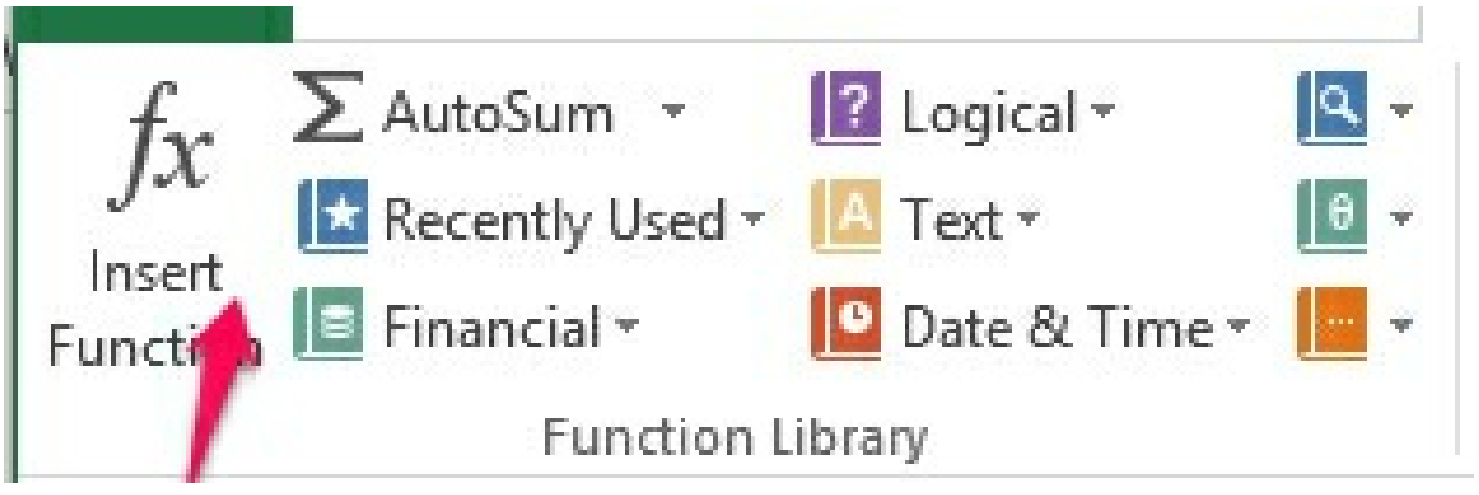
Simple Insertion: The Simple Insertion method has to do with entering the formula into the cell or Formula Bar. The Formula bar can be seen above the column header. To use the Simple Insertion method,

- Go to the **Formula bar** or click on a cell
- Start typing an equal sign (=), followed by the name of the function, and then press **Enter.**

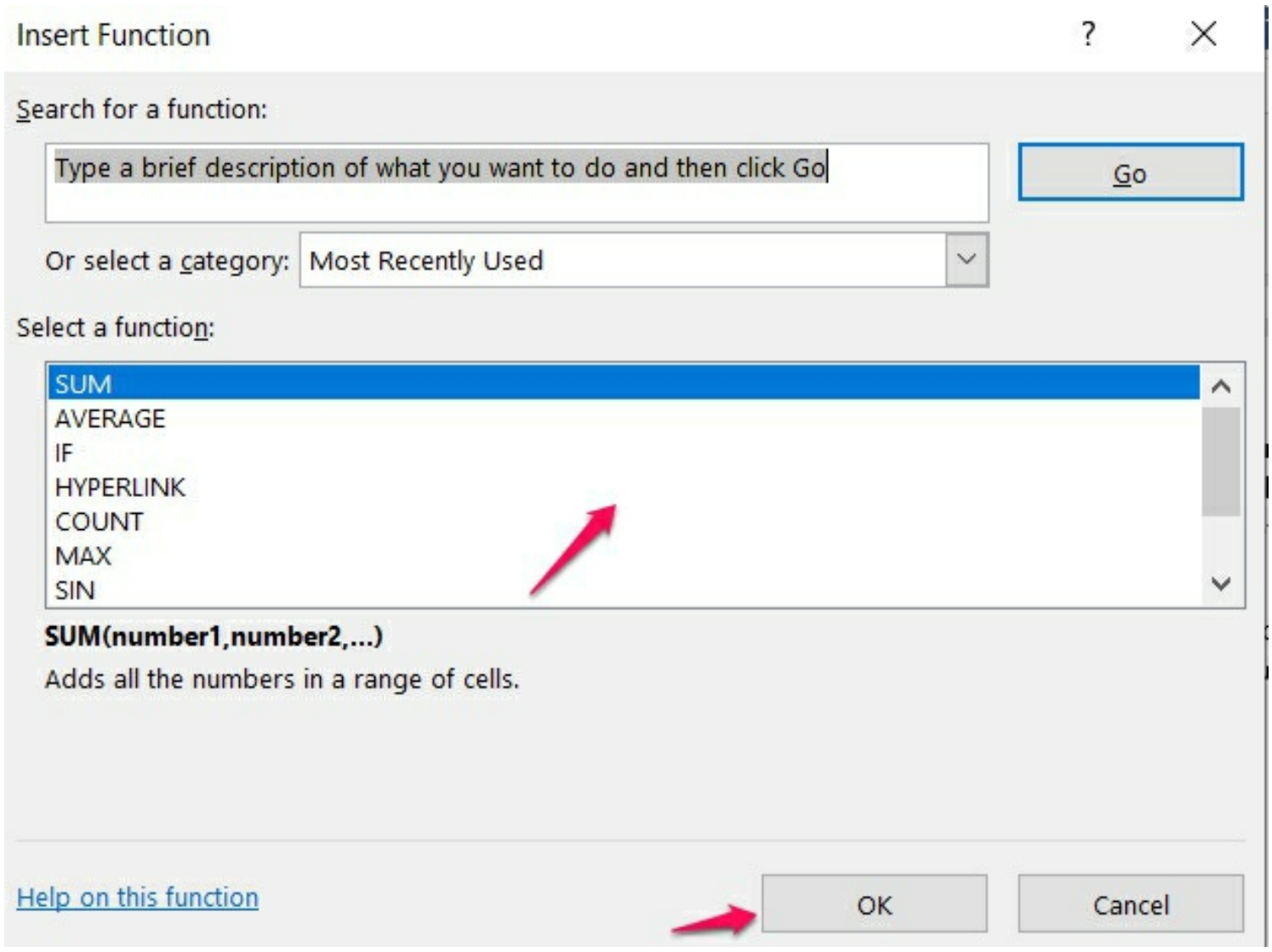


The Insert Function: One of the methods to enter a formula in Excel is the Insert Function command. The Insert Function consists of all functions found in Excel's worksheet. To locate the Insert Function

- Go to the **Formula tab** and click on **Insert Function** in the **Function Library**

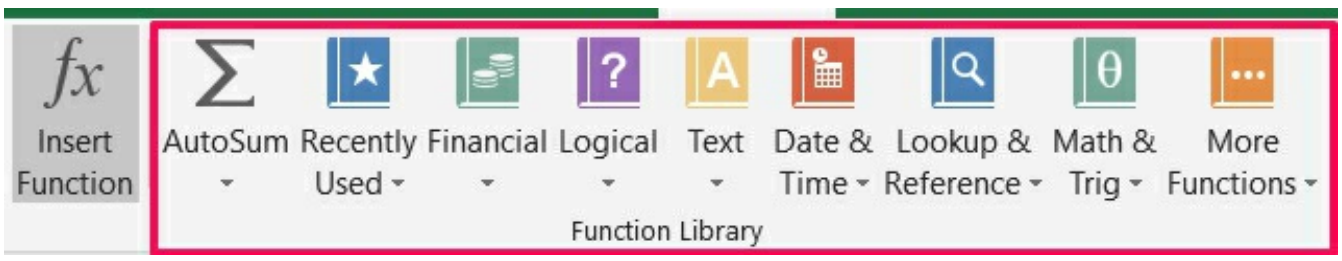


- In the **Insert Function** dialog box, click on any function you wish to use on the worksheet, and then click on **OK.**

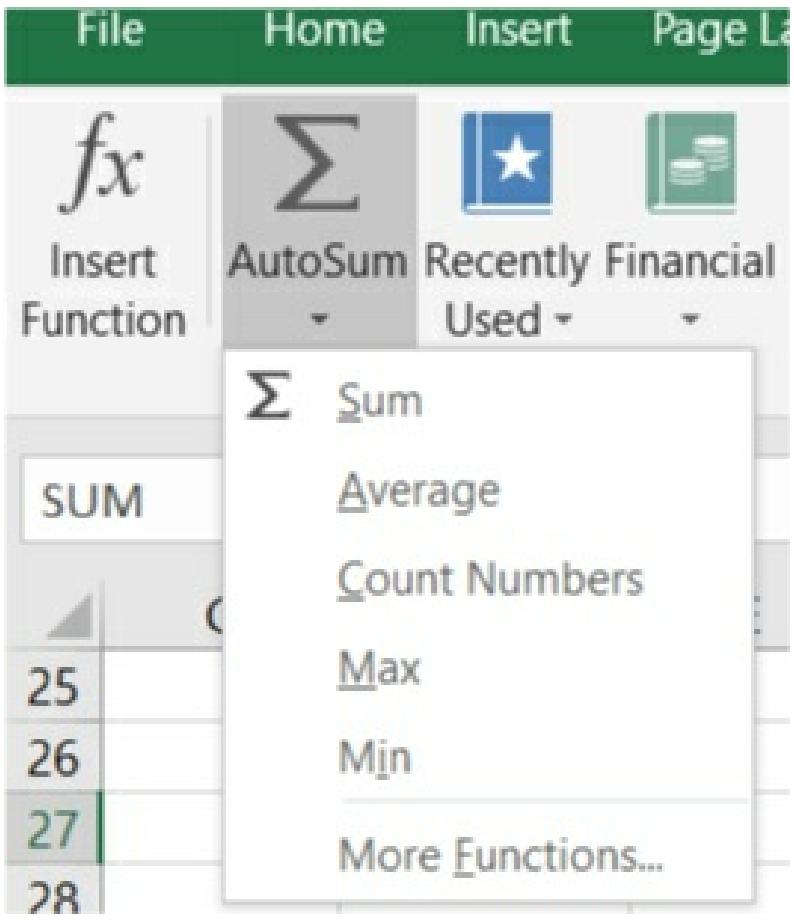


- **Group of Formula:** Another way to enter a formula in your worksheet is by using selecting any formula from the group of formulas in the Function Library group.

The group of formulas includes AutoSum, Recently Used, Financial, Logical. Text, Date & Time, Lookup & Reference, Math & Trig, and More Functions

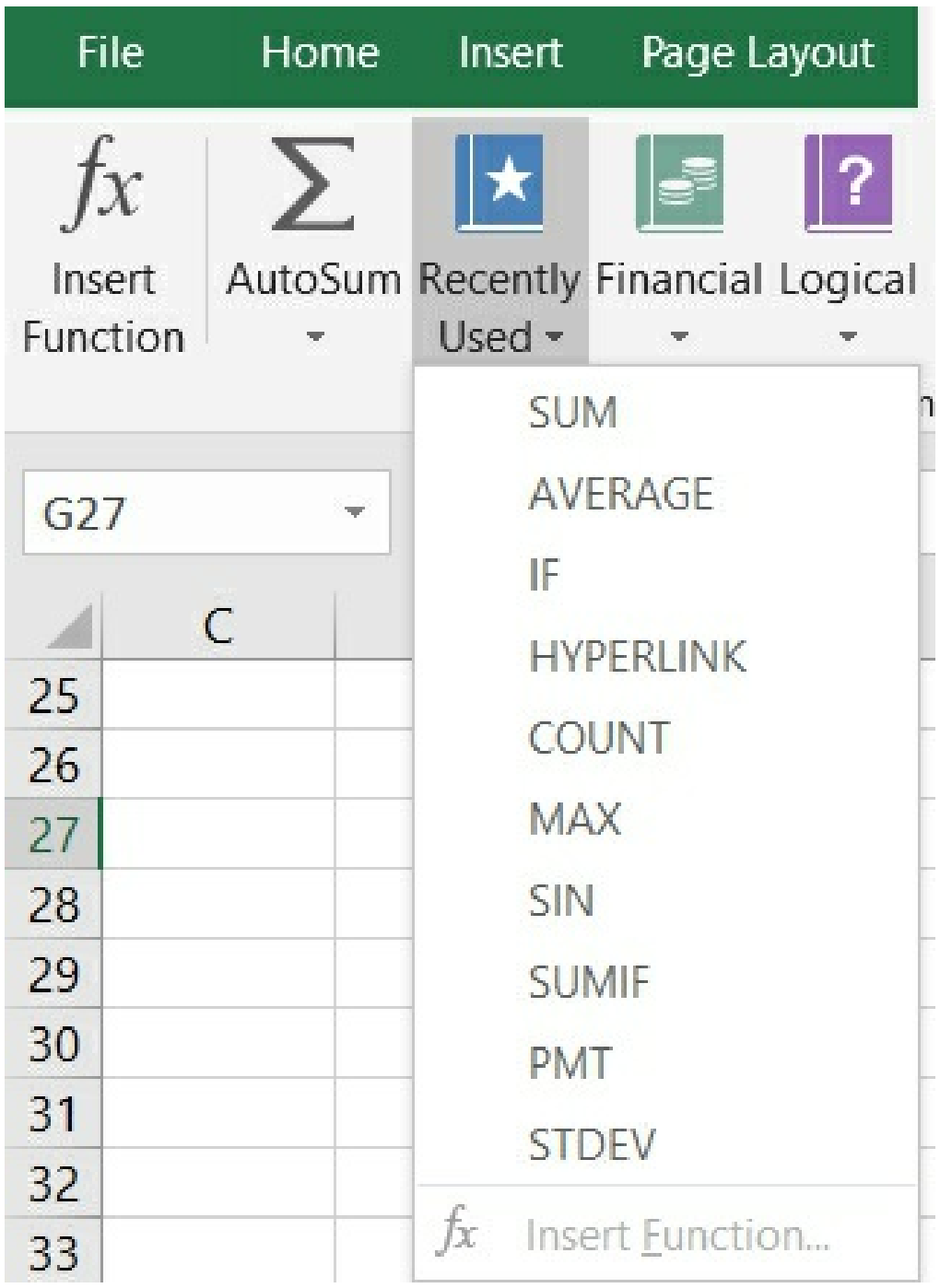


- AutoSum Option: This is used for quick and everyday tasks. To use the AutoSum Option, go to the **Formula** tab and click on **Recently Used** in the **Function Library**



- **Recently Used Tab**: This tab comes in handy when you want to relieve the stress of re-tying your most recent formula. To locate this tab, go to the Formula tab and click on **Recently Used** in the

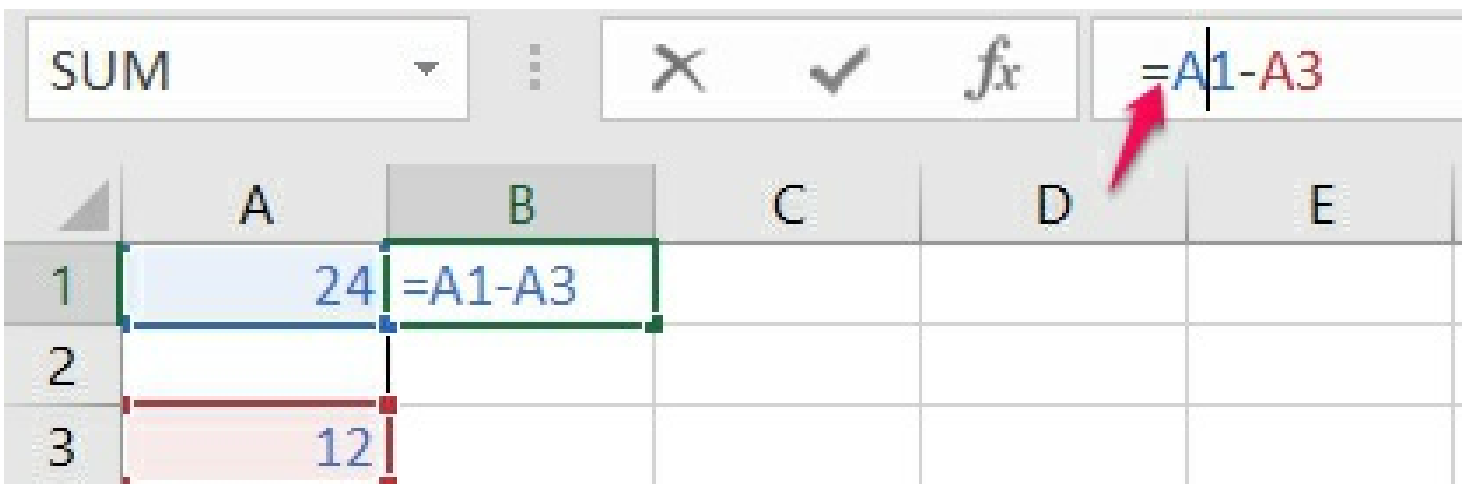
Function Library.



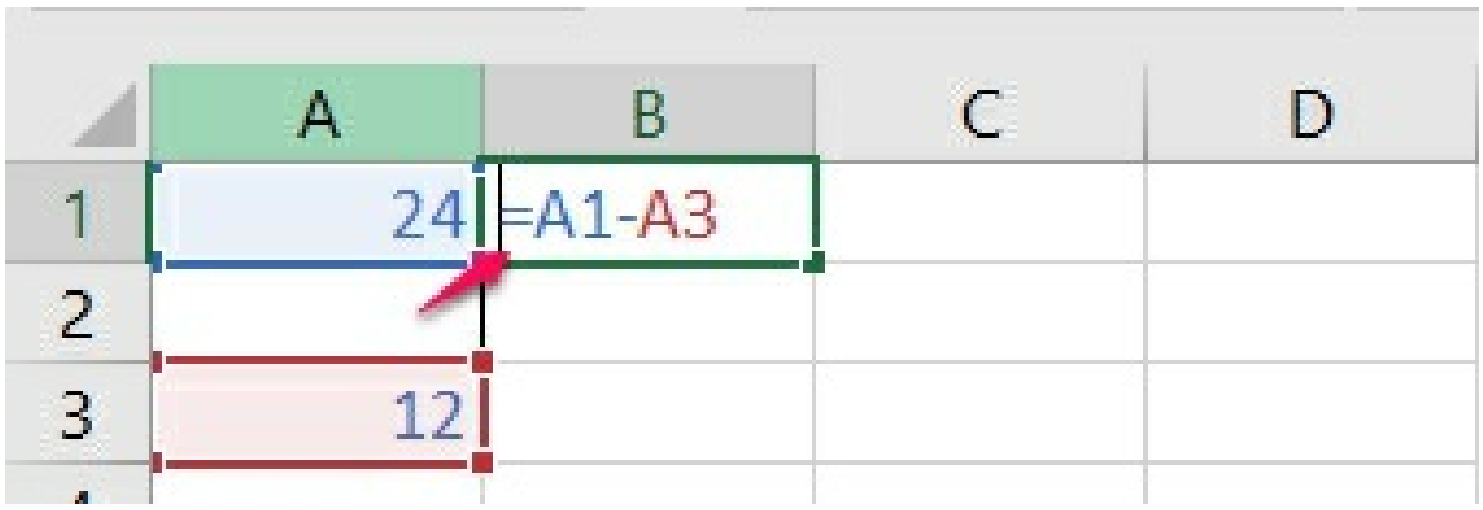
Editing the Formula

To edit the formula in your worksheet, you can use any of the following techniques

- **Using the Formula bar**: To edit your formula, go to the Formula Bar, and start editing the formula.



- **The Formula Cell**: To edit the formula in your worksheet, click directly into the cell, and the cell will be activated into an Edit mode where you can make changes to the formula.



Understanding the Formula Operators

The Formula operators specify the type of calculation that you want to execute in the worksheet. Such operations include addition, subtraction, multiplication, or division, etc.

The following are types of Formula operations in Excel

Arithmetic Operators: Arithmetic operators are operators that are concerned with basic mathematical operations such as addition subtraction division or multiplication. These operators work with numbers.

The following are the examples of arithmetic operations

ARITHMETIC OPERATOR	NUMBERS OF OPERANDS	ARITHMETIC FUNCTION	EXAMPLES
Plus sign +	2	Addition	3+1
Minus sign -	2	Subtraction	4-2
Minus sign -	1	Negation	-3
Asterisk *	2	Multiplication	3*7
Forward slash /	2	Division	4/3
Exponentiation ^	2	Raise the power of a value	4^1
Percent %	1	Divide by 100	35%

Comparison Operators: These are operators that compare two values to carry out operations such as less than, greater than, equal to, etc. When these two values are compared, the result is always in a logical value which could be TRUE or FALSE.

The following are the comparison operators listed in the table below:

COMPARISON OPERATOR	MEANING	EXAMPLE
Equal sign =	Equal to	2=2
Less than sign <	Less than	2<6
Greater than sign >	Greater than	5>1
Greater than or equal to sign>=	Greater than or equal to	67>=333
Less than or equal to sign =<	Less than or equal to	52<=321
Not equal to sign <>	Not equal to	5<>7

Concatenation Operator: This operator joins or combines two or more springs to form a single text or string. The Concatenate operation receives text as their input values and if they are not texts, they are transformed into texts.

OPERATOR	MEANING	EXAMPLE
Ampersand &	Connect or join two values to produce a single text	‘’In’’ & ‘’put’’ to form ‘’Input’’

Logical Operators: These are operators that accept Boolean values as the values of their operands, and they produce one Boolean value as their result or outcome.

The logical operators are highlighted in the table below

LOGICAL OPERATOR	NUMBERS OF OPERANDS	MEANINGS	EXAMPLE
And	2	True if both input values are true	5<3 and amount <3
Or	2	True if one of the input values is true	7>5 or 4<7
Not	1	Reverses the value of its input value	not 5>6

Reference Operator: These operators combine ranges of cells for calculations, and they are highlighted in the table:

REFERENCE OPERATOR	MEANING
Colon):	Range operator: This gives one reference to all the cells between two reference
Comma ‘	Union operator: This joins multiple references into one reference
Space	Intersection operator: This gives one reference to cells common to the two references.

Access Operators: The access operators consist of the following operators; the Dot operator (.), the index operator ([]), and the At operator (‘@).

The Alt Operator: This is the operator is used to specify or indicate many alternative formulas that can be used in a cell.

The IF Operator: The IF operator is used to perform conditional calculations.

The Order of Operator Precedence in Excel Formulas

Just as BODMAS is to mathematics, the Operator Precedence is to Excel’s worksheet.

The ***order of operator precedence*** can be defined as the specific order at Excel evaluates and carry out calculations when a formula is created using many operators. For example, Excel executes multiplication before addition.

The following is the order of precedence in Excel:

- Evaluate the values in parentheses
- Evaluate the range (:)
- Evaluates the intersections (spaces)
- Evaluate unions (,)
- Perform negation (-)
- Convert percentages (%)
- Perform exponentiation (^)
- Perform multiplication (*) and division (/), that are of equal precedence
- Perform addition (+) and subtraction (-) which are of equal precedence
- Evaluate text operators (&)
- Perform comparisons (=, <>, <=,>=).

Manipulating the Order of Precedence Using the Parentheses

To change the order of precedence in your Excel worksheet, enclose the part of the formula into a parenthesis. Doing this, the formula enclosed in parentheses is calculated first.

For instance, if the parentheses are applied to these values; **=(6+2)*3**, the values enclosed in the parentheses are calculated first i.e. 6 and 2 are added together and then multiplied by 3 to produce 36.

In contrast, if the parentheses are not applied in the same values: **=6+2*3**, Excel multiplies 2 by 3 following the order of precedence, and then adds 6 to it producing 12.

In a nutshell, applying parentheses to your formula makes the calculation clearer and easier.

Cell Referencing

A cell reference is an alphanumeric value or data used in excel to locate or identify a cell in the worksheet. The cell reference comprises one or more letters for the columns and a number for the row e.g. **A1.** You can locate the data you wish to calculate using the cell reference. The cell reference is also known as cell address.

Types of Cell References

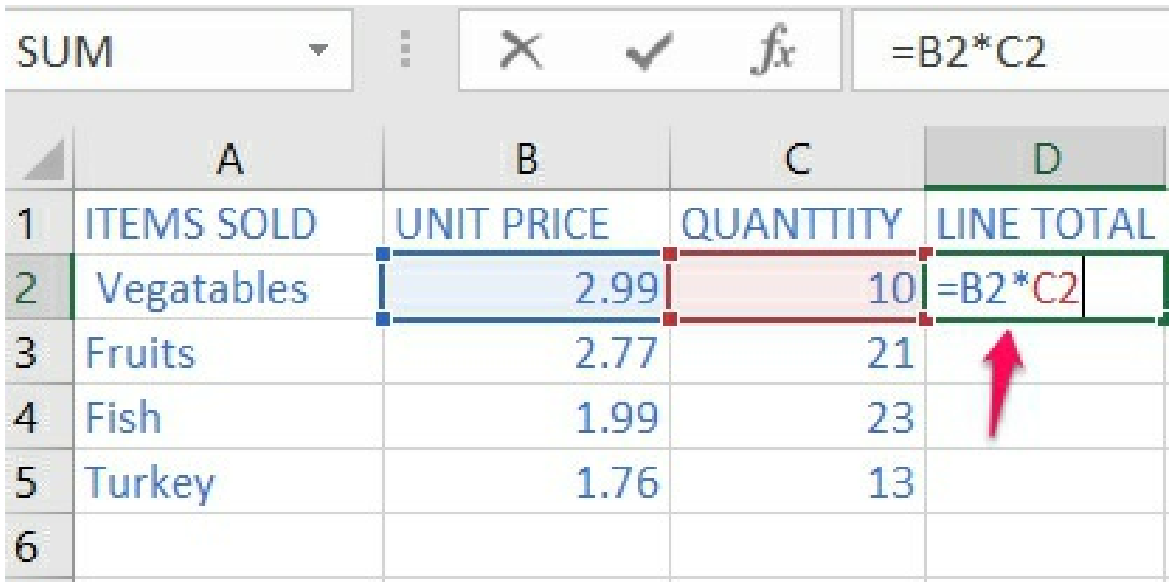
To have a better understanding of how to use the cell references together with formulas, it is pertinent to know about the types of cell references. Now let's quickly go examine the types of cell references.

Relative References

By default, the cell references in the Excel worksheet are relative. When the cells are copied across the multiple cells, the cells change based on the relative position of rows and columns. For instance, when you add **=B3+C3** in cell **D3** and copied it to cell **D4**, the formula will change to =**B4+C4.** The relative references are best used when you want to replicate the same action across multiple rows and columns.

To create and coy formula using the relative references, use the following procedures

- Click on the cell **(D1)** where you wish to enter the formula and type in the formula =**(B1*C1)** in the cell to get the anticipated result



- Press the **Enter** key and the formula will be calculated, showing the outcome of the formula in the cell

- Locate the **Fill handle** in the lower part of cell **D2**, click on it, then hold and drag it down to cell **D6.**
- When you release the mouse, the formula will be copied to the cells selected, showing the result in each cell.

D2 | =B2*C2

	A	B	C	D
1	ITEMS SOLD	UNIT PRICE	QUANTTITY	LINE TOTAL
2	Vegatables	2.99	10	29.9
3	Fruits	2.77	21	58.17
4	Fish	1.99	23	45.77
5	Turkey	1.76	13	22.88
6				

Absolute Cell Reference and Multiple cell Reference

An absolute cell reference is a cell reference that stays locked on a specific cell or cell ranged, even if the formula is changed making use of the dollar sign ($). In other words, an absolute cell reference makes use of the dollar sign ($) to keep both row and column constant when copying a formula from one cell to the other in a worksheet.

A multiple cell uses the dollar sign to keep either the row or column constant.

A3	The column and the row will not change when copied
A$2	**The row will not change when copied**
$A2	**The column will not change when copied**

In the example below, we will be using cell D1 that contains the tax rate of 8% to calculate the sales of each item in column E. However, we will need to make the D1 constant when we copy the formula to fill other cells. If the D1 is not made constant, the following result will be gotten.

	A	B	C	D	E
1			Tax rate	8%	
2	ITEMS SOLD	UNIT PRICE	QUANTTITY	LINE TOTAL	
3	Vegatables	2.99	15	44.85	3.36375
4	Fruits	3.99	10	39.9	#VALUE!
5	Fish	2.29	20	45.8	2054.13
6	Turkey	2.48	30	74.4	2968.56
7	Chicken	2.49	20	49.8	2280.84
8	Bevrages	2.78	26	72.28	5377.63

To avoid getting the result shown in the table above, follow the steps given below using the dollar sign

- Click on the cell **(E3)** where the formula will contain and type in the formula =**(B3*C3)*D1** in the cell to get the anticipated result.

E10

	A	B	C	D	E
1			Tax rate	8%	
2	ITEMS SOLD	UNIT PRICE	QUANTTITY	LINE TOTAL	SALES TAX
3	Vegatables	2.99	15	44.85	
4	Fruits	3.99	10	39.9	
5	Fish	2.29	20	45.8	
6	Turkey	2.48	30	74.4	
7	Chicken	2.49	20	49.8	
8	Bevrages	2.78	26	72.28	

- Press the Enter key and the formula will be calculated, showing the outcome in the cell.

	A	B	C	D	E	F
1			Tax rate	8%		
2	ITEMS SOLD	UNIT PRICE	QUANTTITY	LINE TOTAL	SALES TAX	
3	Vegatables	2.99	15	44.85	3.36375	
4	Fruits	3.99	10	39.9		
5	Fish	2.29	20	45.8		
6	Turkey	2.48	30	74.4		
7	Chicken	2.49	20	49.8		
8	Bevrages	2.78	26	72.28		

- Locate the **Fill handle** in the lower part of cell **E4**, click on it, then hold and drag it down to cell **E8.**
- When you release the mouse, the formula will be copied to the cells selected, showing the result in each cell

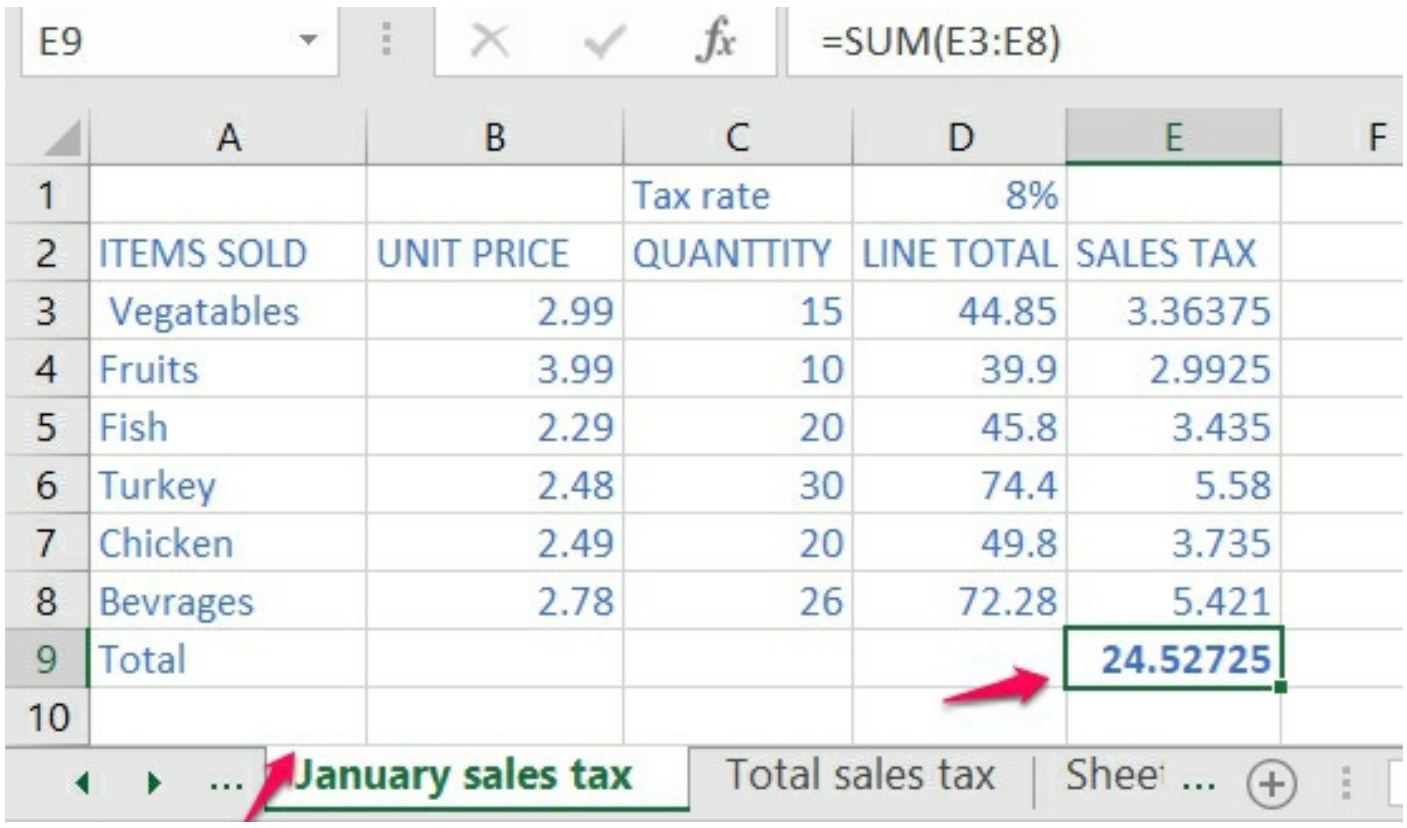
E3 =(B3*C3)*D1

	A	B	C	D	E	F
1			Tax rate	8%		
2	ITEMS SOLD	UNIT PRICE	QUANTTITY	LINE TOTAL	SALES TAX	
3	Vegatables	2.99	15	44.85	3.36375	
4	Fruits	3.99	10	39.9	2.9925	
5	Fish	2.29	20	45.8	3.435	
6	Turkey	2.48	30	74.4	5.58	
7	Chicken	2.49	20	49.8	3.735	
8	Bevrages	2.78	26	72.28	5.421	

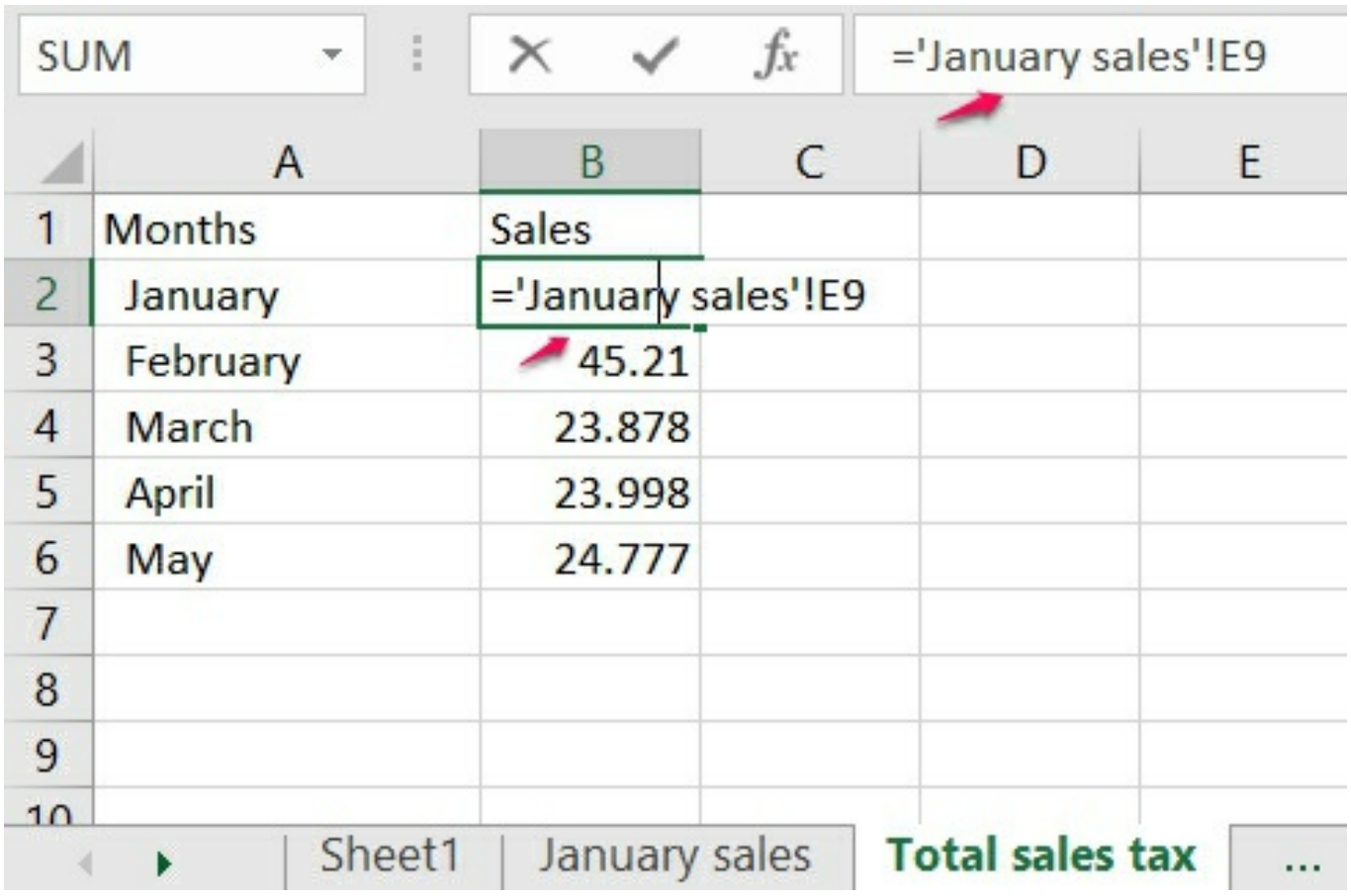
REFERENCING OTHER WORKSHEETS IN A WORKBOOK

Referencing another worksheet within a workbook allows you to use the same value on one or more worksheets without writing or copying the formula from the scratch. This saves time and makes the work easier to do. To reference another worksheet within a worksheet, follow the steps provided below:

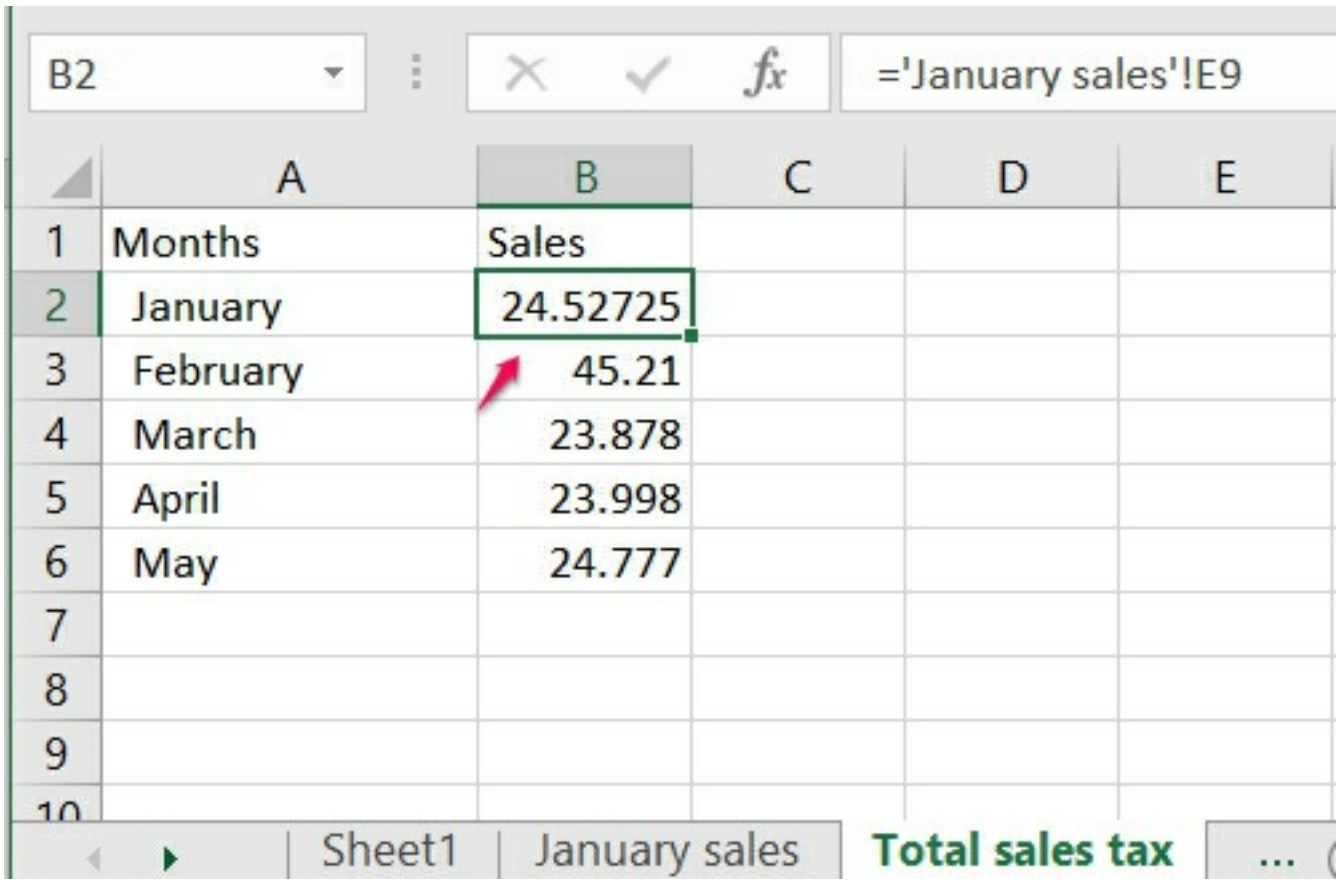
- Locate the cell **(E9)** you want to reference and keep track of the name of the worksheet (**January sales tax**).



- Open the worksheet (Total sales tax) you wish to apply the reference to and select the cell you want to insert the value. Enter the equal sign (=), the sheet name, an exclamation mark (!), and the cell address **E9**; **=' January sales'!E**



- Press Enter on the keyboard and the value of the reference will be displayed in the new worksheet. In case any change is made in the **January sales,** it will be updated automatically in the **Total sales tax**



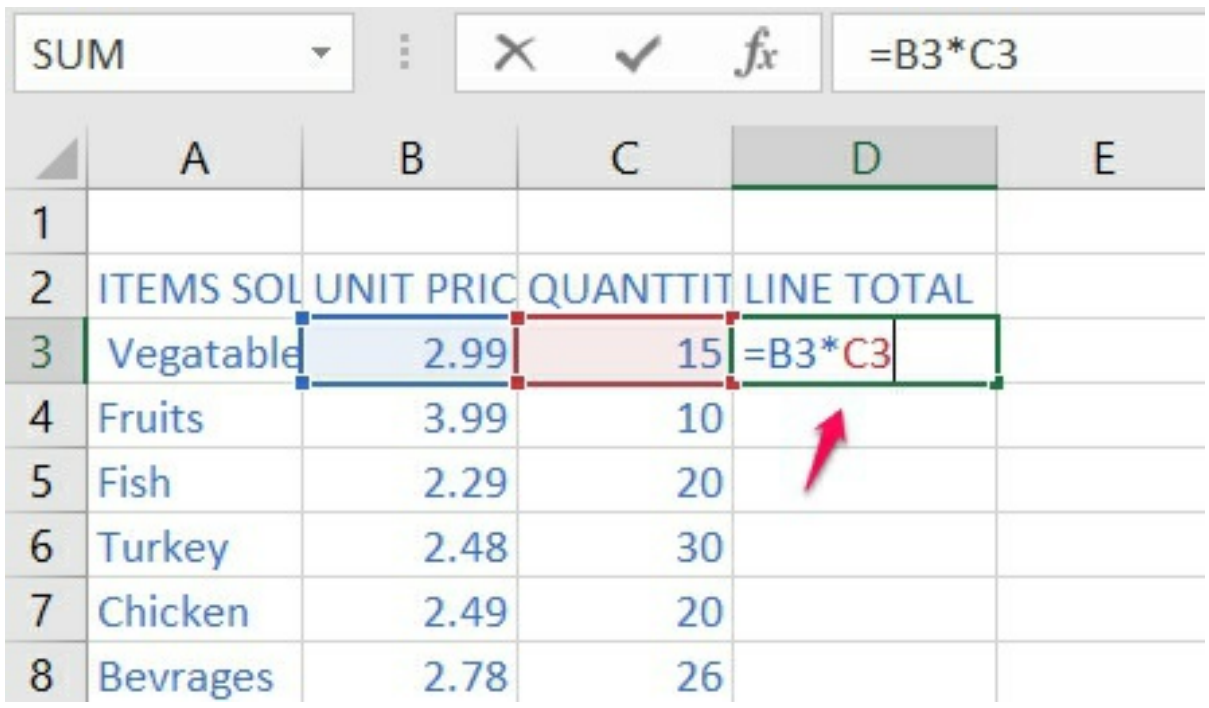
How to Copy Formula from One Cell to Another

Copying of cells in Excel is one of the easiest tasks to learn. Here in this session, you will be learning the various ways you can use to copy a formula from one cell to the other.

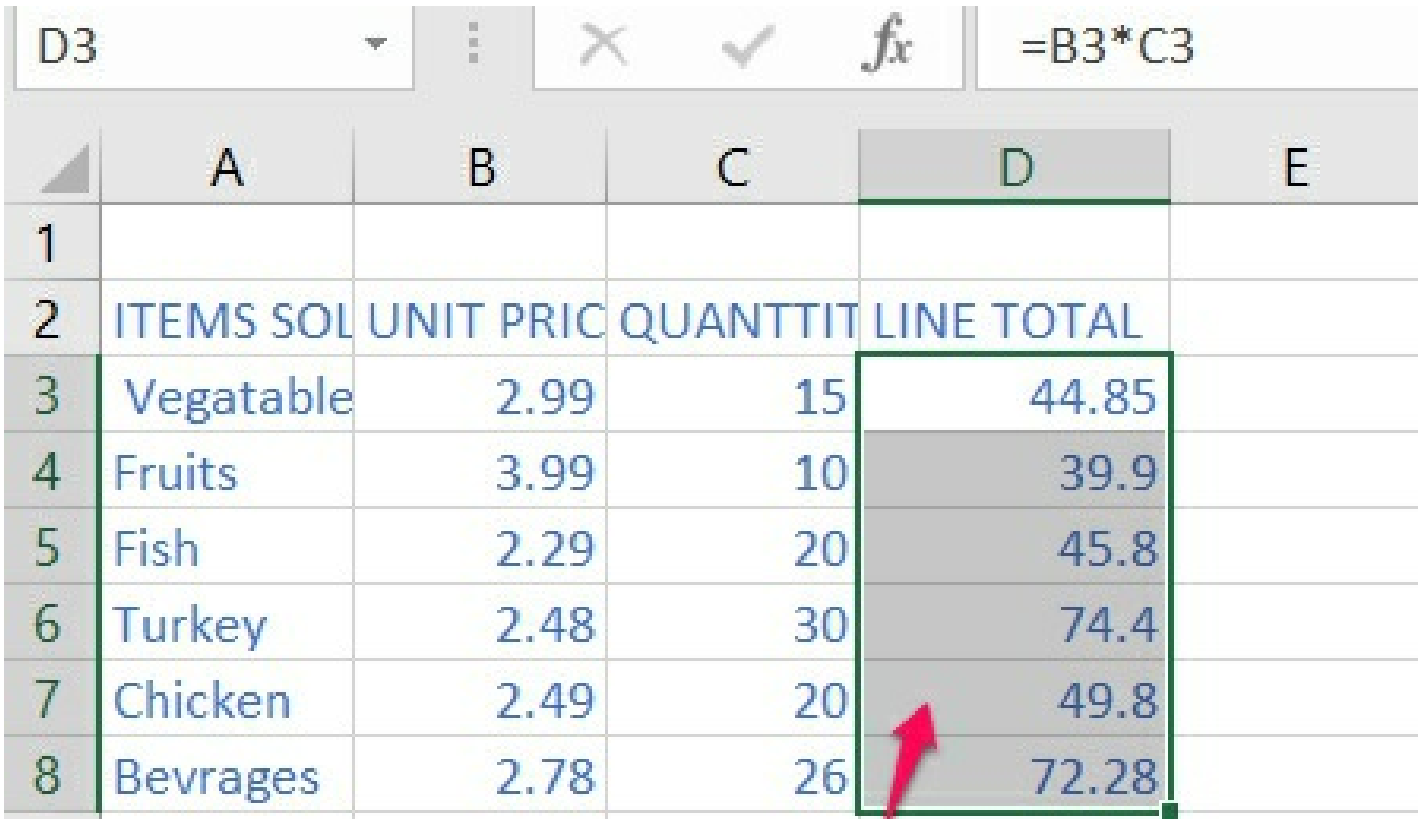
Copying Formula Down a Column

To quickly copy a formula down a column, follow the steps given below

- Type the formula into the top cell and press Enter on your keyboard



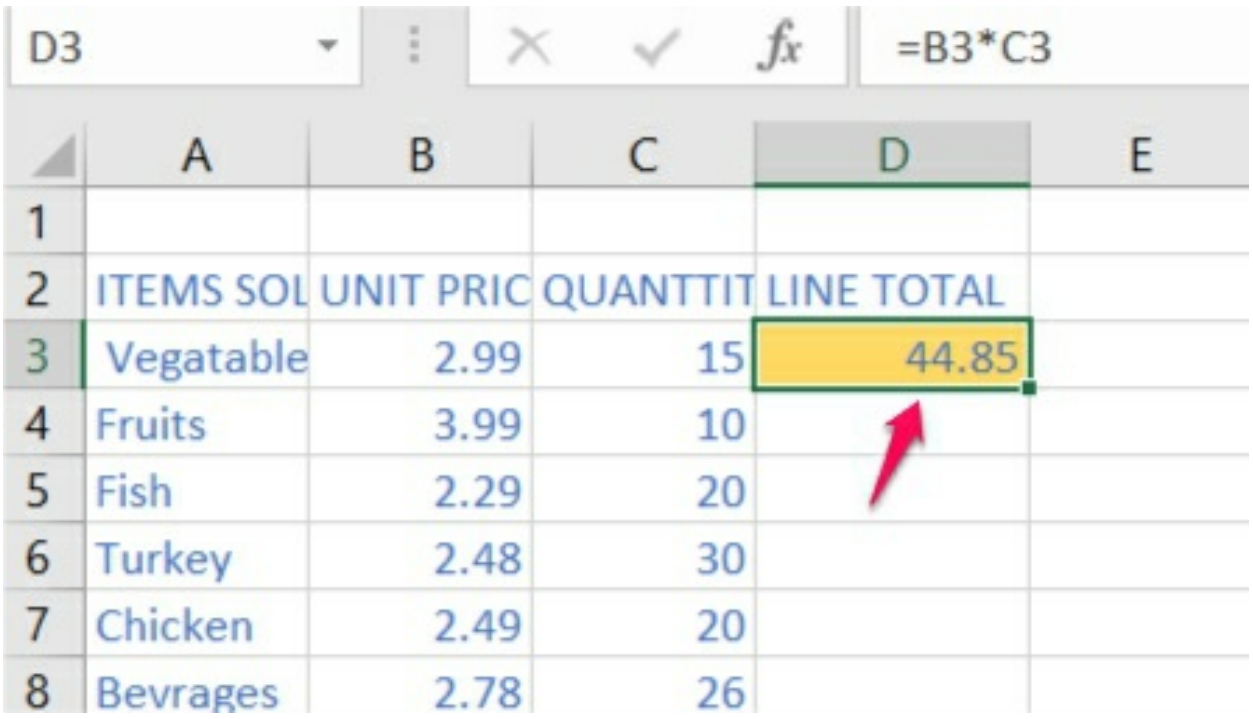
- Select the cell with the formula, move the mouse cursor over a small square at the lower right-hand corner of the cell (**Fill handler**). When you click on this, the cursor changes to a thick black cross.
- Hold and drag the fill handle down the column over the cell and the formula will be copied on the selected cells.



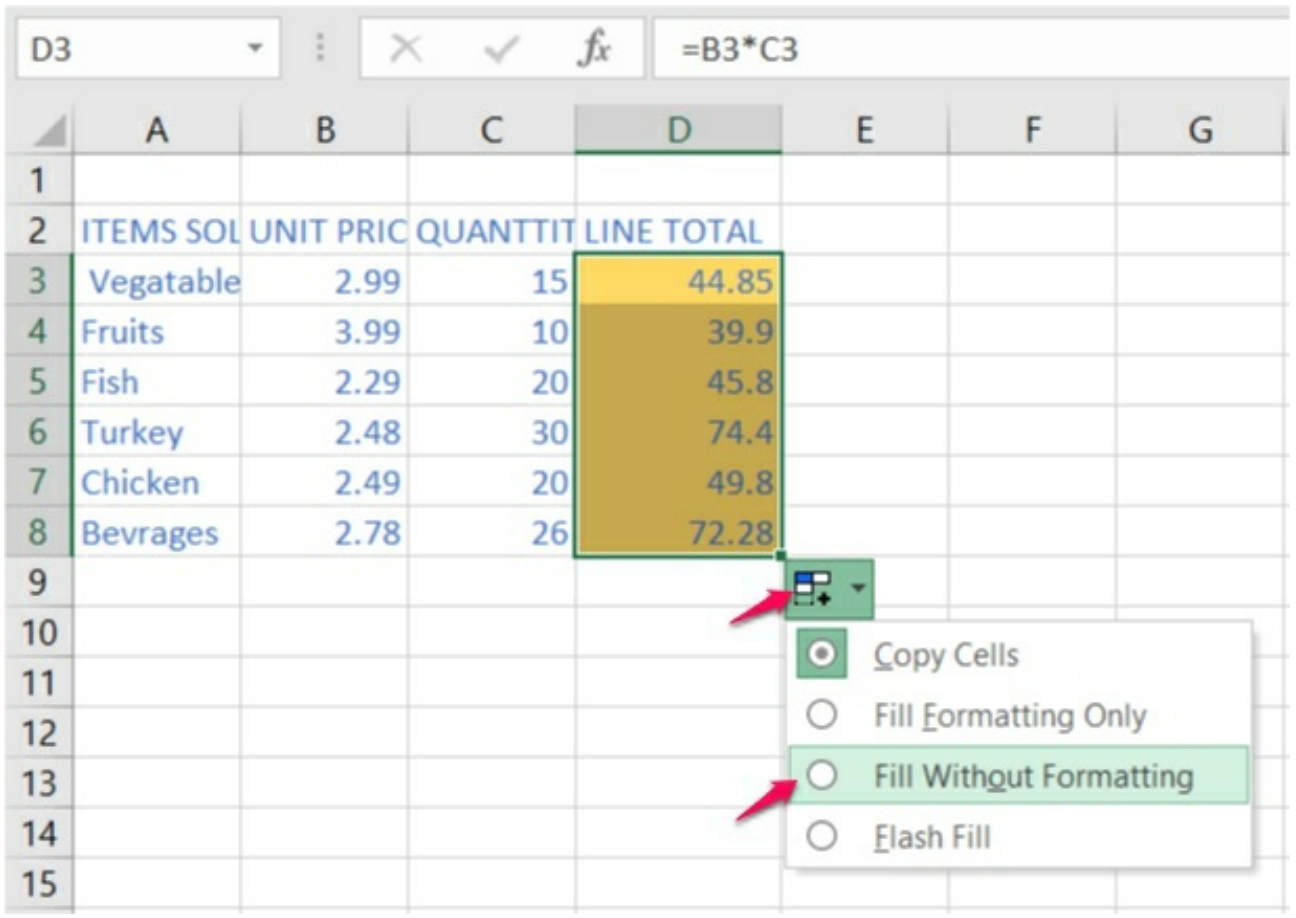
Copying a Formula Down a Column Without Copying the Formatting

Copying a formula down a column without copying the formatting implies that when you copy a formula, the formatting such as font, font color, background color, currency, etc. will not be copied. To do this, follow the steps given below:

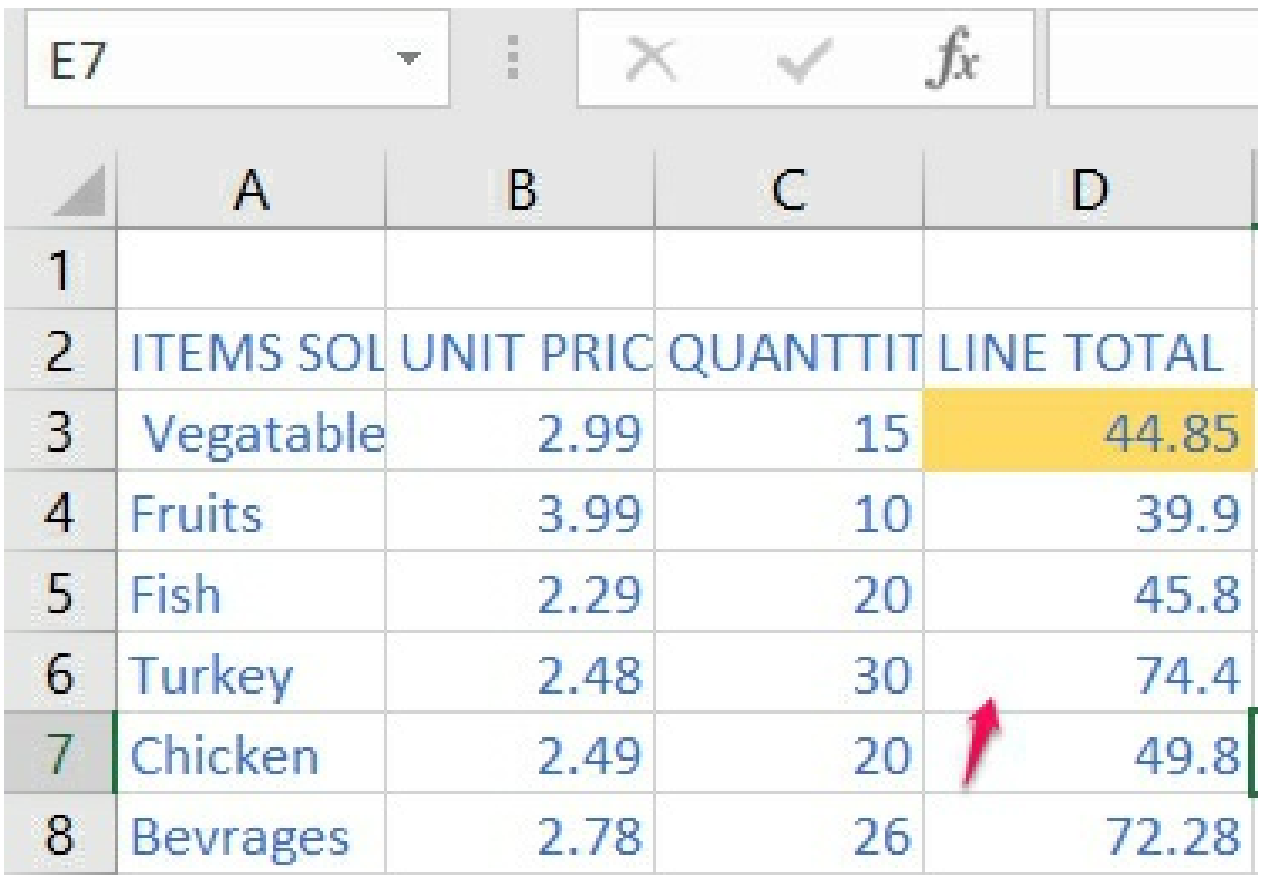
- Type the formula into the top cell and press Enter on your keyboard
- Select the cell with the formula, move the mouse cursor over a small square at the lower right-hand corner of the cell (**Fill handler**). When you click on this, the cursor changes to a thick black cross.



- To remove the cell formatting, hold and drag the fill handle and click on **Auto Fill Options** drop-down menu at the bottom of the cells the formula was copied to. Then click on **Fill Formatting** only.



- The cell formatting is removed as shown in the table below

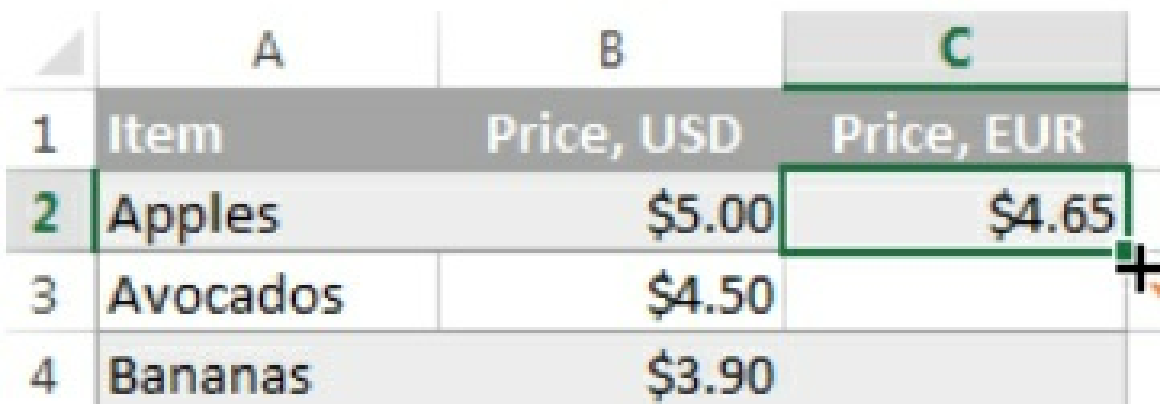


Copying Formula to the Entire Column

Instead of using the Fill handle to copy the formula by dragging it down to hundreds of sheets, you can double-click the plus sign.

To copy an Excel formula by double-clicking the plus sign, follow thee

- Enter the formula in the top cell
- Place the cursor to the lower right corner of the cell with the formula, pause until it changes into the plus sign, and then double click the plus.



- After doing this, the formula is copied down to the last row in the worksheet.

	A	B	C
1	Item	Price, USD	Price, EUR
2	Apples	$5.00	$4.65
3	Avocados	$4.50	$4.19
4	Bananas	$3.90	$3.63

Copying Formula to Non-adjacent Cells/Range

There is a limit to what the fill handle can do and one of it is that it cannot copy the formula to a non-adjacent cell. To copy a cell to a non-adjacent, use the copy and paste method by following the steps provided below:

- Click on the cell with the formula and click on Ctrl + C to copy the formula

D3 =B3*C3

	A	B	C	D	E
1					
2	Months	Sales	Quantity	Total	
3	January	200	3	600	
4	February	100	3		
5					
6	April	26	5		
7	May	122	3		
8	June	11	2		

- Select a cell or the range of cells where you wish to paste the formula.
- Press Ctrl + V to paste the formula and then press the Enter button to complete the formula entry

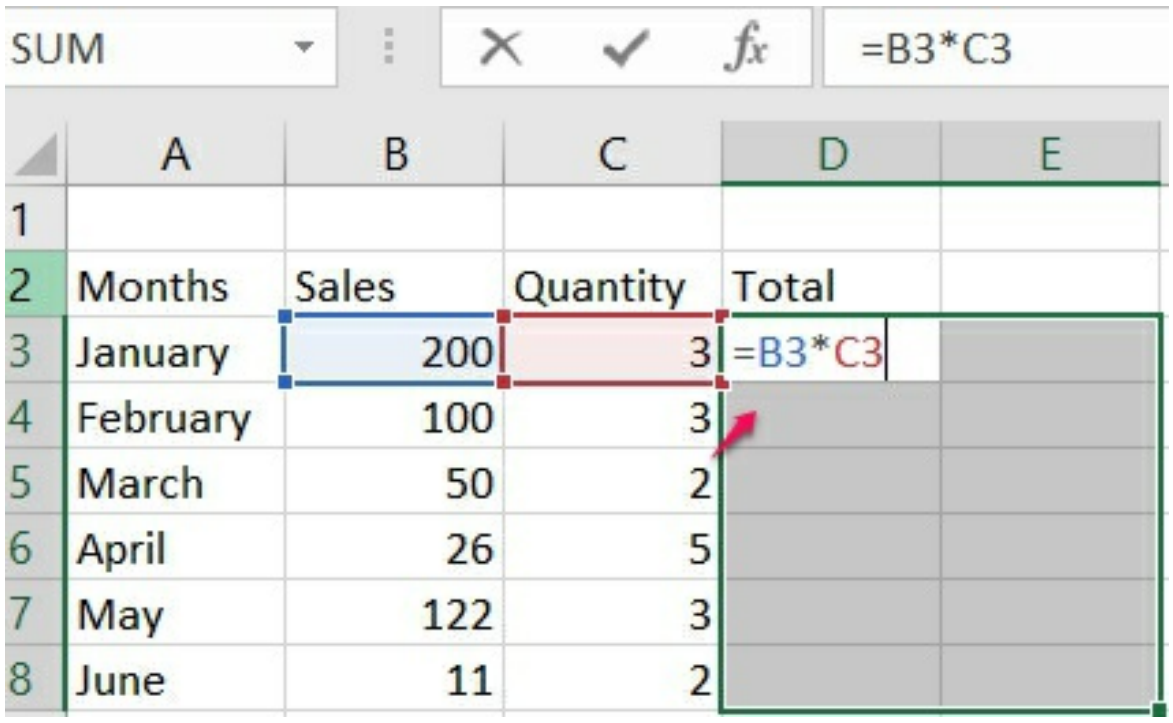
E6 =C6*D6

	A	B	C	D	E
1					
2	Months	Sales	Quantity	Total	
3	January	200	3	600	
4	February	100	3		
5					
6	April	26	5	34	170
7	May	122	3	23	
8	June	11	2		32

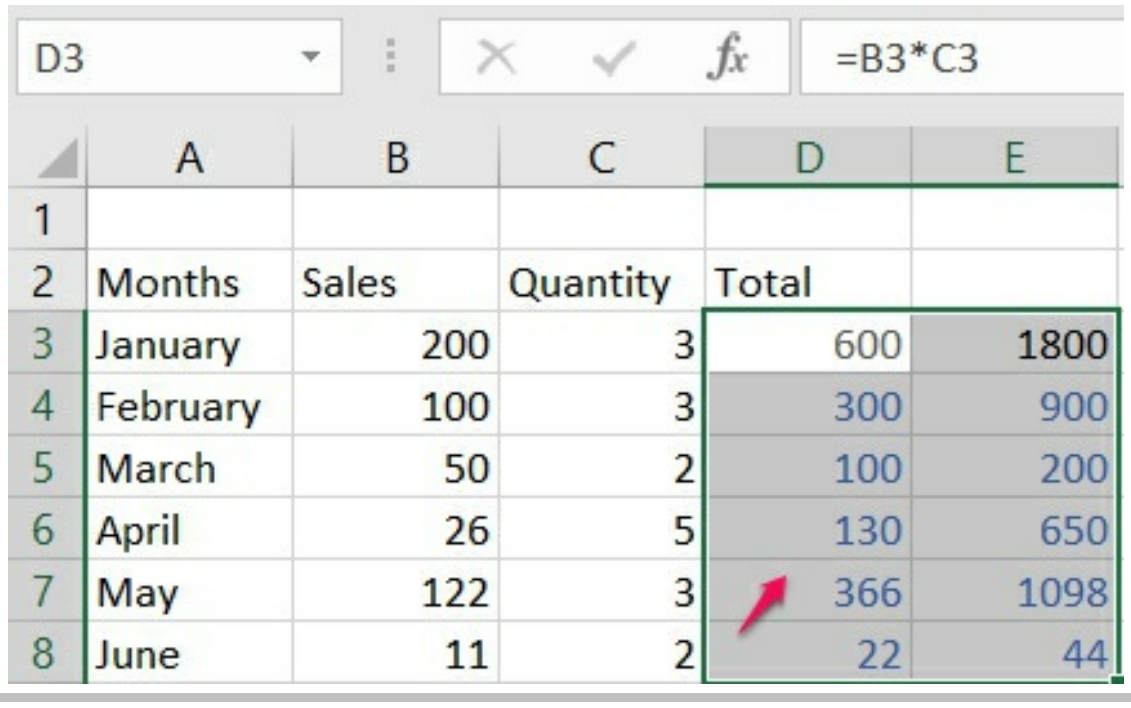
Entering a Formula into Multiple Cells with a Single Key Stroke

To copy a formula into more than one cell, follow the steps given below

- Select the cell or range of cell you want to input the formula
- Press F2 to enter the edit mode and enter the formula in a cell.



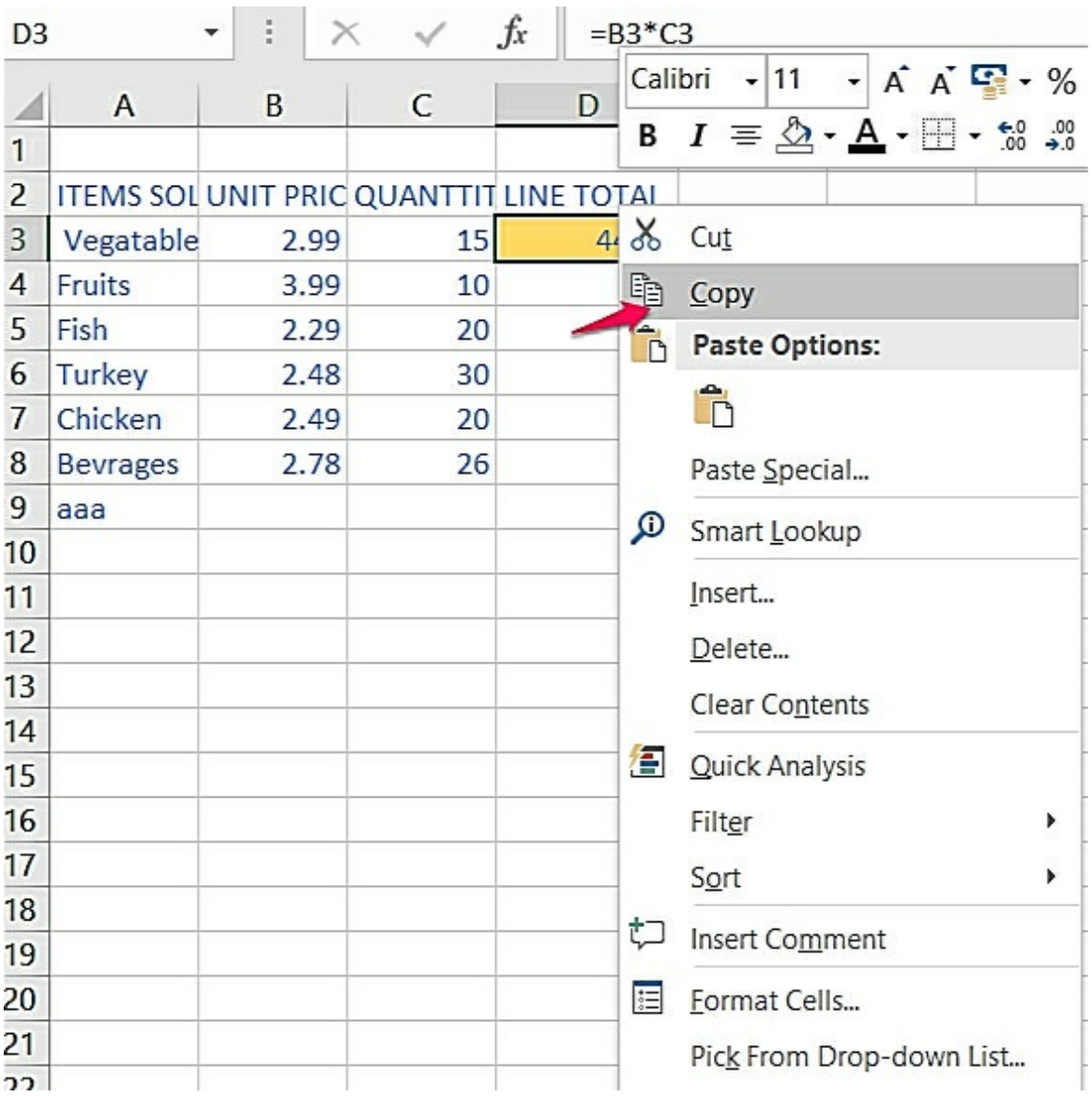
- Press Ctrl + Enter and the formula will be replicated in the selected cells.



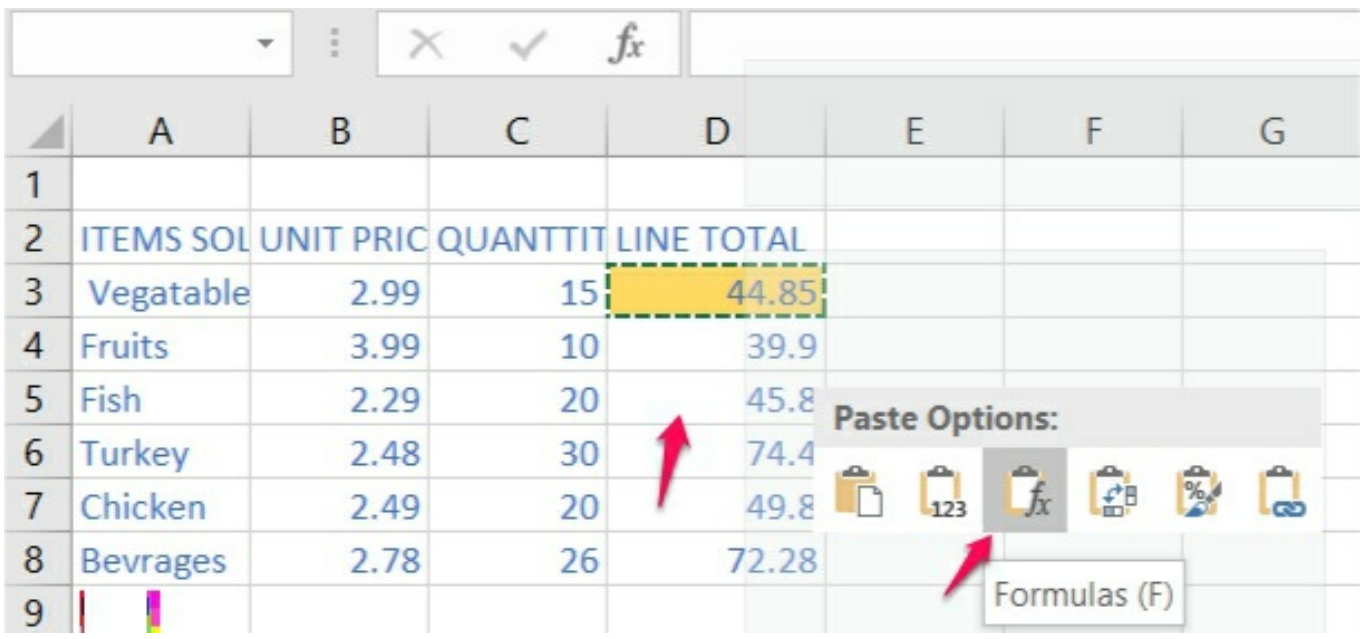
Copying Excel Formula Without the Formatting Using the Copy & Paste Features

Apart from using the Fill handle to copy the formula without copying the cell formatting, another better and advanced method is to use the Copy & Paste feature

- Select the cell with the formula
- Right-click on the cell and select **Copy** in the context menu



- Select the cells you wish to copy the formula to
- Right-clicked on the cells selected and select Formulas under **Paste Options.** As shown in the table below, the formula is copied without the cell formatting



Dealing with Errors in Your Formula

While working on Excel especially in inserting formulas into your worksheet, mistakes are bound to occur from time to time. When these mistakes are not rectified, most times, you end up getting stuck in the middle of the calculation. To avoid this calamity, Excel provides several methods to rectify these errors. But before we go, let's quickly go through Excel Formula Errors Messages.

Excel Formula Error Messages

The following are the Excel formula Error Messages, meanings, and their causes.

#DIV/0!

Excel displays this error value when you are asking Excel to divide a formula by zero or an empty cell. Mathematically, if you try dividing a number by zero. It will not work, and this is also applicable in Excel. To rectify this error, change the value of the cell to a value that is not equal to 0 or add a value to the blank cell.

#NAME?

This error value appears when Excel does not recognize the name of the formula used as a valid object. This error occurs when one types the incorrect range name, refers to a deleted range name or forgets to place the quotation

marks around a text string in a formula. To resolve this error, thoroughly check the spelling of the formula you are trying to run, or you can use the Formula Builder to have Excel build the function for you.

#N/A

This error value appears when the numbers being referred to in the formula cannot be found. This can occur when you mistakenly deleted a number or row that is used in the formula, or when you refer to a sheet that has been removed or not saved.

To rectify this error, thoroughly check all the formulas be used and make sure to identify all the sheets or rows that may have been deleted or referenced incorrectly.

#NUM!

This error value is displayed when the formula in your worksheet contains numeric values that are different from the arguments used.

To rectify this error, thoroughly check to see if you have inputted any formatted currency, dates, or special symbol. After this, you can now remove the formatting from the formula and keep the numbers.

#NULL!

This error value is displayed when you specified an intersection of two areas that do not intersect, or when the incorrect range operator is used. For instance, when you use a space instead of a comma between ranges in the function arguments, Excel will display the formula as #NULL! value error.

To rectify this error, ensure to check if the correct syntax is used in the formula. You can also follow the tips below to avoid

- Use a colon to separate the first cell from the last cell when referring to a continuous range of cells in a formula.
- Use a comma when referring to two cells that don’t intersect

#REF!

This error value is displayed when you referring to a cell or a range of cells that doesn’t exist. This occurs when you delete, a cell, column, or row, and then build a formula around the deleted cell, column, or row.

To rectify this error, check to see if there is no formula referring to any cell you have deleted. Before deleting cells, carefully where the formulas are referred to in those cells.

#VALUE!

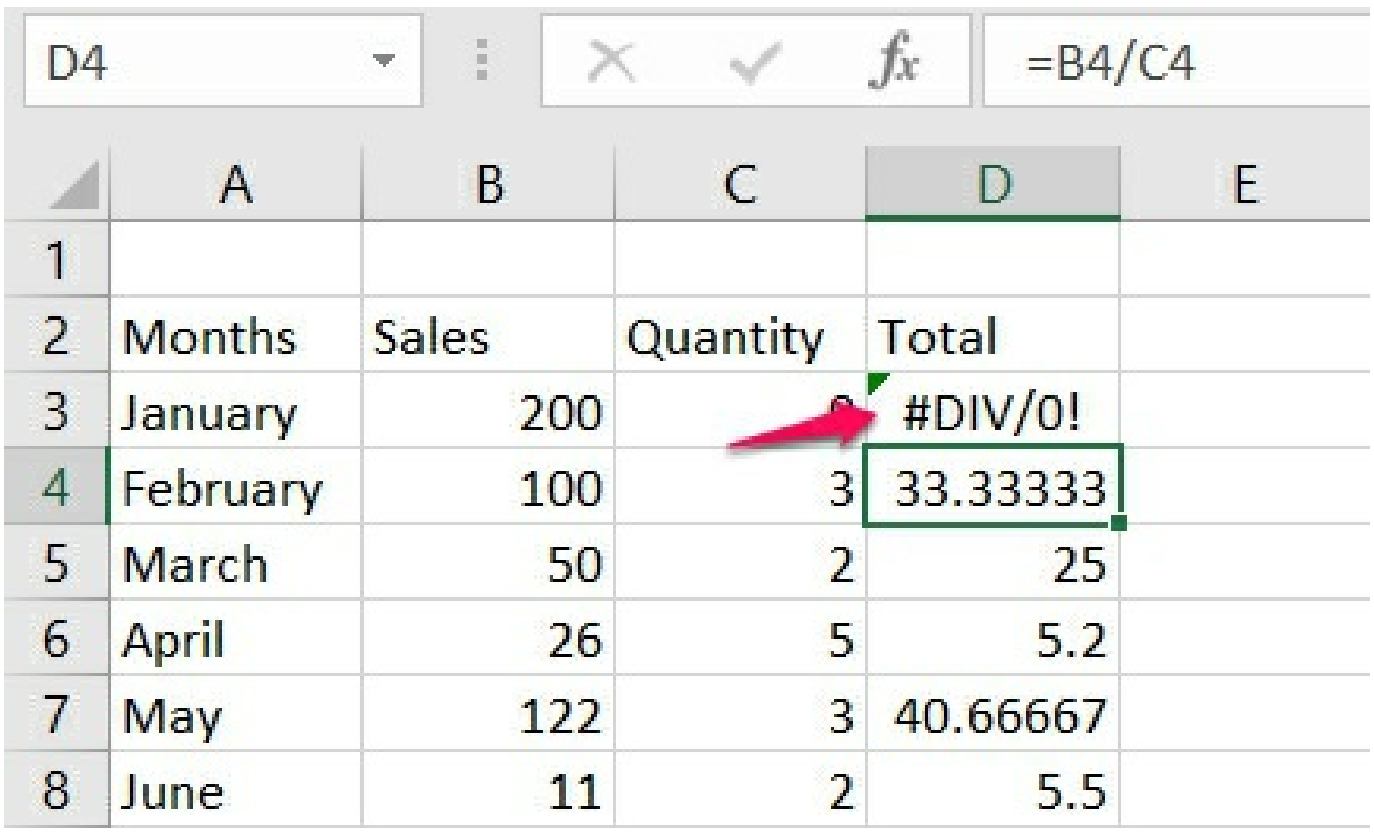
This error value is displayed when Excel find spaces, characters, or text formula in a place where it is expecting a number.

To rectify this error, carefully check your formula to use numbers where it is needed. Ensure to also check out for blank checks, missing formulas that are linked to cells, or any special characters that are being used.

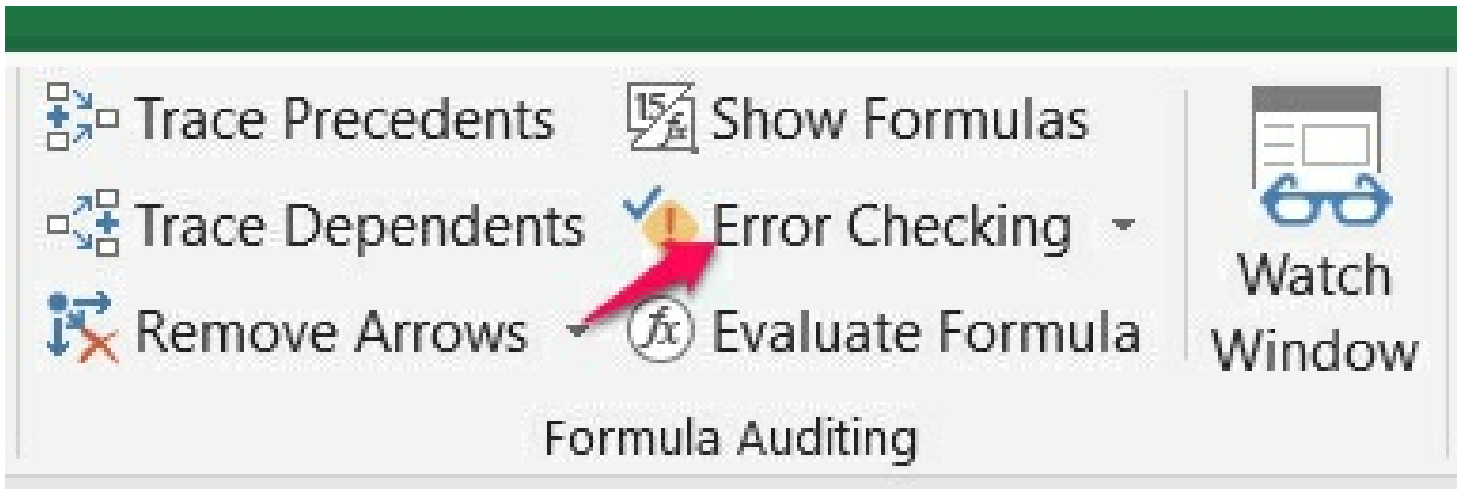
Using the Error Checker Button

One of the ways to check errors in your formula is to use the error checker. Using the Error checker keeps you informed on whatever error is faced or encountered.

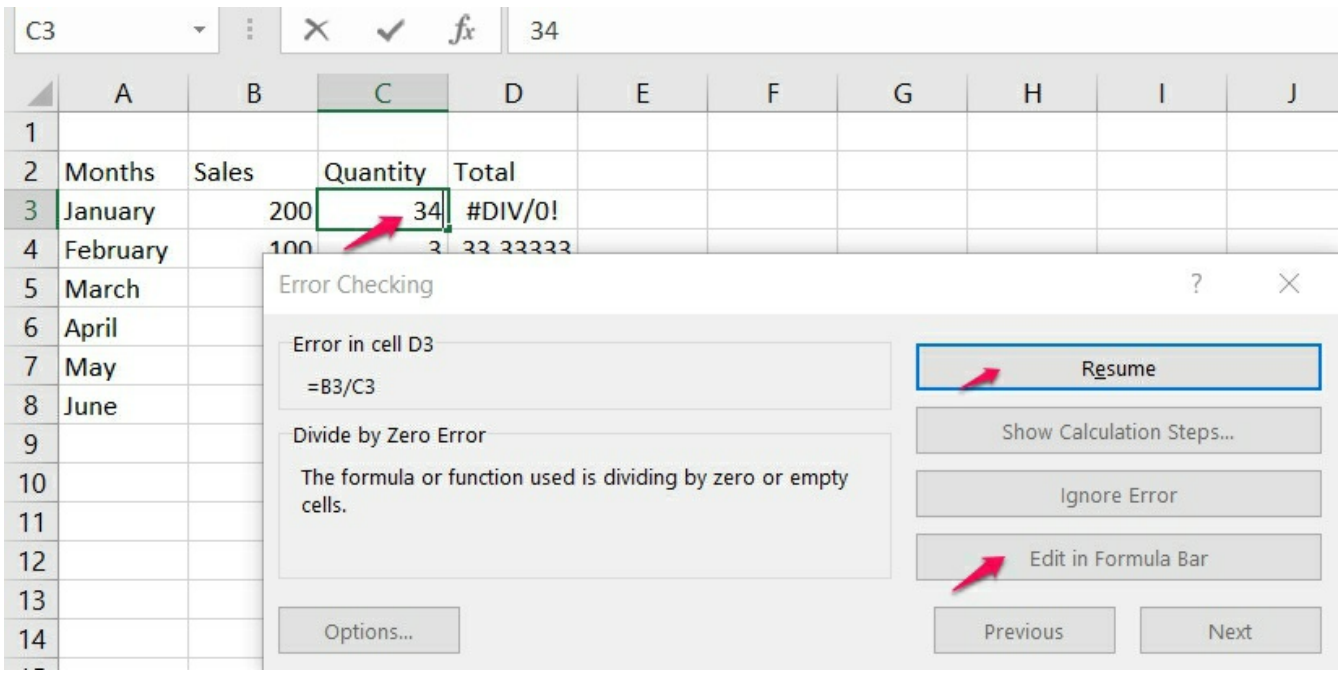
To use the error checker, follow the steps given below to correct the error in the table provided



- Go to the **Formula Bar** and click on the **Error Checking** button in the **Formula Auditing** group



- In the **Error Checking** dialog box, the error in the formula is clearly stated and then click on **Edit** in **Formula Bar** to repair the formula error.
- When you are done with the repairing of the formula error, click on the **Resume** button



- After this is done, the error is removed as shown in the table below

E11

	A	B	C	D	E
1					
2	Months	Sales	Quantity	Total	
3	January	200	34	5.882353	
4	February	100	3	33.33333	
5	March	50	2	25	
6	April	26	5	5.2	
7	May	122	3	40.66667	
8	June	11	2	5.5	

Tracing Cell References

Tracing cell references allows you to see how data in a cell figure into a formula in another cell, and how a cell containing formula gathers its data from to make its computation. This also allows you to know how formulas are created and connected to the worksheet. There are two ways of tracing cell references; tracing precedents and tracing dependant.

Tracing Precedents

Tracing precedents allows you to select a cell with a formula in it and locate the cells that are computed to produce the outcome or result of the formula. When you use the cell tracer, Excel points an arrow from the referenced cells to the cell that contains the formula result.

To use the trace precedents, follow the steps given below

- Select the cell with the formula you wish to trace
- Go to the **Formula** tab and click on **Trace Precedents** in the **Formula Auditing** group.
- In the table below, arrows leading from the selected cell extend and point to the cells that use its data in their calculation.

D3 =B3/C3

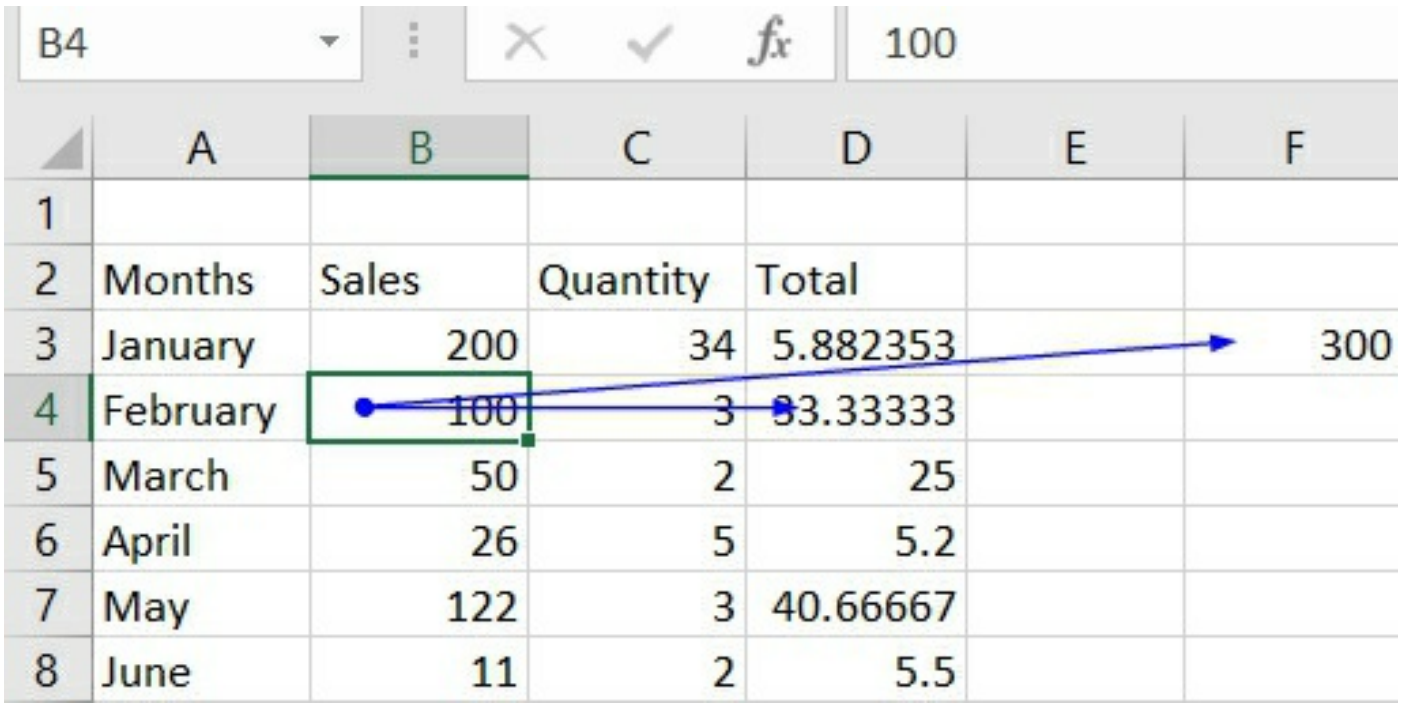
	A	B	C	D	E
1					
2	Months	Sales	Quantity	Total	
3	January	200	34	5.882353	
4	February	100	3	33.33333	
5	March	50	2	25	
6	April	26	5	5.2	
7	May	122	3	40.66667	
8	June	11	2	5.5	

Tracing Dependents

Tracing dependents allows you to select a cell and trace its dependants to locate the cells that contain a formula that uses the data from the cell selected. When you use the cell tracer, Excel points an arrow from the cell you selected to cells with formula result in them.

To use the trace dependents, follow the steps given below

- Select the cell with the formula you wish to trace
- Go to the **Formula** tab and click on **Trace Dependents** in the **Formula Auditing** group.
- In the table below, arrows leading from the selected cell extend and point to the cells with the formula result in them



NOTE: To remove the cell tracer arrows from your worksheet, go to the **Formula** tab and click on the **Remove Arrow** button in the **Formula Auditing** group.

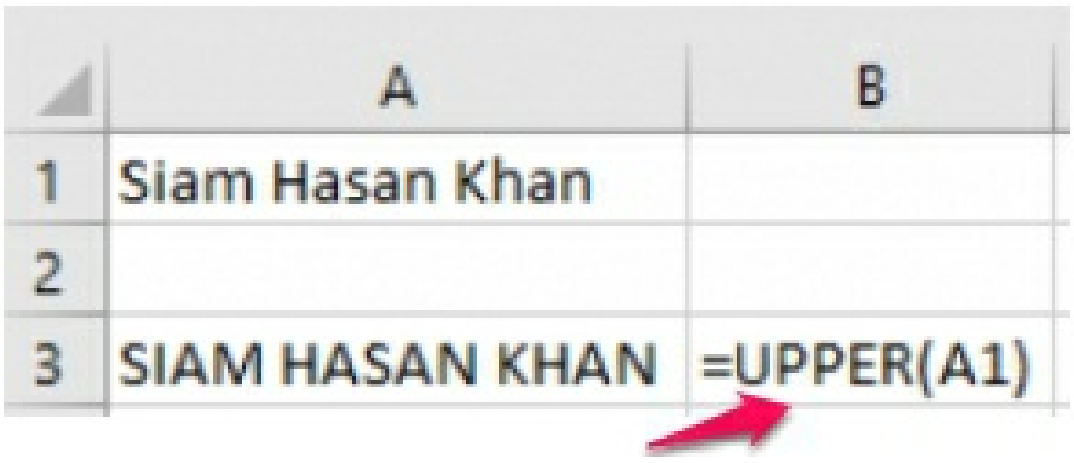
Working with a Function

As earlier said at the beginning of this chapter, a function is a predefined formula containing a special name and purpose. The function begins with an equal sign, followed by the function's name, and ends with its arguments.

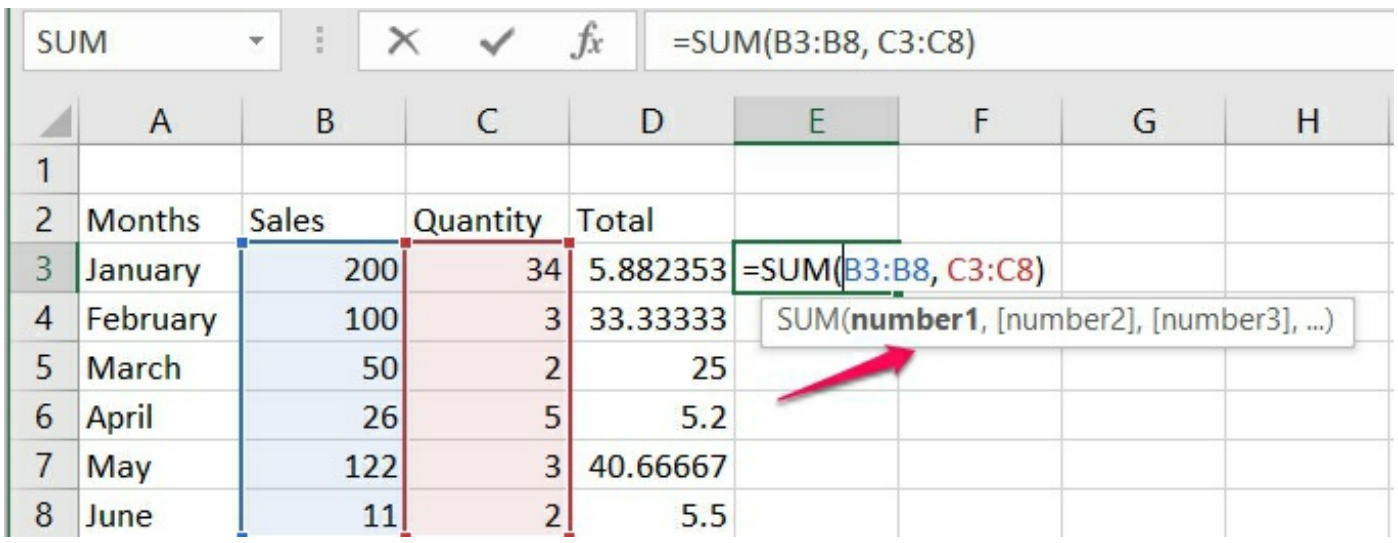
UNDERSTANDING THE FUNCTIONS ARGUMENTS

The function arguments are the inputs or values inside the parenthesis that are used to execute or carry out calculations in the Excel worksheet. Let's quickly highlight the categories of function arguments

- **Functions with no Arguments**: These are functions that do not need any arguments to execute their operations in Excel. Some of the functions without the use of arguments include the following RAND (), TODAY (), and NOW (). Although these functions do not need any argument to work, they still require the use of open and close parenthesis to work.
- **Function with One Argument**: These are also some functions that use one argument to execute their operations in |Excel. An example of a function with an argument is the UPPER function; the UPPER function takes accepts one argument as input, and then converts the lower-case letters to upper-case letters.



- **Functions with Multiple Arguments:** Some functions use more than one argument to execute their operations. To use multiple functions in a function, a comma is used in between them. For instance, suppose you wish to find the sum of the number in a cell range, you can use two arguments with a comma to separate them. E.g. =SUM (B3:B8, C3:C8)



- **Functions with Required and Optional Arguments:** Apart from using the required argument, some functions come with optional arguments. One of these functions is NETWORKDAYS. The NETWORKDAYS function gives or returns the numbers of workdays between the start date and the end date. The following is the syntax of the NETWORKDAYS function:

NETWORK DAY (start_date, end_date, [holidays])

Locating the Arguments in a Function

While working on your worksheet, you can locate the arguments used in your function using the following methods;

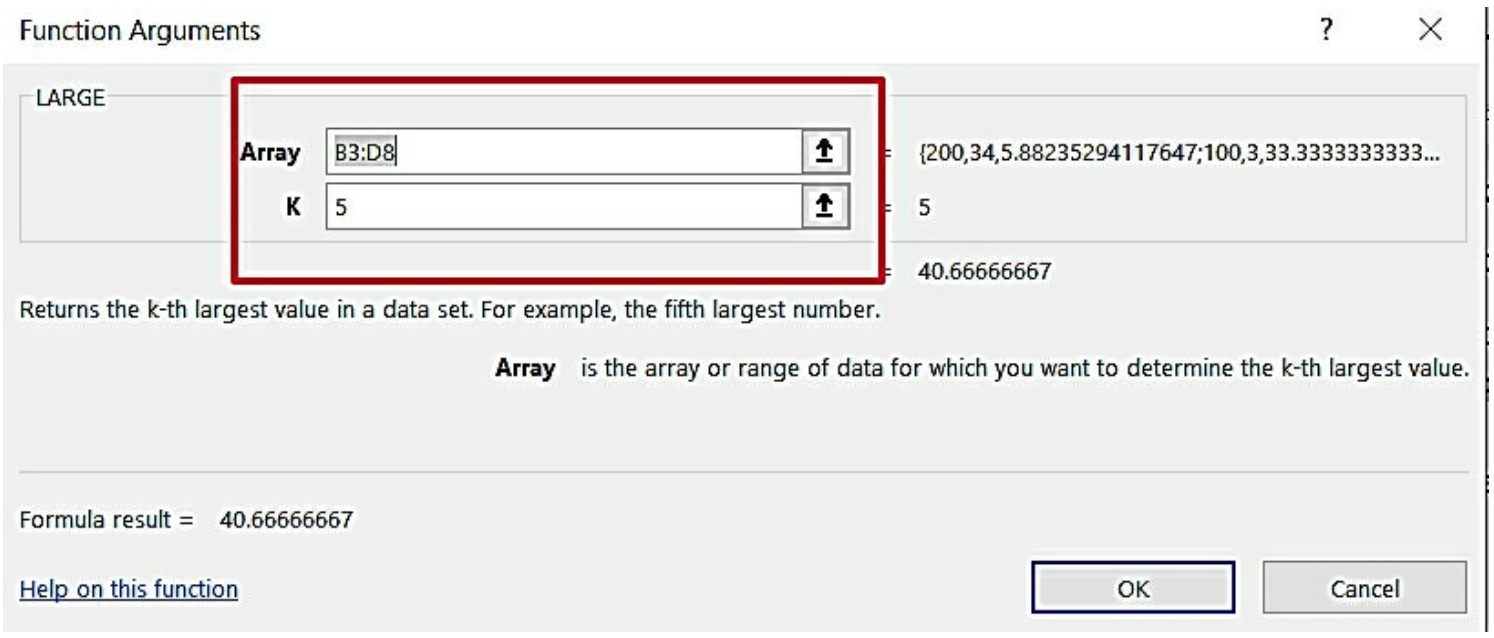
- The Function Dialog Box
- Tooltip Windows in Excel

The Function Dialog Box

The Function dialog box contains or displays the list of the required and optional arguments a function has

To check the arguments in your function, follow the steps provided below

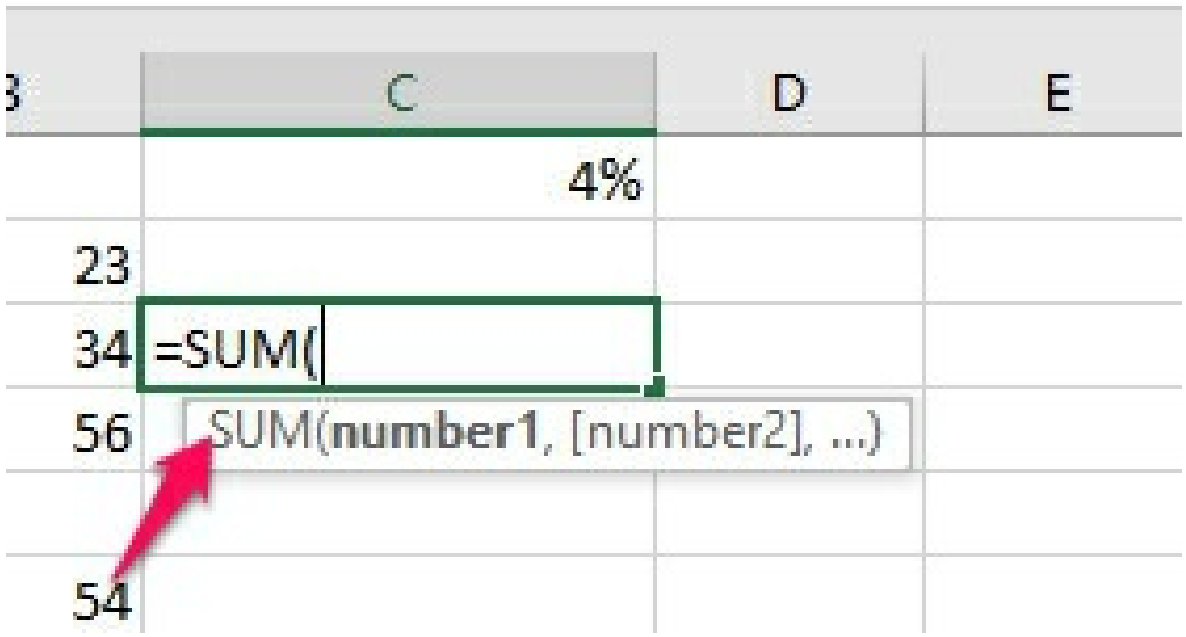
- Go to the **Formula** tab and click on the **Insert Function** in the **Function Library**
- In the **Insert Function** dialog box, the function arguments are displayed.



The Tooltips

Another way to locate the function argument is to use the Tooltips. To find the arguments using the Tooltips, do the following

- Enter the function's name with the open parenthesis in a cell
- After doing this, the argument is displayed in the Tooltips



Taking a Look at Commonly Used Functions in Excel

There are some functions in Excel that are used from time and time, and these functions are functions you must know as a user of Excel. Now let’s check these functions out.

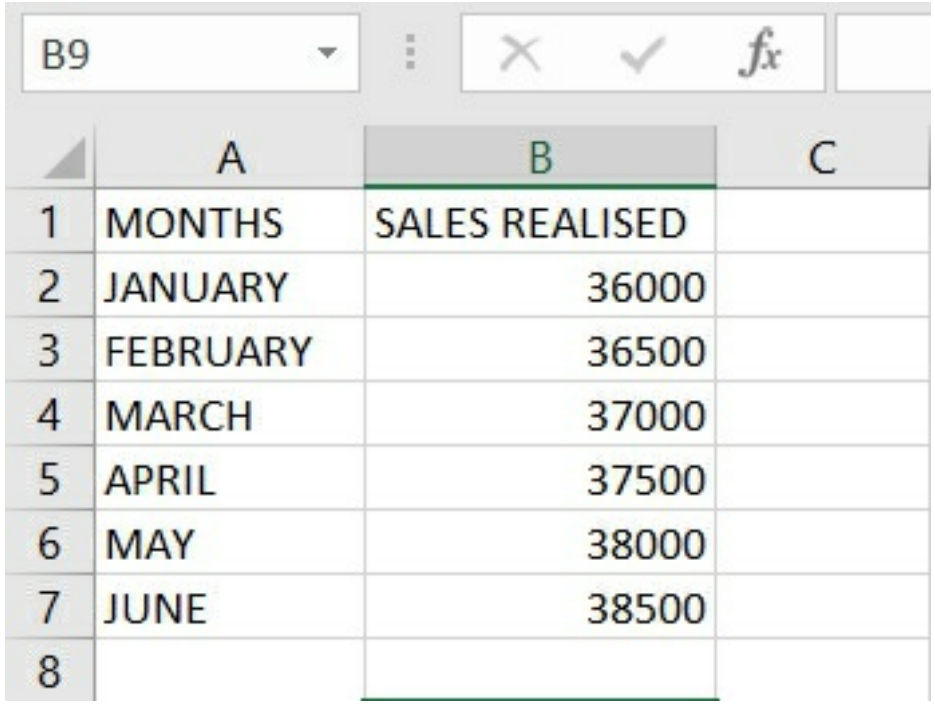
FUNCTION	USES
SUM(number1, [number 2], …)	This returns the aggregate value of the numbers in the arguments
AVERAGE (number1, [number 2], …)	This returns the average of the numbers in the cells listed in the arguments.
COUNT(value1, [value2], …)	This counts the number of cells that have a number value in them.
COUNTA (value1, [value2], …)	This does not only count the number of cells with numbers in them, it also counts the dates, time, strings, logical values, empty string, or text.2
MAX(number1, [number 2], …)	This is used to find the largest value in the cells listed in the arguments.
MIN(number1, [number 2], …)	This is used to find the lowest value in the cells listed in the arguments
PRODUCT(number1, [number 2], …)	This finds the product of multiplying the cells found in the arguments.
IF(logical_test, [value_if_true], [value_if_false])	This is used to sort out data according to the logic given or provided.
TRIM(text)	This is used to ensure that your function does not return an error due to unruly space I.e., it is used to remove empty spaces
VLOOKUP (lookup value, range, column number, false or true).	This is used to find a certain value in a column to return a value from a different column in the same row
AND	

SUM for Adding Up Data

The SUM function allows you to find the total value of data within a cell range. The SUM function uses the following arguments

SUM(number1, [number2], [number3]……)

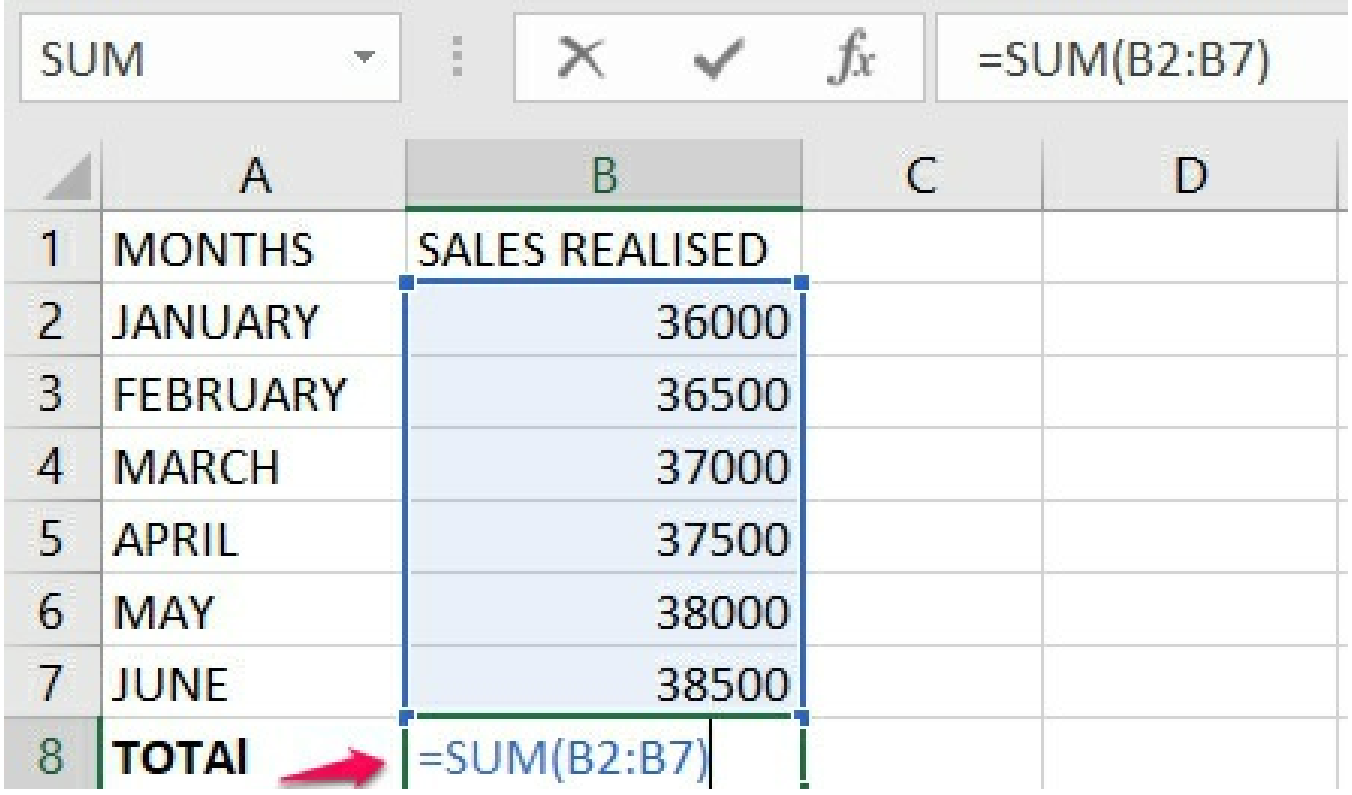
With the table below, calculate the sales made from January to June using the SUM function.



	A	B	C
1	MONTHS	SALES REALISED	
2	JANUARY	36000	
3	FEBRUARY	36500	
4	MARCH	37000	
5	APRIL	37500	
6	MAY	38000	
7	JUNE	38500	
8			

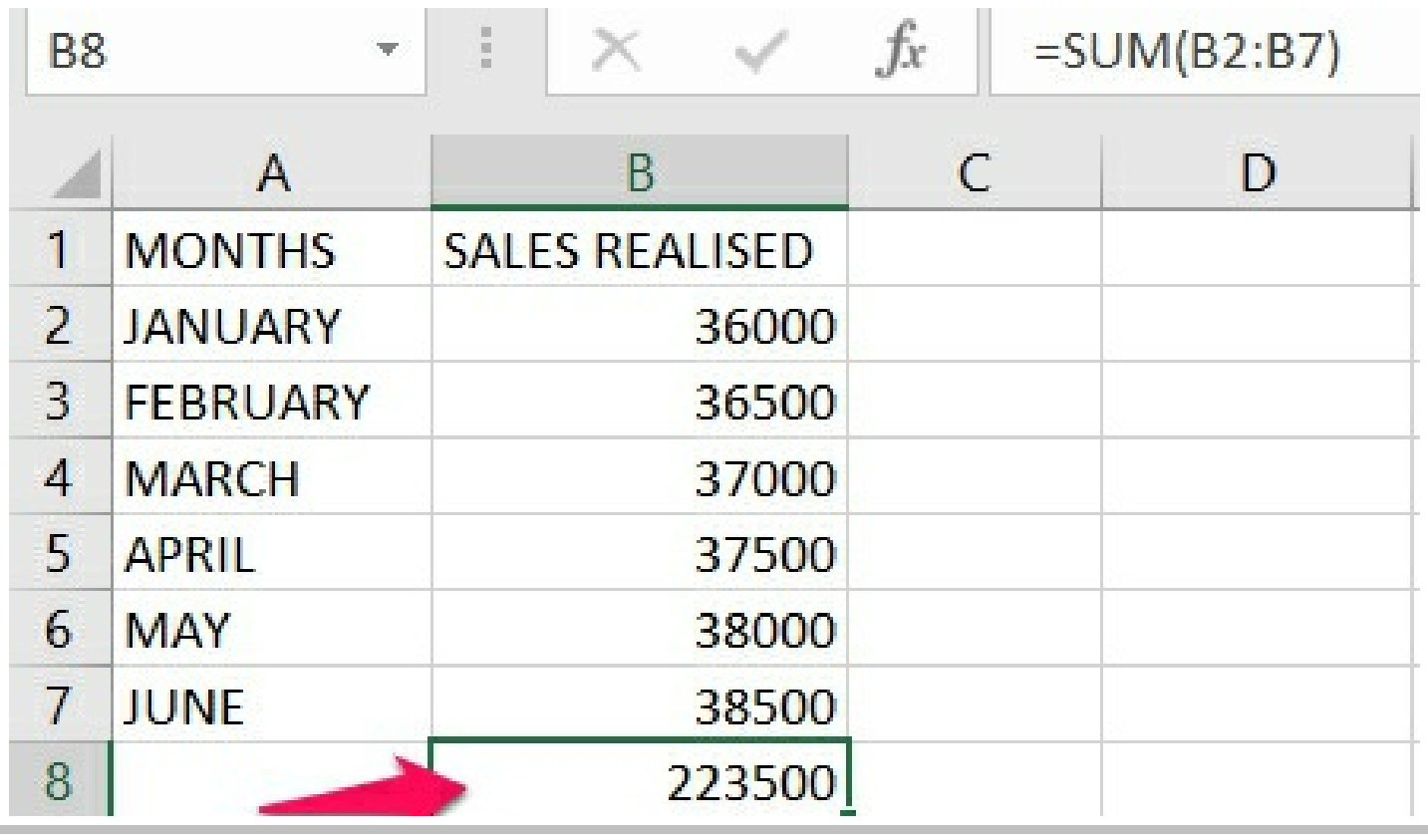
To calculate the sales of Jan to July using the SUM function, follow the steps below

- Select an empty cell **B8** and enter the function with cell range in it; =**SUM(B2:B7)**



	A	B	C	D
1	MONTHS	SALES REALISED		
2	JANUARY	36000		
3	FEBRUARY	36500		
4	MARCH	37000		
5	APRIL	37500		
6	MAY	38000		
7	JUNE	38500		
8	**TOTAl**	=SUM(B2:B7)		

- Press **Enter** and the total sales of Jan to June is calculated as displayed in the table below



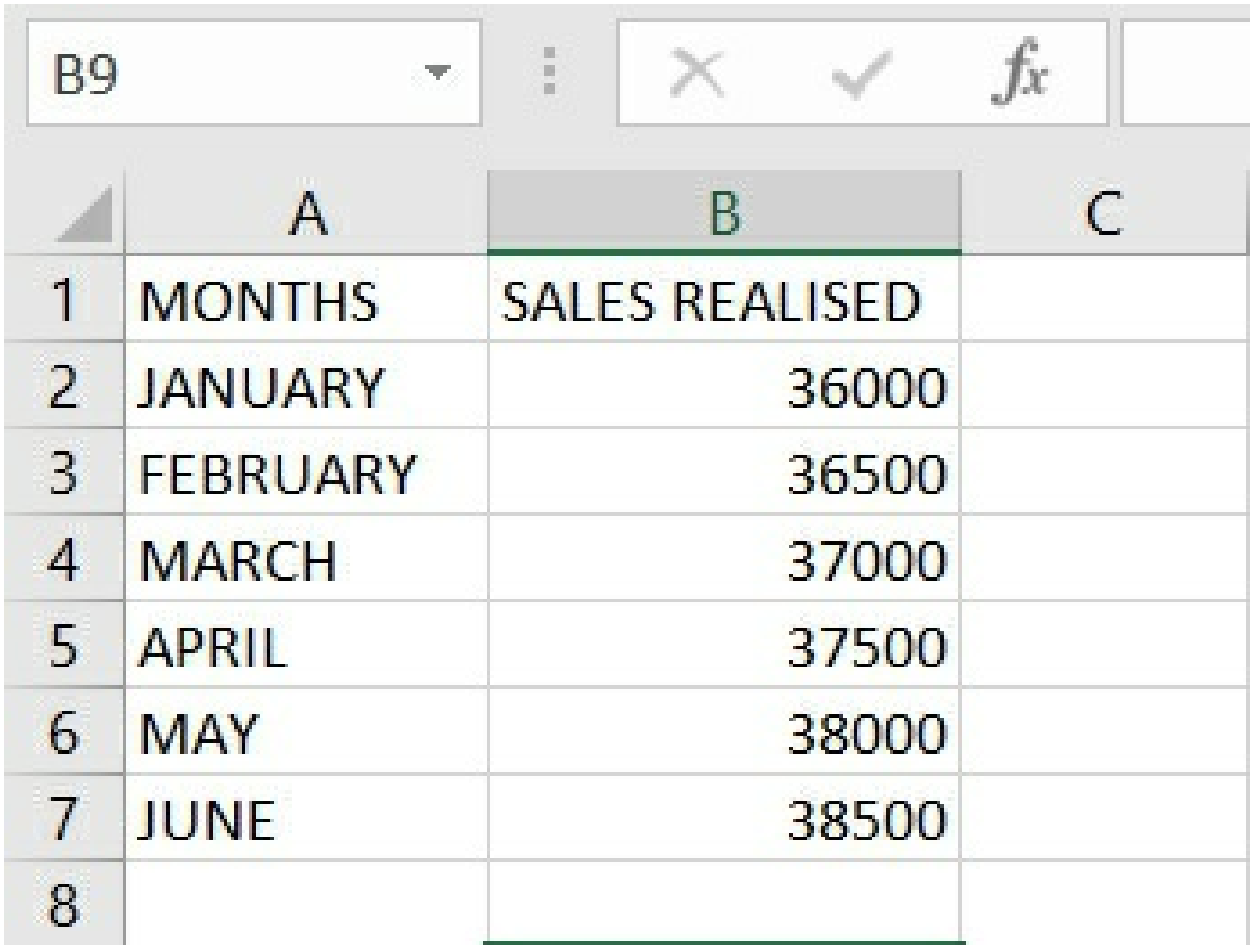
	A	B	C	D
1	MONTHS	SALES REALISED		
2	JANUARY	36000		
3	FEBRUARY	36500		
4	MARCH	37000		
5	APRIL	37500		
6	MAY	38000		
7	JUNE	38500		
8		223500		

AVERAGE for Averaging Data

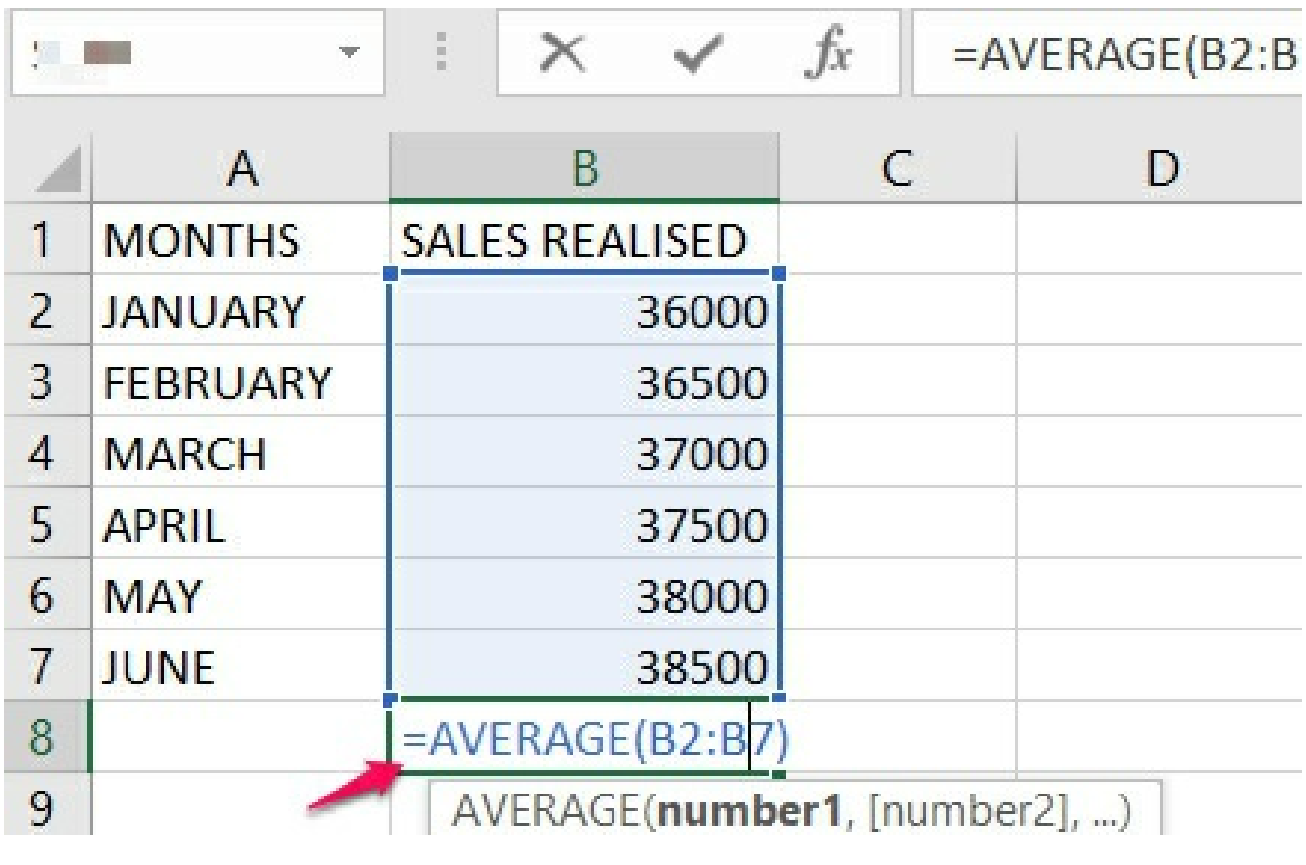
The AVERAGE function returns the average value of data within a cell range and it uses the following arguments for its operations

AVERAGE (number1, [number 2], …)

With the table provided below, calculate the average sales made from January to June using the AVERAGE function.



- Select an empty cell **B8** and enter the function with the cell range in it; **=AVERAGE(B2:B7)**



- Press **Enter** and the total average sales of Jan to June is calculated as shown in the table below

B8 | =AVERAGE(B2:B7)

	A	B	C	D	E
1	MONTHS	SALES REALISED			
2	JANUARY	36000			
3	FEBRUARY	36500			
4	MARCH	37000			
5	APRIL	37500			
6	MAY	38000			
7	JUNE	38500			
8		37250			

Deriving the function of a Cell Using FORMULATEXTS

The **FORMULATEXT** function returns the formula used in a given reference in a text form.

The FORMULATEXT function contains a single argument

= FORMULATEXT(reference)

With the data provided below, find the formula used using the FORMULATEXT function

B8 | =SUM(B2:B7)

	A	B	C	D	E
1	MONTHS	SALES REALISED			
2	JANUARY	36000			
3	FEBRUARY	36500			
4	MARCH	37000			
5	APRIL	37500			
6	MAY	38000			
7	JUNE	38500			
8	**TOTAL**	**223500**			

To use the FORMULATEXT function to find the formula used in a text, follow the steps given below

- Select an empty cell **C8** and enter the function with the cell range in it; **= FORMULATEXT (B8)**

SUM | =FORMULATEXT (B8)

	A	B	C	D	E
1	MONTHS	SALES REALISED			
2	JANUARY	36000			
3	FEBRUARY	36500			
4	MARCH	37000			
5	APRIL	37500			
6	MAY	38000			
7	JUNE	38500			
8	**TOTAL**	**223500**	=FORMULATEXT (B8)		
9					

- Press Enter and the formula used in the cell selected will be displayed.

C8 | =FORMULATEXT(B8)

	A	B	C	D	E
1	MONTHS	SALES REALISED			
2	JANUARY	36000			
3	FEBRUARY	36500			
4	MARCH	37000			
5	APRIL	37500			
6	MAY	38000			
7	JUNE	38500			
8	**TOTAL**	**223500**	=SUM(B2:B7)		

Counting the number of Data Items Using COUNT

The COUNT function This counts the number of cells that have a number value in them.

The COUNT function uses the following arguments

COUNT(value1, [value2], …)

With the range of cells provided below, use the COUNT function to find the number of cells with numerical values in them

C10

	A	B	C	D
1	MONTHS	SALES REALISED		
2	JANUARY	36000	2343	
3	FEBRUARY	36500	212	
4	MARCH	37000	2121	
5	APRIL	37500	3212	
6	MAY	38000	44343	
7	JUNE	38500	3232	
8		**223500**	3231	
9				

To find the cells with number values using the COUNT function, follow the steps provided below

- Select an empty cell **C8** and enter the function with the cell range in it; **= COUNT (A1:C8)**

SUM | =COUNT (A1:C8)

	A	B	C	D	E
1	MONTHS	SALES REALISED			
2	JANUARY	36000	2343		
3	FEBRUARY	36500	212		
4	MARCH	37000	2121		
5	APRIL	37500	3212		
6	MAY	38000	44343		
7	JUNE	38500	3232		
8		**223500**	3231	=COUNT (A1:C8)	
9					

- Press **Enter** and the number of cells with number value will be displayed.

D8 =COUNT(A1:C8)

	A	B	C	D	E
1	MONTHS	SALES REALISED			
2	JANUARY	36000	2343		
3	FEBRUARY	36500	212		
4	MARCH	37000	2121		
5	APRIL	37500	3212		
6	MAY	38000	44343		
7	JUNE	38500	3232		
8		**223500**	3231	14	
9					

Counting All Data Type Using the COUNTA

The COUNTA function does not only count the number of cells with numbers in them, it counts the dates, time, strings, logical values, empty string, or text.2

The COUNTA function uses the arguments below

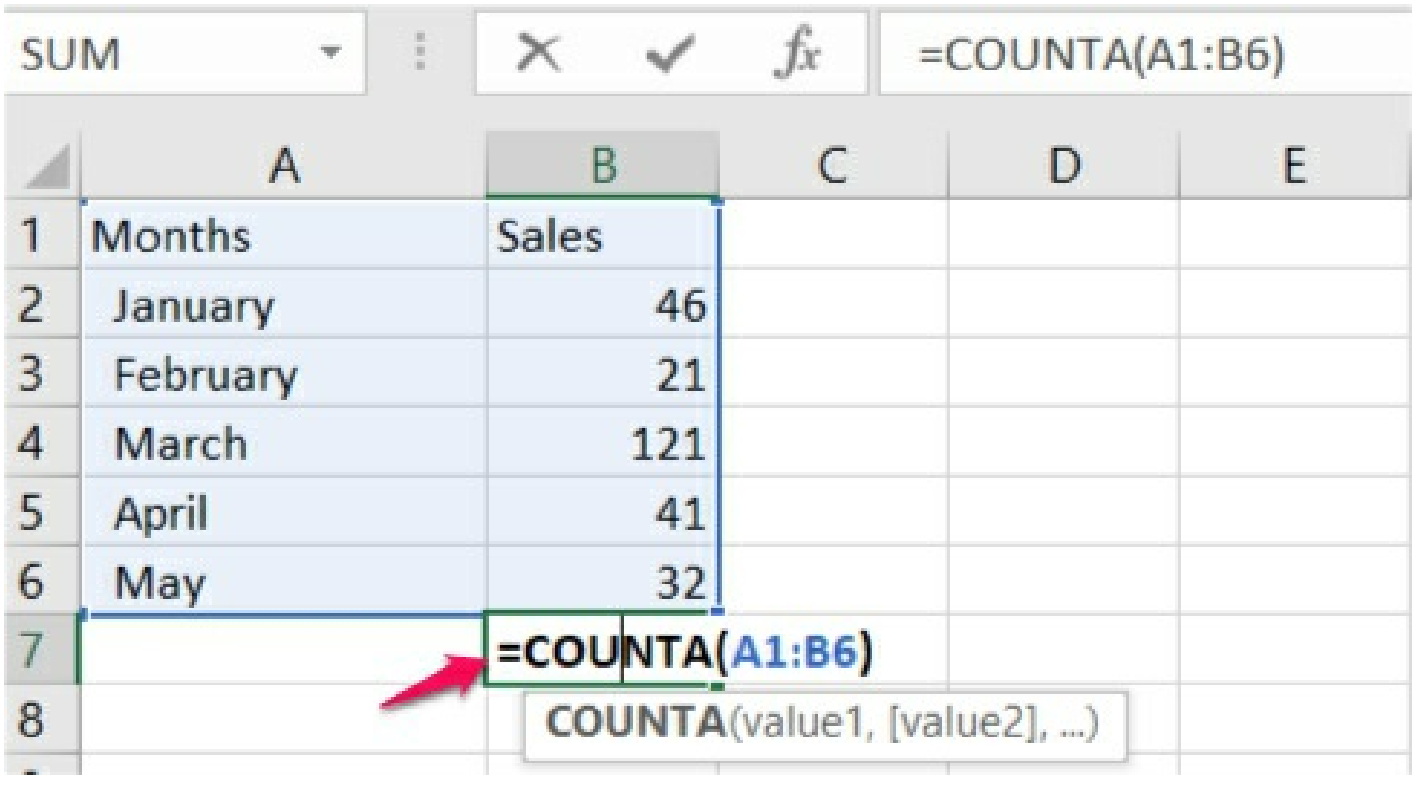
COUNTA(value1, [value2], …)

Using the data given below, use the COUNTA function to find the number of cells containing data in them.

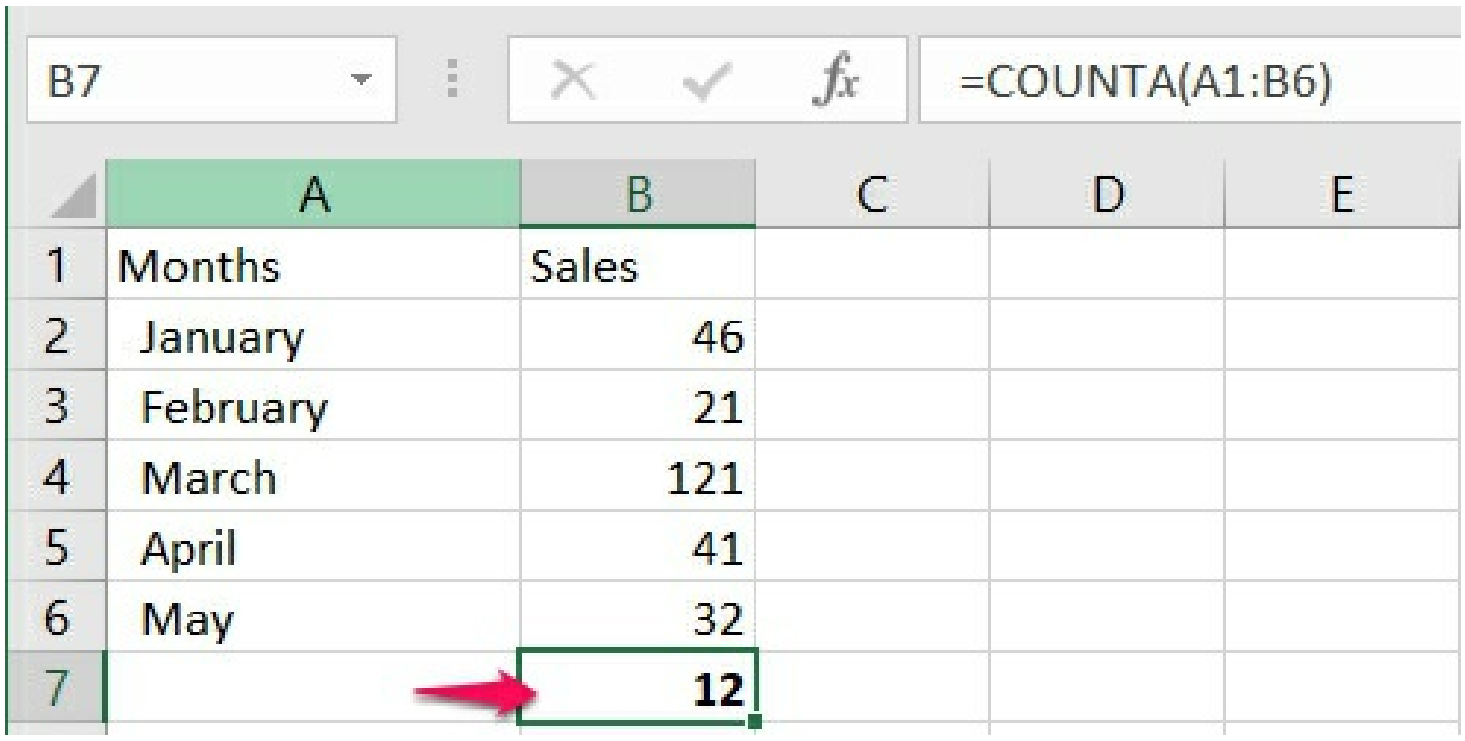
B7

	A	B	C	D
1	Months	Sales		
2	January	46		
3	February	21		
4	March	121		
5	April	41		
6	May	32		
7				
8				

- Select an empty cell **D7** and enter the function with the cell range in it; **= COUNTA (A1:C6)**



- Press **Enter** and the number of cells with data will be displayed.

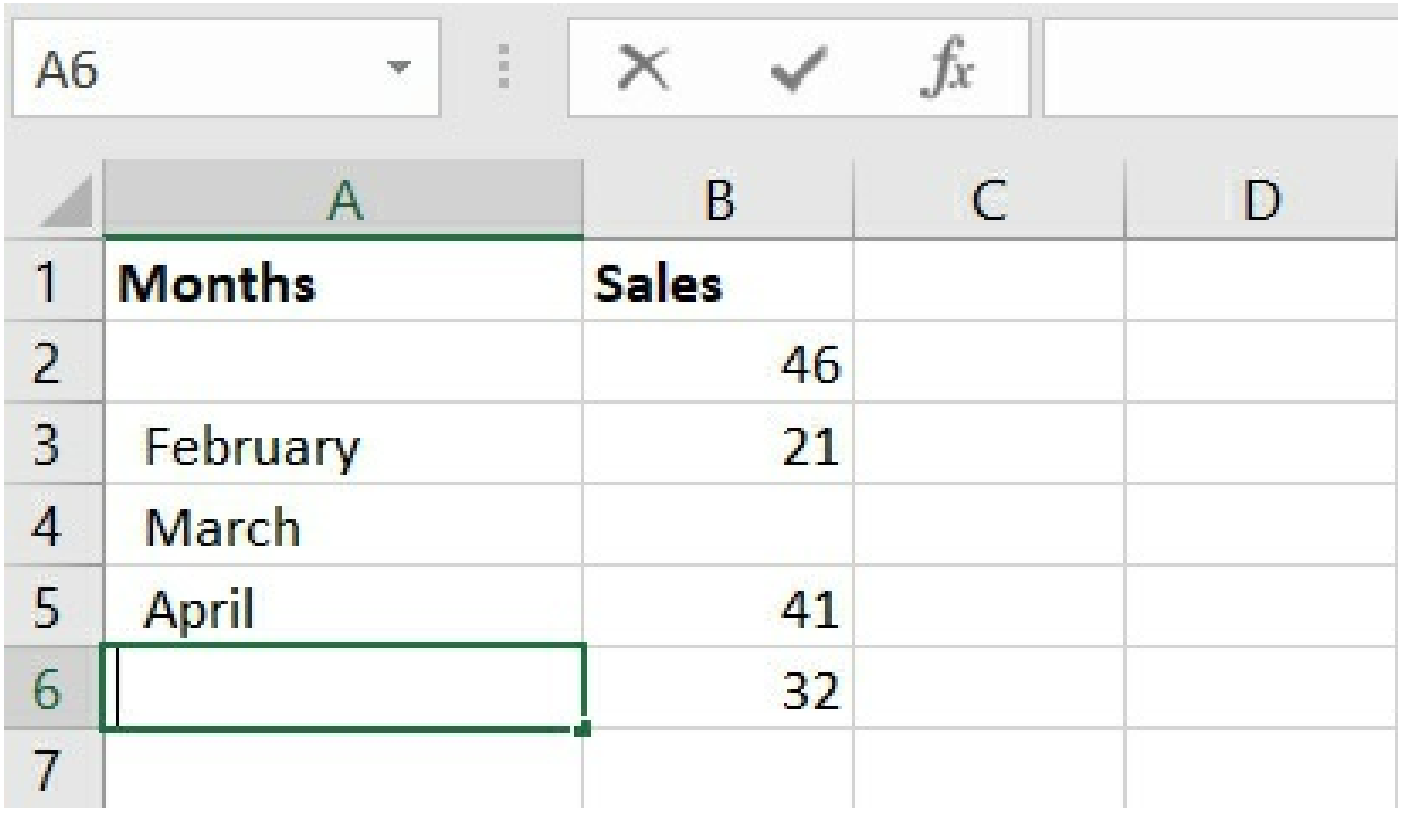


Counting Blank Spaces Using COUNTBLANK

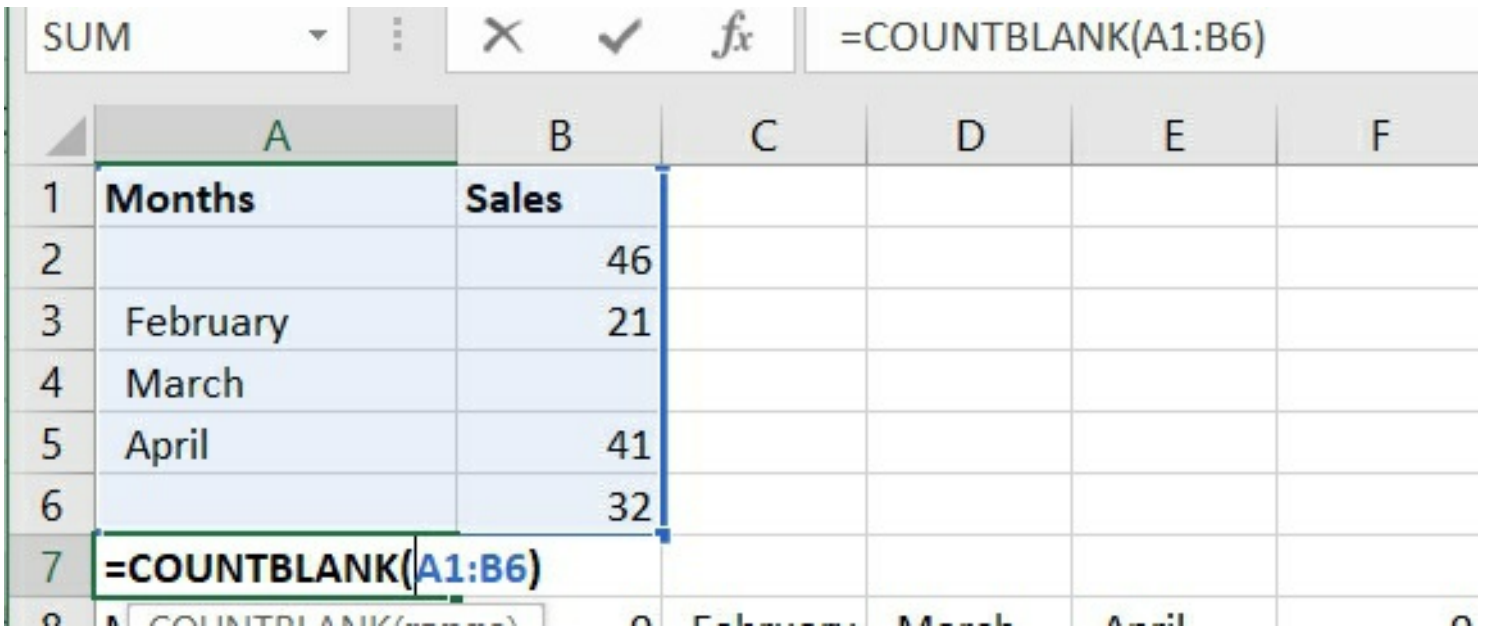
The COUNTBLANK function returns the numbers of empty cells in a range of cells, and the COUNTBLANK function has just an argument

COUNTBLANK(range)

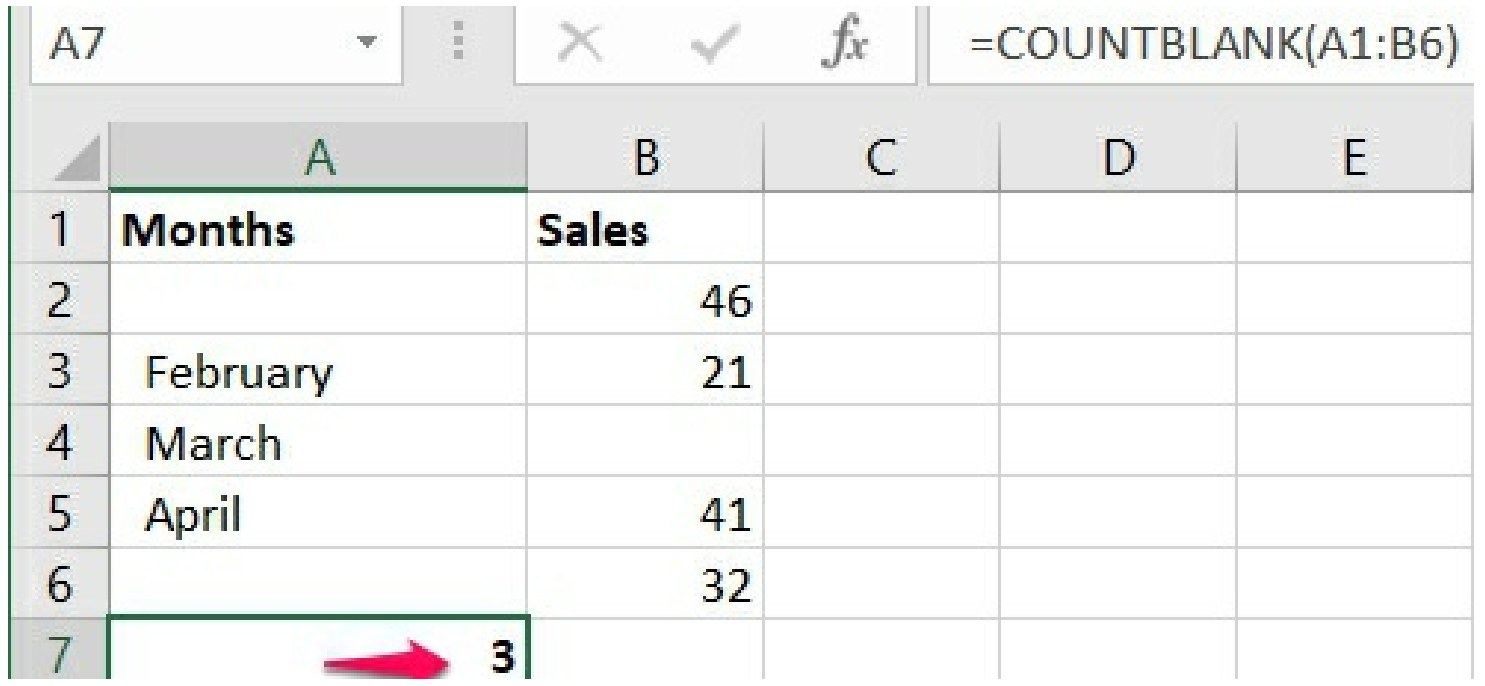
With the data below, find the number of empty cells with the range of cells using the COUNTBLANK function



- Select an empty cell **D7** and enter the function with the cell range in it; **= COUNTBLANK (A1:C6)**



- Press **Enter** and the number of cells without data will be displayed.



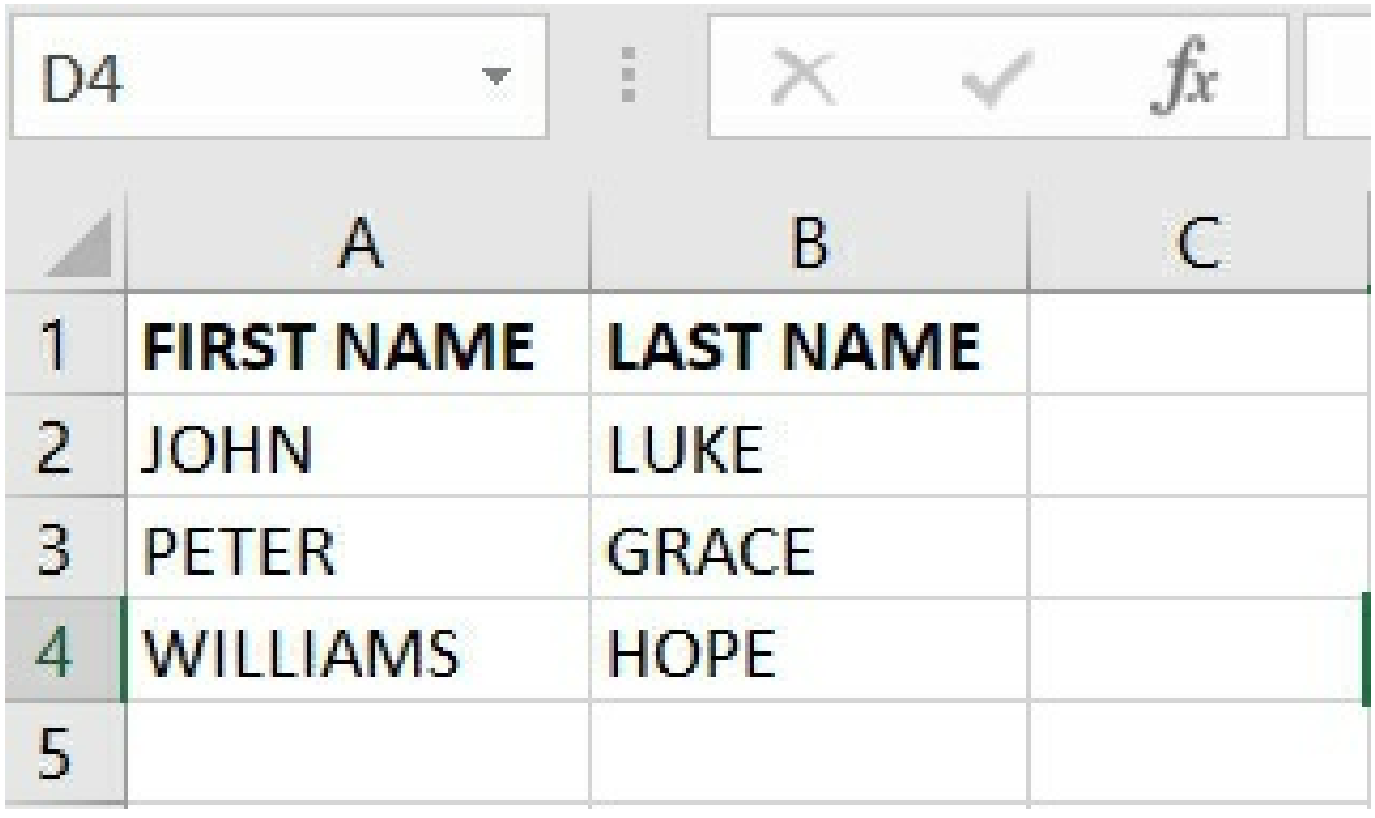
CONCATENATE for Combining Values

The CONCATENATE is a text function that allows you to join values from different cells into one cell in a worksheet.

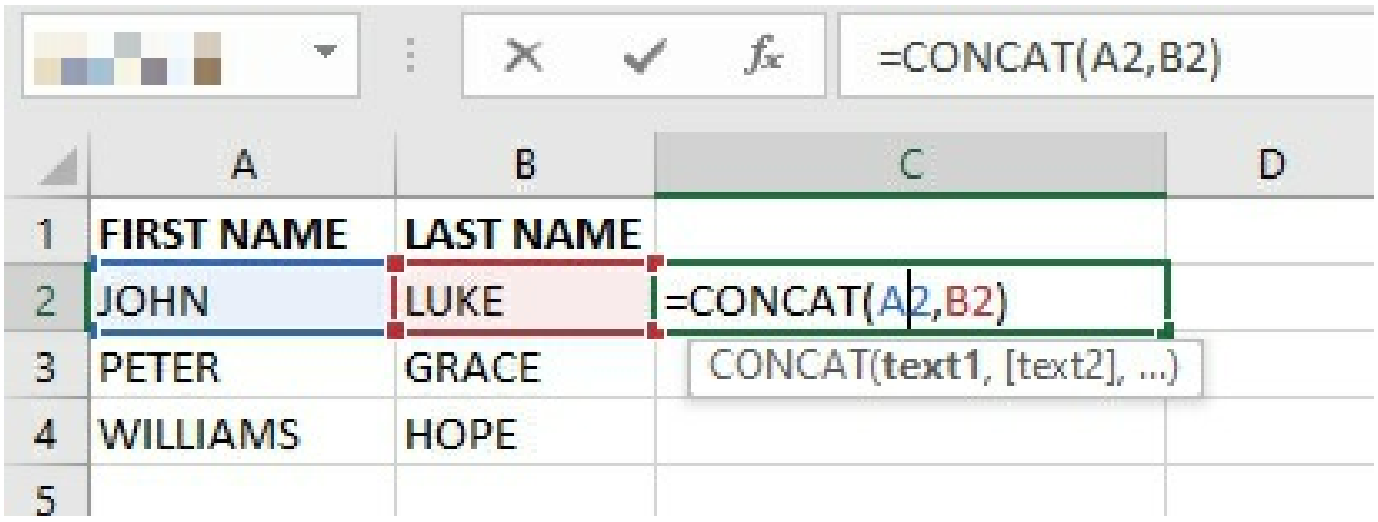
The CONCATENATE function uses the arguments below

CONCATENATE(text1, text2, text3…)

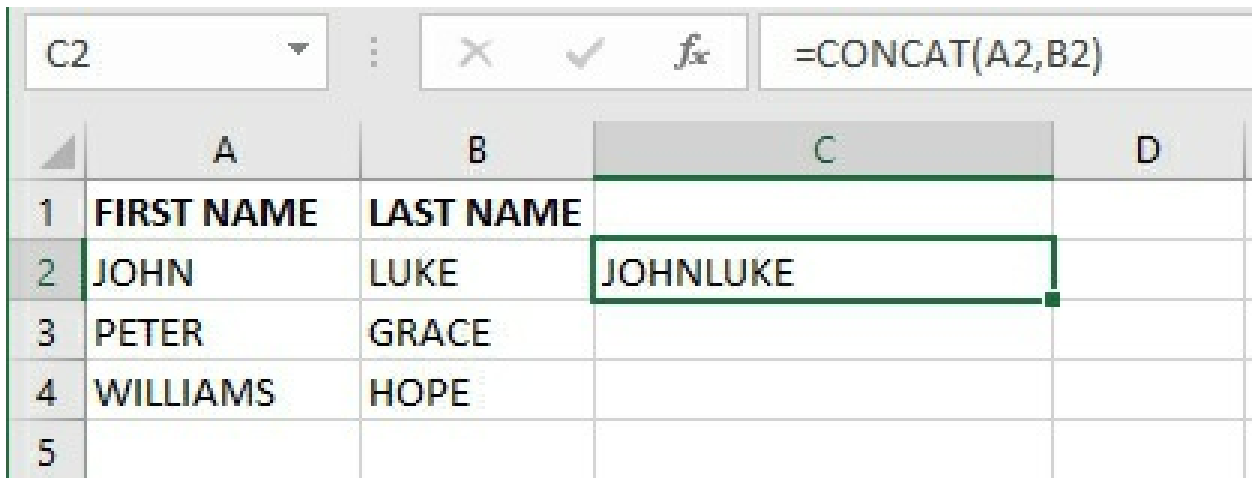
With the table provided, join the first and last name using the CONCATENATE function.



- Select an empty cell **C2** and enter the function with the cell range in it; **= CONCATENATE (A1, B2)**



- Press **Enter** and the values in the two cells will be joined together.



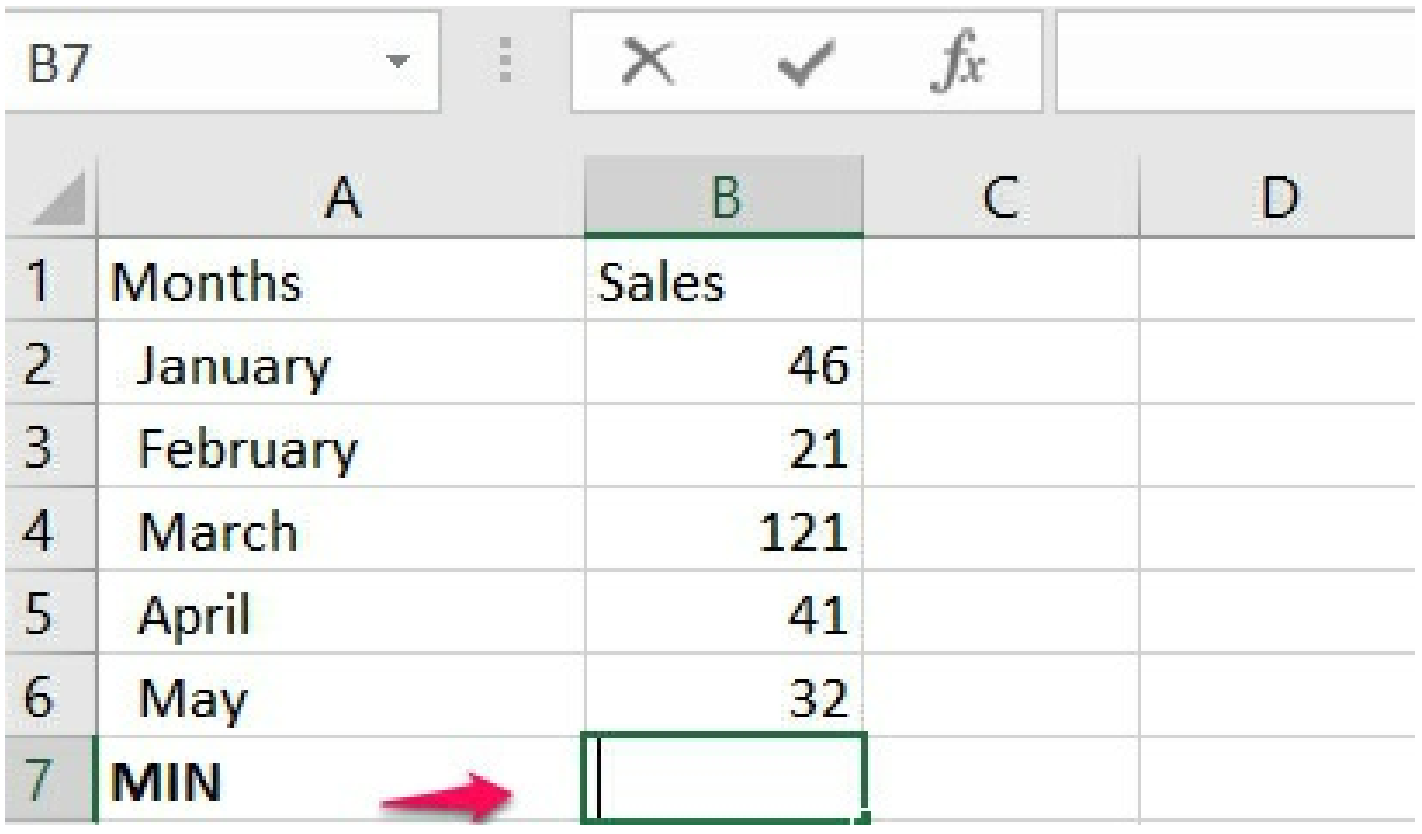
Finding the Lowest Number Using MIN

The MIN function helps to return the lowest value in a given set of cells or arguments.

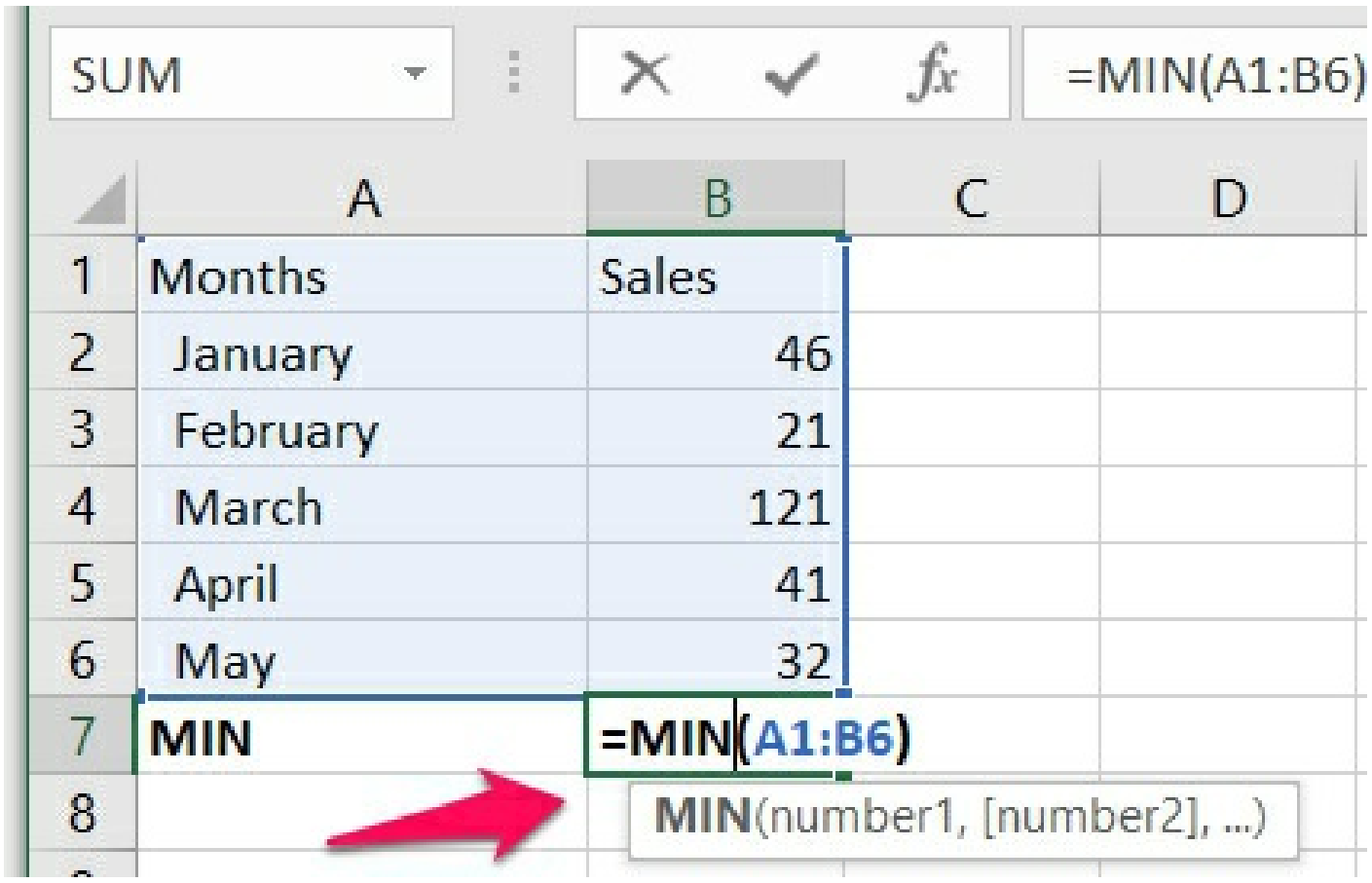
The MIN function includes the following arguments

MIN (number1, [number2],…)

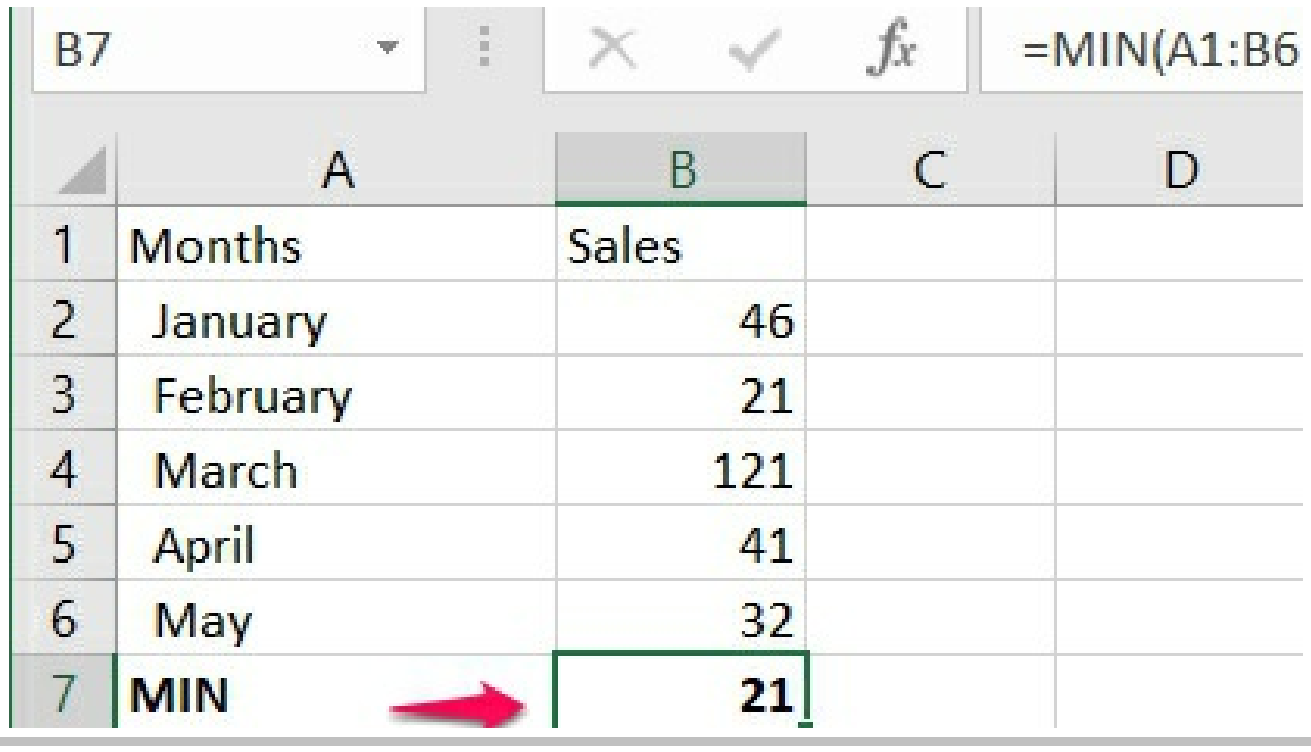
With the data provided below, find the lowest number using the MIN function.



- Select an empty cell **B7** and enter the function with the cell range in it; **=MIN (A1:B6)**



- Press **Enter** and the lowest value in the data will be calculated in the cell selected.



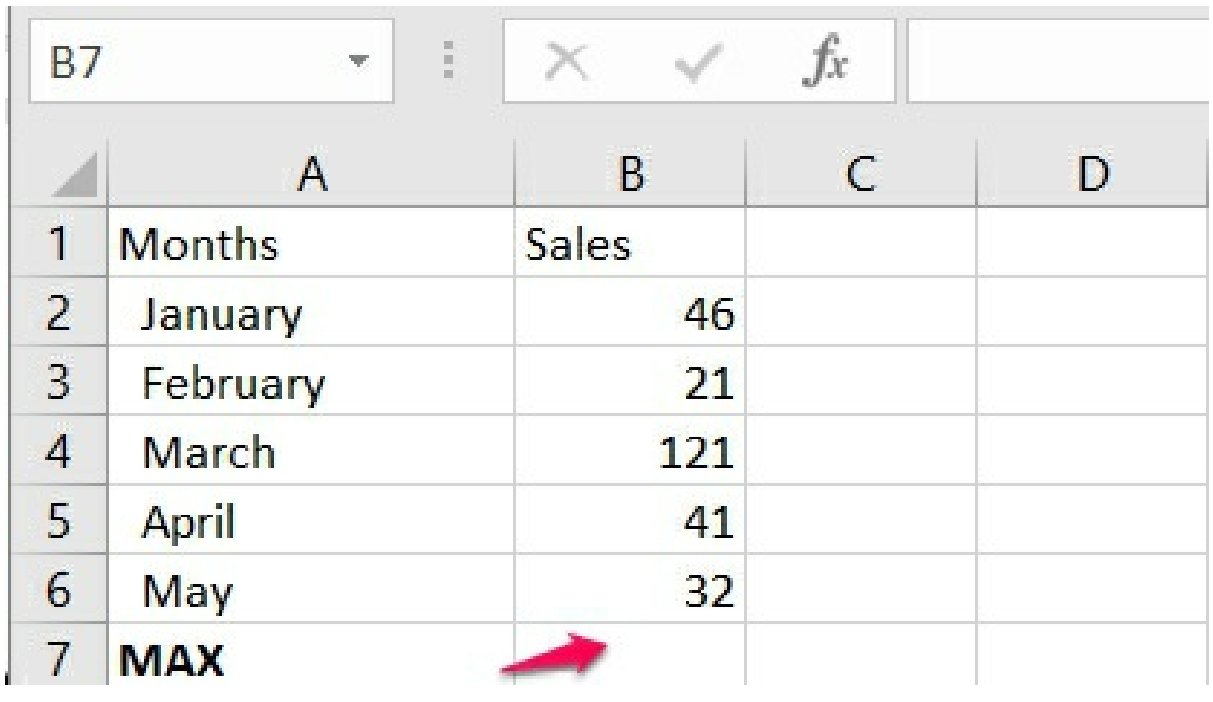
Finding the Highest Number Using MAX

The MAX function helps to return the highest value in a given set of cells or arguments.

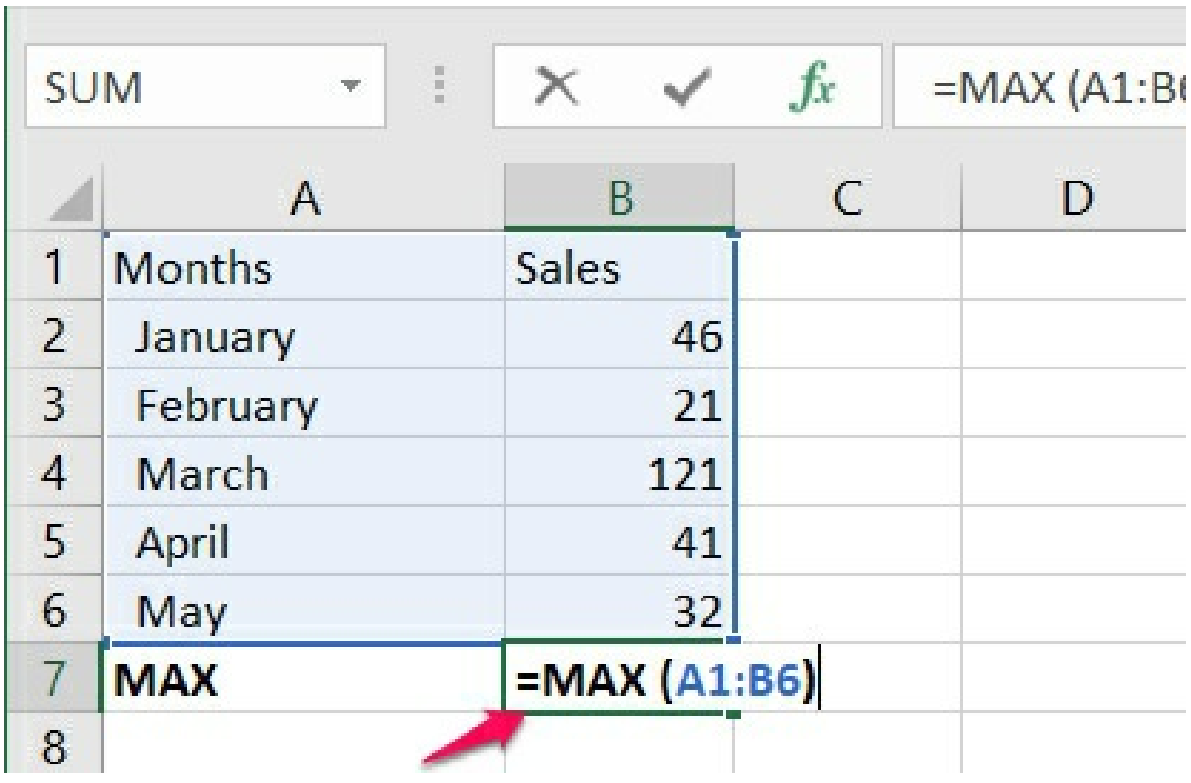
The MAX function includes the following arguments

=MAX(number1, [number2],…)

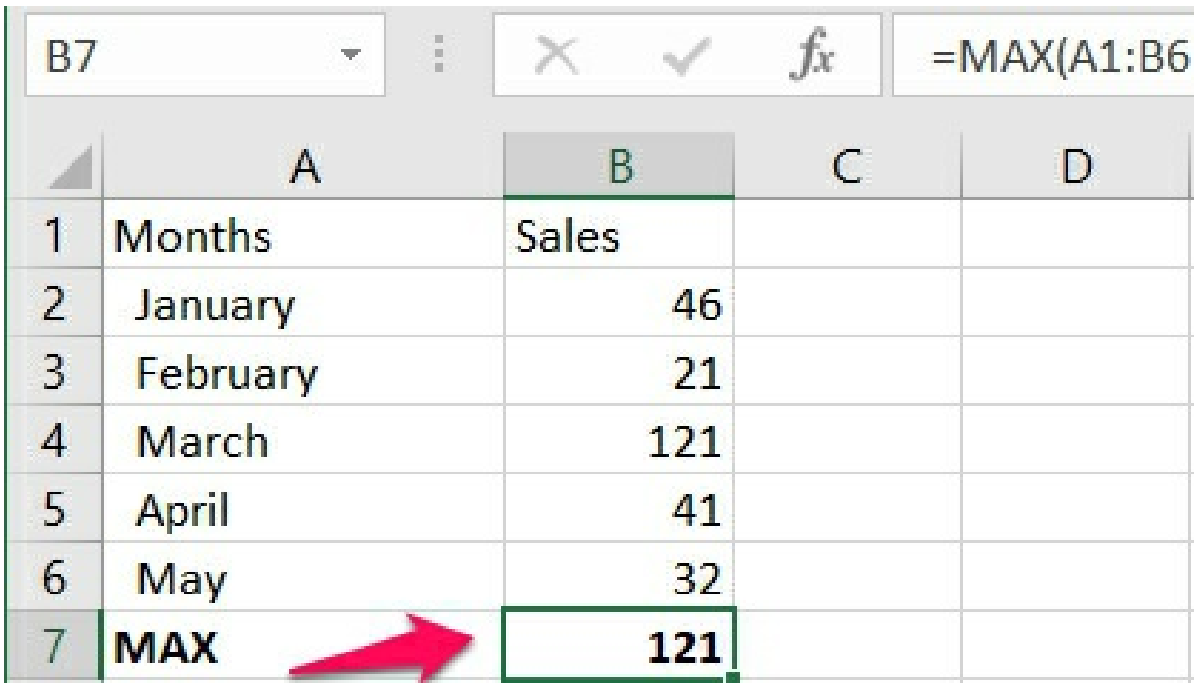
With the data provided below, find the highest number using the MAX function.



- Select an empty cell **B7** and enter the function with the cell range in it; **=MAX (A1:B6)**



- Press **Enter** and the highest value in the data will be calculated in the cell selected.

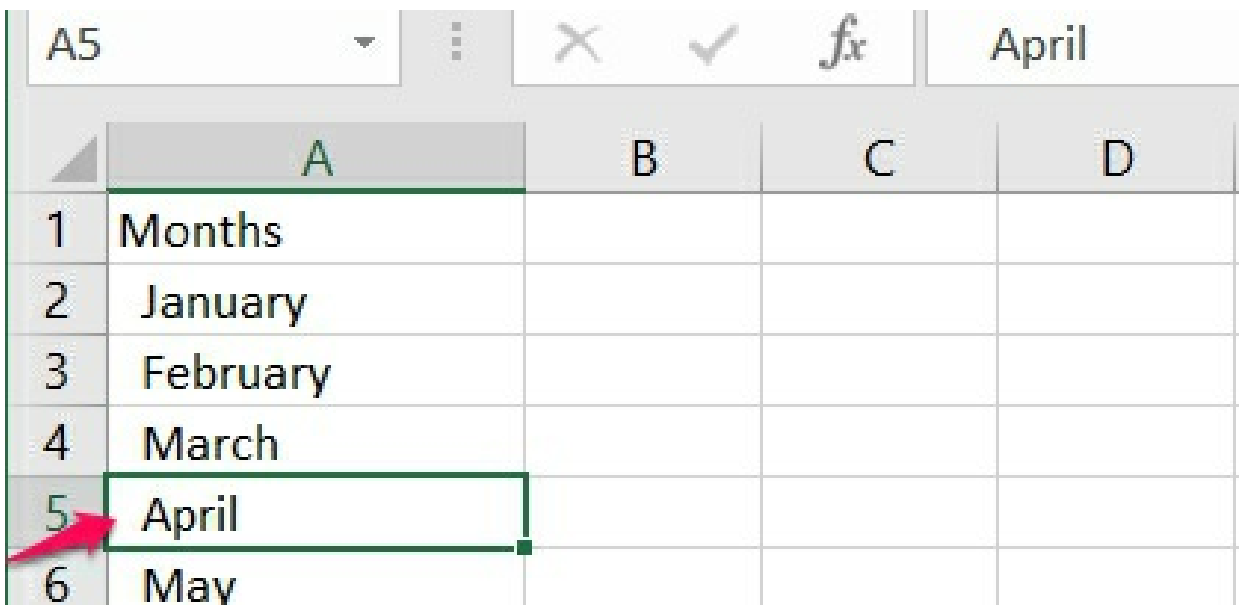


Counting Text Characters with LEN Function

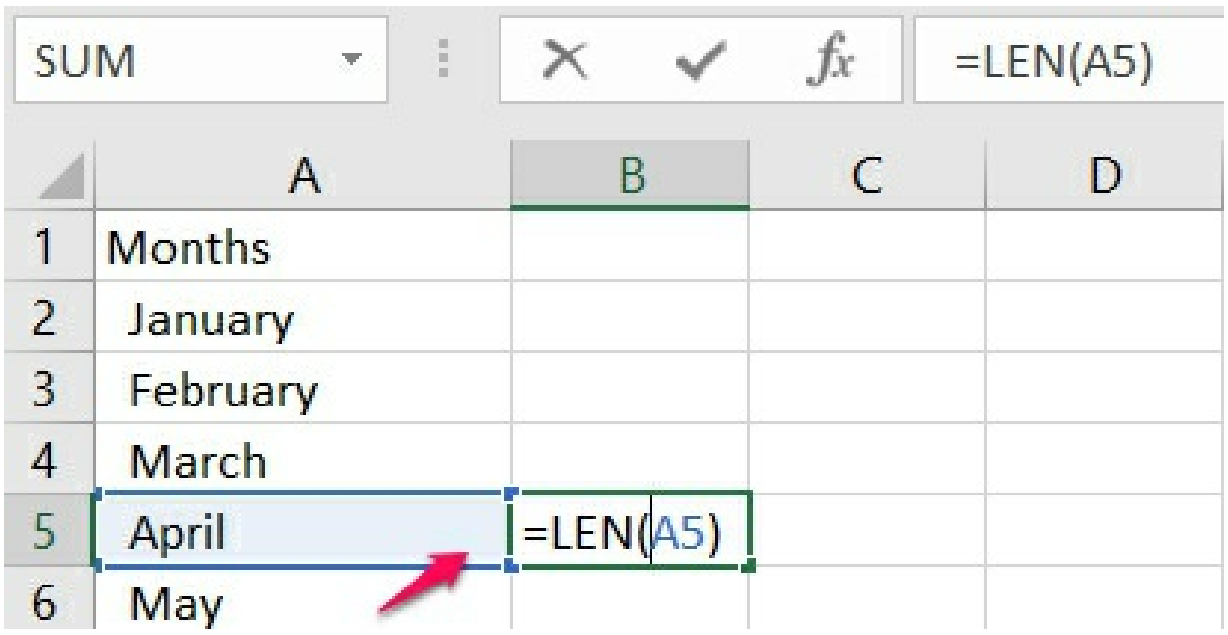
The LEN is a text function that returns the number of text characters in a cell and it uses the argument provided below to execute its operations

LEN(text)

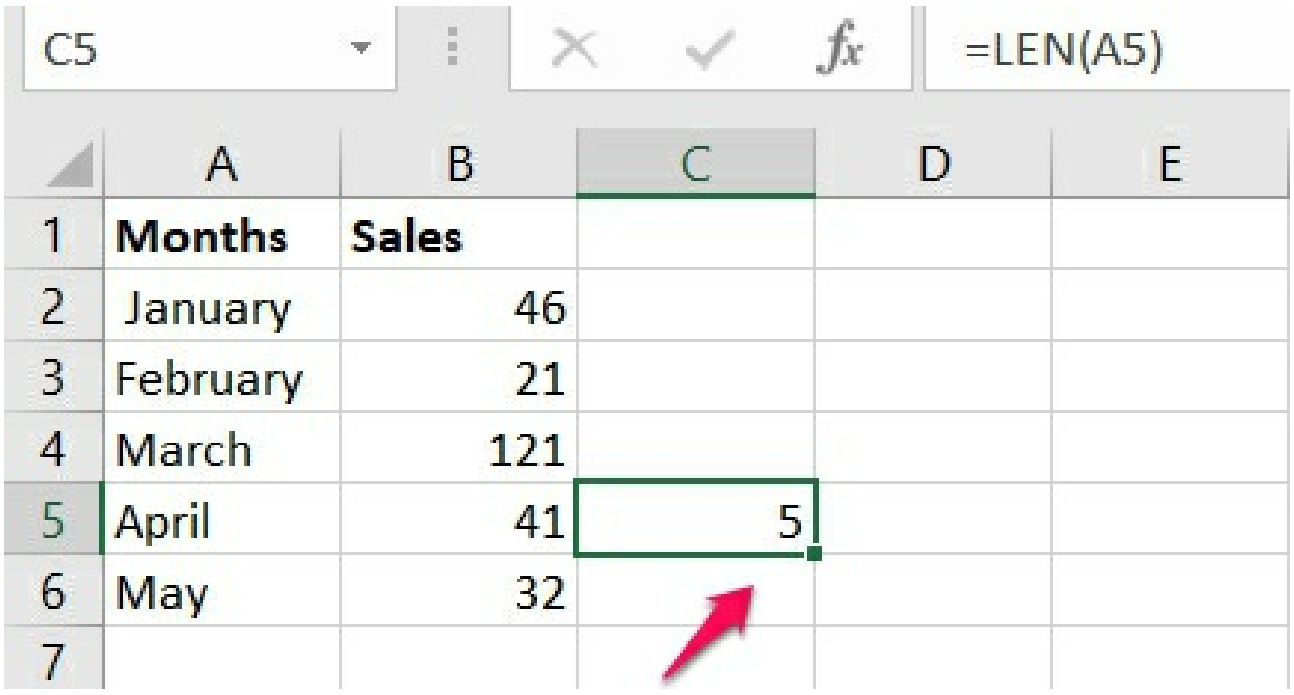
With the data provided below, find the number of text characters in cell A5 using the LEN function.



- Select an empty cell **B5** and enter the function with the cell range in it; **=LEN (A5)**



- Press **Enter** and the number of text characters will be calculated in the cell selected.



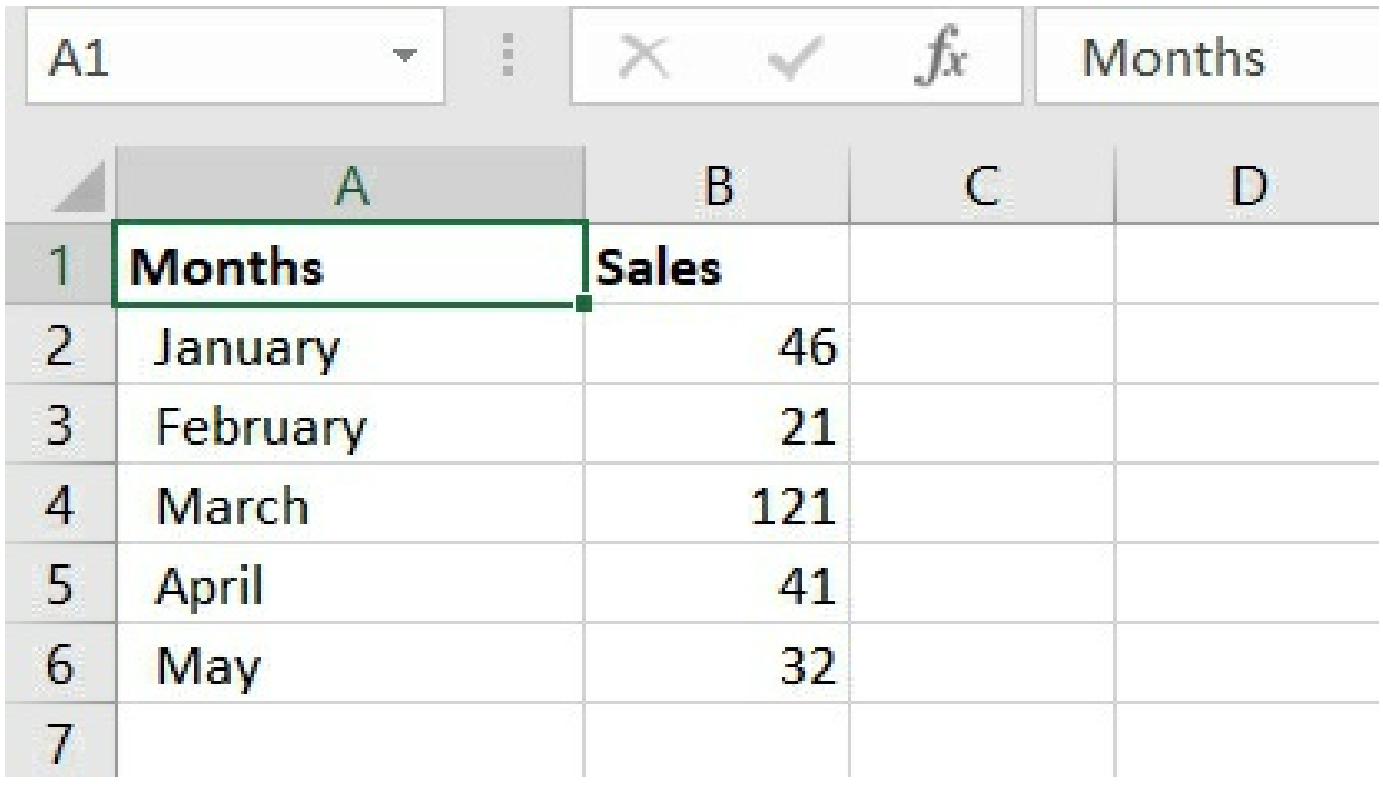
Changing the Orientation of the Cells With TRANSPOSE

The TRANSPOSE function is a function that changes the orientation of a given range of cell or array from vertical range to horizontal range, and from horizontal range to vertical range. When using the TRANSPOSE function, the range or array selected must have the same number of rows and columns.

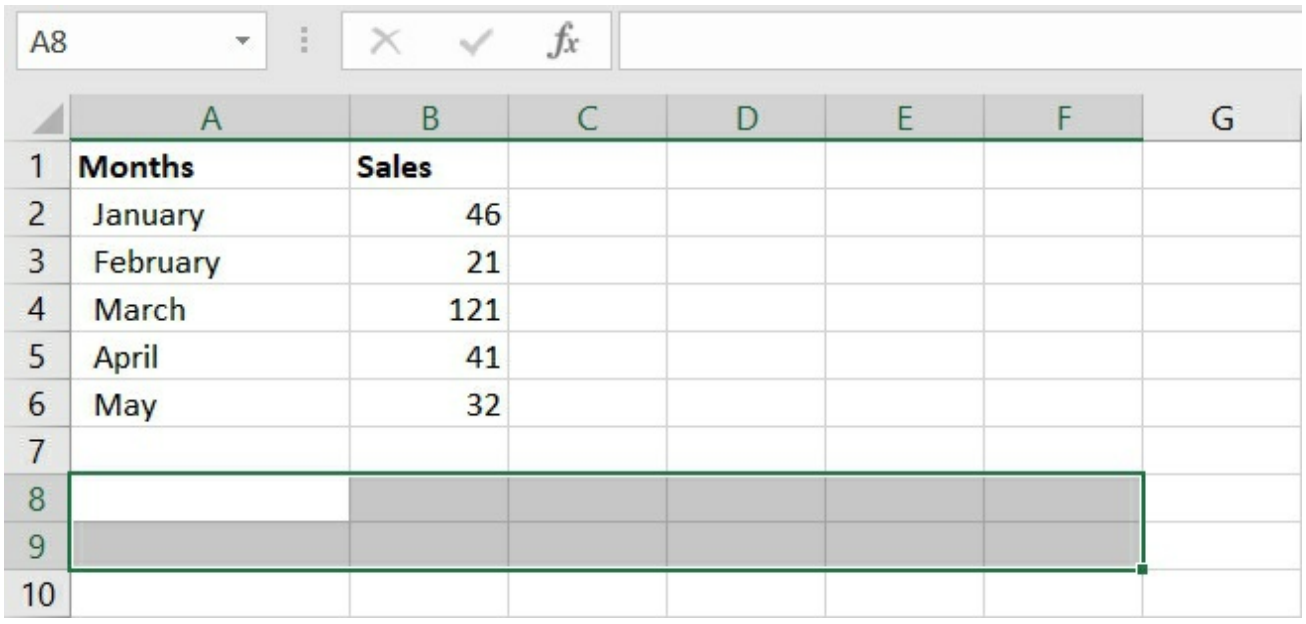
The TRANSPOSE uses the following argument

TRANSPOSE(array)

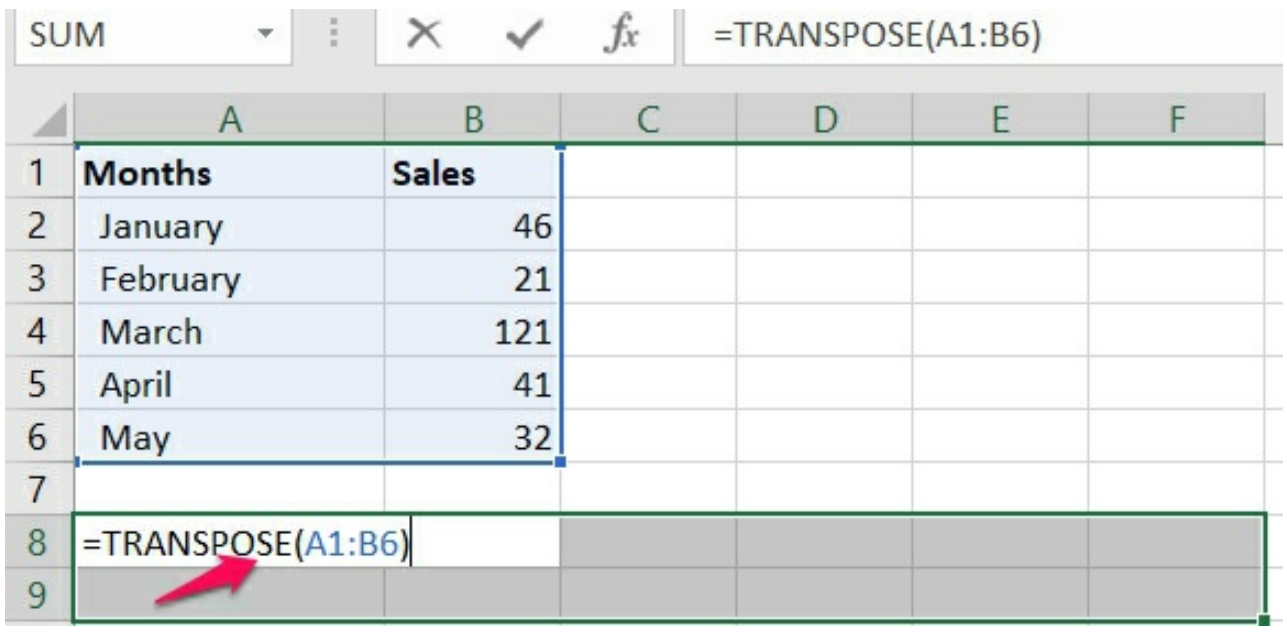
With the data provided below, change the orientation of the range of cells from vertical to horizontal using the TRANSPOSE function



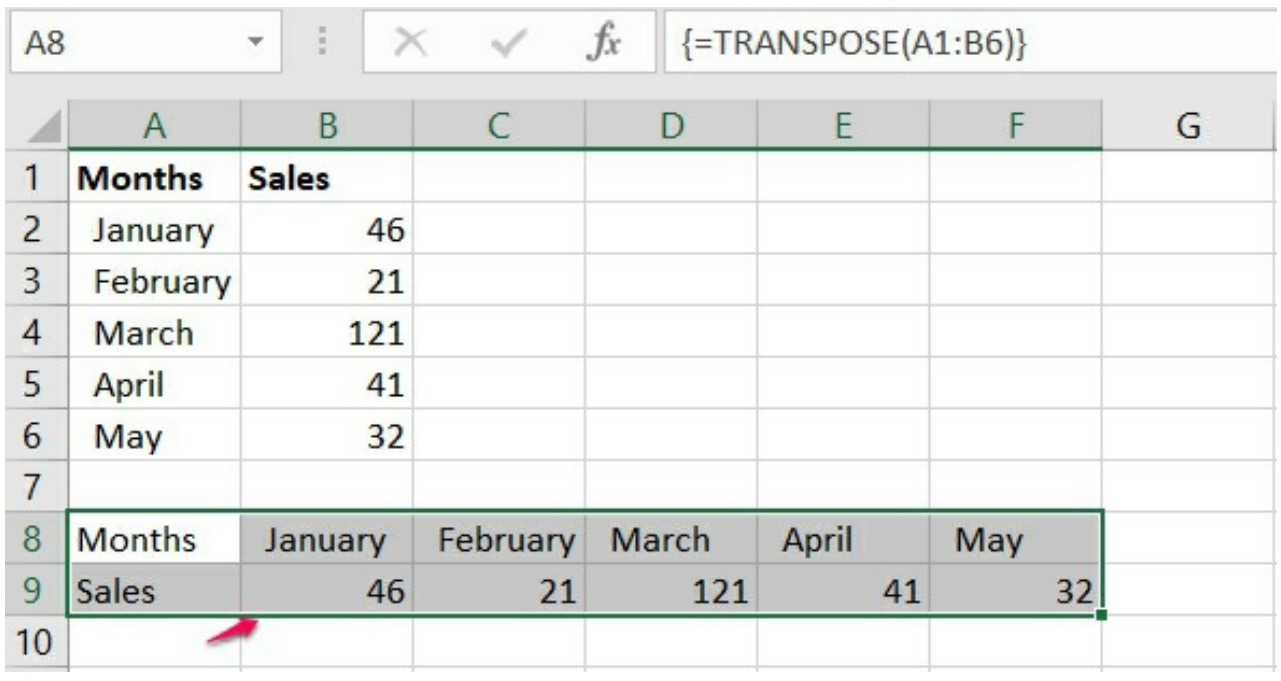
- Select a range of cells **(A8:F9)** and make sure that the cells selected have the same rows and columns as the original set of cells arranged in a vertical direction.



- In the selected cells, enter the function with the cell range in it; **=TRANSPOSE(A1:B6)**



- Press **Enter** and the orientation of the range of cells selected will be changed from vertical to horizontal



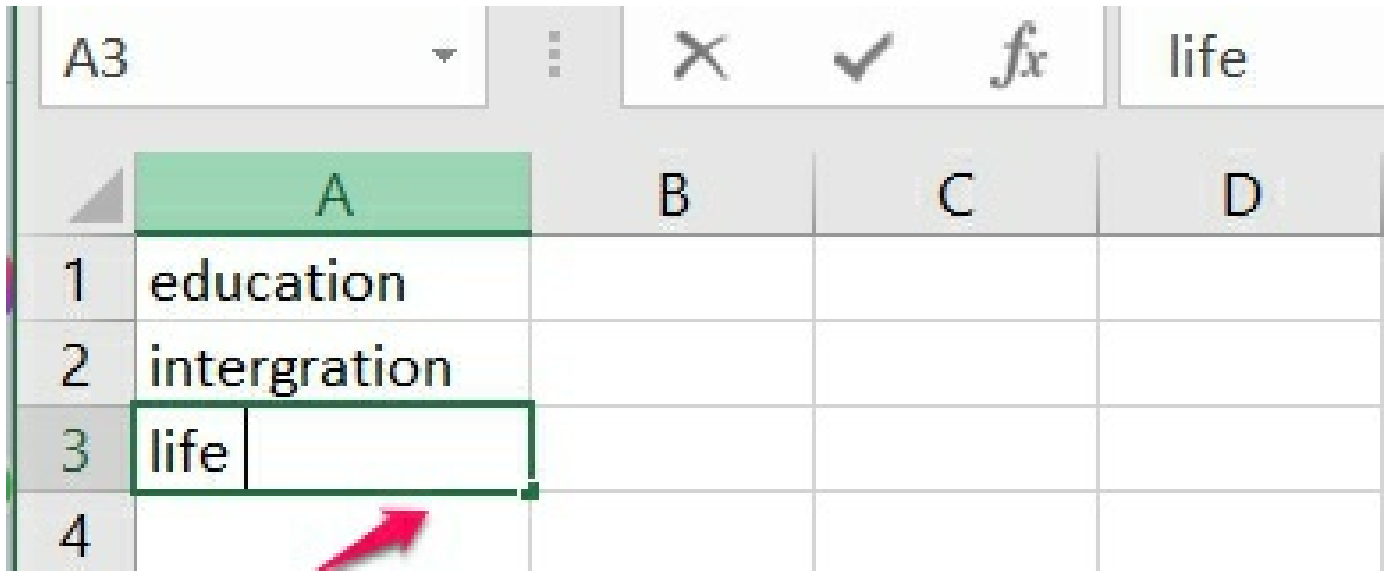
Capitalizing the First Letter of your Text String with PROPER

The PROPER function changes the first letter of each word in the cell to uppercase.

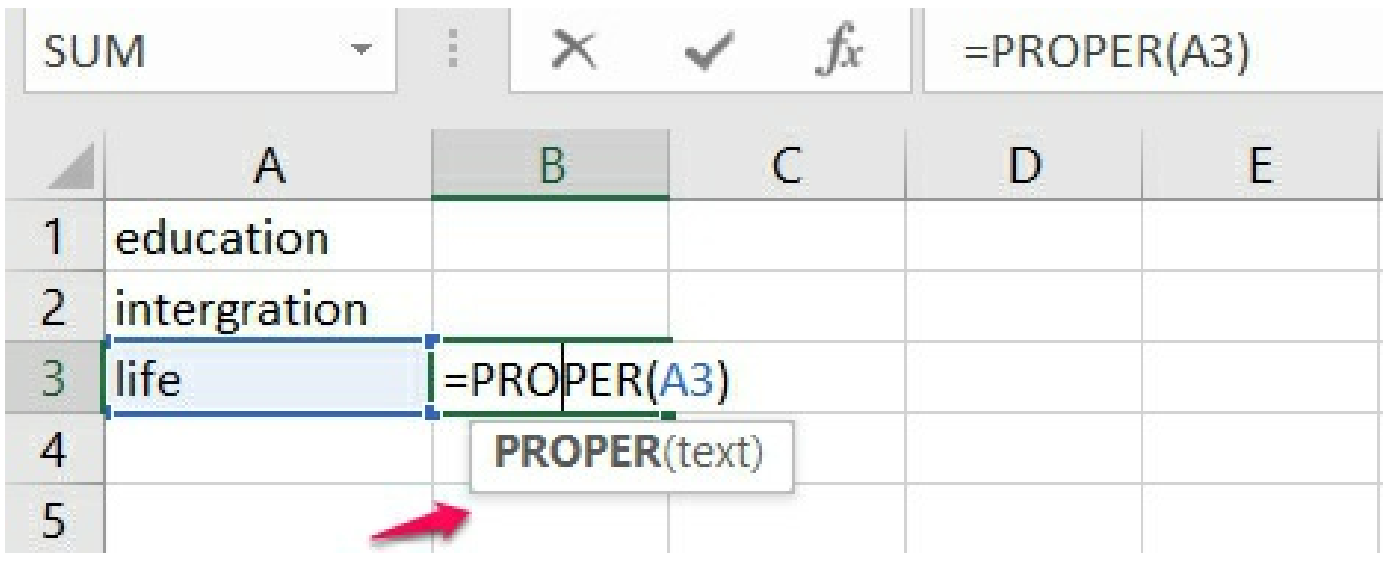
The PROPER function uses the following argument

PROPER(Cell address)

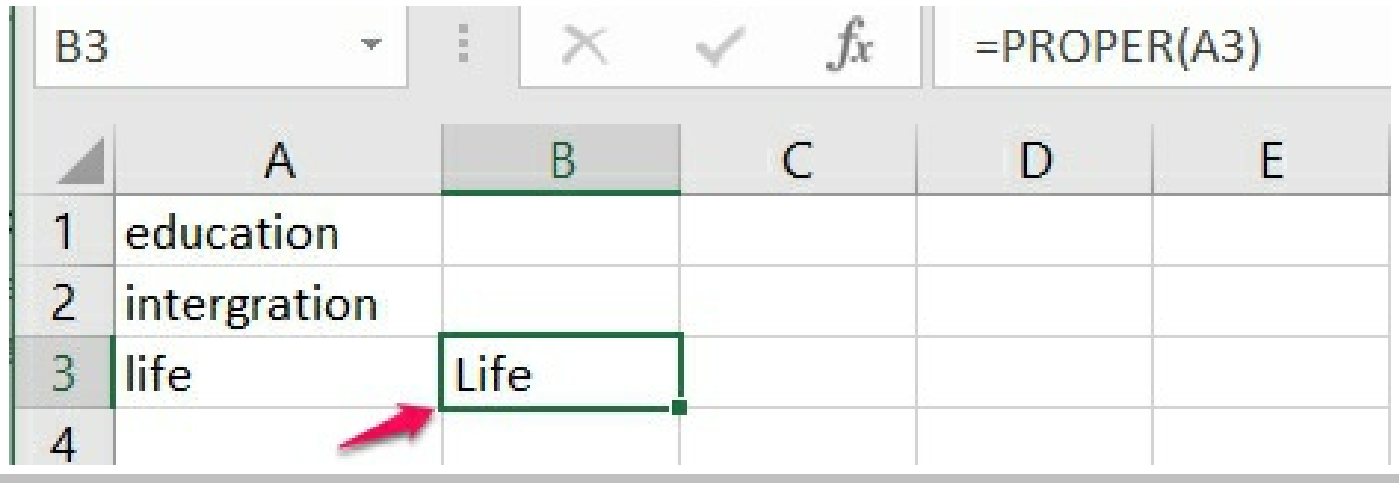
With the data provided below, change the first letter of a cell to an uppercase using the PROPER function.



- Select an empty cell **B3** and enter the function with the cell range in it; **=PROPER(A3)**



- Press **Enter** and the first letter of the selected cell will be capitalized.



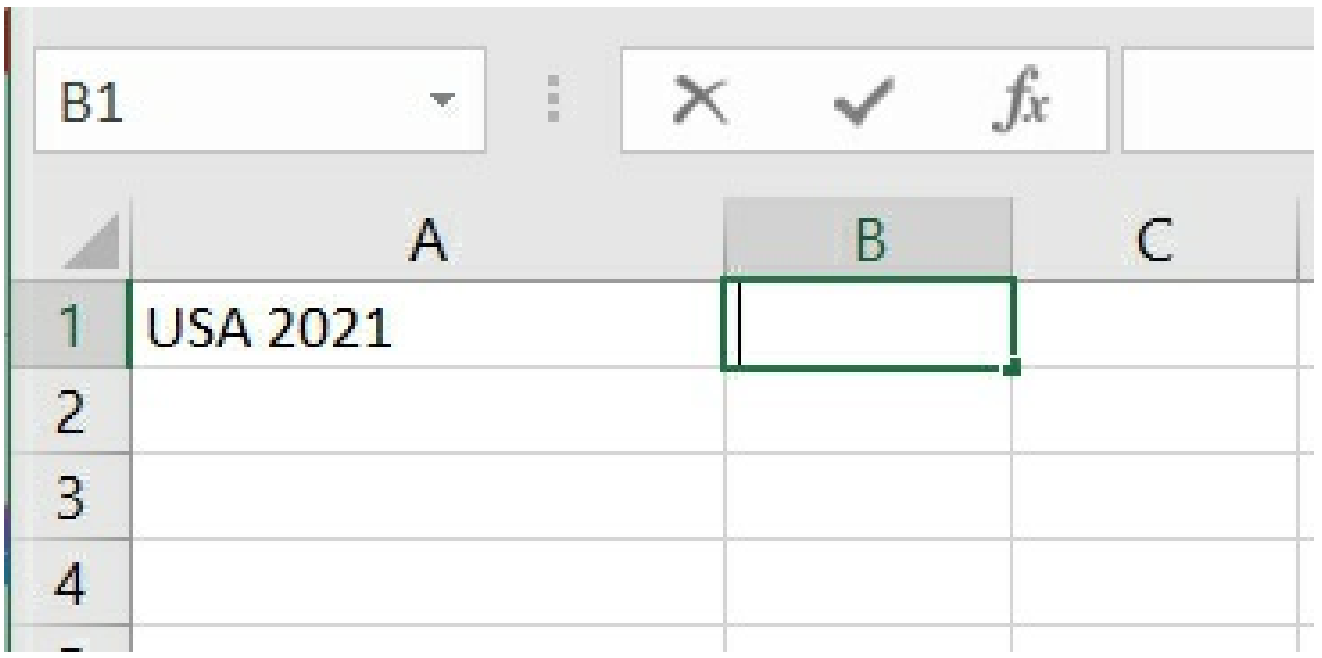
Removing Spaces With TRIM

The TRIM function removes spaces that cause errors in the data. The TRIM function can only work on a single cell.

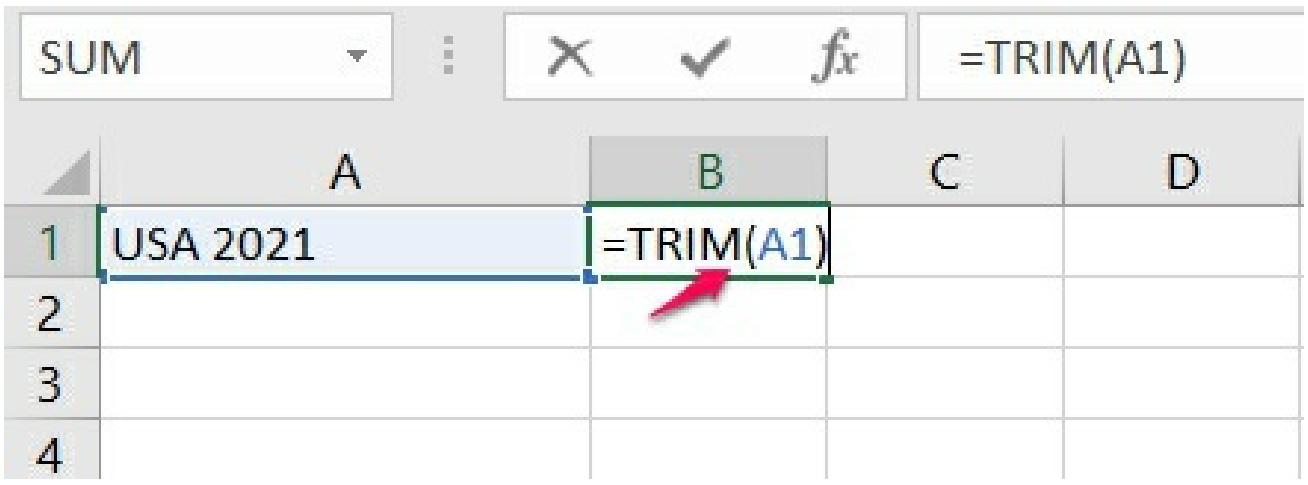
The TRIM function uses the following argument

TRIM(text)

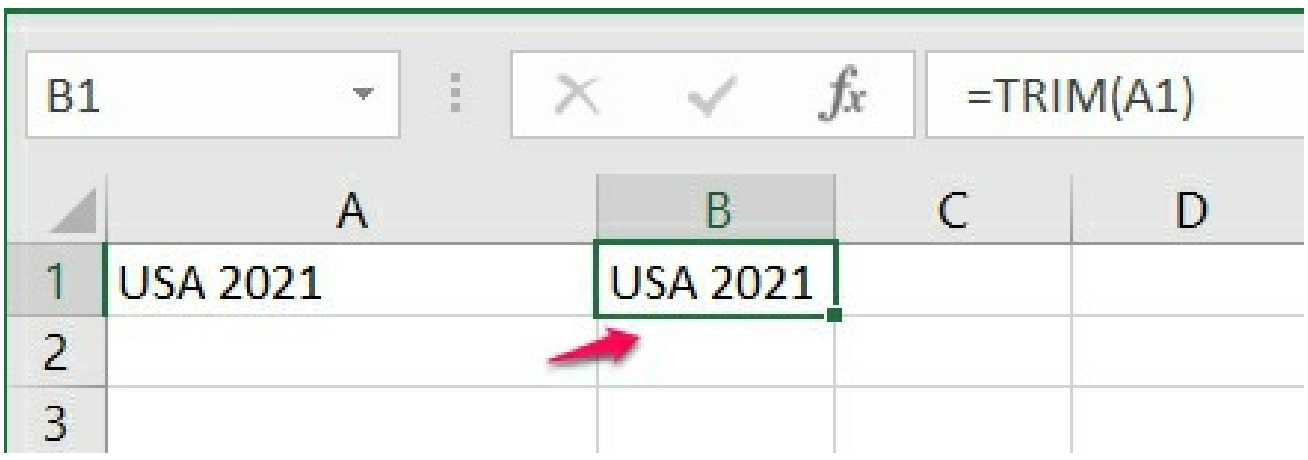
Use the TRIM function to remove the spaces in the data below



- Select an empty cell **B1** and enter the function with the cell range in it; **=TRIM(A1)**



- Press **Enter** and the space in the selected cell will be removed.



Finding the Position of a Substring in a Text String Using the SEARCH Function

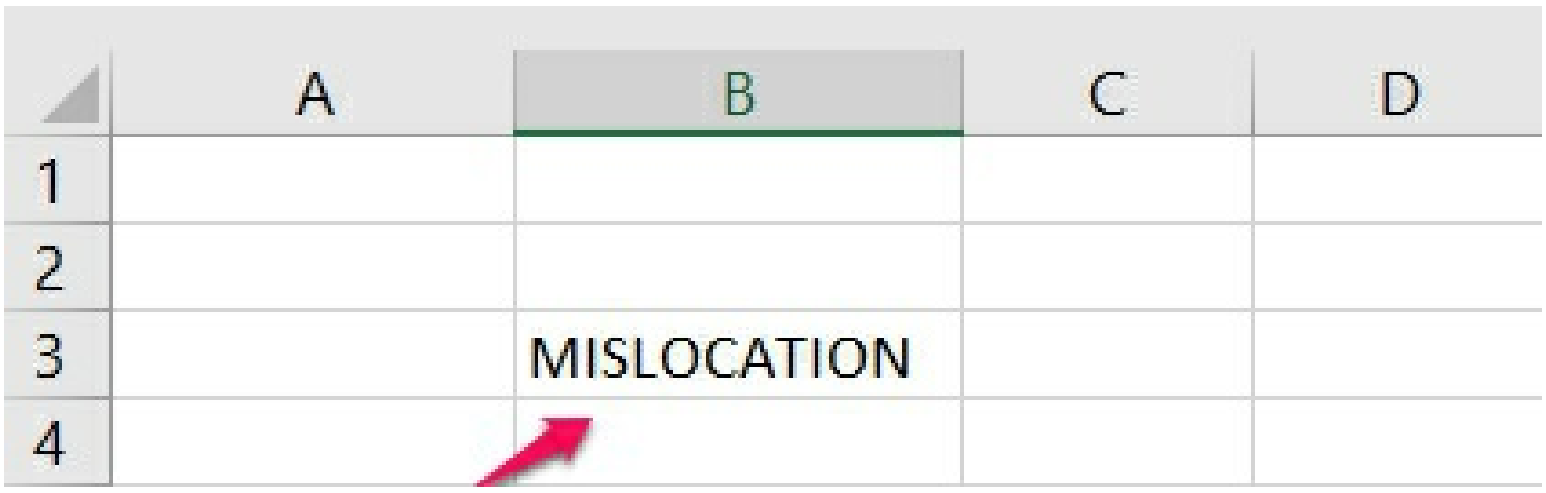
The SEARCH function is a function that allows you to find the location of a substring in a string. This SEARCH function is case insensitive and allows the use of wildcards.

The SEARCH function uses the following arguments

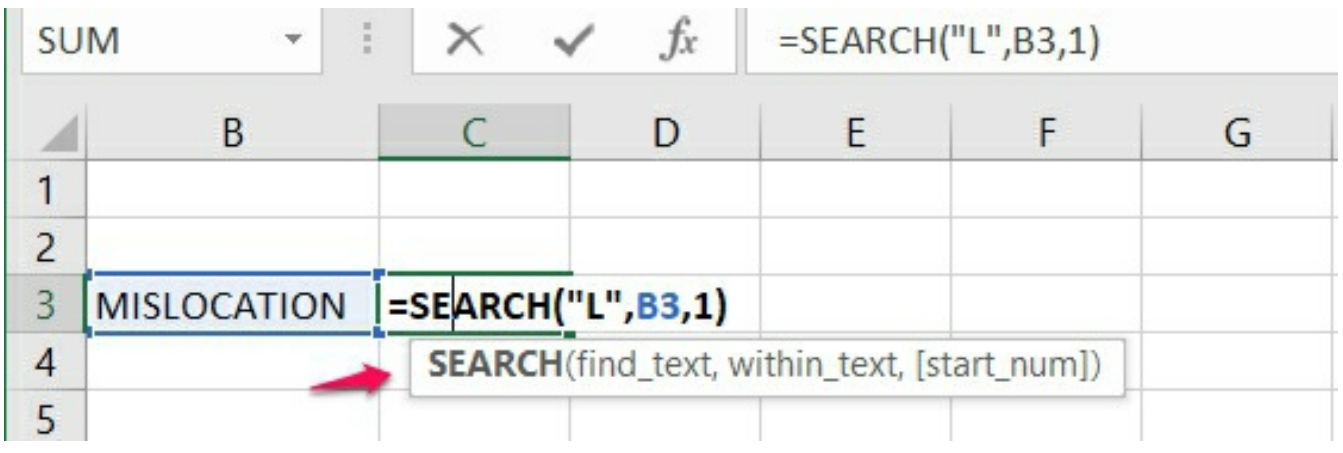
SEARCH (find_text, within_text, [start_num]

- Find_text= The text to search for
- Within_text= The text to search from
- Start_num= The location to start the search for within the text

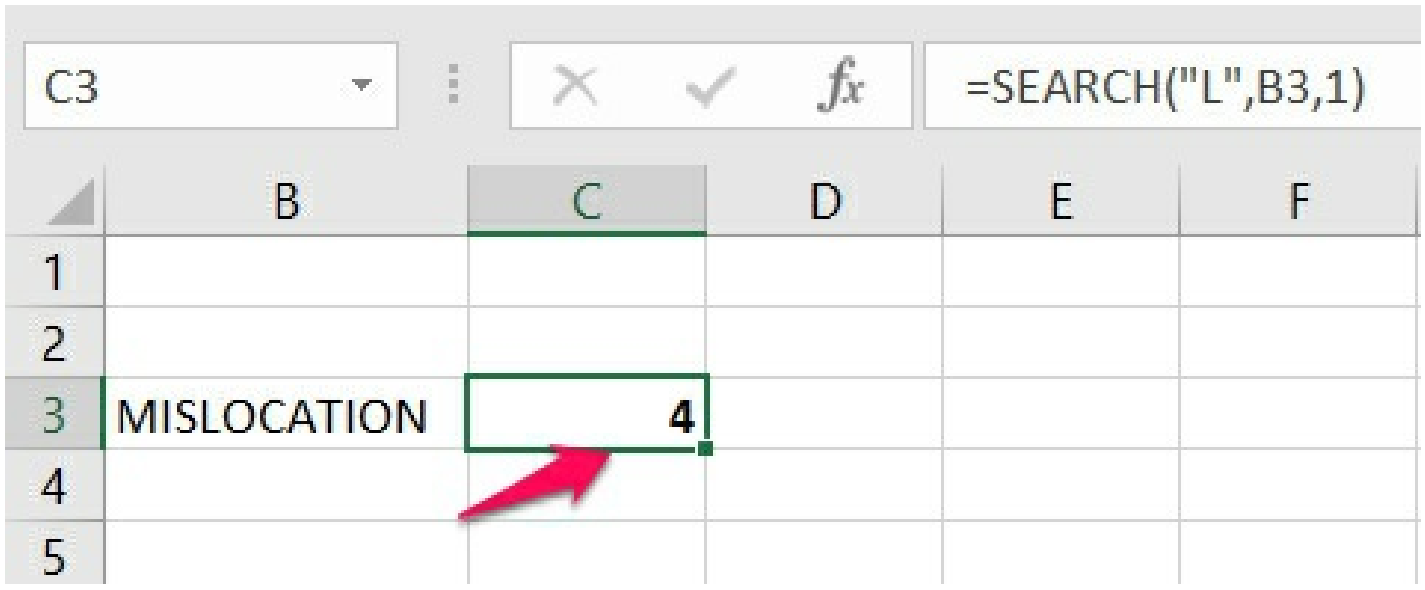
In the data given below, find the position of L in cell B3 using the SEARCH function.



- Select an empty cell **C3** and type **=SEARCH(“L”, B3, 1)**



- Press **Enter** and the function will return the location of the substring text within the text.



Finding the Position of a Substring in a Text String Using the FIND Function

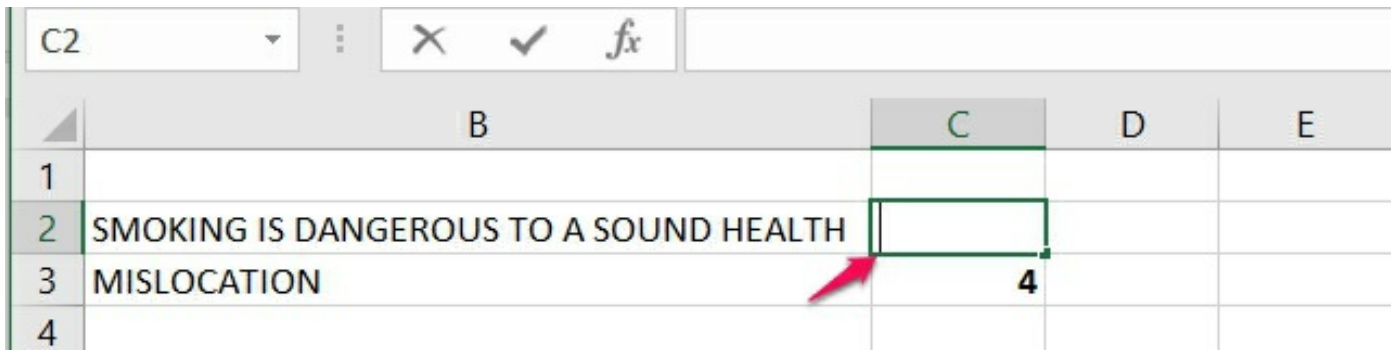
Just like the SEARCH function, the FIND function returns the position of a substring within a string. However, unlike the SEARCH and FIND functions; unlike the SEARCH function, the FIND function is case sensitive i.e. it can work on both small and letters.

The FIND function uses the followings arguments

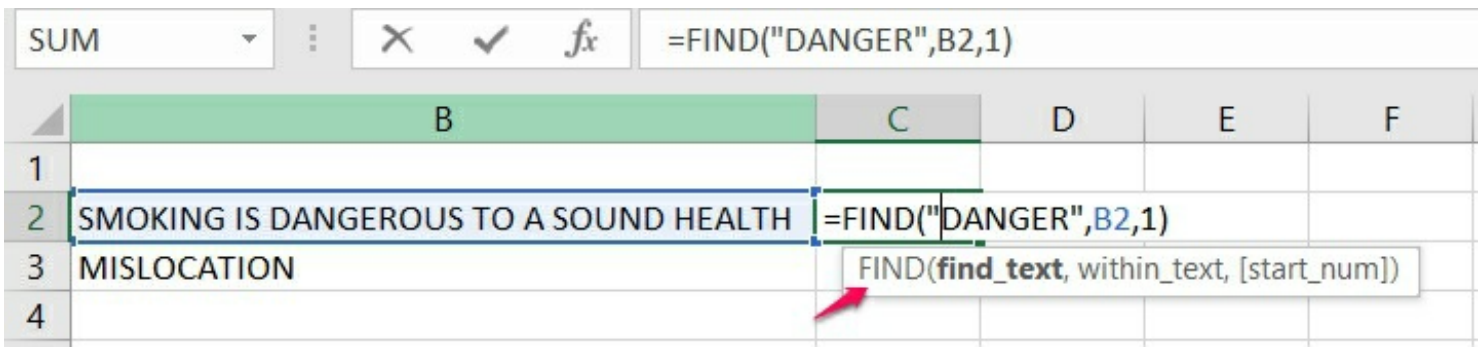
=FIND (find_text, within_text, [start_num]

- Find_text= The text to search for
- Within_text= The text to search from
- Start_num= The location to start the search for within the text

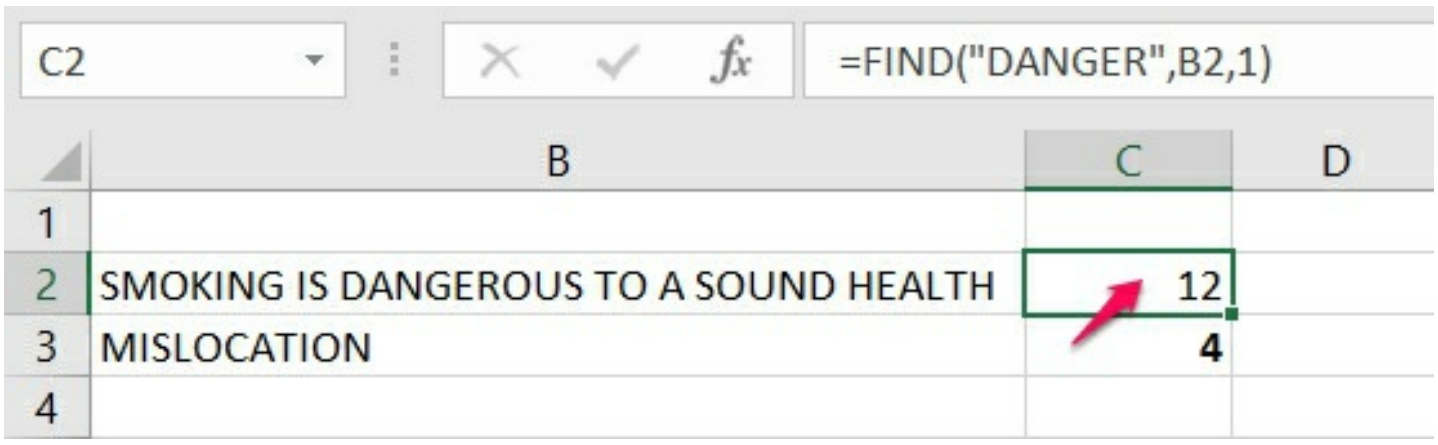
In the data given below, find the position of DANGER in cell B2 using the FIND function.



- Select an empty cell **C3** and type **=FIND(“DANGER”, B2,1)**



- Press **Enter** and the function will return the location of the substring text within the text.



Making Logical Comparison with Values Using the IF Functions

The IF function tests a given condition and returns one value for a TRUE and another value for a FALSE result. The function makes a logical comparison between values. While using the IF function, it can use the following logical operators

- Equal to (=)
- Greater than (>)
- Greater than or equal to (>=)
- Less than (<)
- Less than or equal to (<=)
- Not equal (<>)

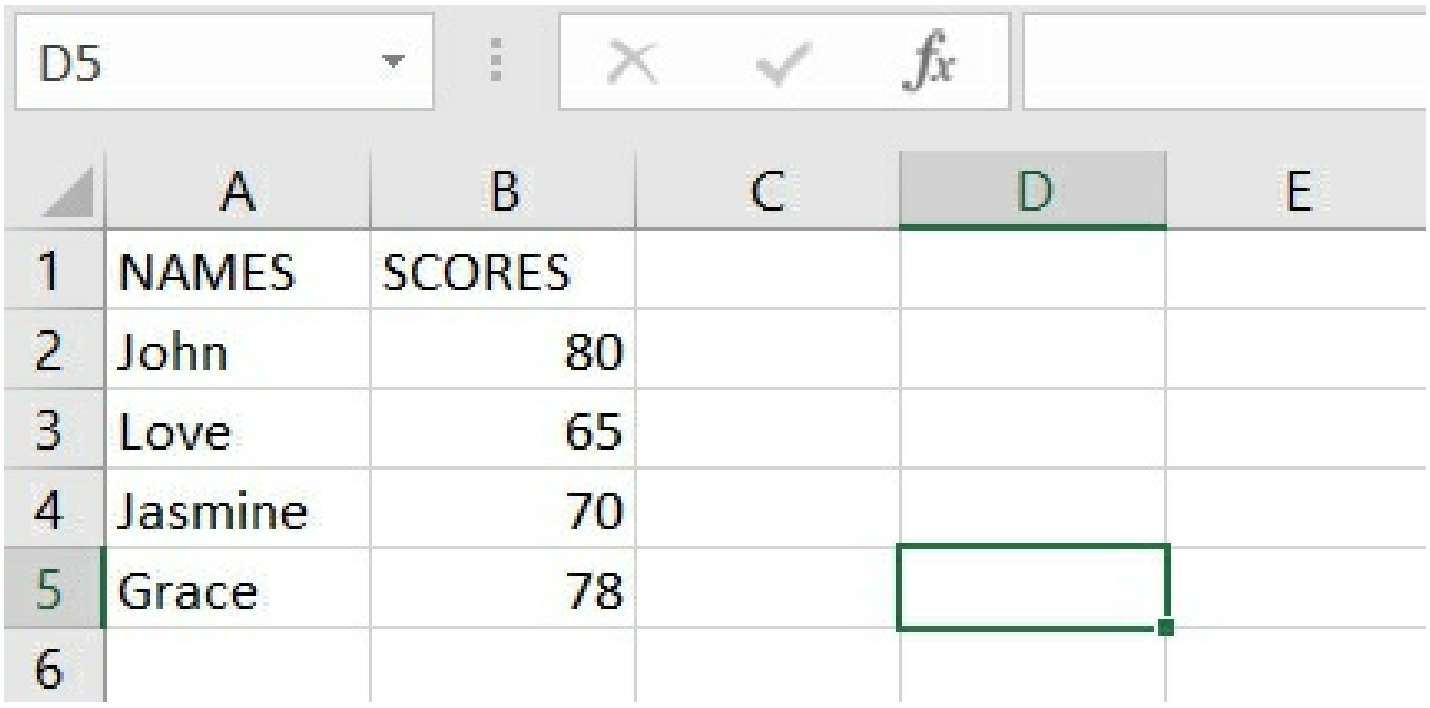
The following are the arguments in the IF functions

=INDEX(Logical_text,[Value_if_true],[Value_if_false])

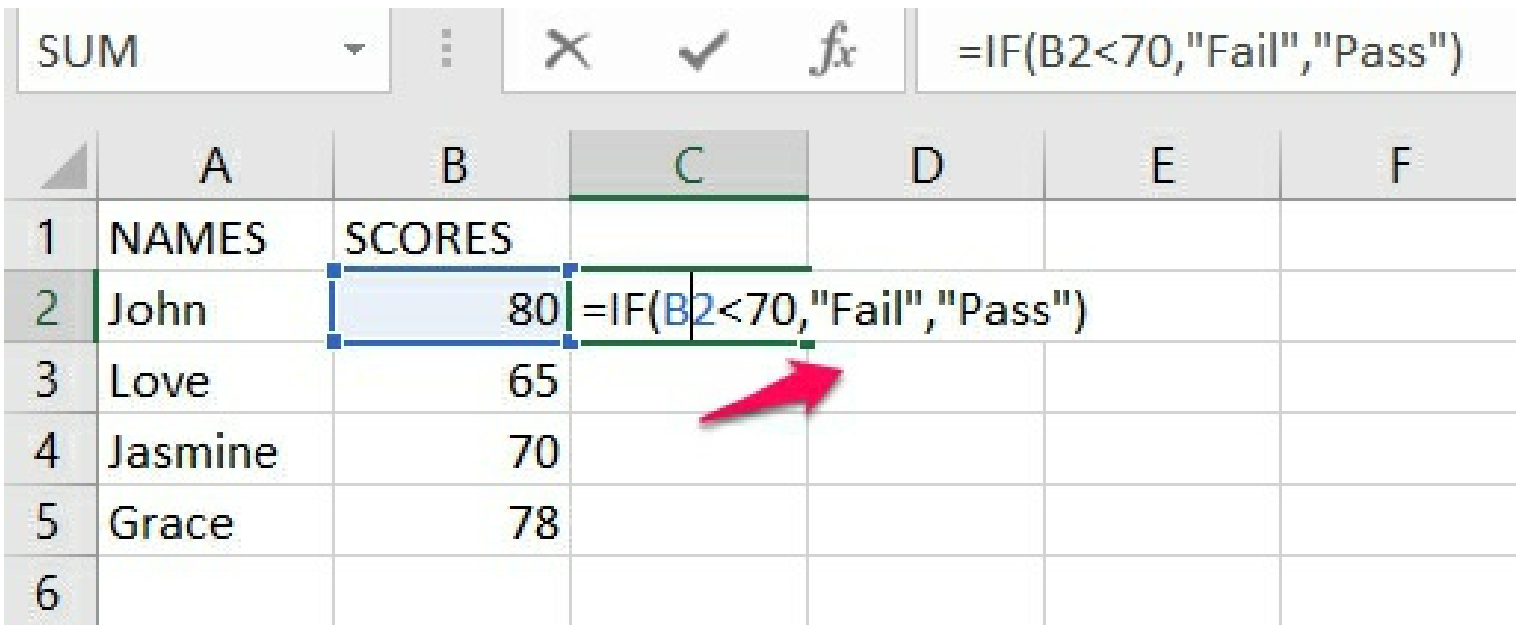
- **Logical_text (Required Argument):** This is the value or logical expression that is to be tested and evaluated as either TRUE or FALSE
- **Value_if_true (Optional Argument):** This is the value that will be returned if the logical test evaluates to TRUE

- **Value_if_false (Optional Argument):** This is the value that will be returned if the logical test evaluates to FALSE

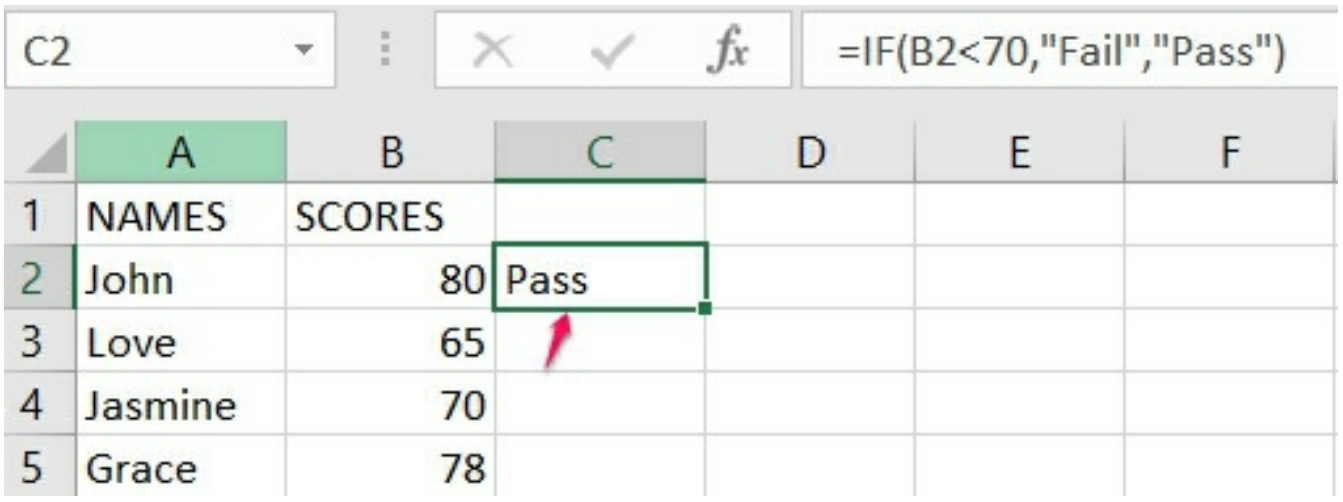
With the data provided below, test the values in each cell. If the value of each cell is less than 70, return fail, and if it is greater than 70, return Pass.



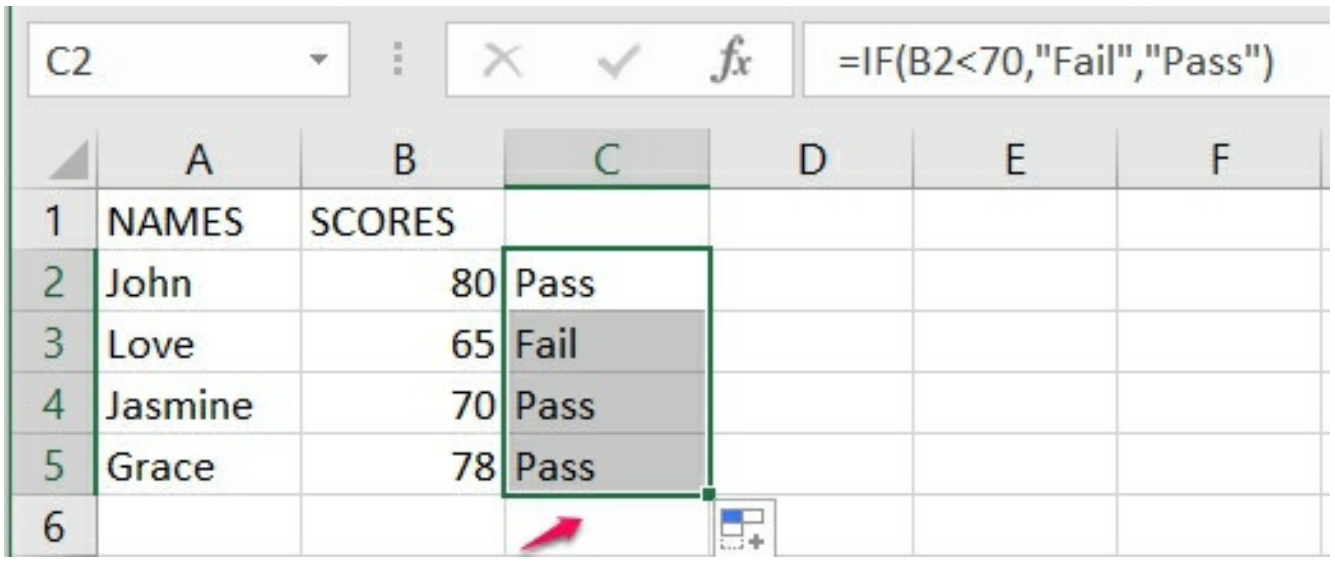
- Select an empty cell **C3** and type **=IF(B2<70,"Fail","Pass")**



- Press **Enter** and the function will return the value of the cell to **Pass**



- Drag the fill handle down to apply the formula to other cells

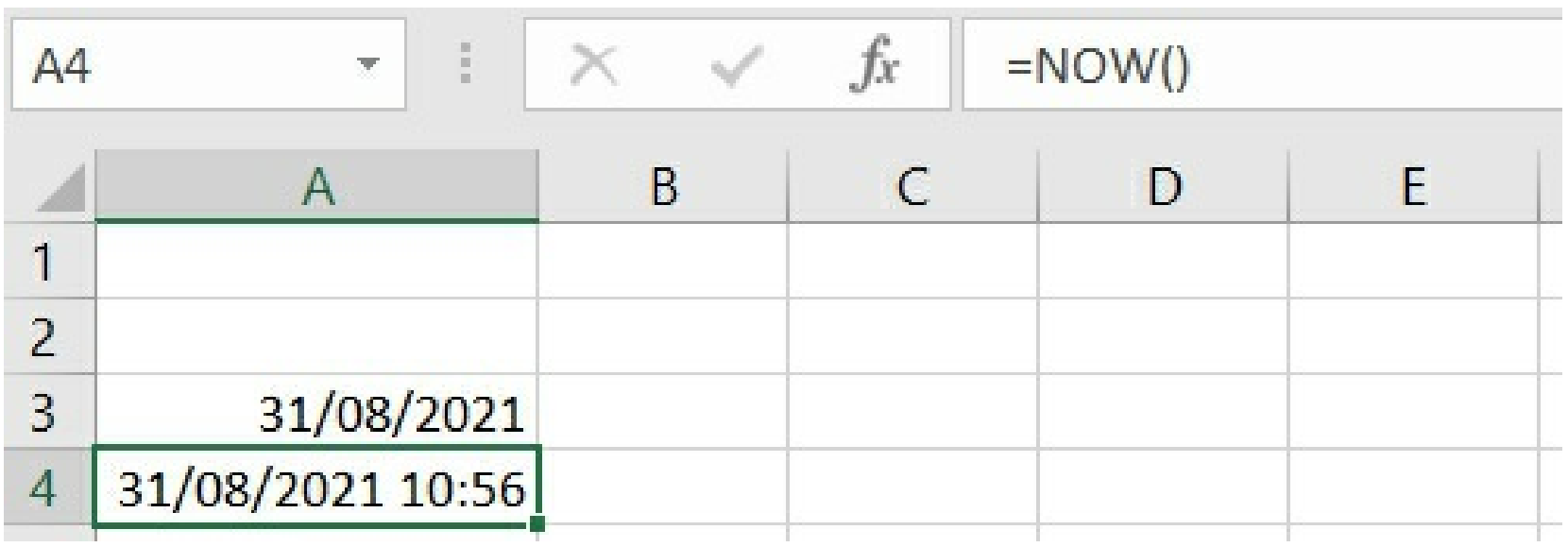


Checking the Current Date and Time with TODAY and NOW

The TODAY function returns the current and the NOW function returns the current date. These functions do not use any argument.

TODAY()

NOW()



CHAPTER EIGHT

TABLES AND CHARTS IN EXCEL

In this chapter, you will be learning how to use tables and charts to illustrate your data. For tables, you will learn how to insert tables, change the table layout. And for charts, you will learn how to edit charts, create elements in a chart, and lots more.

Creating a Table

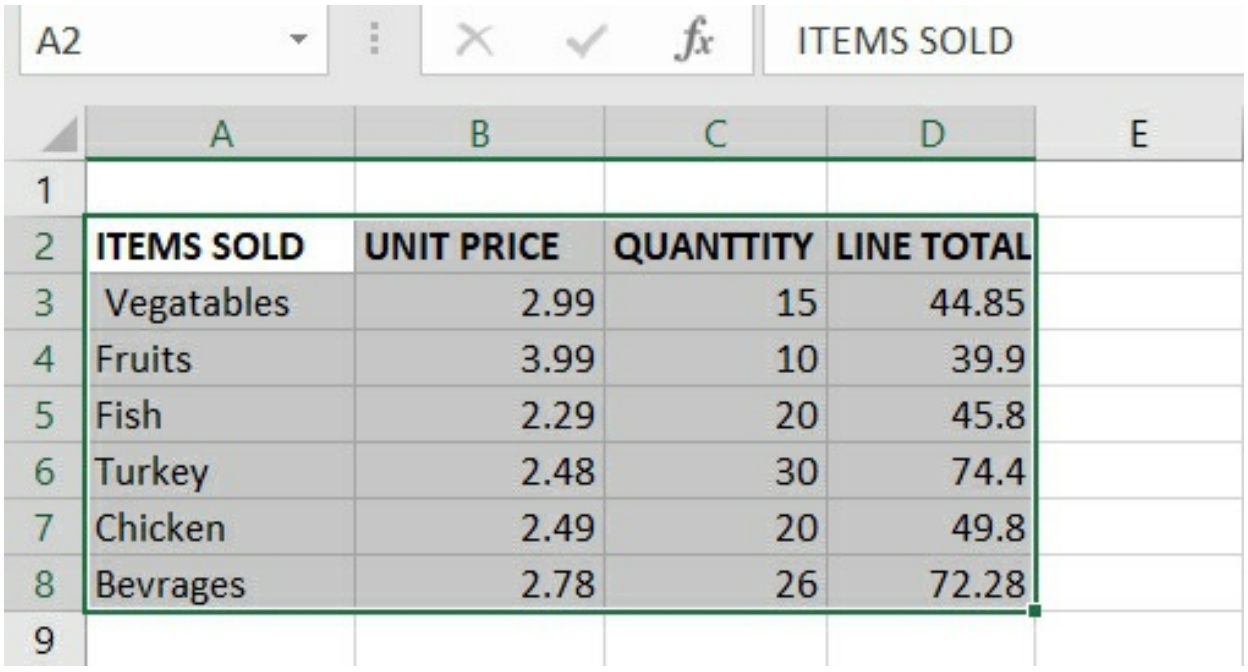
Before creating a table, there are certain hints to take note of. These hints allow you to create a perfect table for your data. The hints are stated below:

- Ensure to arrange and organize the rows and columns
- Each column in the first row must have a heading
- All the columns must contain one set of data each

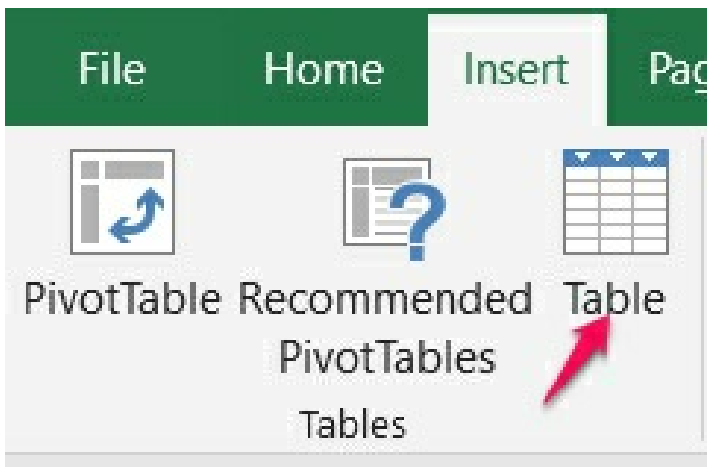
- There must be no blank row or column in the list

To create a table, follow the steps provided below

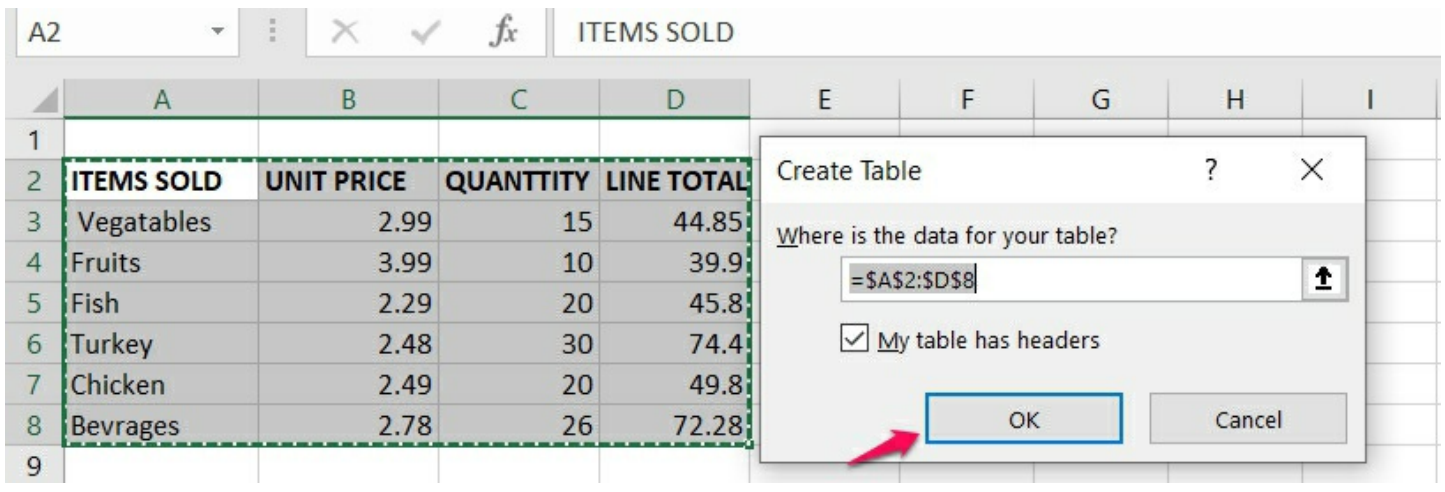
- Select the cell or range of data you wish to create the table for



- Go to the **Insert** tab and click on **Table** in the **Tables** group



- In the **Create Table** dialog box, the selected range of cells is displayed.
- Checkmark **My table has a header** if you want the first row of the range to be the header row, and then click on **OK**



- Finally, the selected range of cells is formatted into a table

D14

	A	B	C	D	E
1					
2	ITEMS SOLD	UNIT PRICE	QUANTTITY	LINE TOTAL	
3	Vegatables	2.99	15	44.85	
4	Fruits	3.99	10	39.9	
5	Fish	2.29	20	45.8	
6	Turkey	2.48	30	74.4	
7	Chicken	2.49	20	49.8	
8	Bevrages	2.78	26	72.28	
9					

Changing Your Table Style

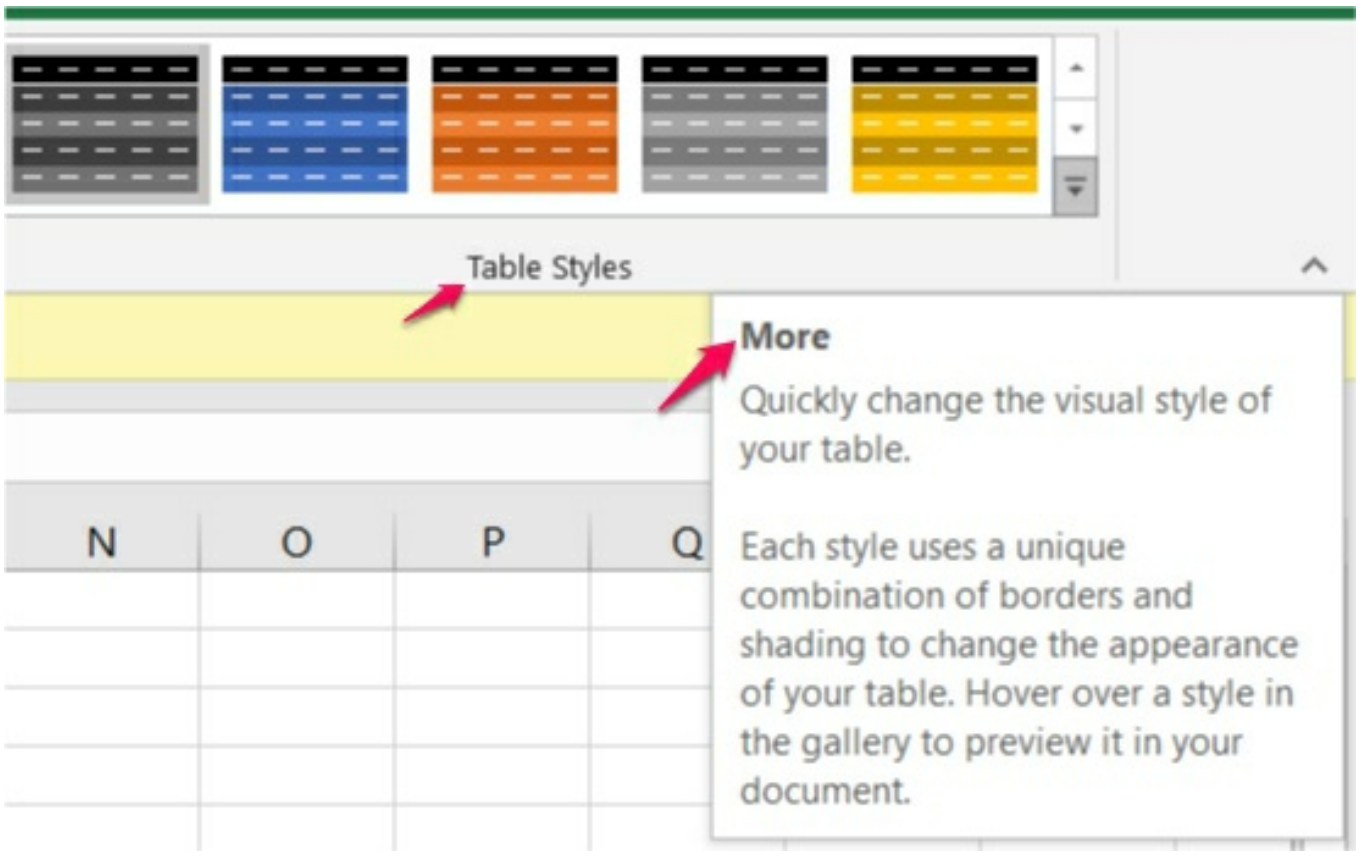
You can change the table style applied to your data. To do this, follow the steps provided below

- Select the cells or range of cells you wish to change the table format

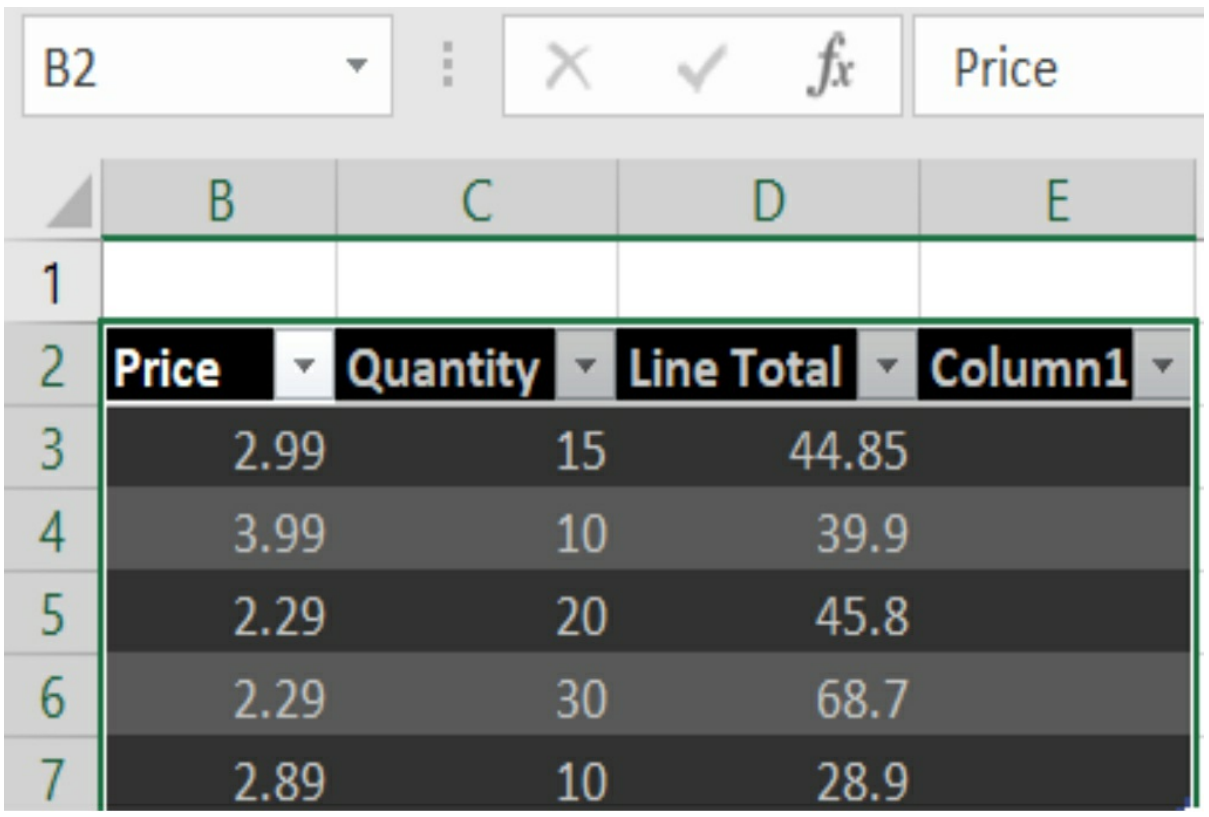
B2 — Price

	B	C	D	E	F
1					
2	Price	Quantity	Line Total	Column1	
3	2.99	15	44.85		
4	3.99	10	39.9		
5	2.29	20	45.8		
6	2.29	30	68.7		
7	2.89	10	28.9		

- Go to the **Design** tab, click on **Table Styles,** and select the **More** drop-down arrow to see the table styles available.



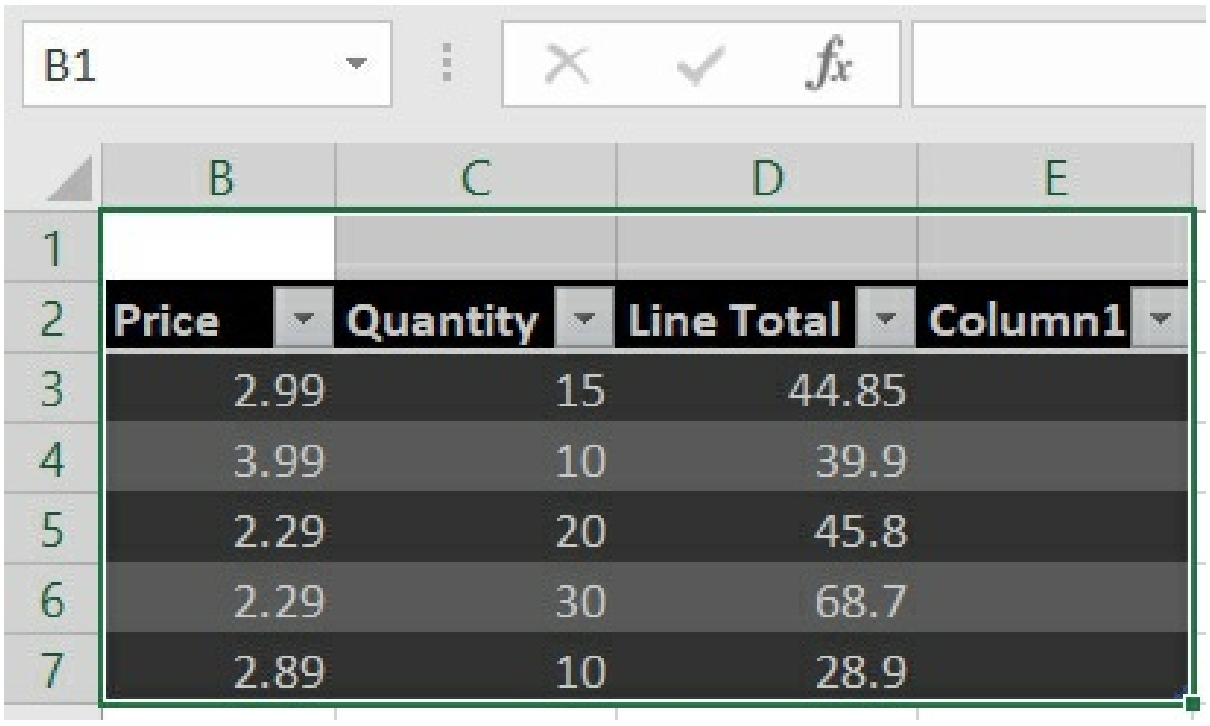
- Select the desired table style and it will be applied to the selected range of cells.



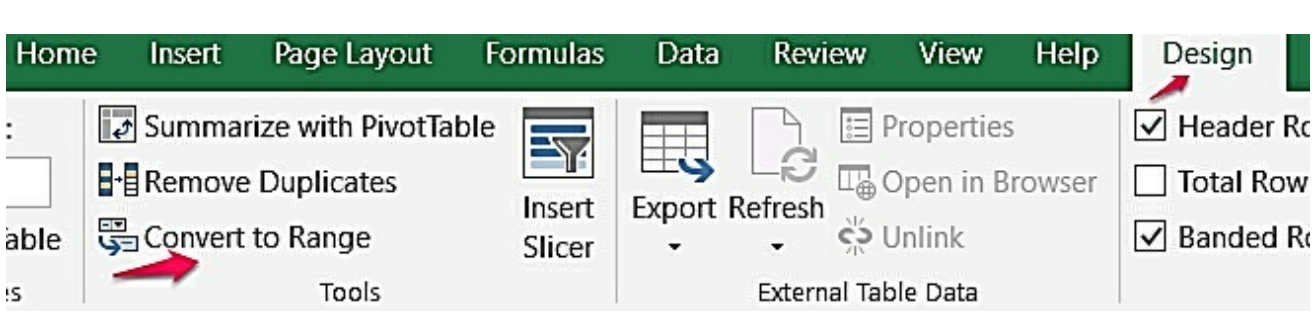
Removing the Table

To remove the table from your cell, follow the steps provided below

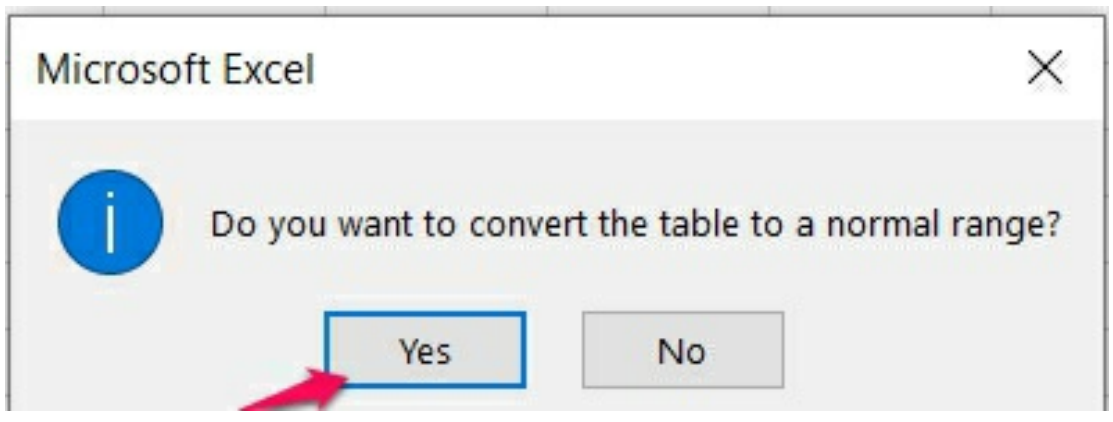
- Select the cell or range of cells in your table



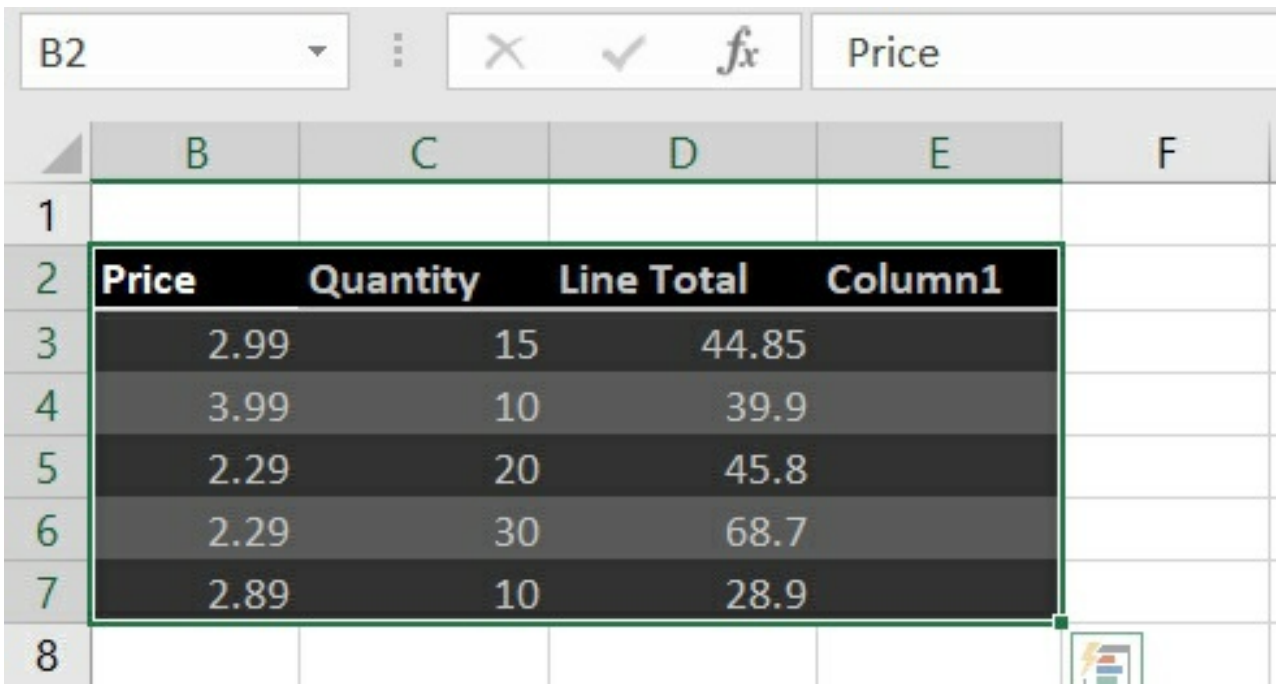
- Go to the **Design** tab and click on **Convert to Range** in the **Tools** group.



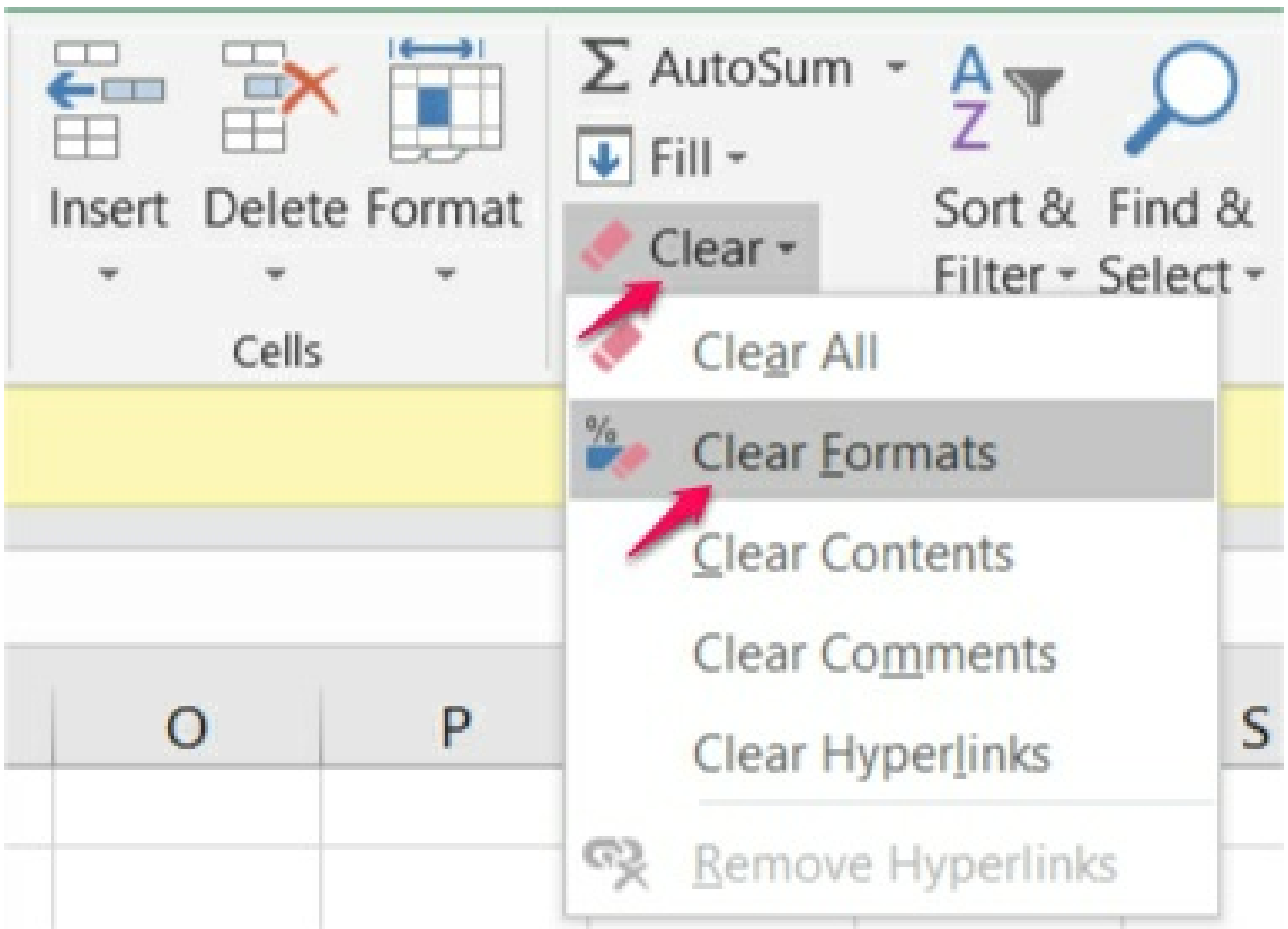
- In the dialog box that appears, click on **Yes**



- Here, the table will be removed and the cell will keep their data and formatting.



- To remove the formatting from your table, go to the **Home** tab, select **Clear,** and then click on **Clear Formats**.



- In the data below, the formatting is removed

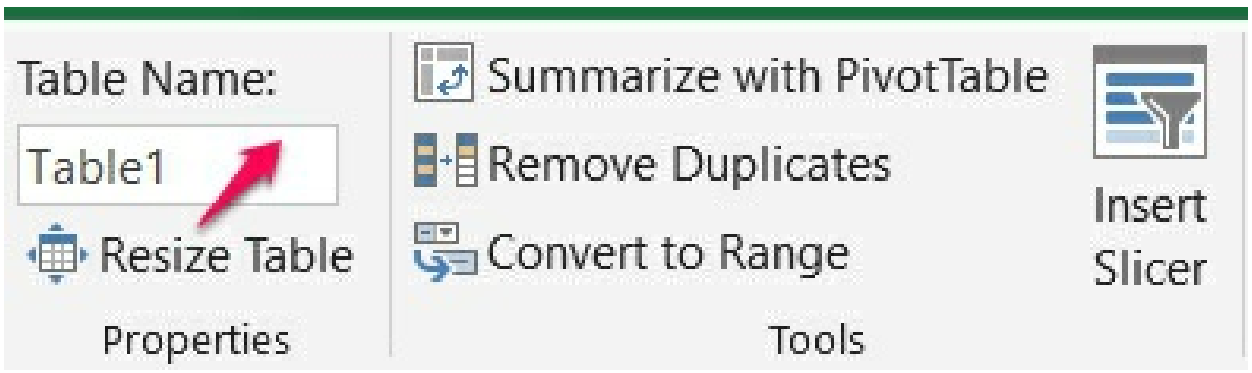
E11

	B	C	D	E	F
1					
2	Price	Quantity	Line Total	Column1	
3	2.99	15	44.85		
4	3.99	10	39.9		
5	2.29	20	45.8		
6	2.29	30	68.7		
7	2.89	10	28.9		
8					

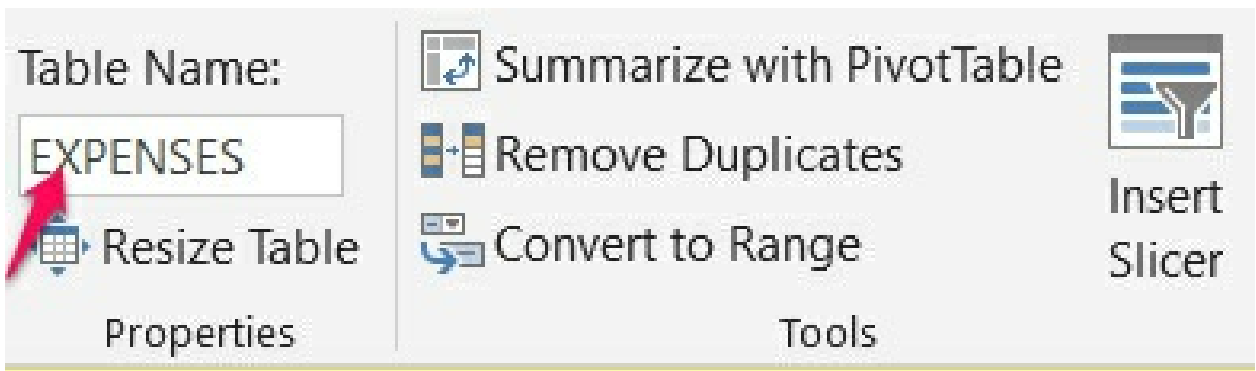
Renaming a Table

By default, the name of a table could be table 1, table 2, table 3, etc. However, you can rename your table, to do this, follow the steps given below

- Go to the **Design** tab and click on **Table Name** in the **Properties** group, and then change the name of the table



- Here, the table is renamed

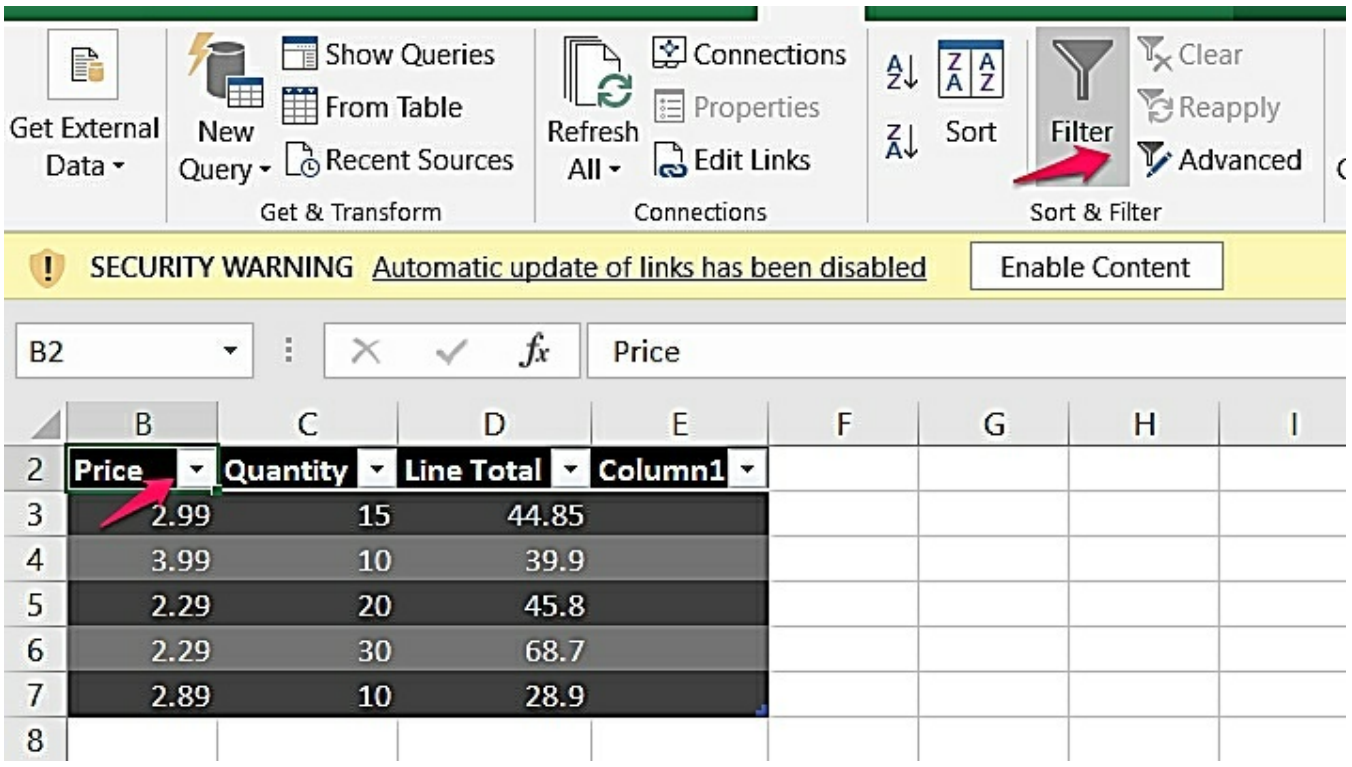


Filtering the Data in Your Table

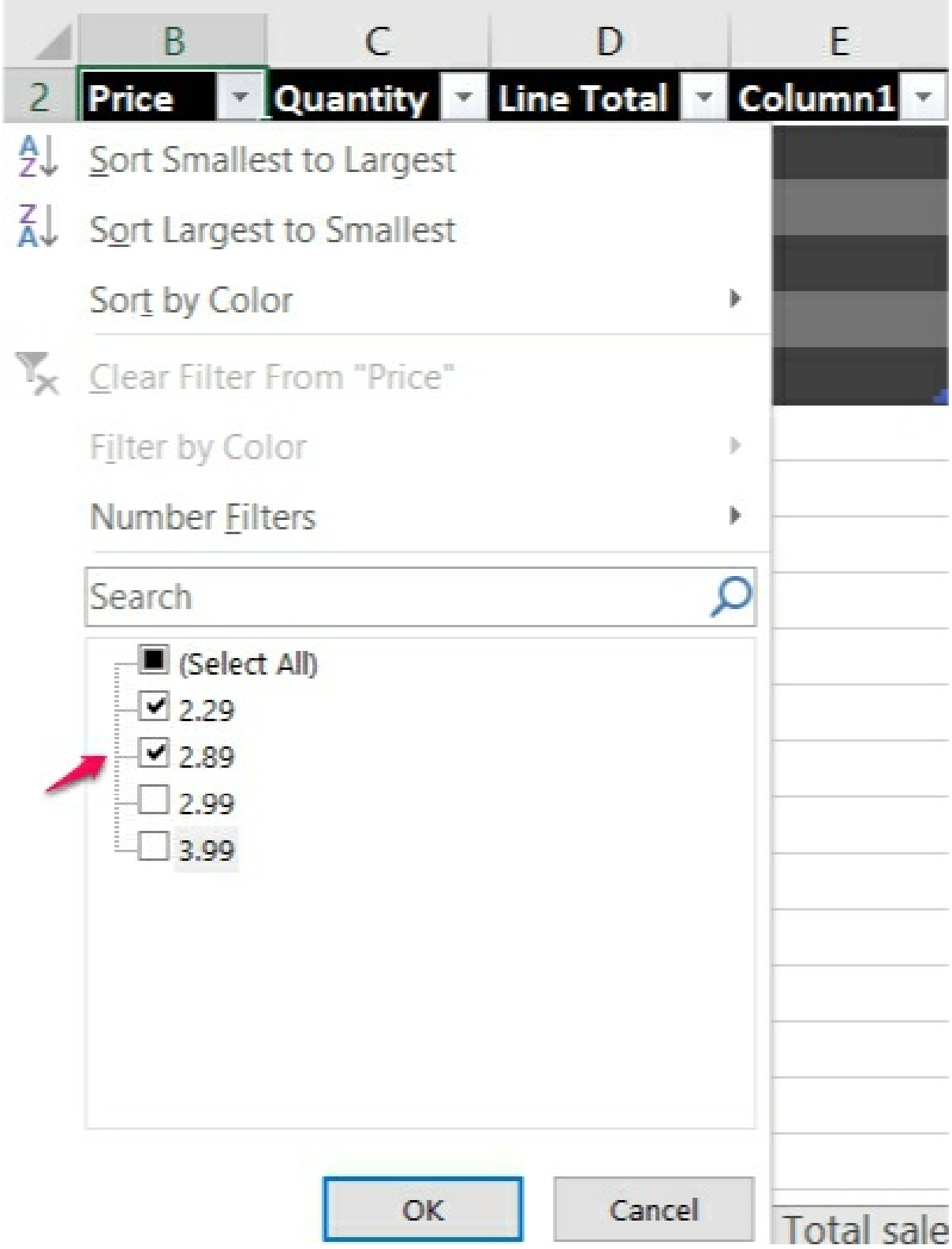
Filtering the data in your table helps to determine the data you wish to hide or display in your worksheet. To do this, follow the steps given below

In case you are wondering how to display and hide some data in your worksheet. The Filter command is what you need to use. To use the Filter

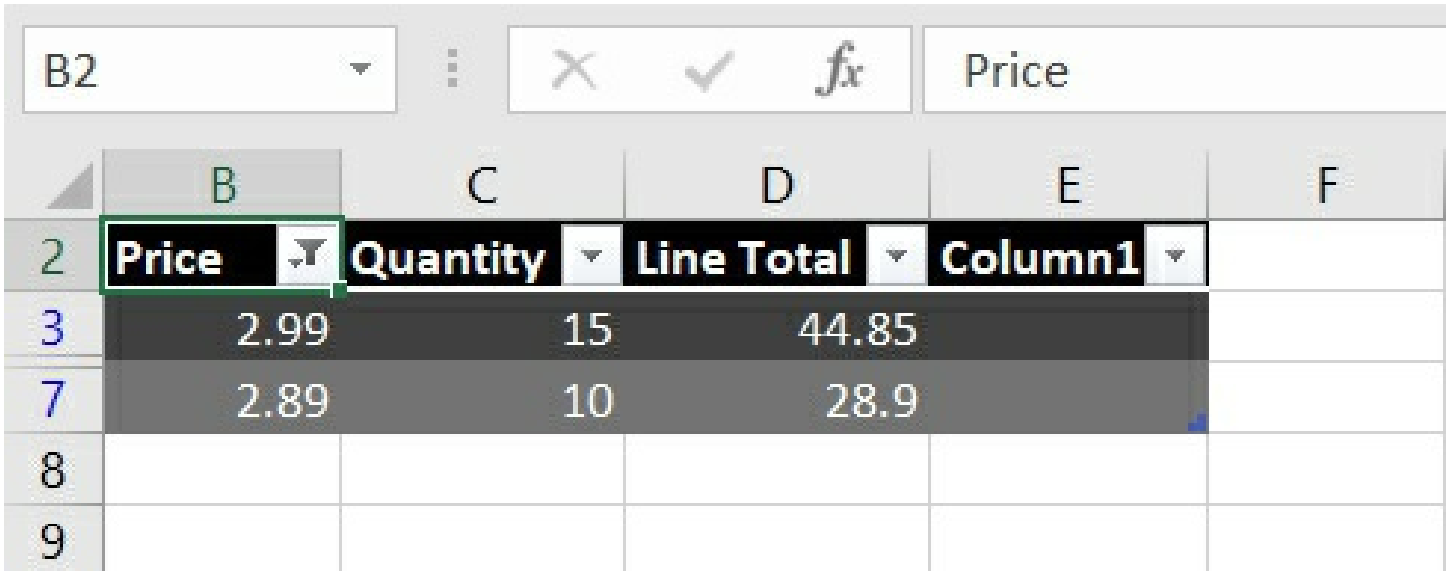
- Click on the column of the header in the worksheet
- Go to the **Data** tab and click on **Filter** in the **Sort & Filter** group.
- Click on the **Filter** drop-down arrow that appears on the header of the column



- In the window that displays, unmark the box you don't in your worksheet, and then click on OK



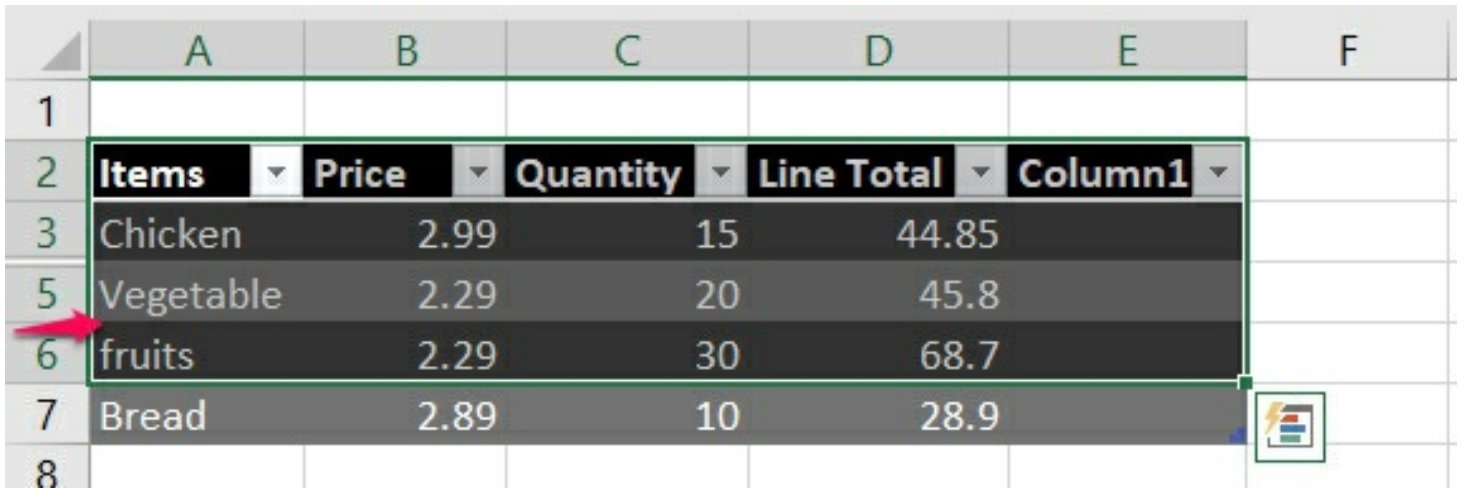
- The filtered data is shown in the table below



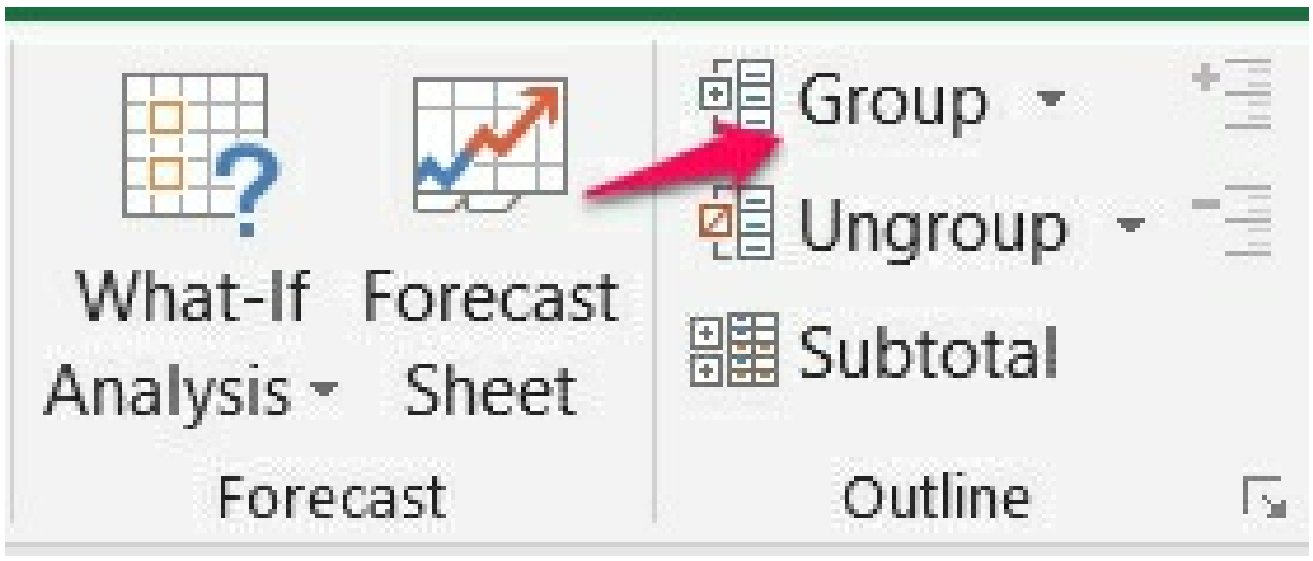
Grouping of Data in Your Table

Grouping data in Excel allows you to hide data from either the rows or columns. To group data, follow the steps given below:

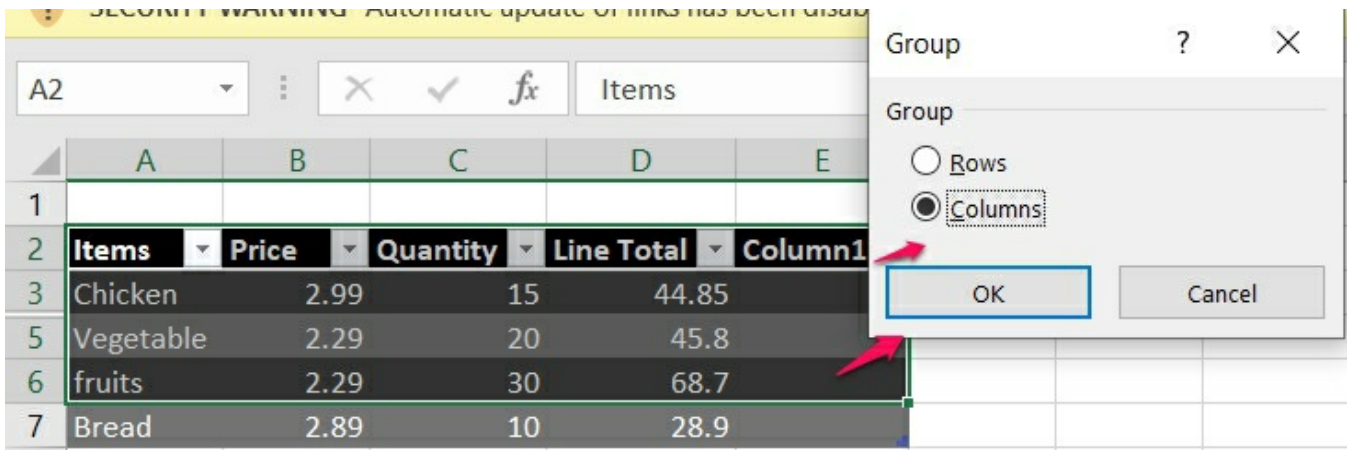
- Select the data you want to group



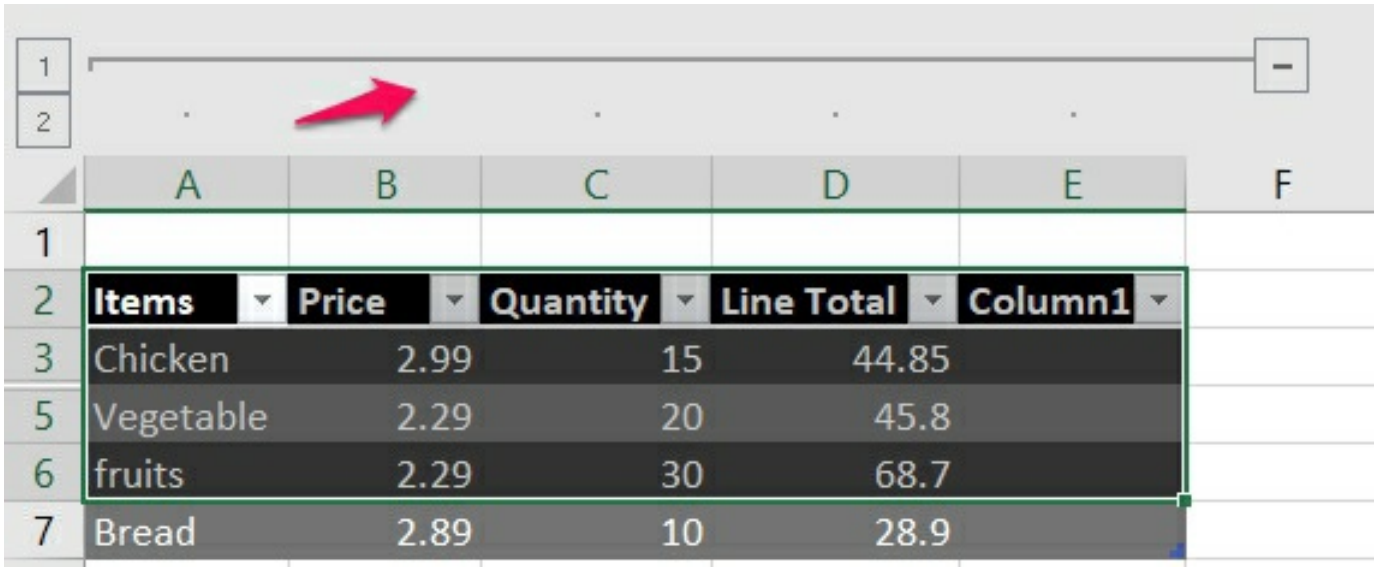
- Go to the **Data** tab and click on **Group** in the **Outline** group.



- Select **Row** and click on **Ok.**



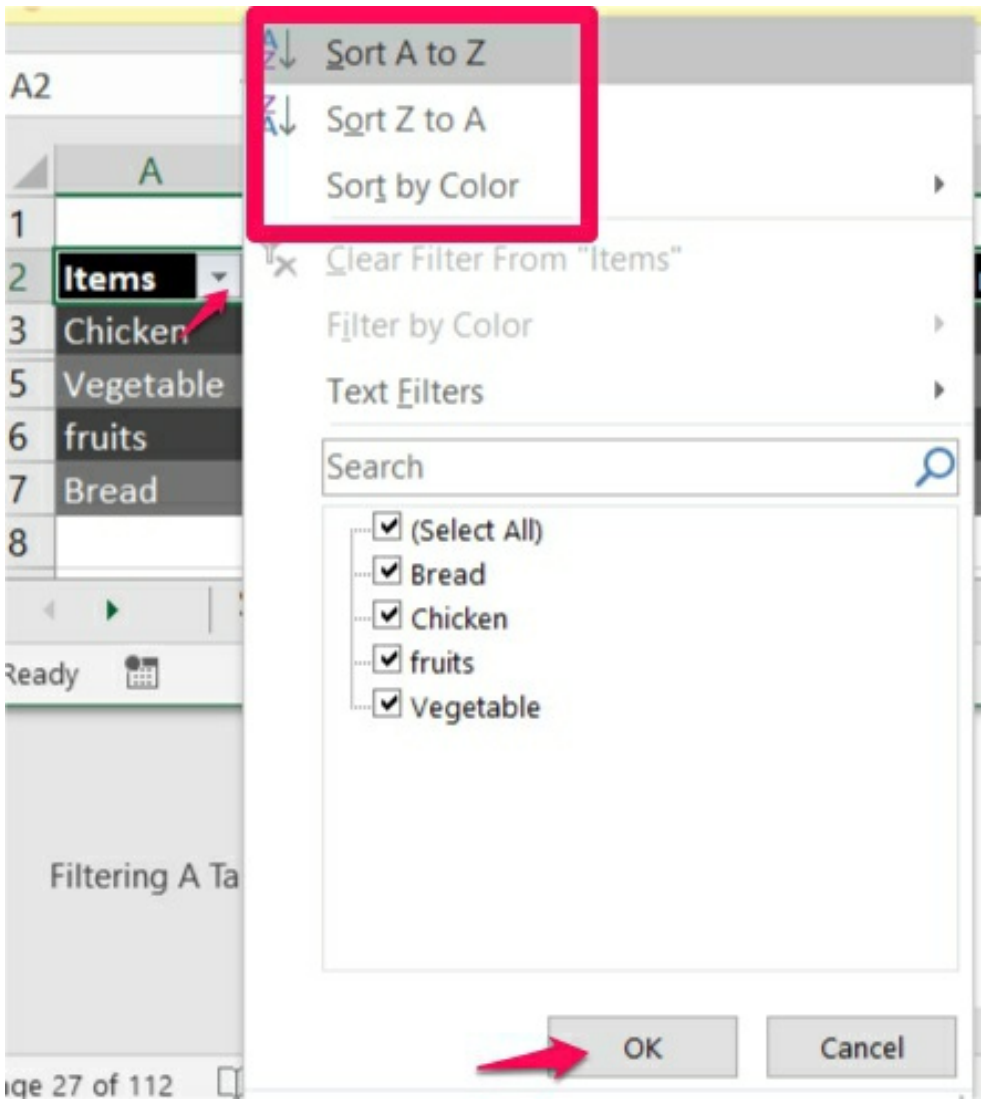
- In the image below, the data in the cells are group



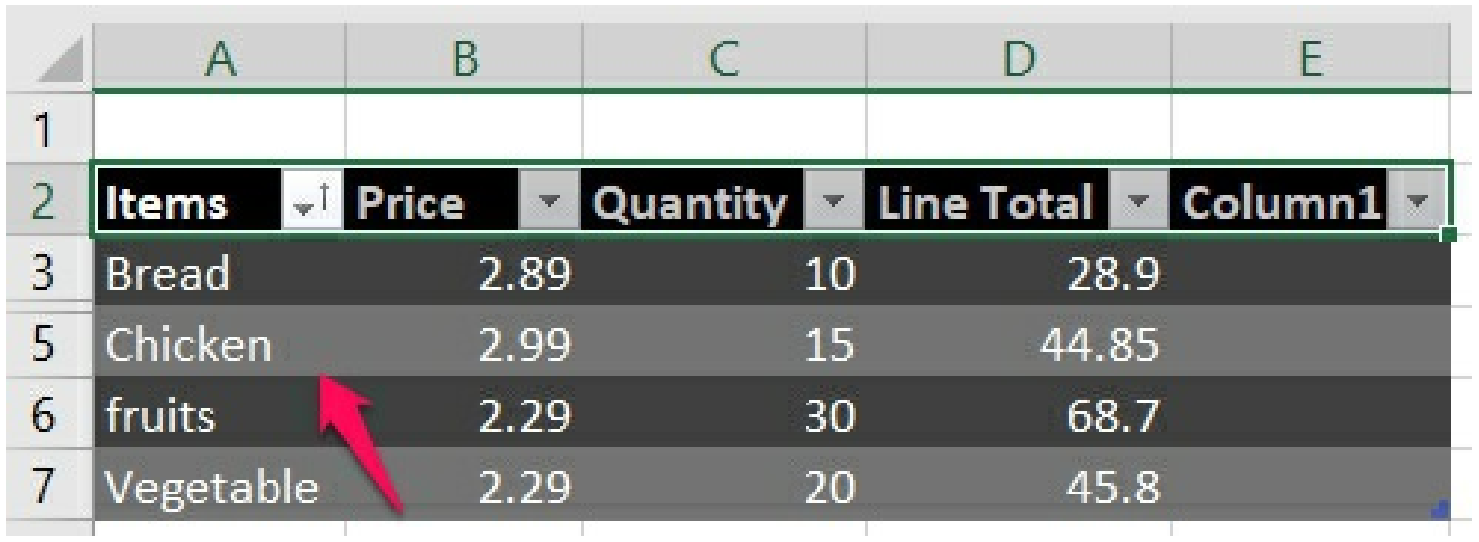
Sorting Out Data in Your Table

Sorting out data in your table helps you to determine how the data will appear in your table. To sort out data in your table, follow the steps provided below

- Click on the arrow next to the column heading
- In the window that pops up, select any method of sorting out your data and then click on **Ok**



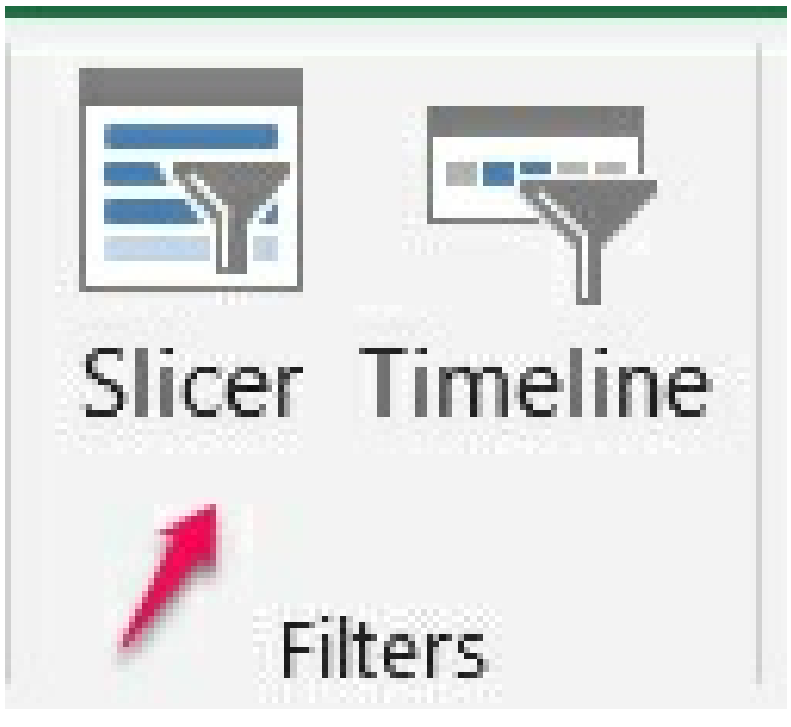
In the table below, data is sorted from A to Z



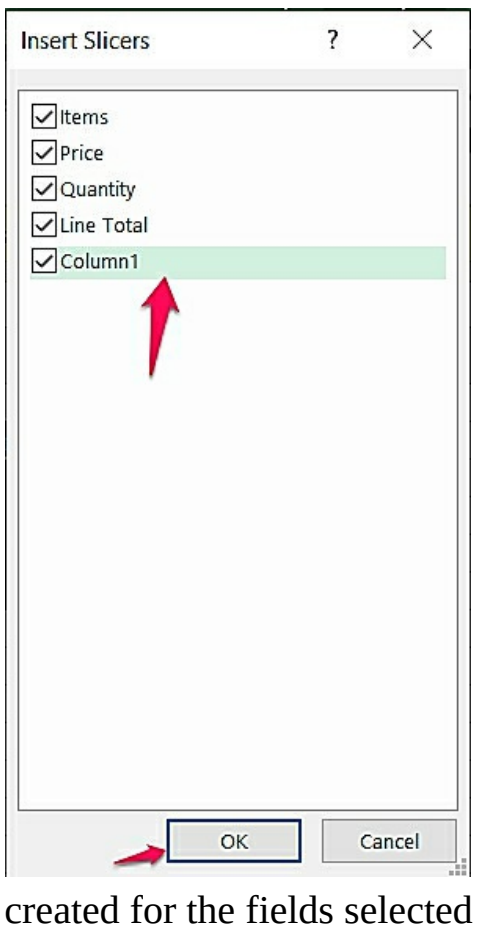
Adding Slicer in Your Table

The slicer command provides options that allow you to filter your data in the table or pivot table. To add a slicer to your table, follow the steps below

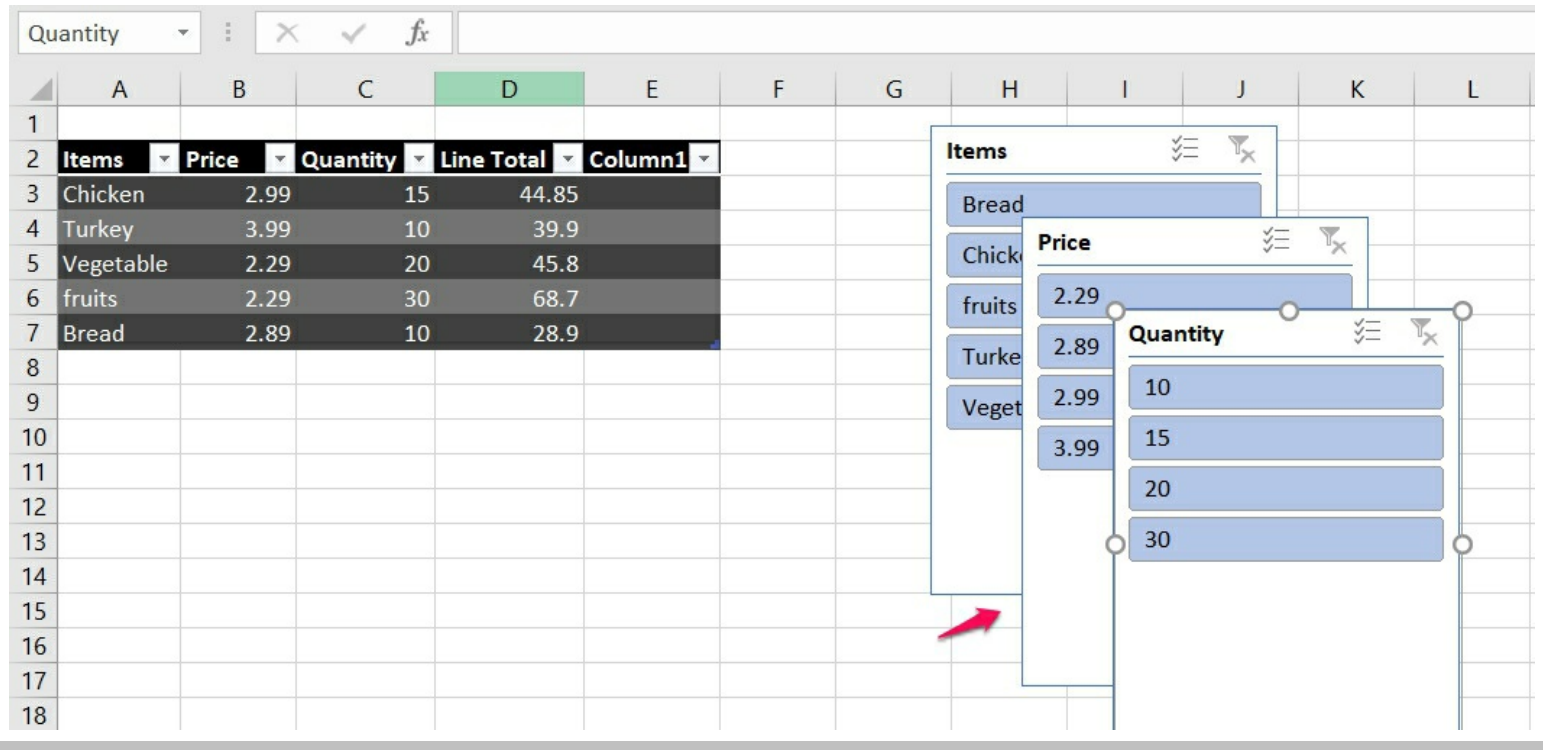
- Click anywhere in the table
- Go to the **Insert** tab, and click on **Slice**r in the **Filte**r group



- In the **Insert Slicers** dialog box, choose the checkboxes for the field you wish to display, and then click on **OK**



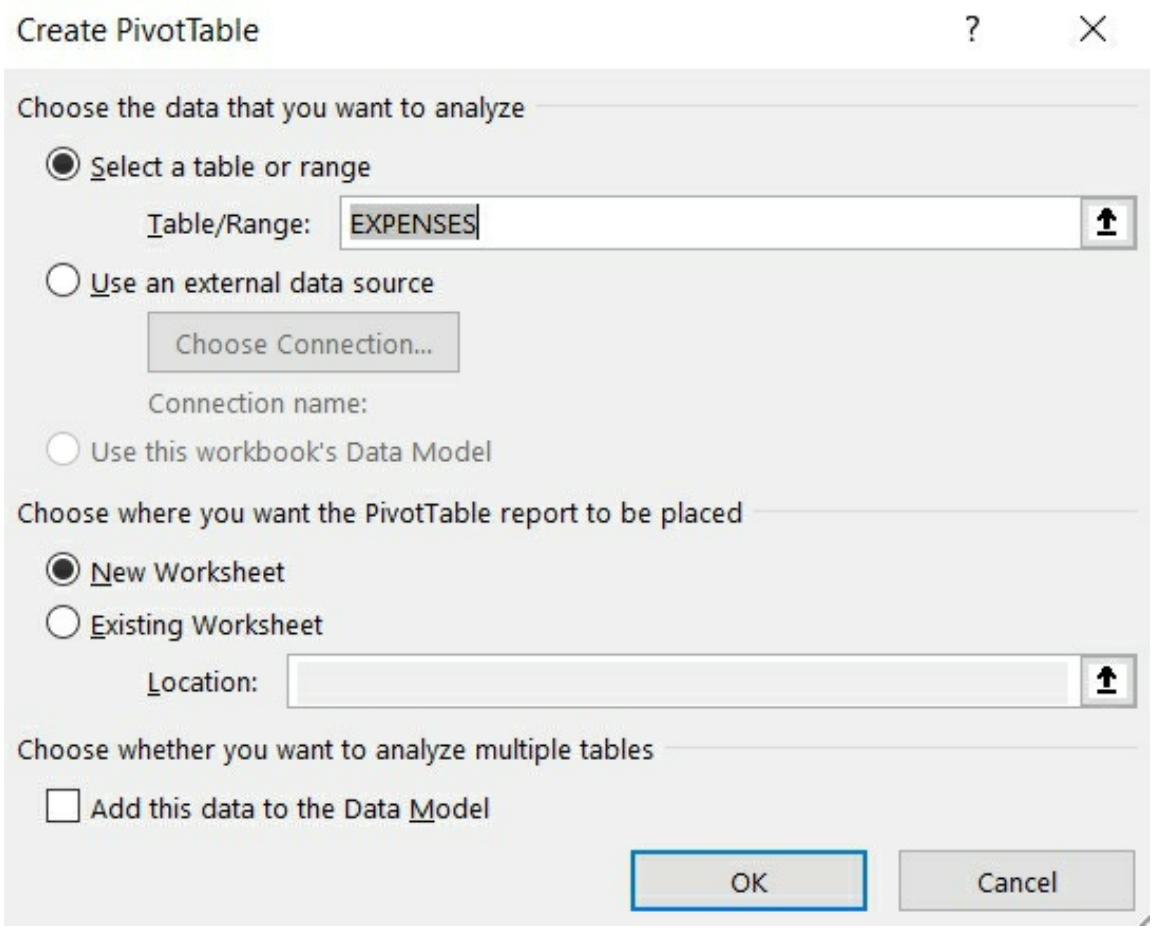
- Here in the table, a slicer will be created for the fields selected



Creating Pivot Table

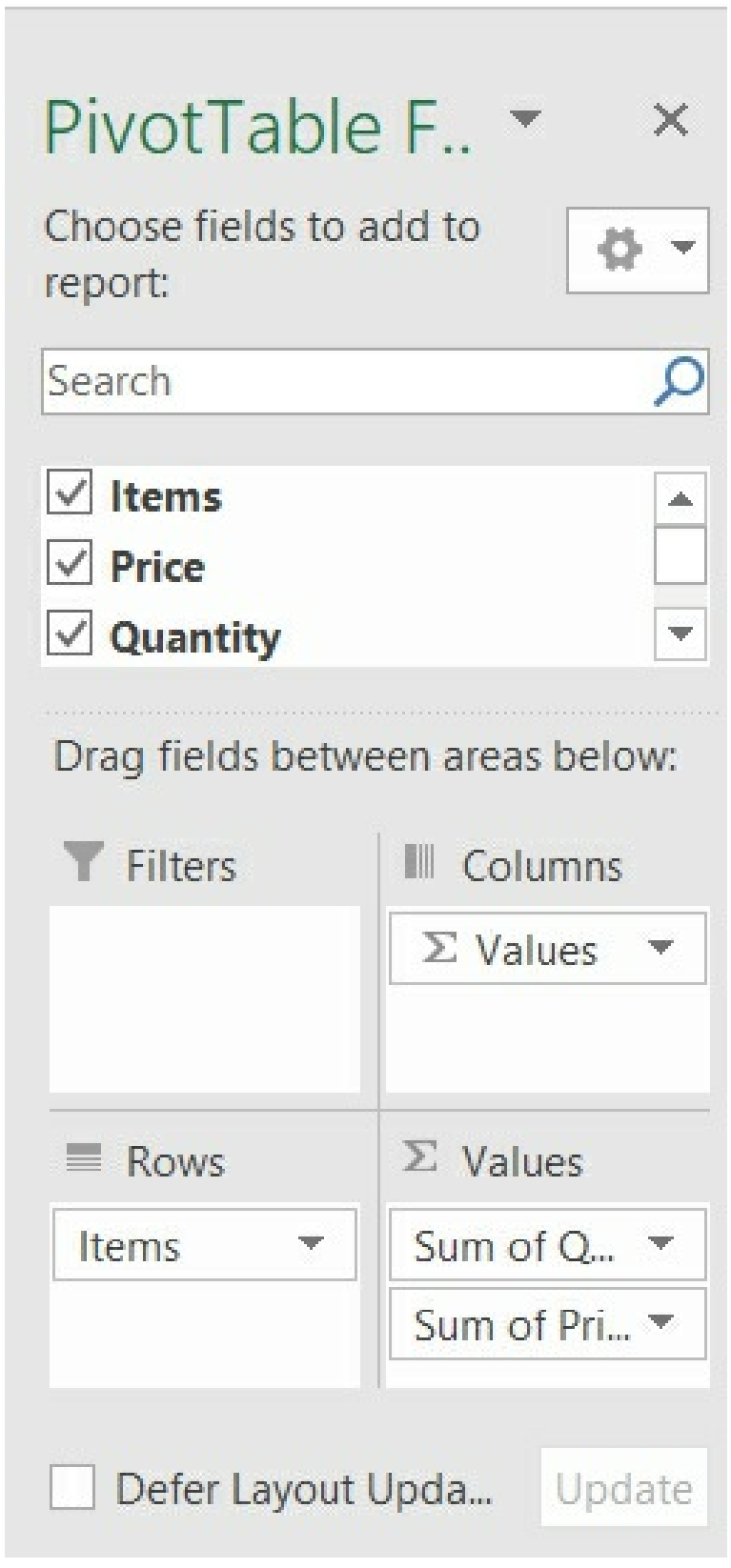
To create a pivot table, follow the steps giving below:

- Select the cells you wish to create a pivot table for
- Go to the **Inser**t tab, and click on **PivotTable** in the **Table** group
- In the **Create PivotTable** dialog box, set the following



  - Click on **Select a table or range** under **Choose the data you want to analyze**
  - Verify the cell range under the **Table/Range**
  - Select **New worksheet** or **Existing worksheet** under **Choose where you want the PivotTable report to be placed**

- Then click on **Ok**
- In the **PivotTable Field** task pane, drag the field names into the four areas displayed below (Filters, Columns, Rows. And Values)



- After doing this, the data with the pivot table is displayed like the image shown below

Row Labels	Sum of Quantity	Sum of Price
Bread	10	2.89
Chicken	15	2.99
fruits	30	2.29
Turkey	10	3.99
Vegetable	20	2.29
Grand Total	**85**	**14.45**

Inserting Recommended PivotTable in Your Data

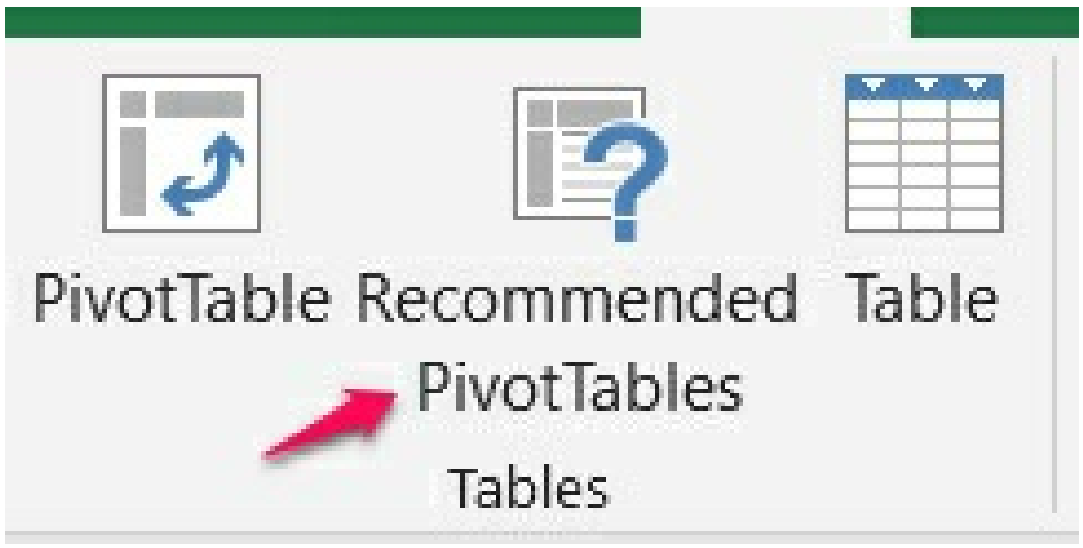
One of the easiest and fastest ways of inserting a pivot table in your data is using the recommended pivot table provided by Excel.

To use the recommended pivot table, follow the steps given below

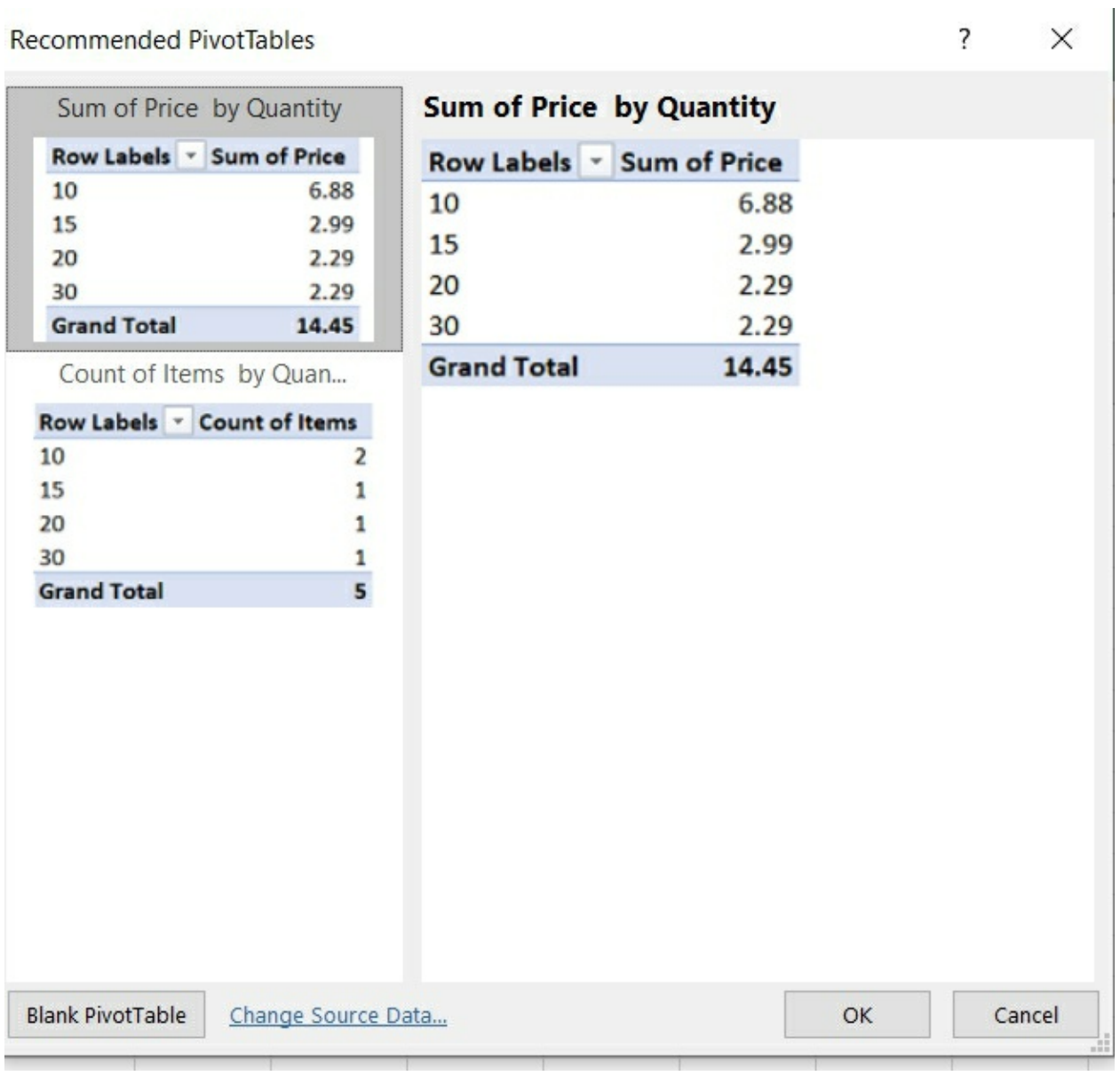
Select anywhere in your data list to insert the recommended pivot table

	A	B	C	D
1				
2	Items	Price	Quantity	
3	Chicken	2.99	15	
4	Turkey	3.99	10	
5	Vegetable	2.29	20	
6	fruits	2.29	30	
7	Bread	2.89	10	

- Go to the Insert tab and click on Recommended PivotTable in the Table group



- In the **Recommended PivotTable** dialog box, choose any style of your choice and then click on the **OK** button



- Here, the data is arranged inside the recommended pivot table

3	Row Labels	Count of Items
4	10	2
5	15	1
6	20	1
7	30	1
8	**Grand Total**	**5**

Working with Charts in Excel

Charts in Excel are powerful tools that help to interpret data graphically. With charts, the users can get the meaning behind the numbers, using comparison and trend.

Types of Charts

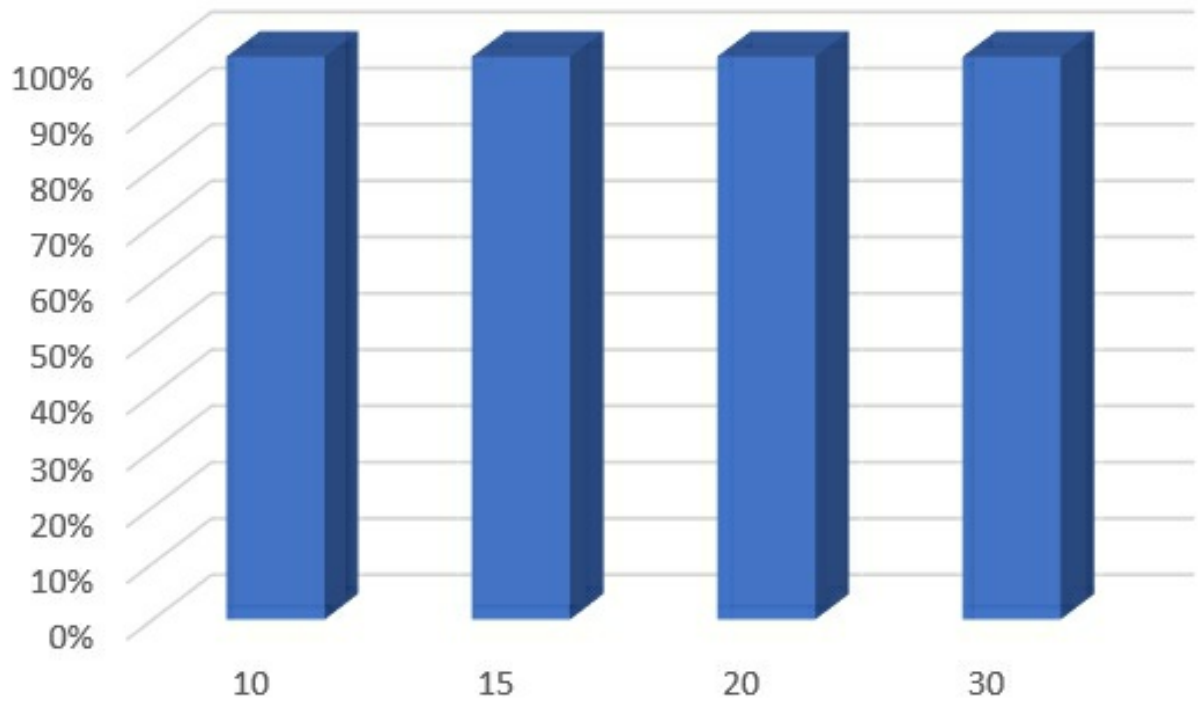
There are so many charts in Excels used for different purposes, however, we will highlight just a few out of them below

Column Charts

The Column Charts use vertical bars to represent data. The column charts show the categories on the horizontal axis and the values on the vertical axis.

These charts work with different kinds of data and can be frequently used in comparing information. The following are the types of Column Charts

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



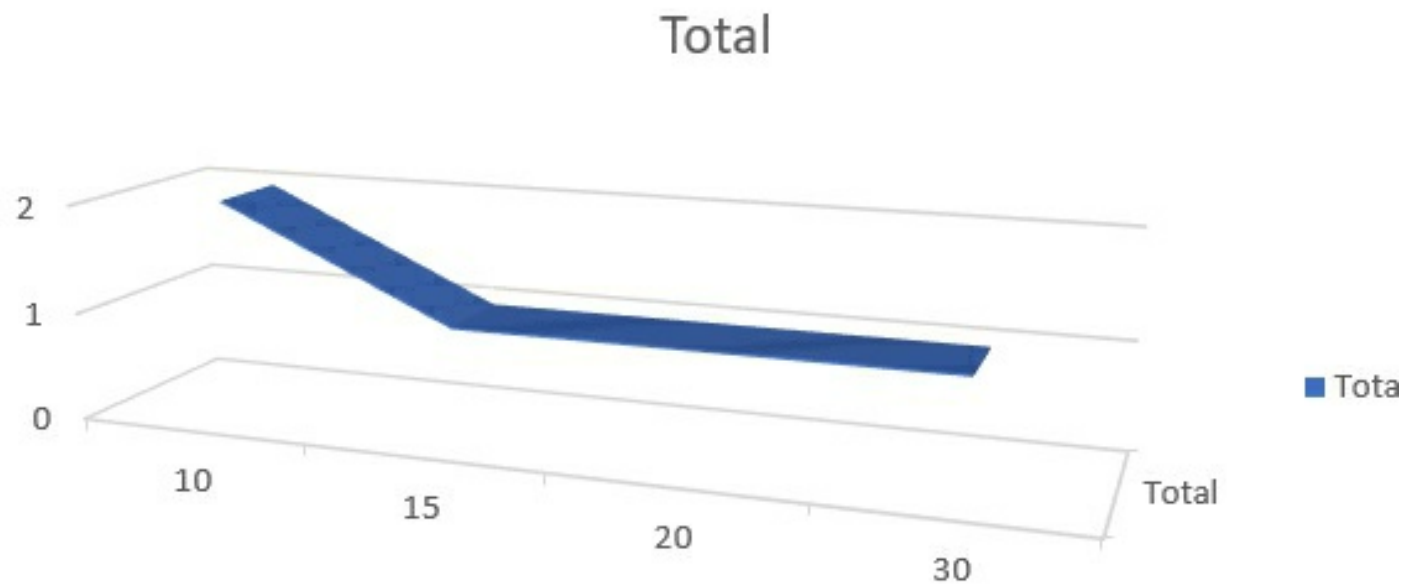
Line Charts

Lines Charts are best suited for displaying trends in data over years, months, or days. Here, the data point is linked with lines which makes it easy to see if the values are increasing or decreasing.

The following are the types of Line Charts

- Line
- Stacked Line
- 100% Stacked Line

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



Pie Chart

The Pie Chart displays the size of items in a data series with the sum of the items. Each value in the data is displayed as a slice of the pie, thereby, making it easy to see all the values that sum up the percentage of a whole. The following are the types of pie charts

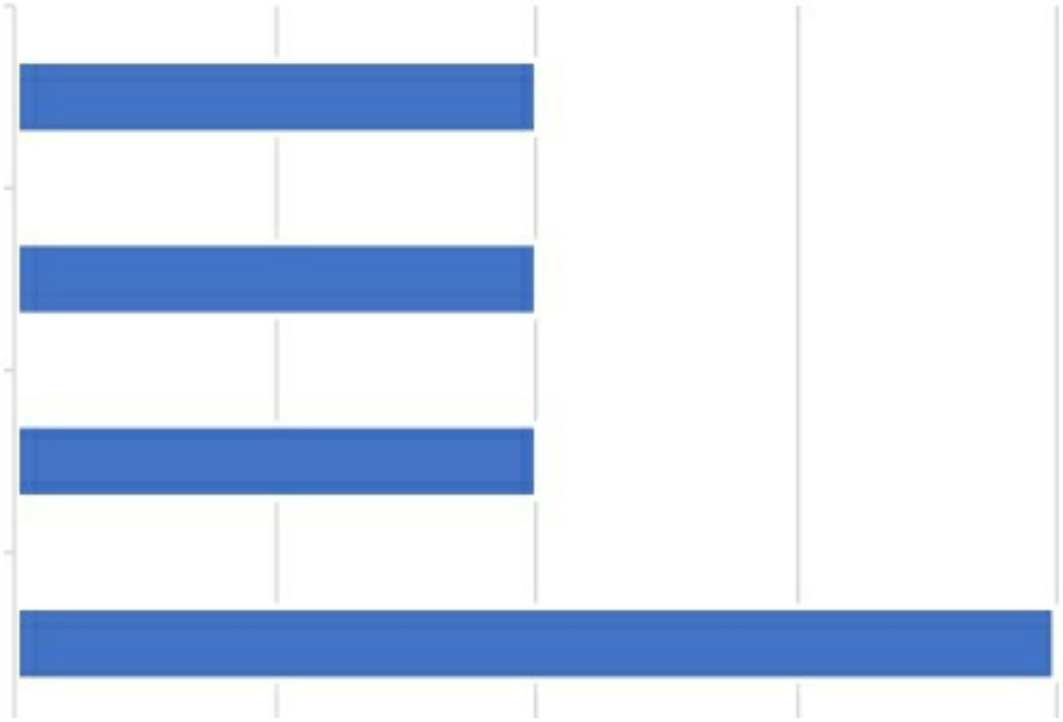
- Pie
- Pie of Pie
- 3-D Pie
- Bar of Pi

Bar Charts

The Bar Charts help to show the comparison among individual items. The bar charts display the categories on the vertical axis and the values on the horizontal axis. The following are the types of Bar Charts:

- Clustered Bar

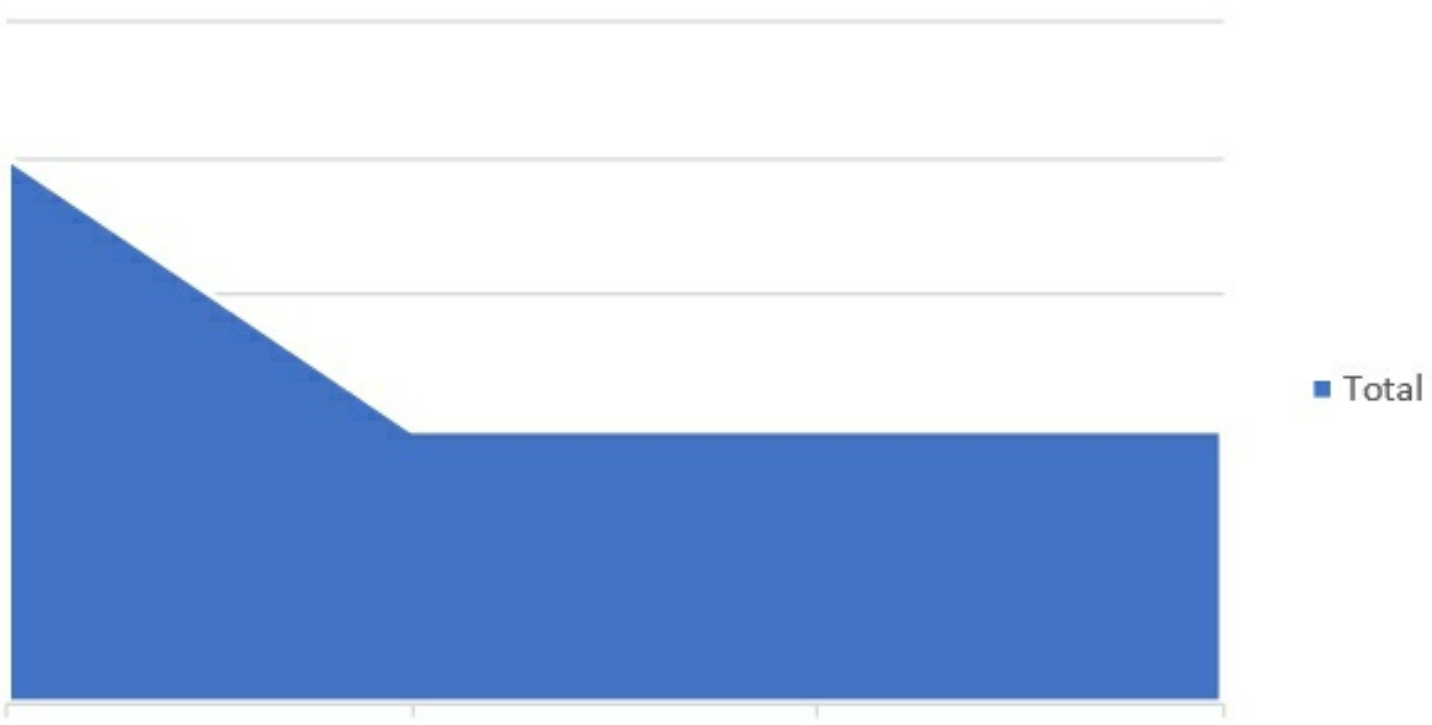
- 100% Stacked Bar
- Stacked Bar
- 3-D Stacked Bar
- 3-D Clustered Bar
- 3-D 100% Stacked Bar



Area Chart

The Area Charts can be used to illustrate the change over time and bring attention to the total value across a trend. The following are the types of Area Charts

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



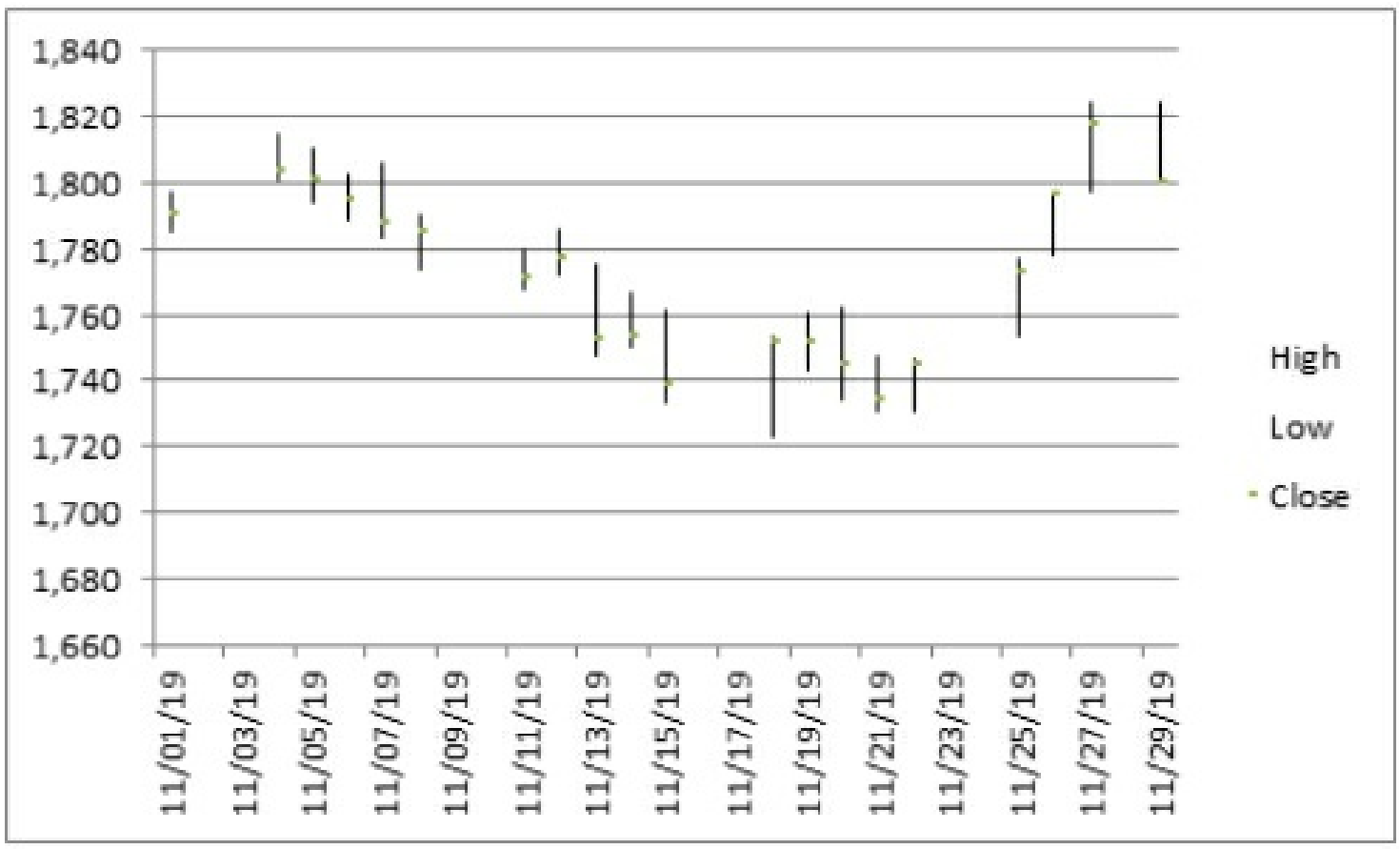
Stock Charts

The Stock Chart is a price chart that shows or displays a stock's price that is plotted over a period. It displays the rise and fall in stock prices.

The Stock Charts can also reveal the fluctuation in other data such as rainfall or annual temperature. The following are the types of Stock Chart

- High-Low-Close
- Open-High-Low-Close
- Volume-High-Low-Close

- Volume-Open-High-Low-Close



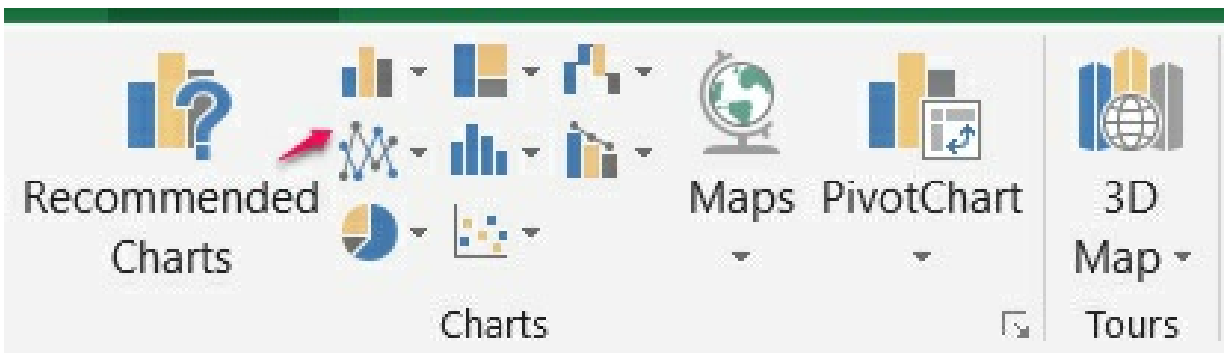
Creating a Chart with Your Data

To create a chart with your data, follow the steps given below

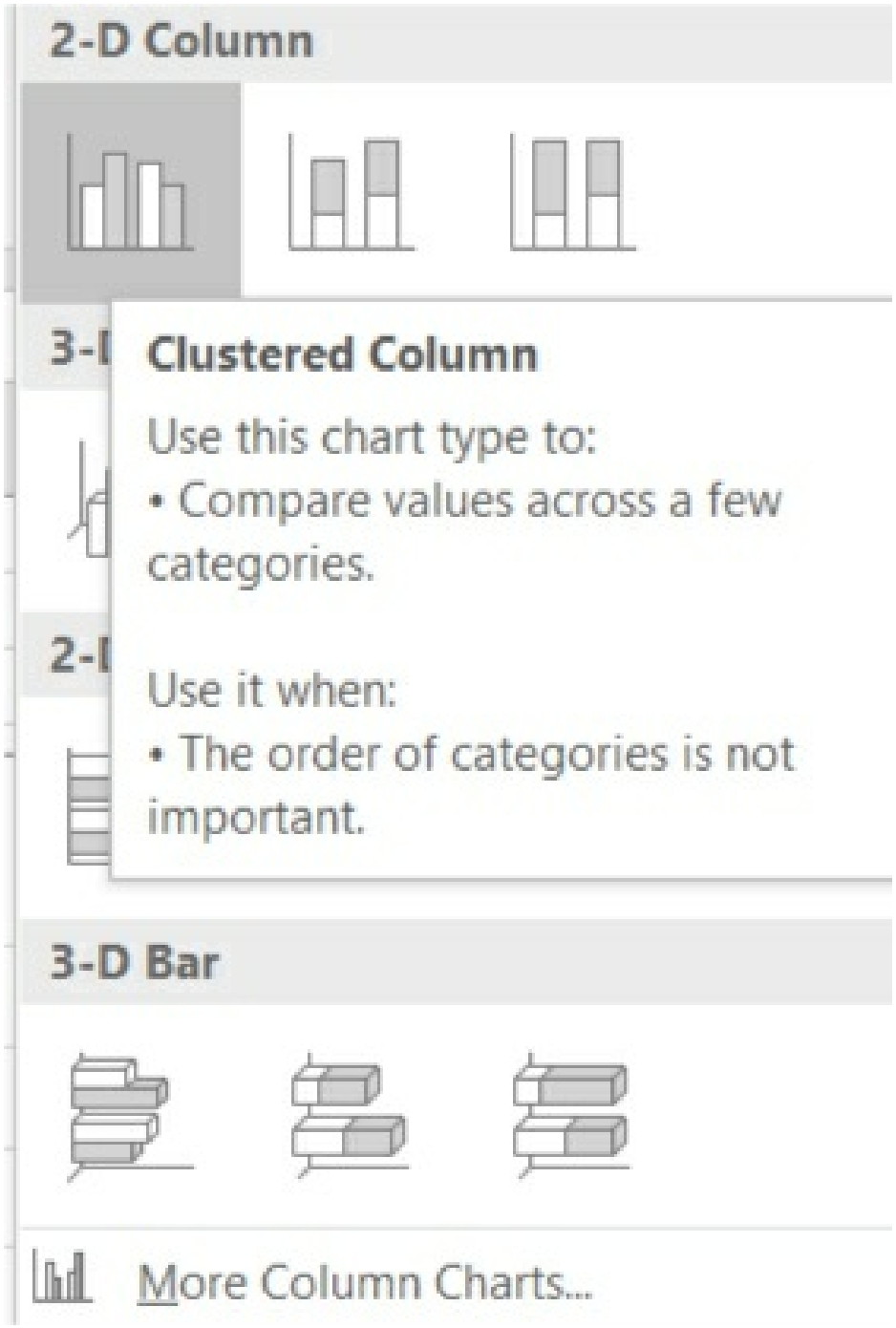
- Select the cells or the range of cells you wish to add a chart to; ensure to add the column titles and row labels

	A	B	C	D	E
1	COUNTRY	2019	2020	2021	2022
2	USA	320	500	221	233
3	FRANCE	345	432	321	323
4	GERMANY	654	345	321	221
5	ITALY	234	444	432	543
6	ENGLAND	132	432	232	342
7					

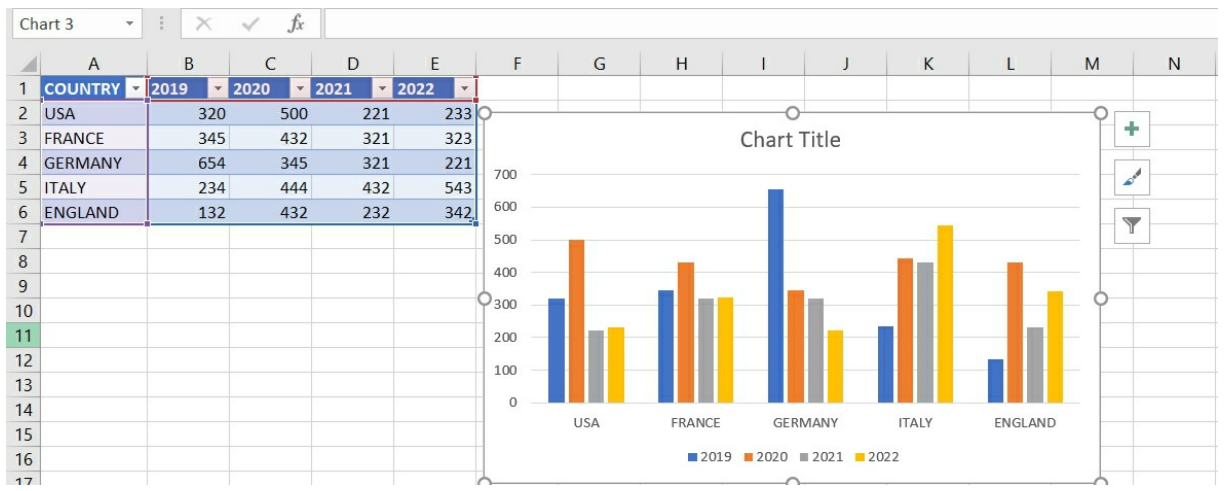
- Go to the **Insert** tab and click on any of the charts (**Column** or **Bar Chart**) you want in the **Chart** group



Choose the chart type you want from the drop-menu



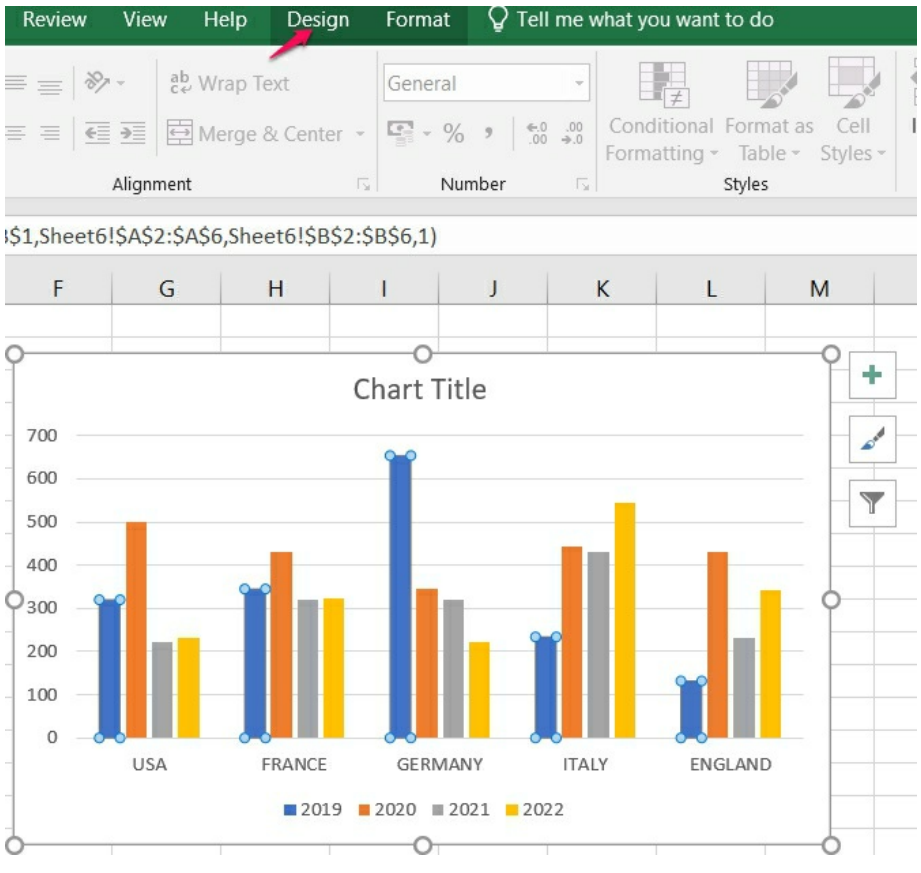
- Finally, the selected chart appears in the data provided



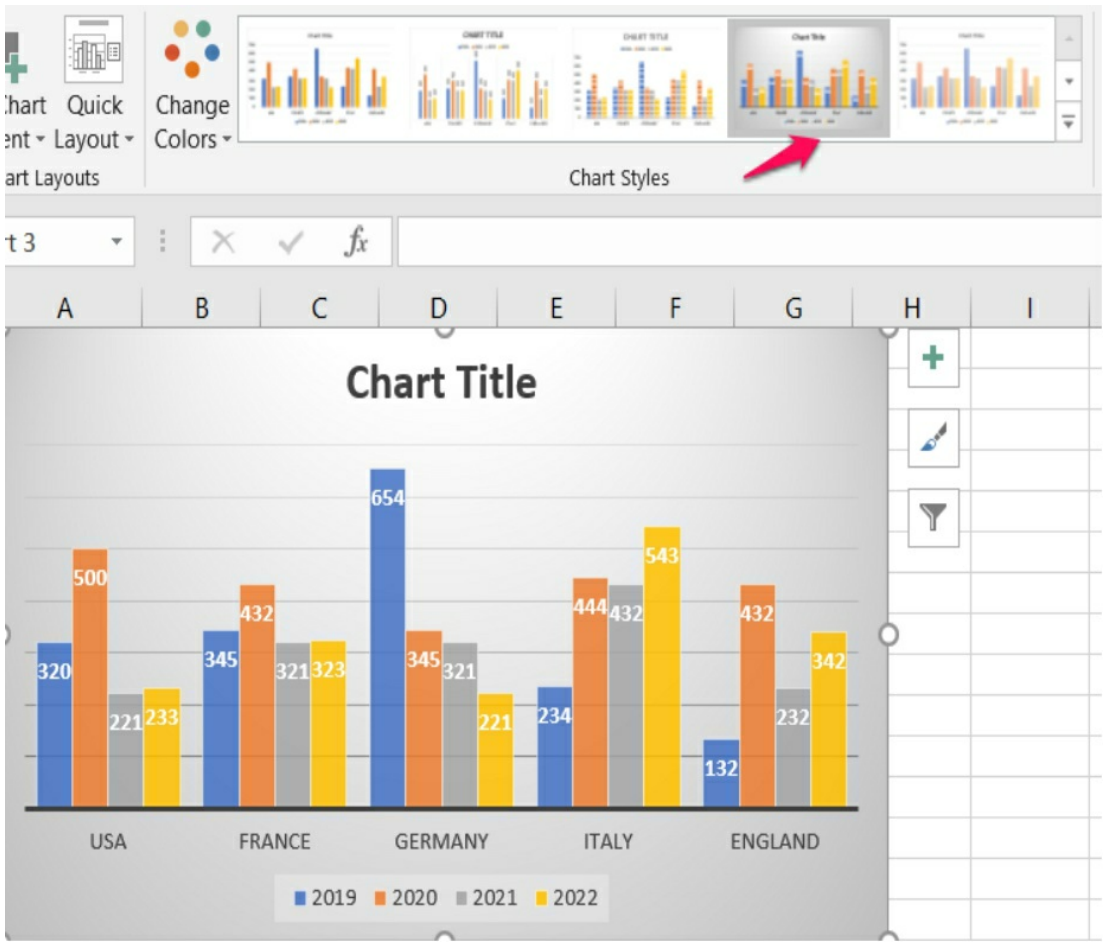
Changing the Chart Styles

To change the chart styles of your data, follow the steps provided below

- Click on the chart, go to the Design tab



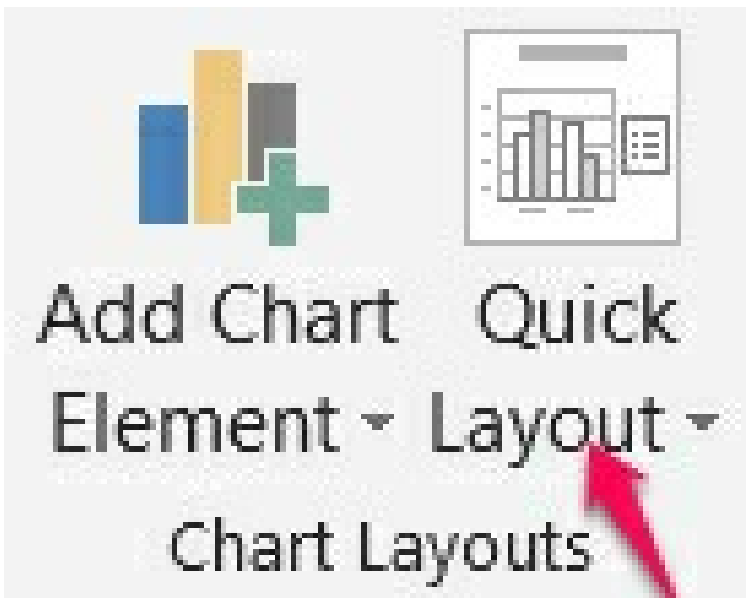
- In the Chart Styles group, select any chart style you want, and it is reflected in the chart



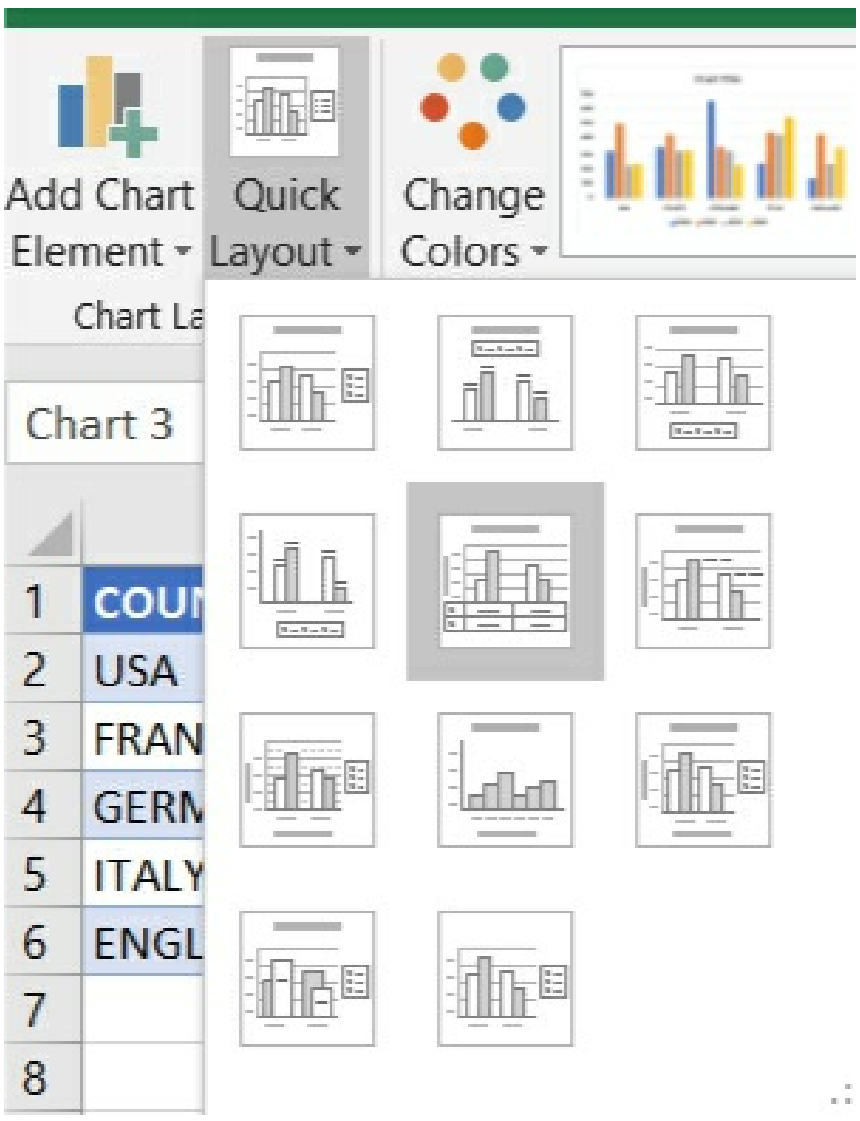
Changing the Chart Layout

To change the chart layout, follow the steps provided below

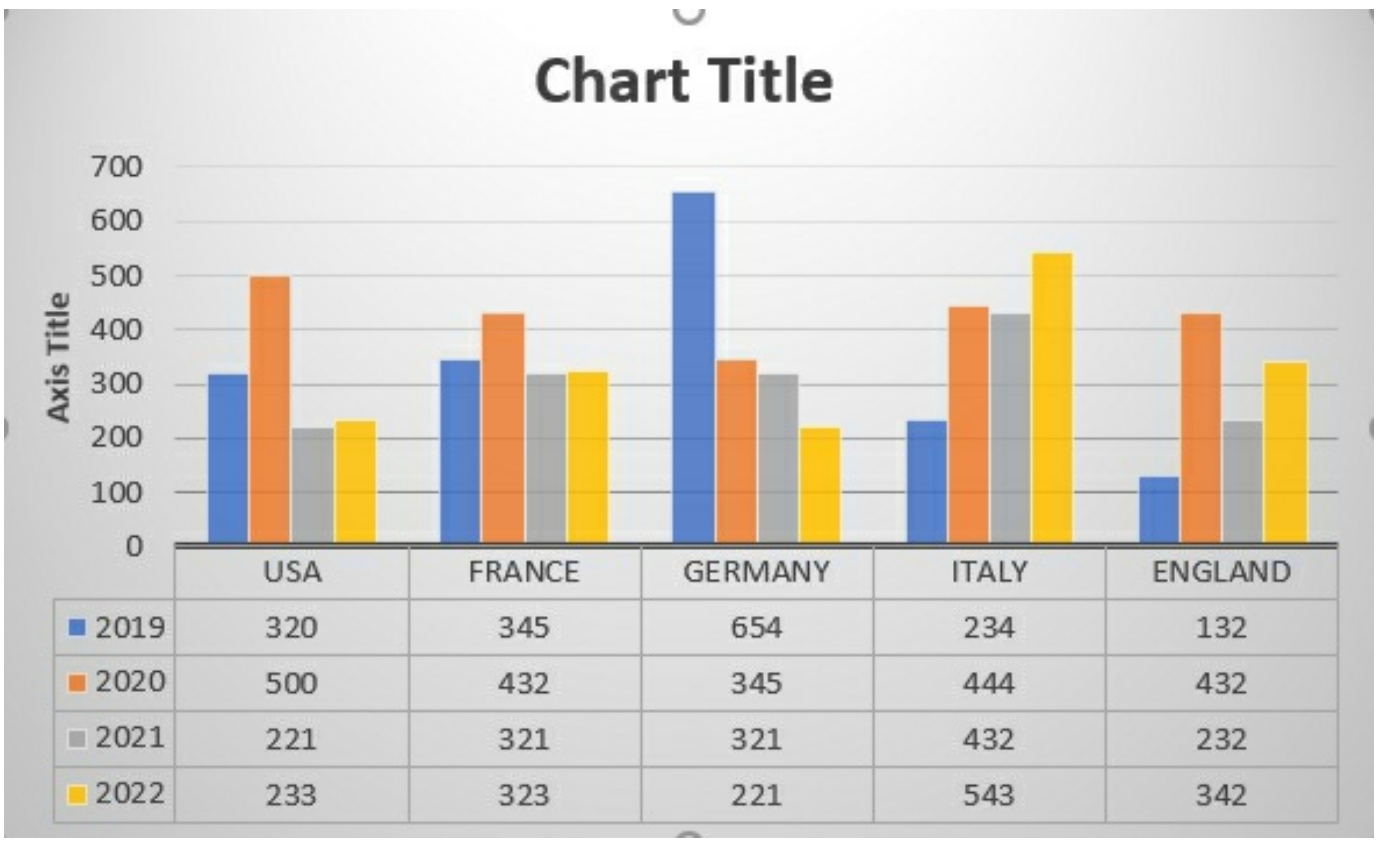
- Click on the chart, go to the **Design** tab
- Click on **Quick Layout** in the **Chart Layouts** group



- In the Quick Layout drop-down menu, select any of the layouts you want.



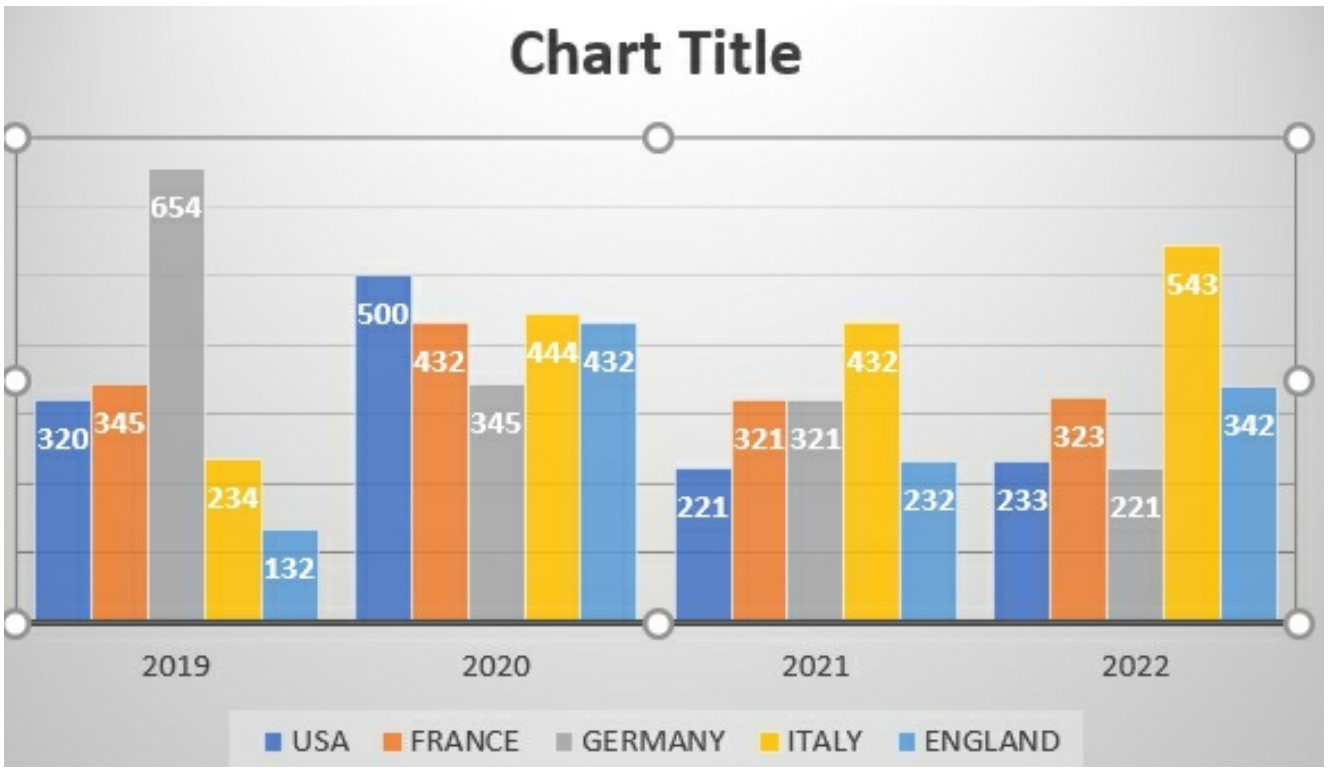
- The chart appears with the new chart layout



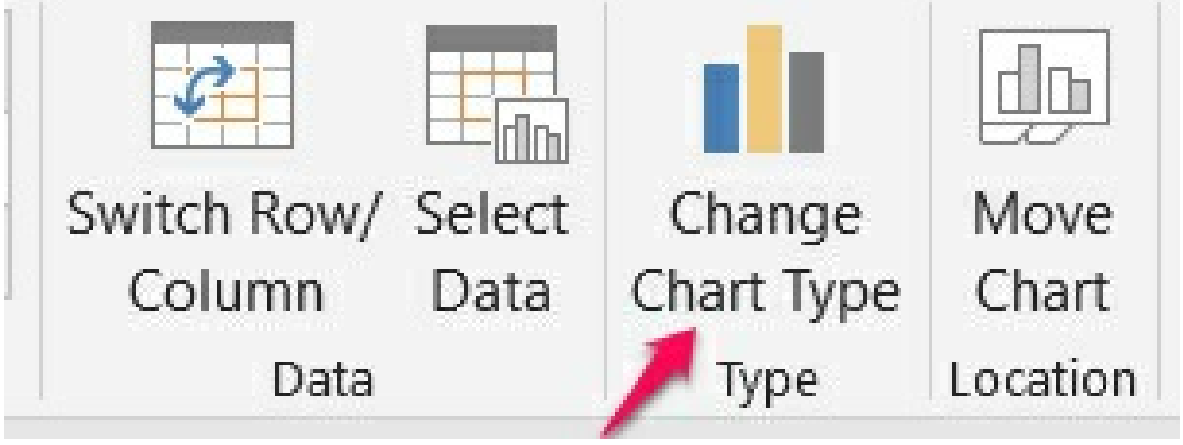
Changing the Chart Types

To change the chart type in your data, follow the steps given below

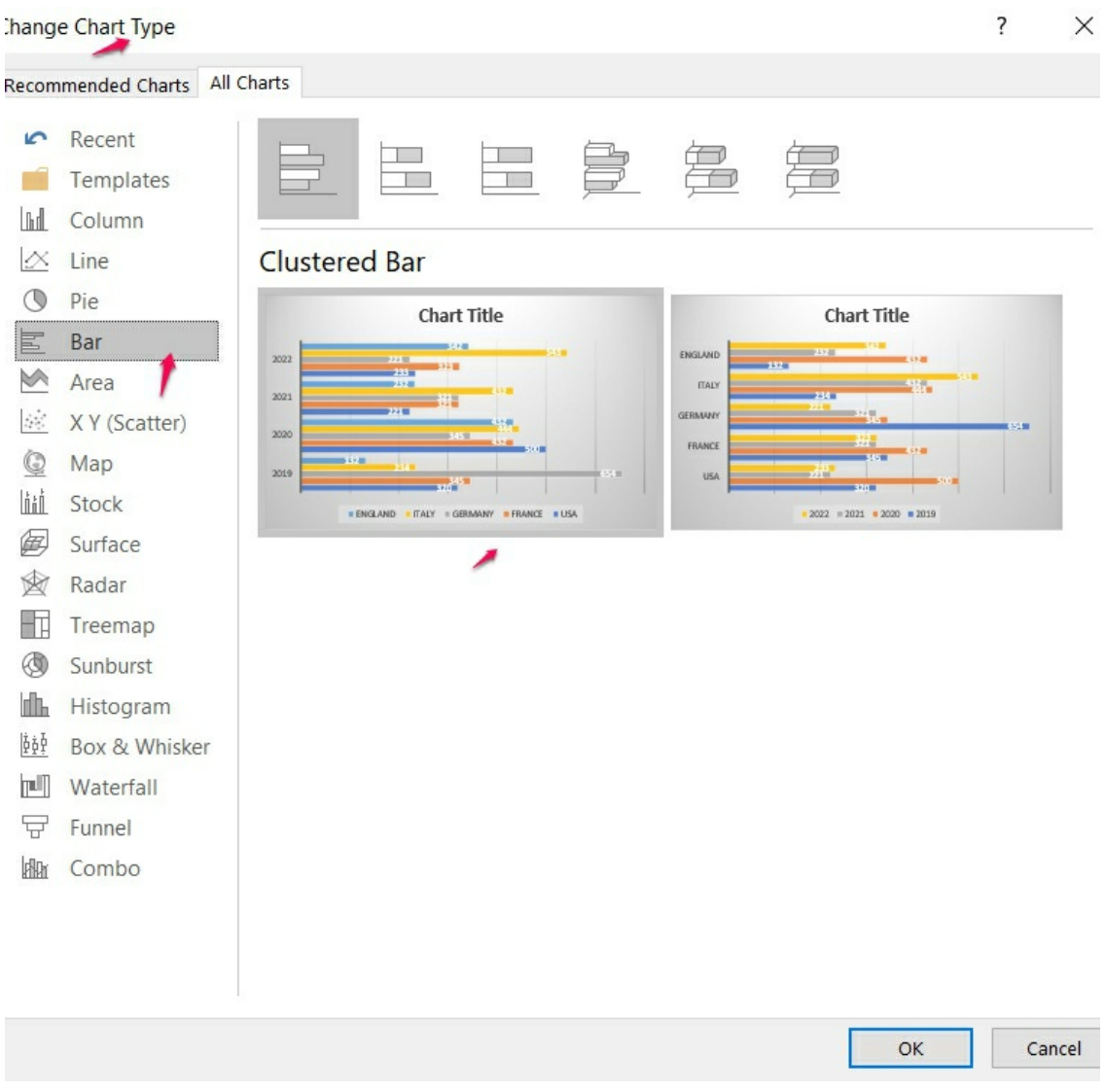
- Select the chart



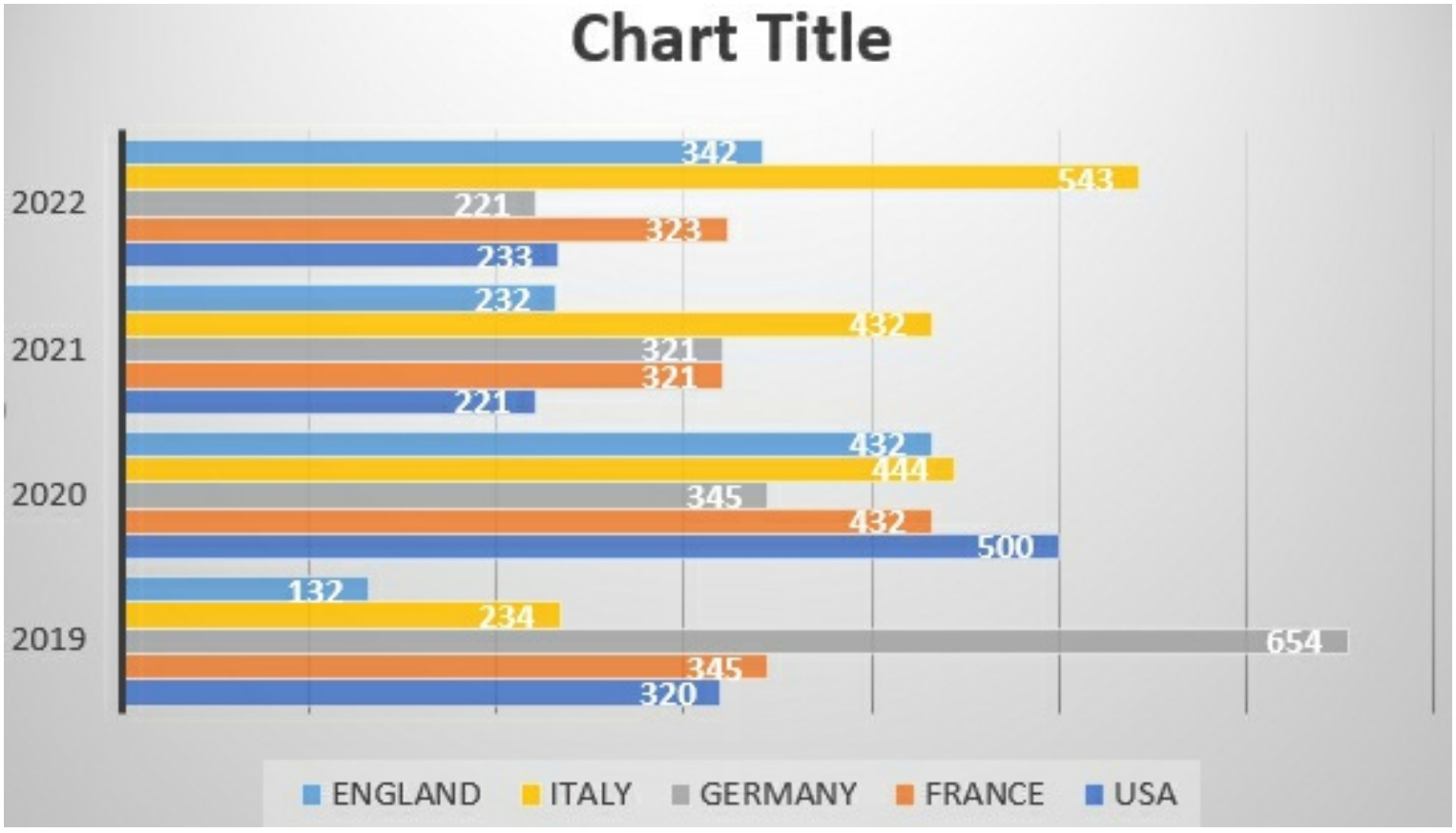
- Go to the **Design** tab, click on **Change Chart Type**



- In the **Change Chart Type** dialog box, click on the chart you want, and then click on **Ok.**



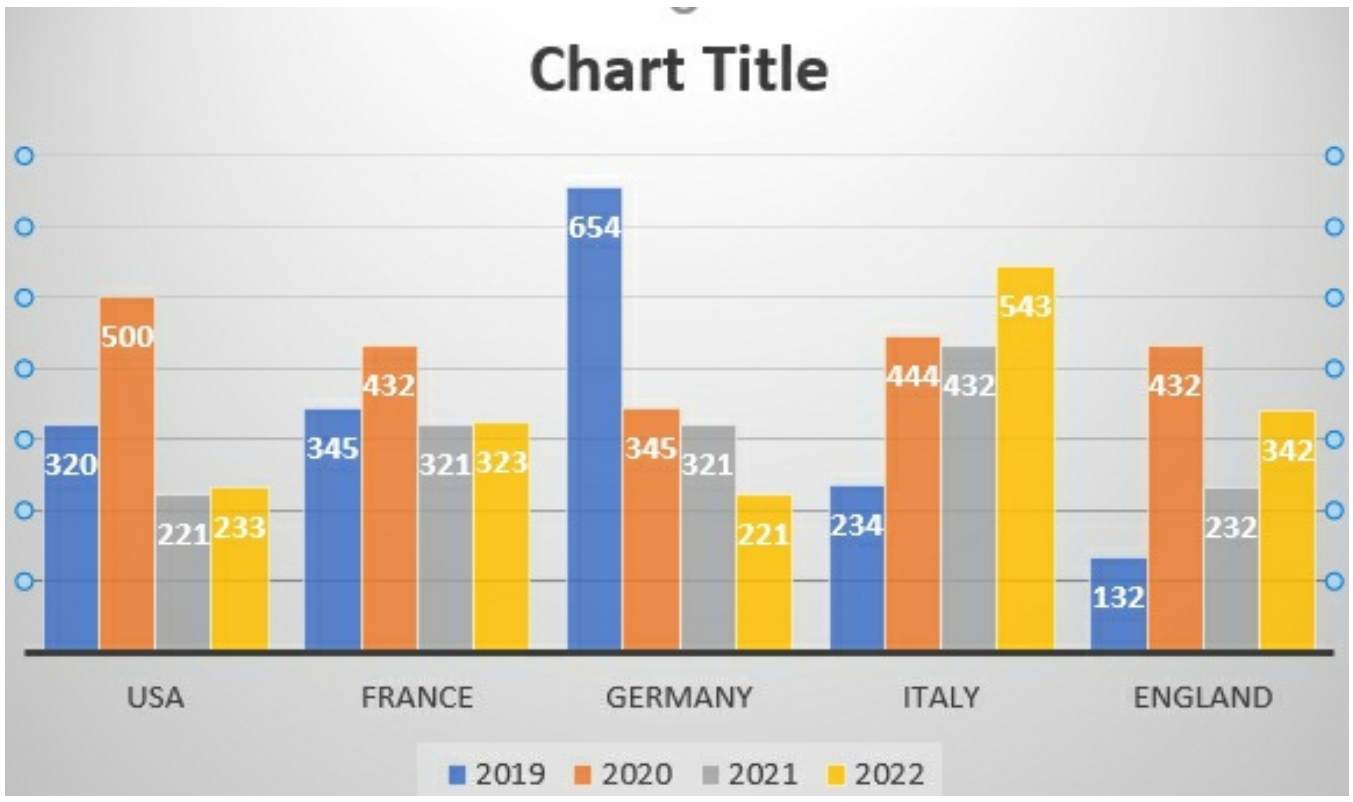
- The chart is changed as illustrated in the image below



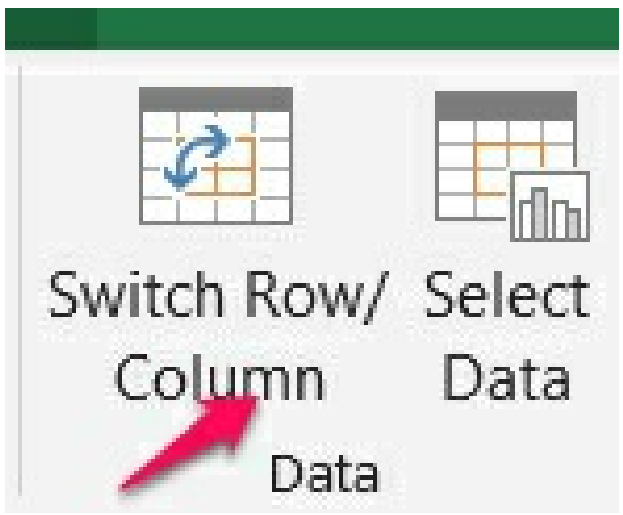
Switching the Rows and Columns in Your Chart

To switch the rows and columns, follow the steps provided below

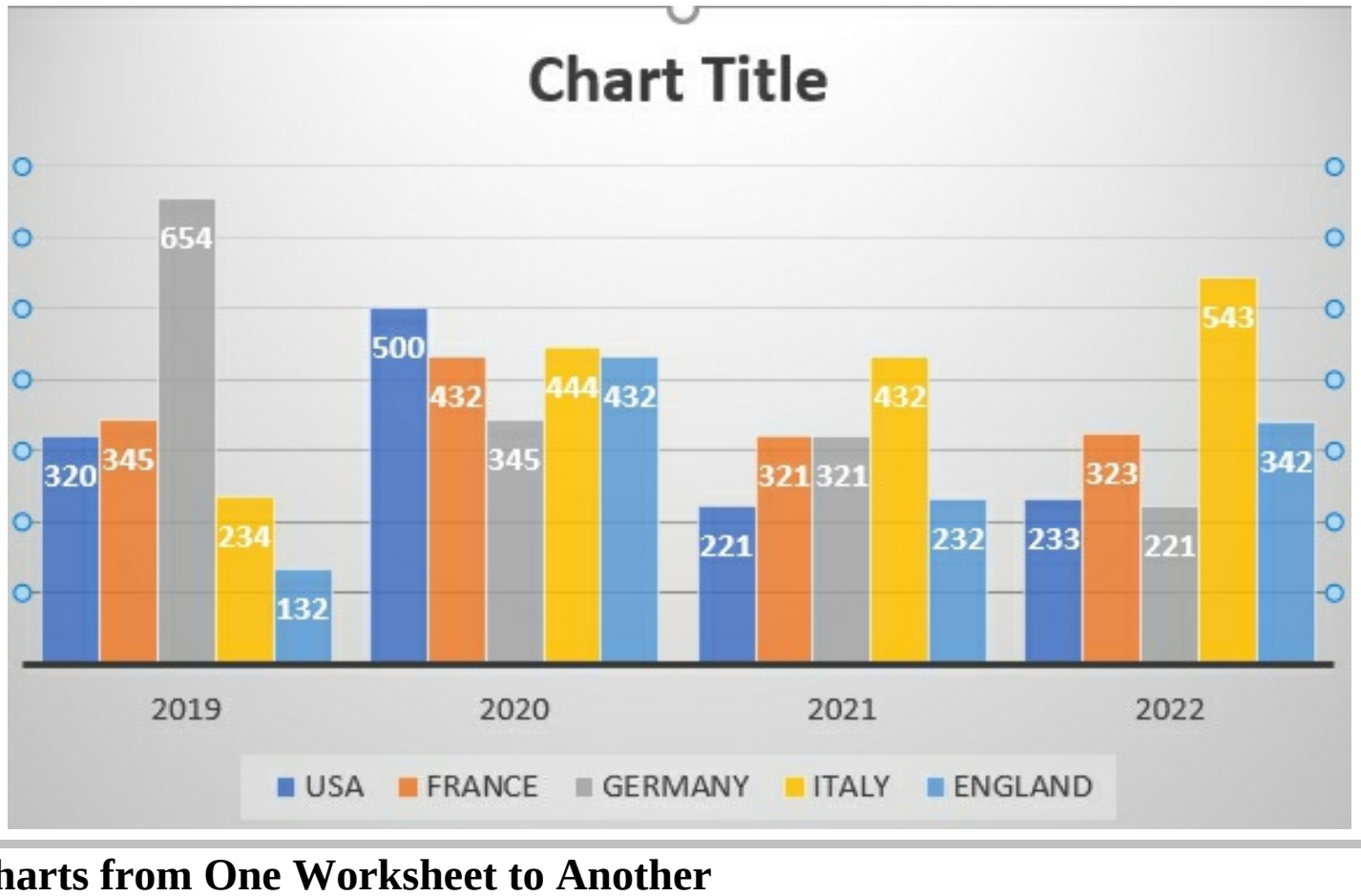
- Select the Chart



- Go to the Design tab and click on Switch Row/Column command in the



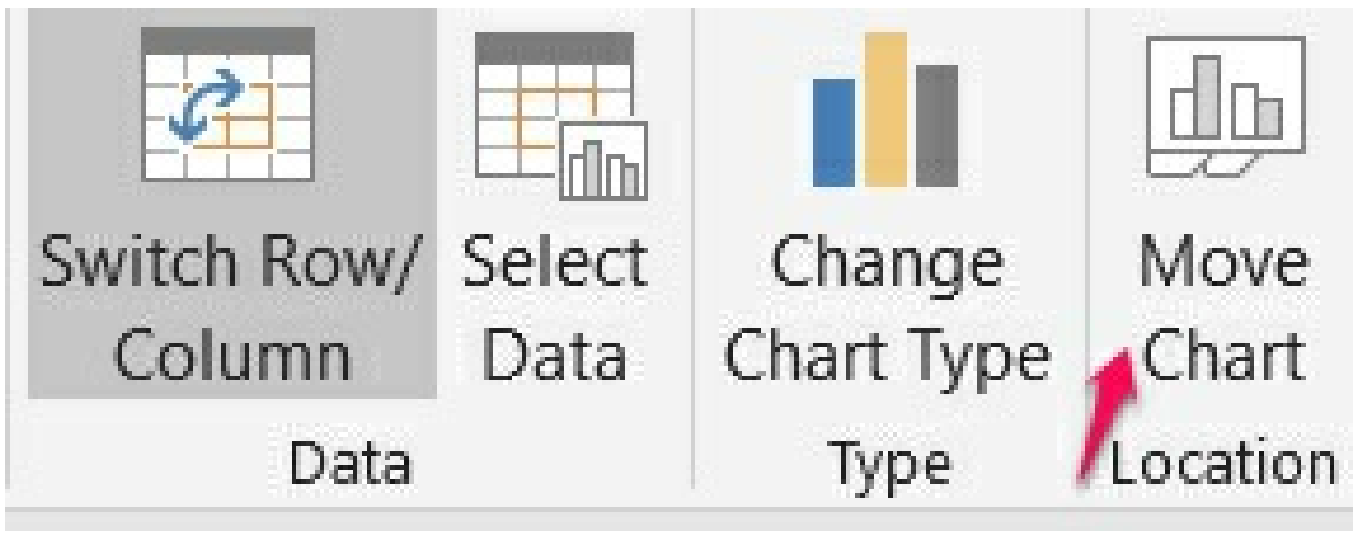
- Here, the chart rows/columns will be adjusted



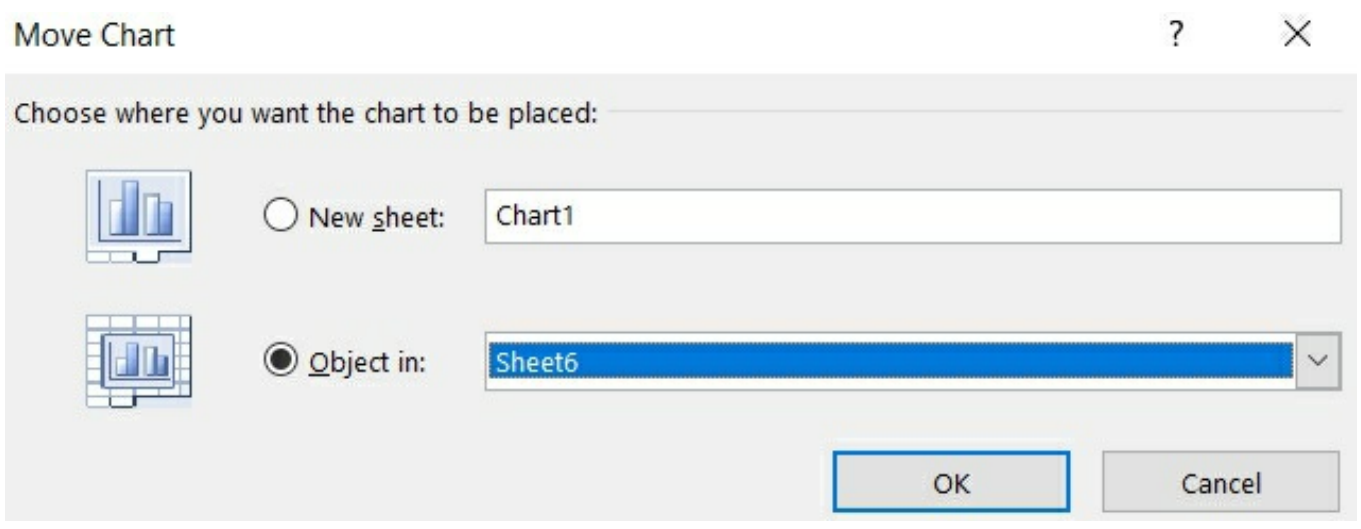
Moving Your Charts from One Worksheet to Another

To move your chat from one worksheet to another, follow the steps given below

- Click on the Chart
- Click on the **Design tab** and select the **Move Chart** command



- In the **Move Chart** dialog box, select the location you wish to move the chart to

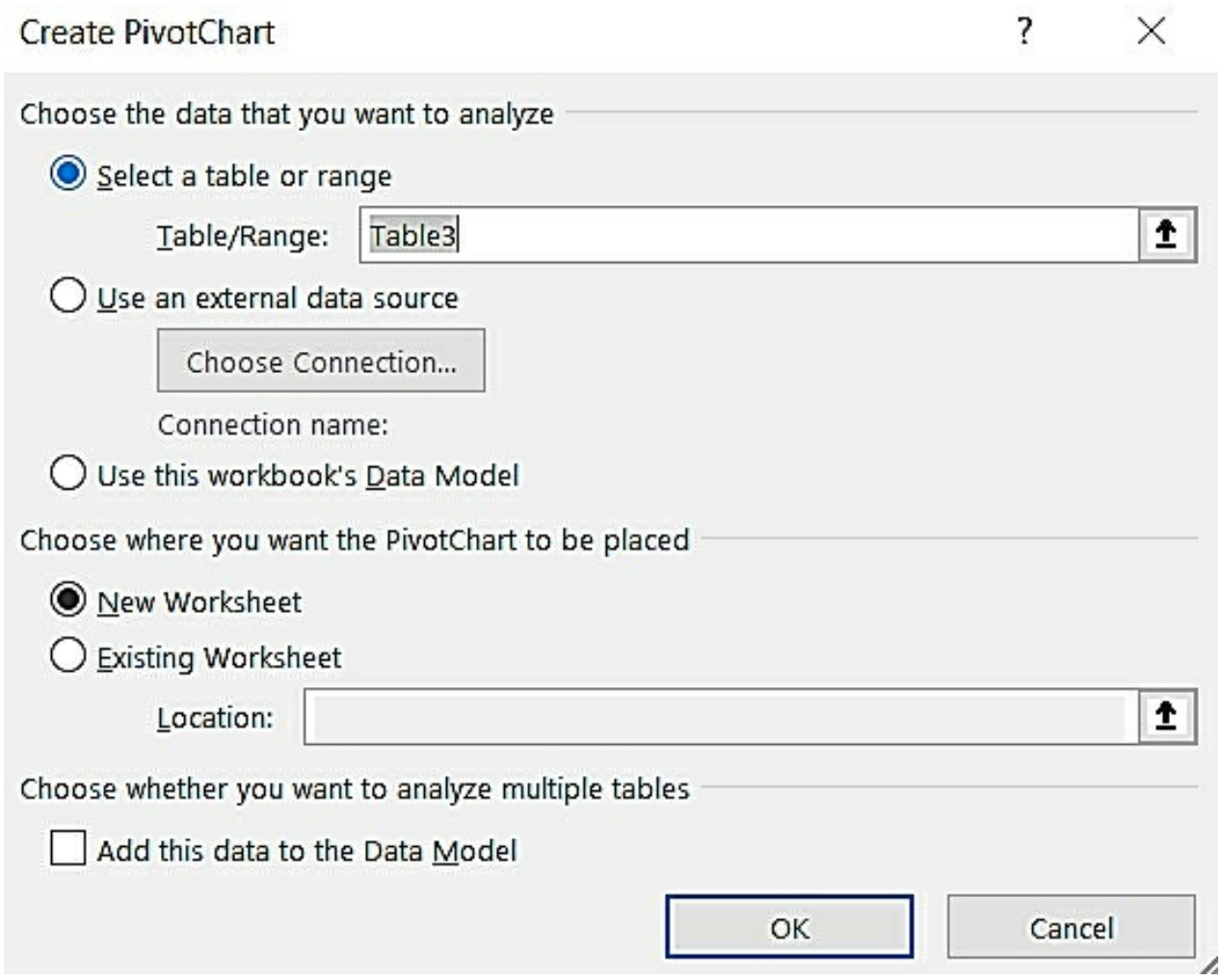


- Click on **Ok** and the chart will be moved to another worksheet.

Creating Pivot Chart

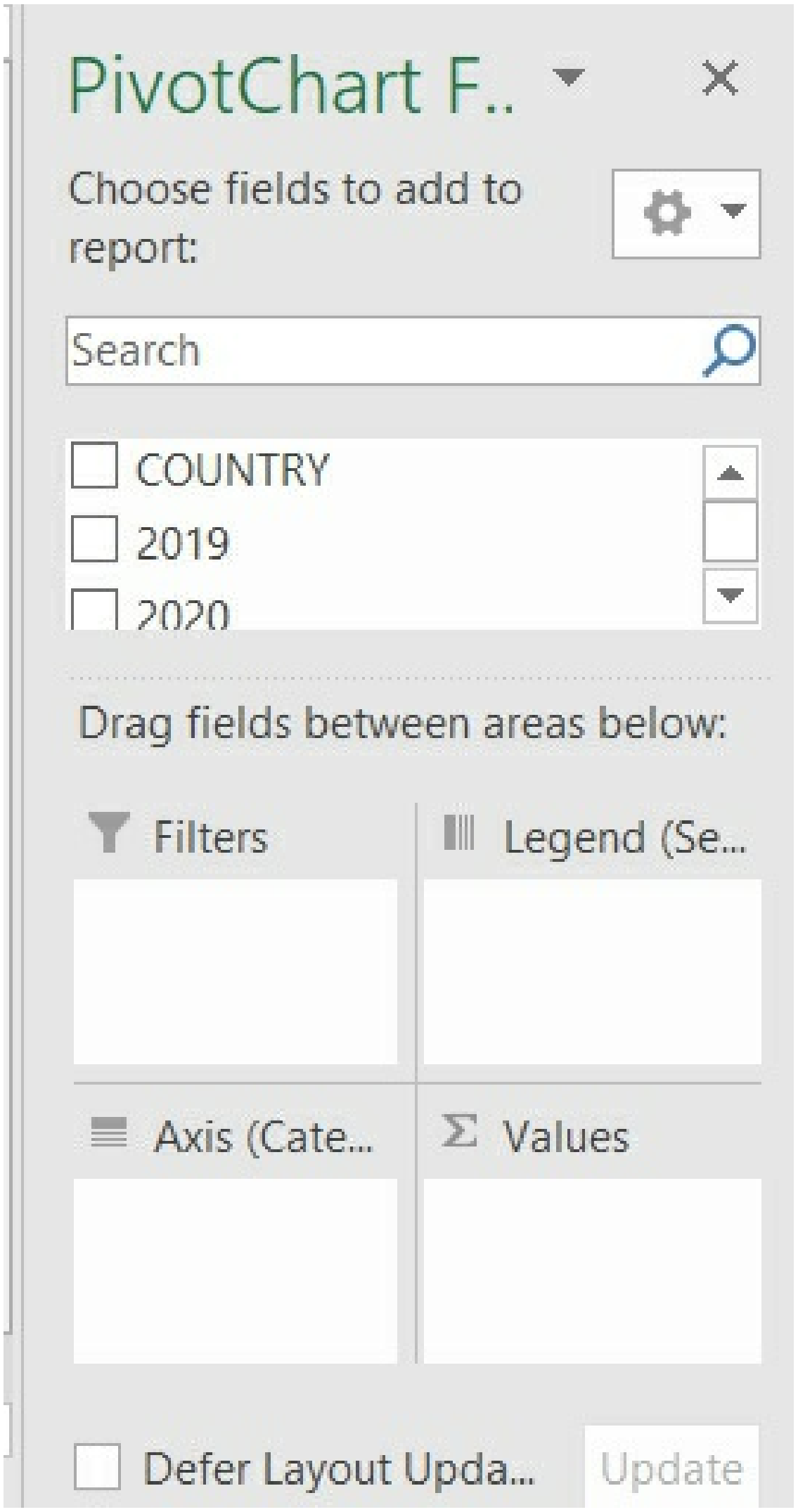
To create a pivot chart, follow the steps giving below:

- Select the cells you wish to create a pivot chart for
- Go to the **Inser**t tab, click on **PivotChart** in the **Chart** group, and then select **PivotChart** in the drop-down menu
- In the **Create PivotChart** dialog box, set the following

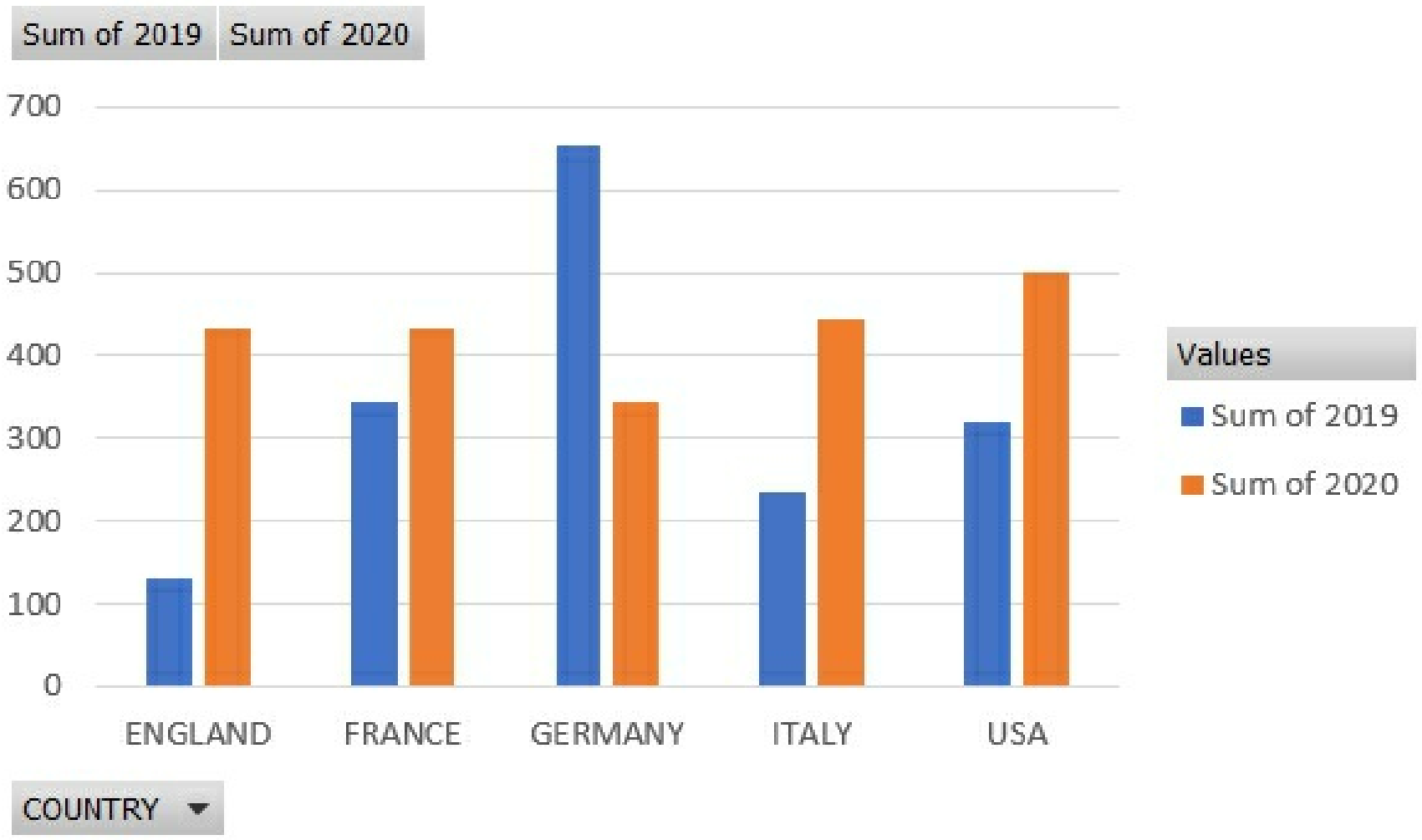


- Click on **Select a table or range** under **Choose the data you want to analyze**
- Verify the cell range under the **Table/Range**
- Select **New worksheet** or **Existing worksheet** under **Choose where you want the PivotTable report to be placed**

- Then click on **Ok**
- In the **PivotChart Field** task pane, drag the field names into the four areas displayed below (Filters, Columns, Rows. And Values)



- After doing this, the data will be displayed in the pivot chart



CHAPTER NINE

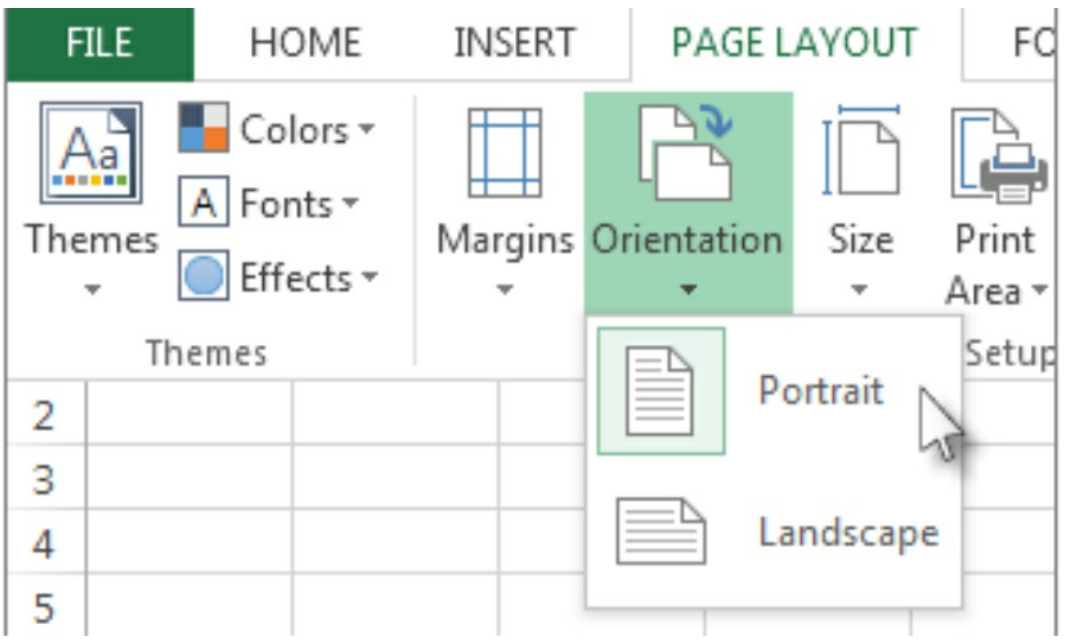
SOLVING COMMON PRINTING PROBLEMS IN EXCEL

One of the most important things to know in Excel is how to print. In this chapter, you will be learning various techniques on how to prints. Some of them are changing the orientation before printing an Excel worksheet, printing one or several worksheets, printing workbooks, printing part of a worksheet, printing the formula, and lots more.

Changing the Excel Worksheet Orientation Before Printing

You can change the orientation format of your Excel worksheet to either landscape or portrait. To do this, follow the steps given below

- Select the worksheet you wish to print
- Go to the **Page Layout** tab, and select **Orientation** in the **Page Setup** group
- In the **Orientation** drop-down menu, click on either **Portrait** or **Landscape**



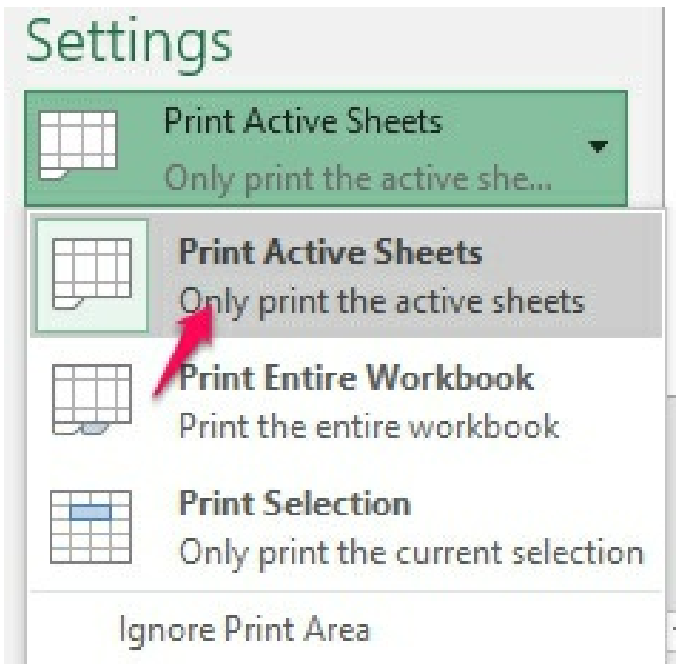
Printing One or Several Worksheets

To print one or several worksheets, do the following

- Select the worksheet(s) you wish to print

- Go to the **File** tab and click on **Print**

- In the **Print Range** drop-down menu, click **on Print Active Sheet**



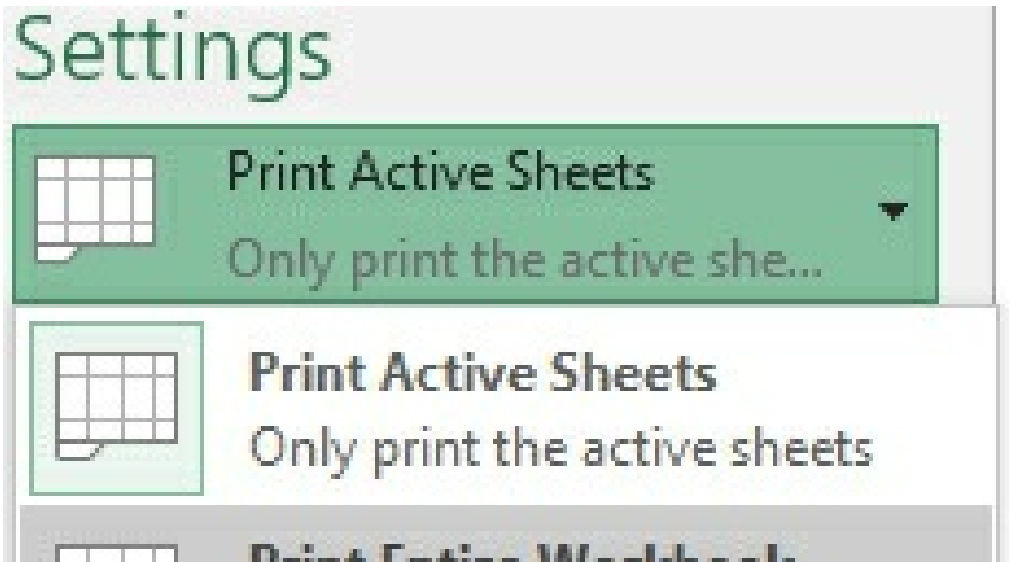
- Then click on the **Prin**t button

Printing an Entire Workbook

To print an entire workbook, ensure you are currently on the workbook and then follow the steps provided below

- Go to the **File** tab and click on **Print**

- In the **Print Range** drop-down menu, click on **Print Entire Workbook**

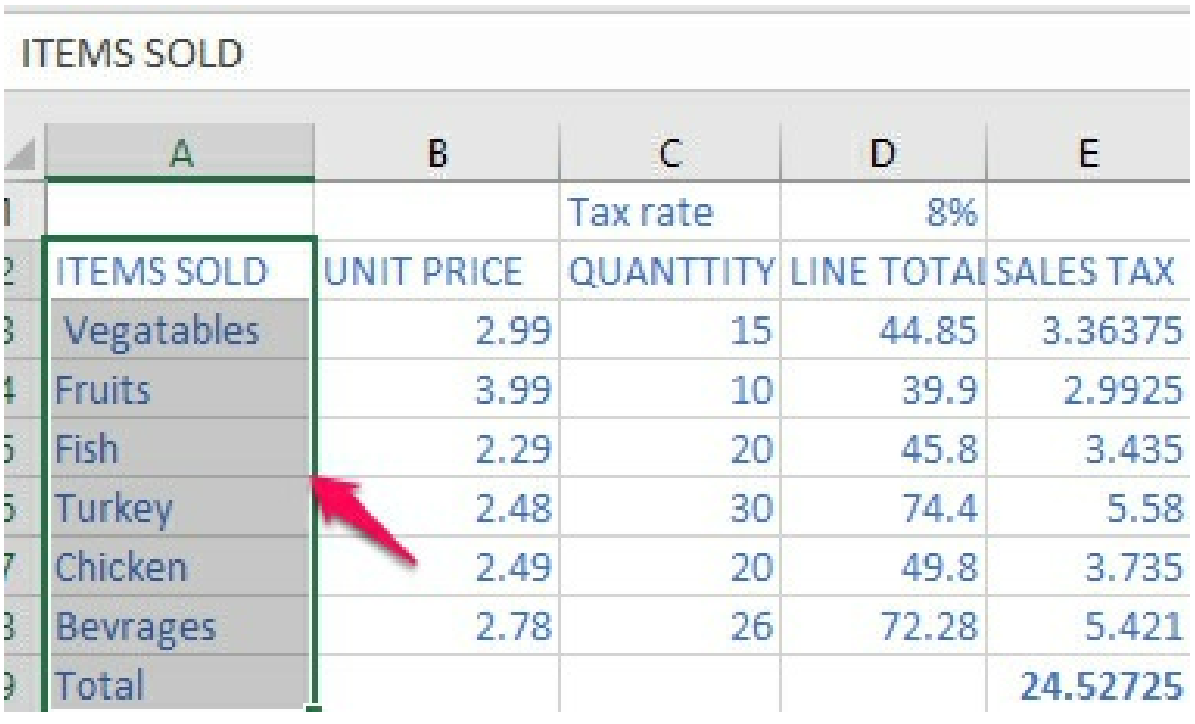


- Then click on the **Print** button

Printing a Selection

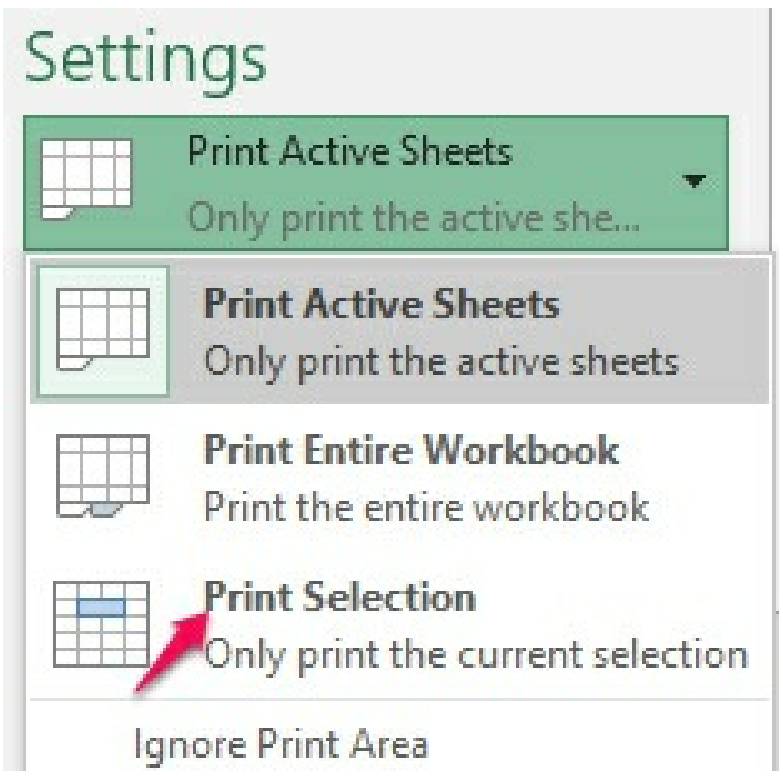
To print a specific part of the Excel worksheet, follow the steps given below

- Select the part of the worksheet you wish to print



- Go to the **File** tab and click on **Print**

- In the **Print Range** drop-down menu, click on **Print Selection**

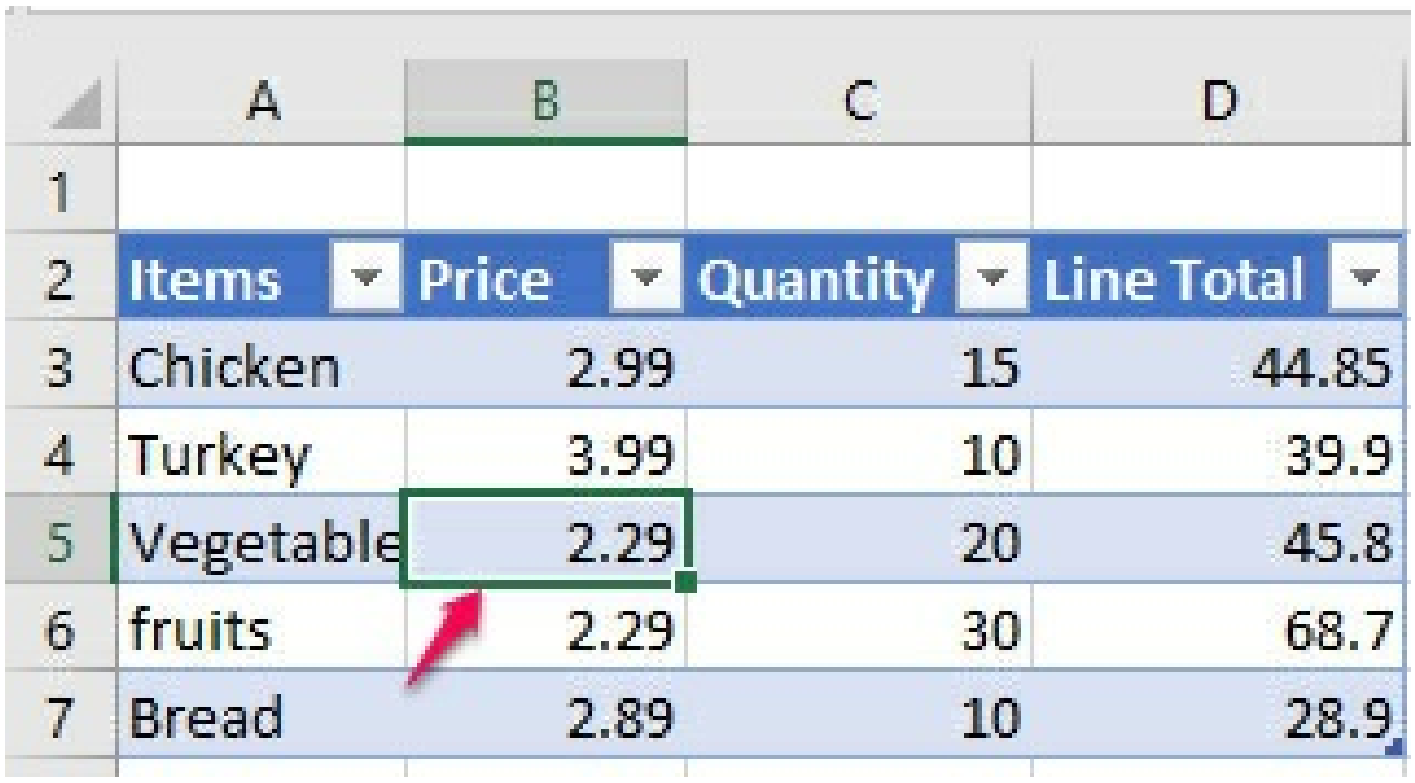


- Then click on the **Print** button

Printing Excel Tables

To print tables in your worksheet, follow the steps provided below

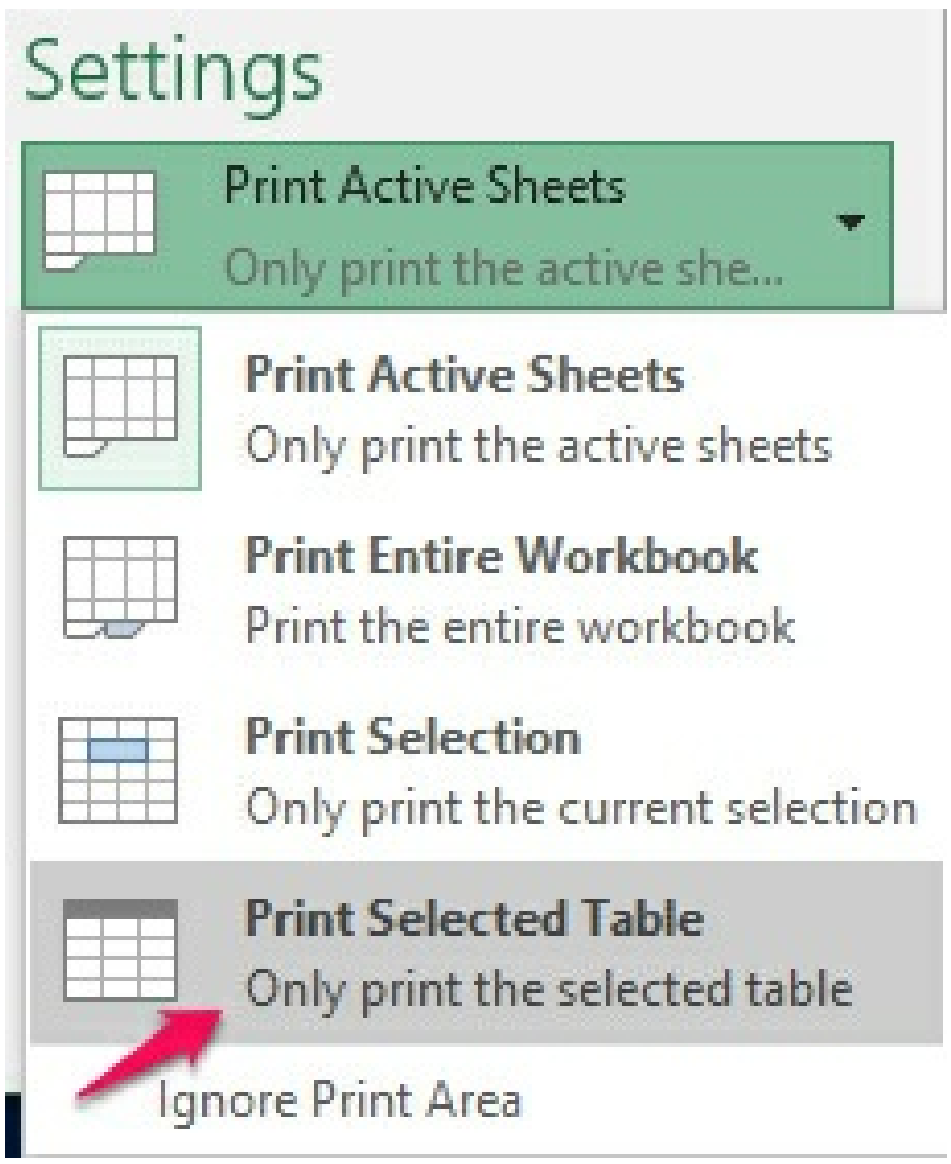
- Click on any cell within the table



	A	B	C	D
1				
2	Items	Price	Quantity	Line Total
3	Chicken	2.99	15	44.85
4	Turkey	3.99	10	39.9
5	Vegetable	2.29	20	45.8
6	fruits	2.29	30	68.7
7	Bread	2.89	10	28.9

- Go to the **File** tab and click on **Print**

- In the **Print Range** drop-down menu, click on **Print Selected Table.**

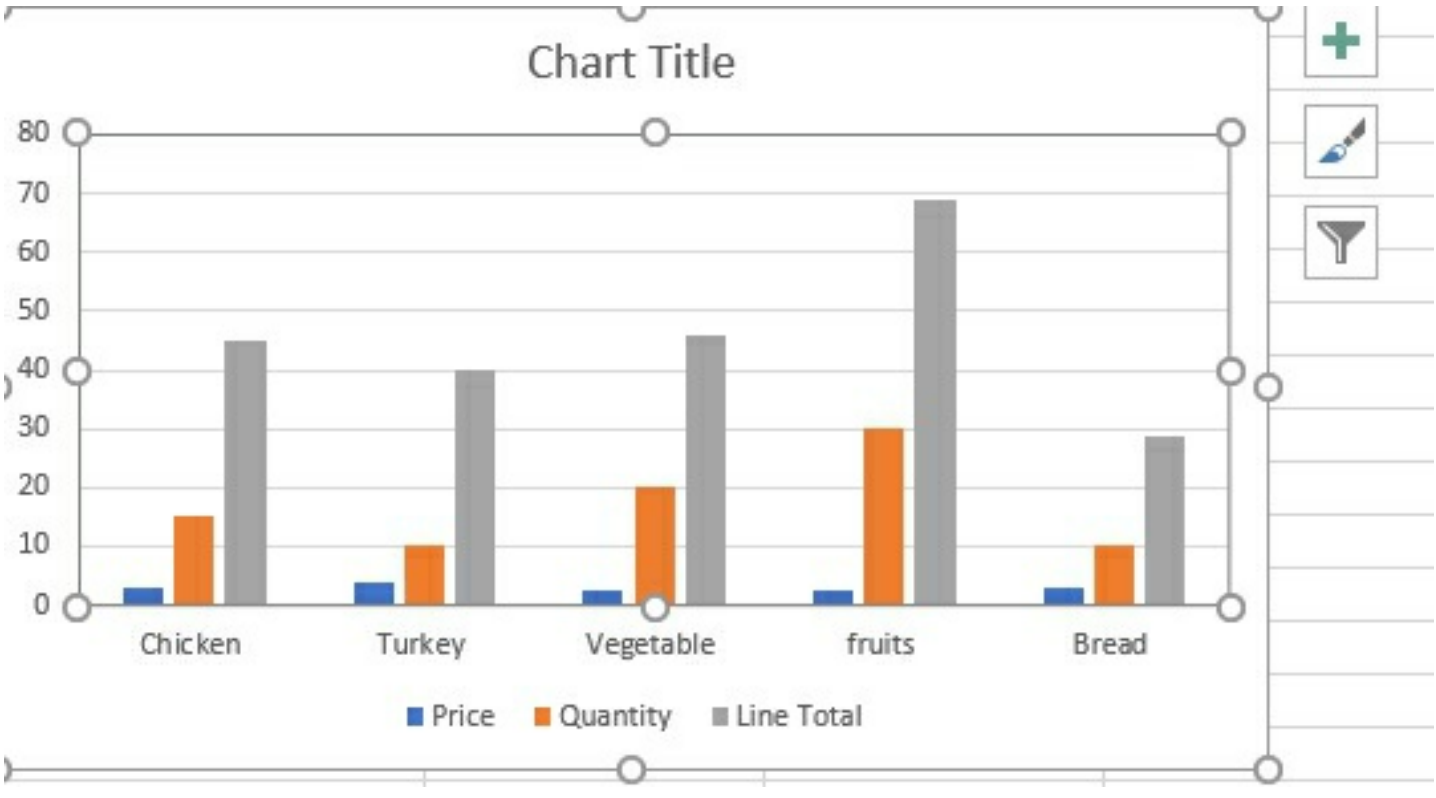


- Then click on the **Print** button

Printing Charts Without Worksheet Data in Excel

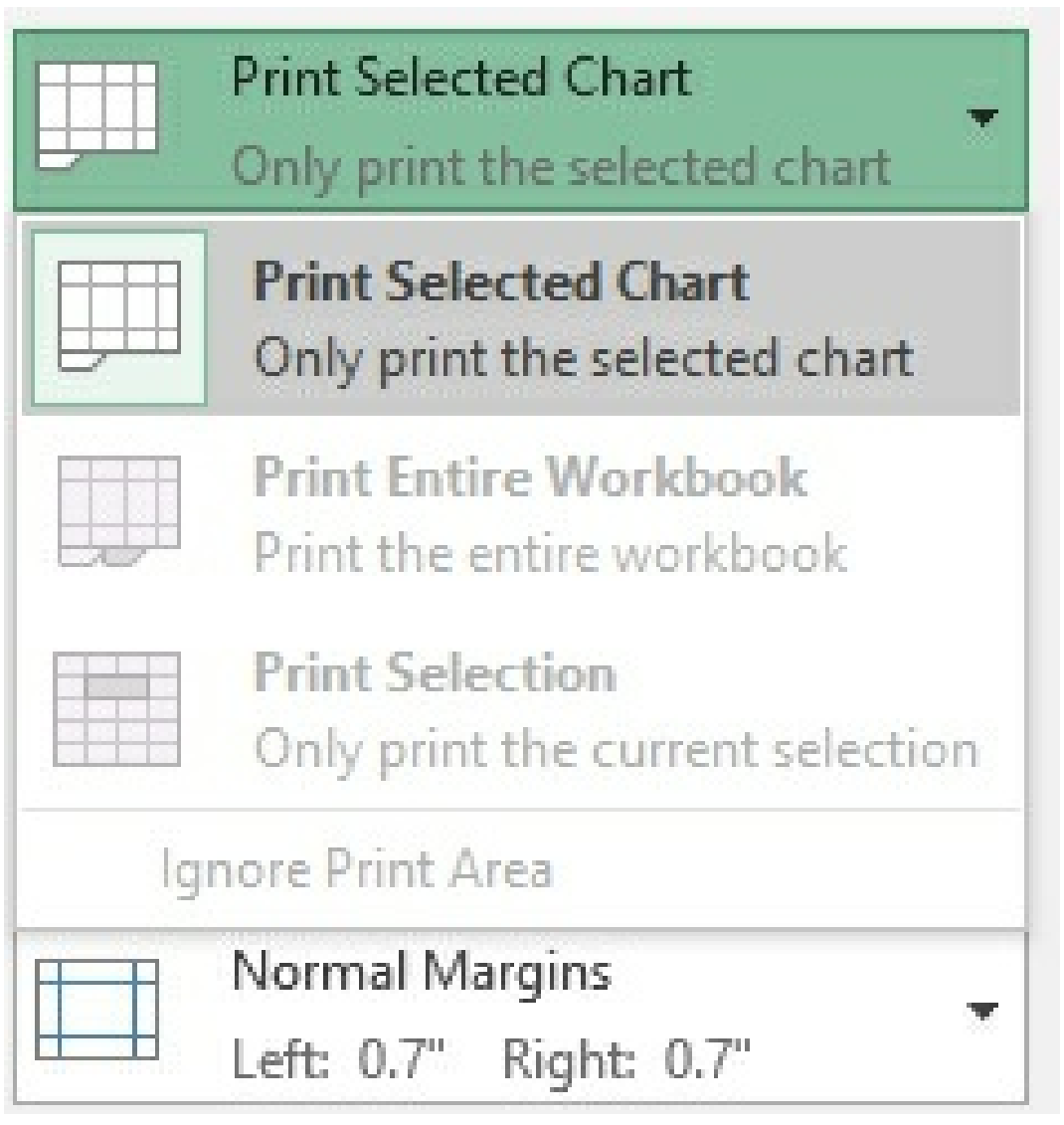
You can choose to print the chart in your worksheet neglecting the data in it. To do this, follow the steps given below

- Select the chart you wish to print

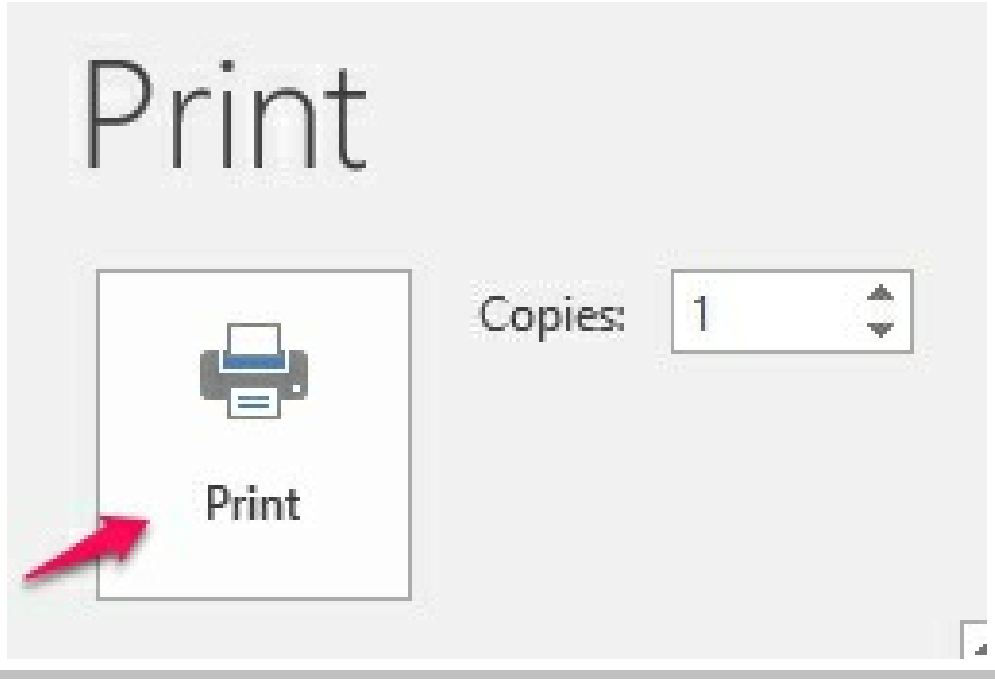


- Go to the **File** tab and click on **Print**

- **In** the **Print Range** drop-down menu, click on **Print Selected Chart**



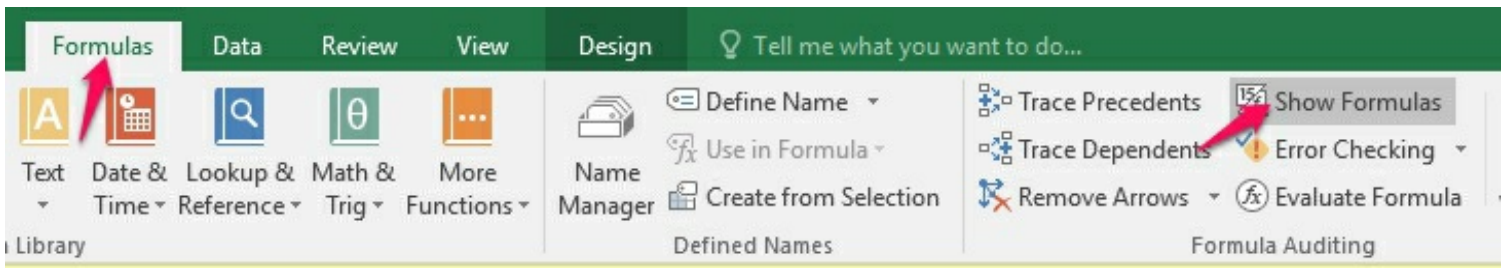
- Then click on the **Print** button



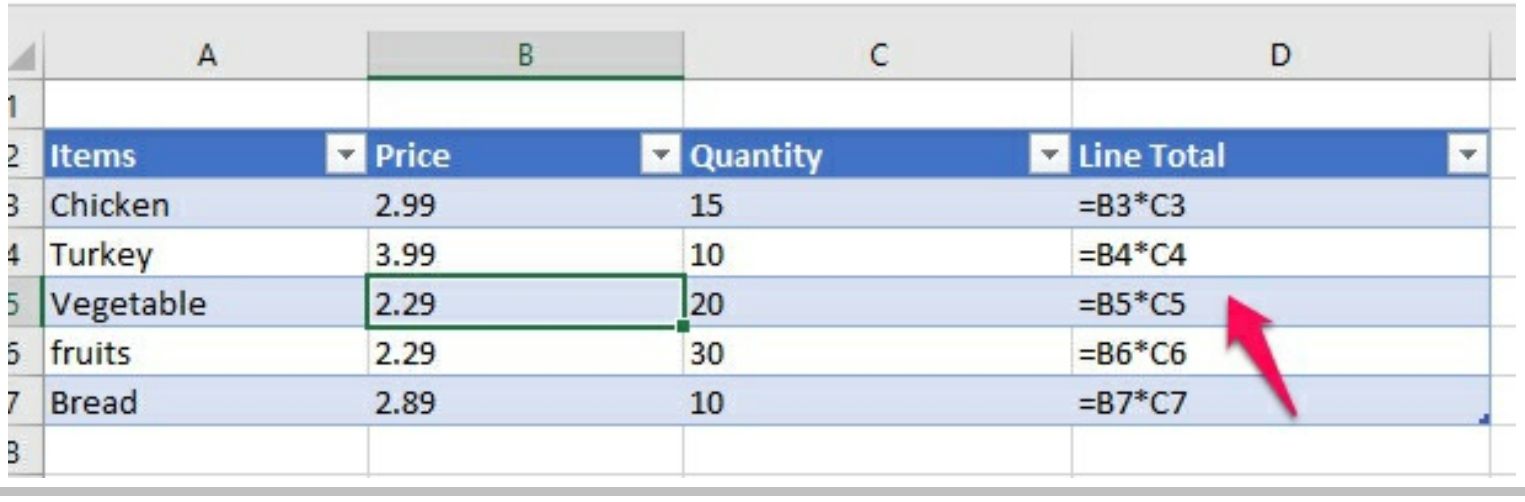
Printing Formula in Excel

Instead of getting the calculated results printed out n Excel, you can print out the formula. To do this,

- Go to the **Formula** tab, and click on **Show Formula** in the **Formula Auditing** group



- The formula used in the worksheet is displayed for printing

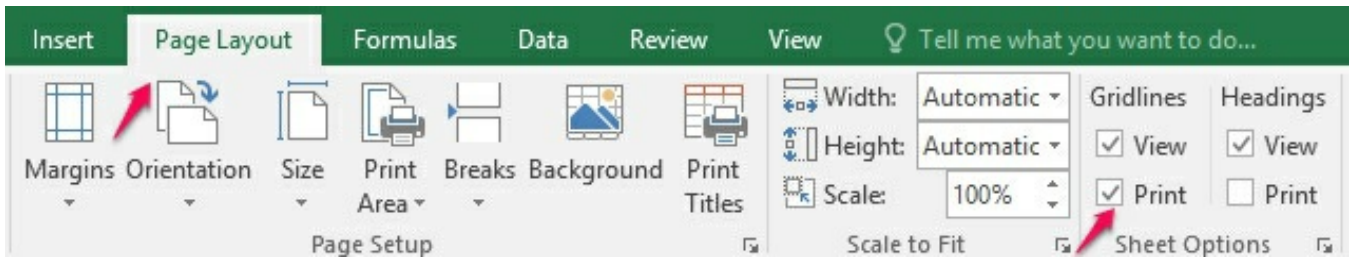


	A	B	C	D
1				
2	Items	Price	Quantity	Line Total
3	Chicken	2.99	15	=B3*C3
4	Turkey	3.99	10	=B4*C4
5	Vegetable	2.29	20	=B5*C5
6	fruits	2.29	30	=B6*C6
7	Bread	2.89	10	=B7*C7
8				

Printing Gridlines in Excel Worksheet

By default, when you print out the worksheet, the gridlines will not appear. However, you can print the gridlines in your worksheet by following the steps provided below

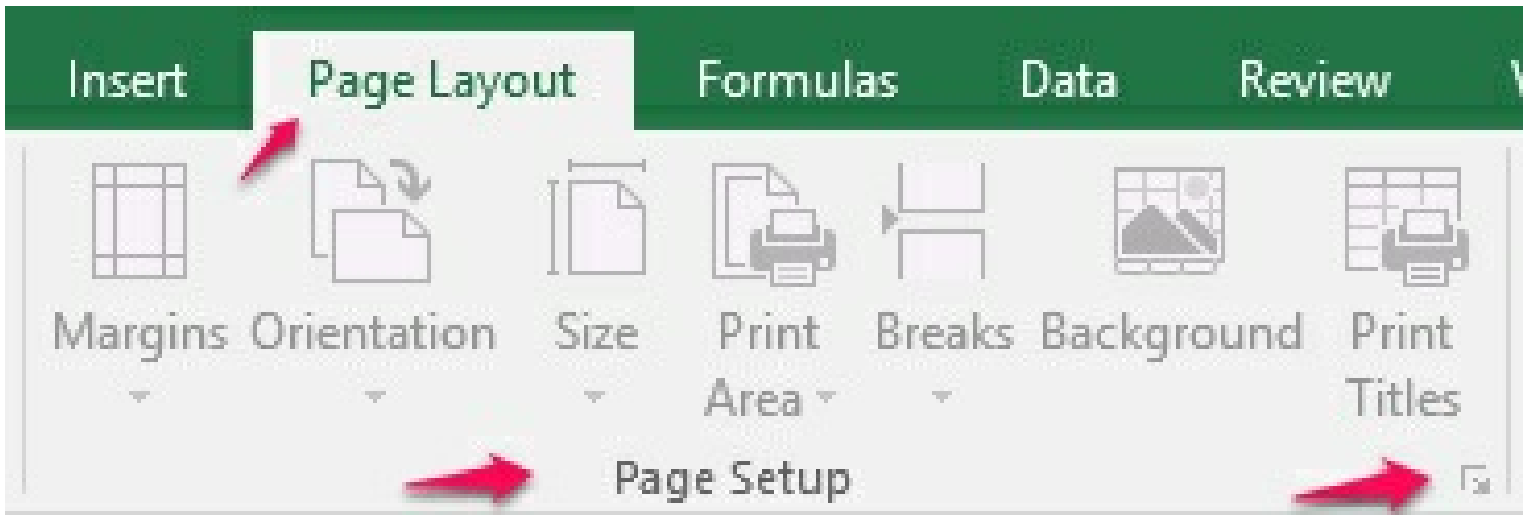
- Open the worksheet you wish to print
- Go to the **Page Layout** tab and click on **Print** under the **Gridlines** check box in the **Sheet Options** group.



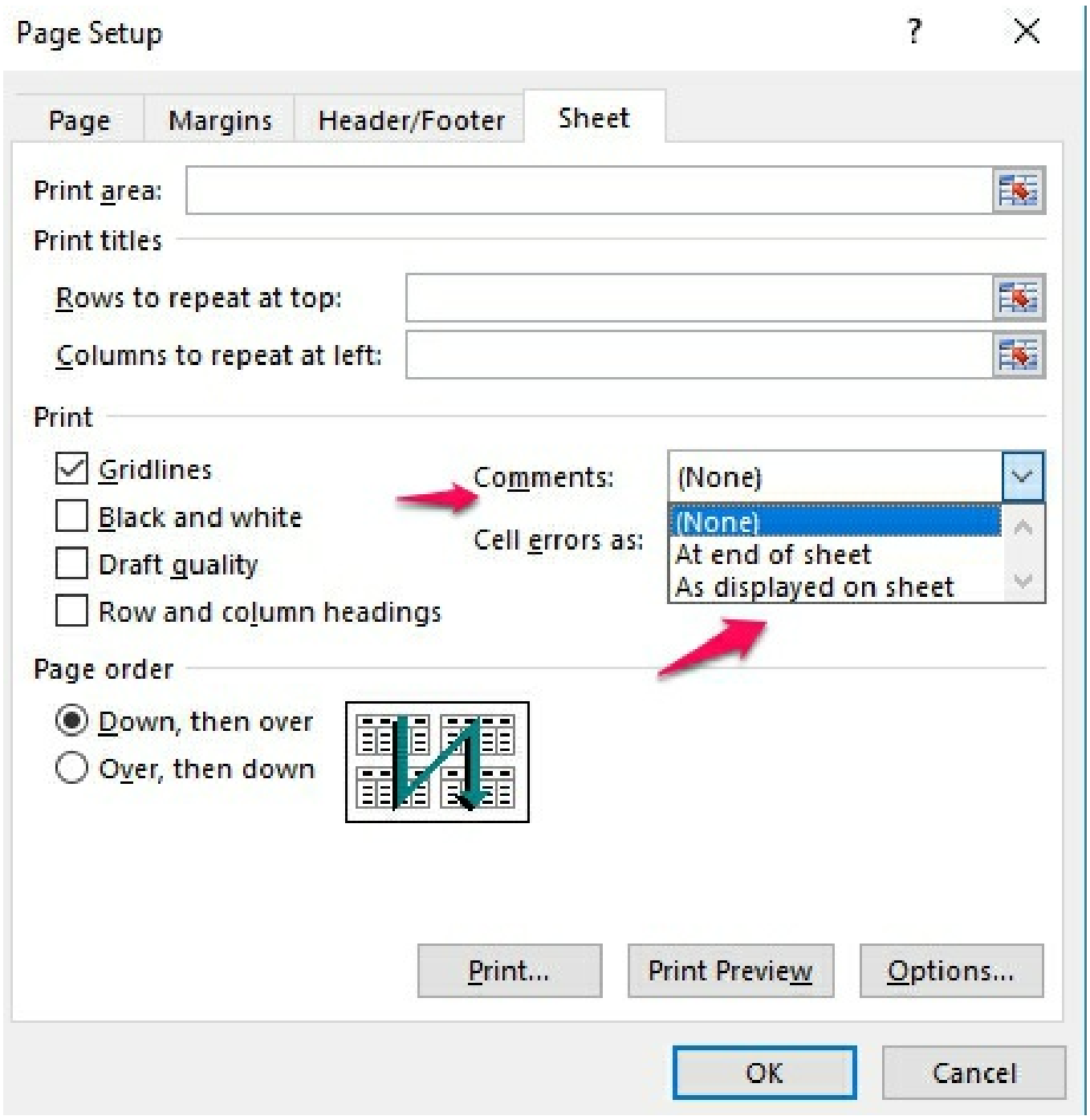
Printing Out Comment in Excel

In case you may need to print out the comments in your Excel worksheet, these are what you need to do

Go to the **Page Layout** tab, go to the **Page Setup** group, and click on the dialog launcher.



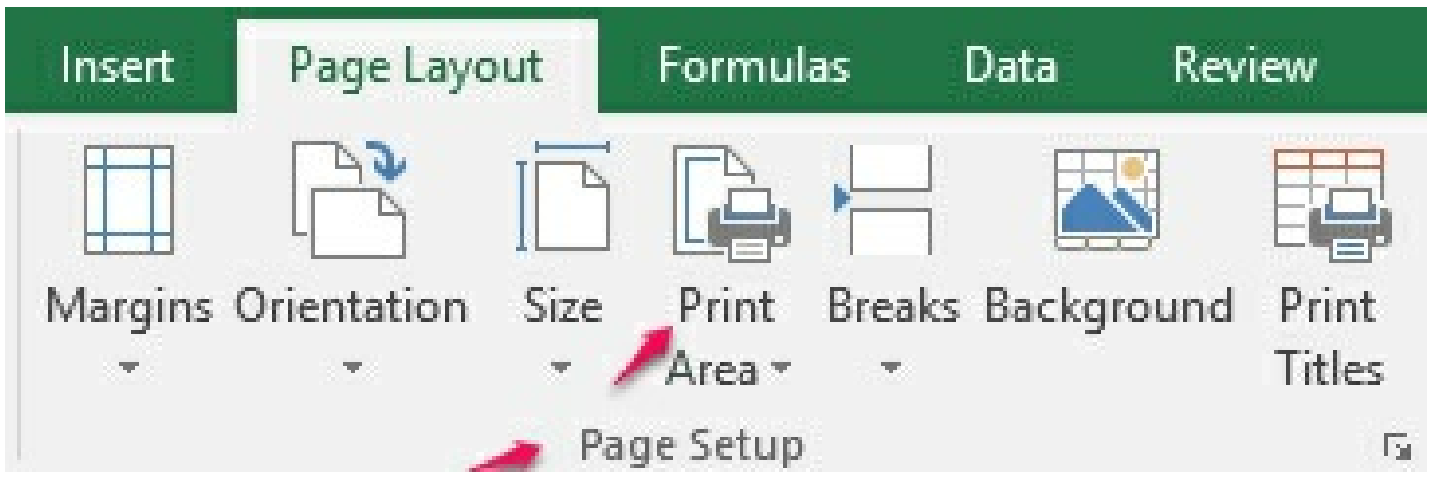
In the **Page Setup** dialog box, go to the **Sheet** tab and then click on the arrow next to **Comments**. Then select how you want the comments to be printed.



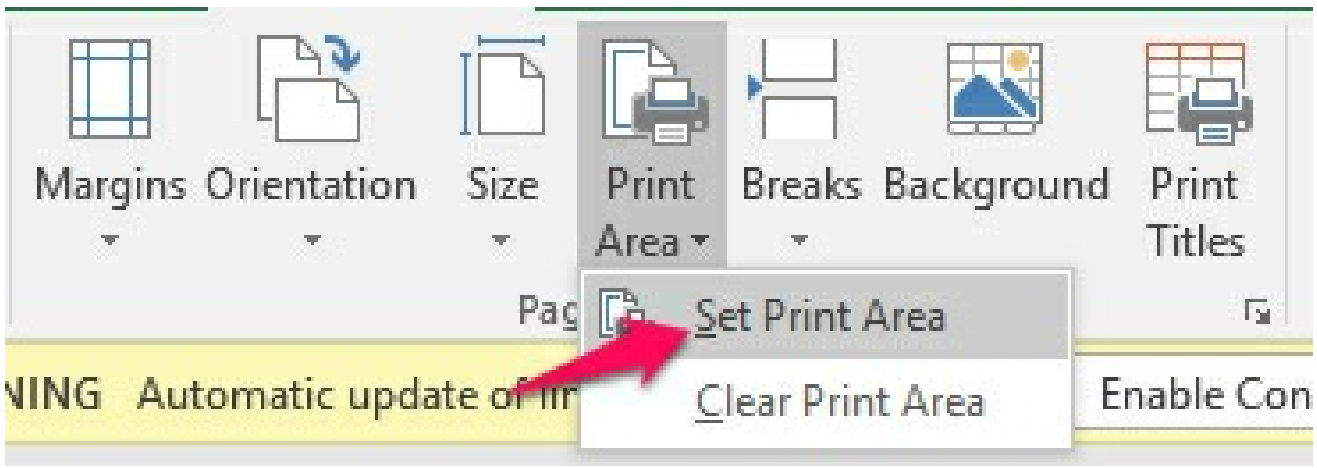
Setting the Print Area Before Printing

Setting the print area allows you to remove the part of the worksheet you do not need to print out. To do this, follow the following procedure:

- Select the part of the worksheet you wish to print
- Go to the **Page Layout** tab and click on **Print Area** in the **Page Setup** group



- In the **Print Area** drop-down menu, click on **Set Print Area**



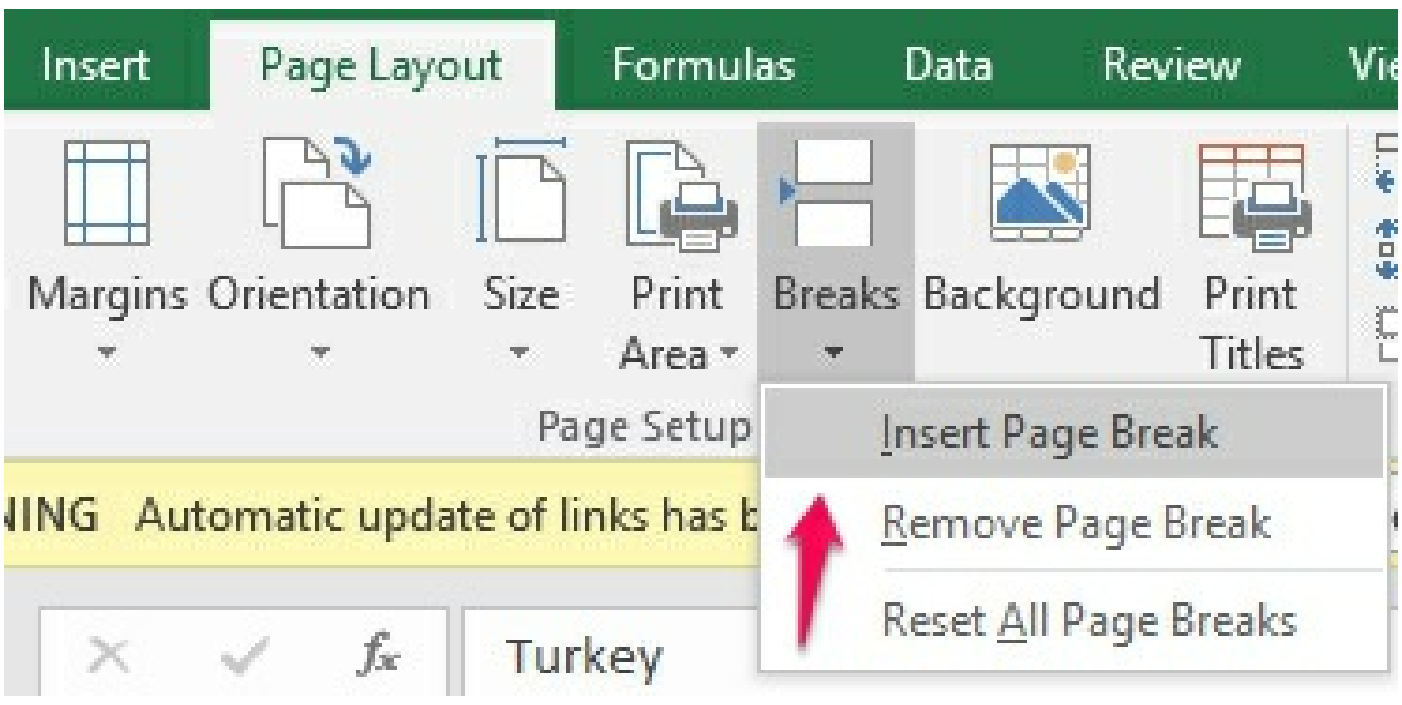
- To clear the print area, click on **Clear Print Area**

Inserting the Page Break Before Printing Excel Worksheet

The page break comes in handy when you wish to print a large volume of spreadsheets. The page break helps you determine how the data in your worksheet are split over multiple pages.

To insert a page break in your worksheet, follow the steps provided below

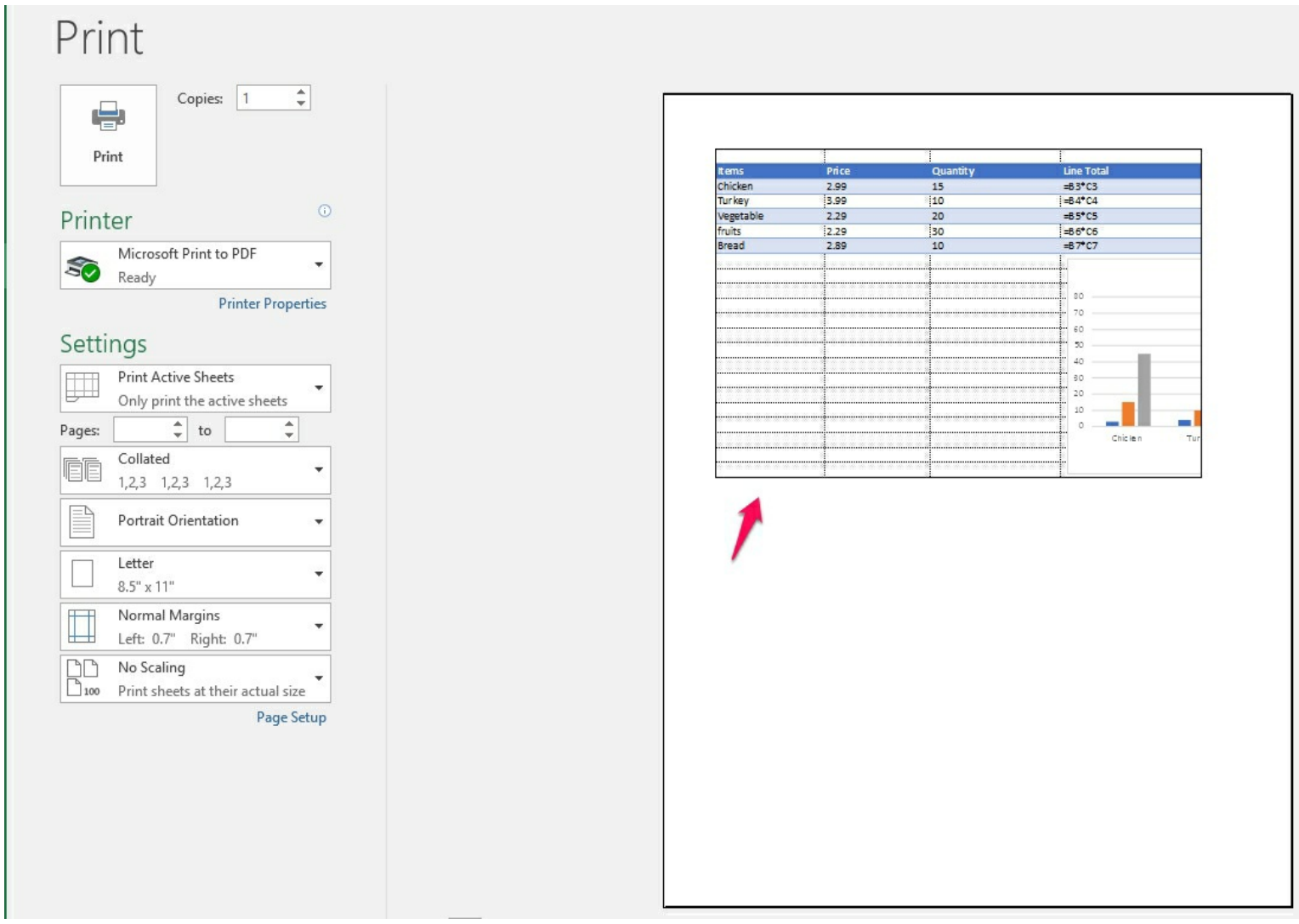
- Select the part of the worksheet you wish to print
- Go to the **Page Layout**, and click on **Breaks** in the **Page Setup** group
- In the Breaks drop-down menu, select **Insert Page Break**



Using the Preview Option Before Printing Your Worksheet

The Preview option gives you a display of how your Excel worksheet will look like before printing it out. To use the preview option, follow the steps below:

- Go to the **File** tab and click on **Print**
- On the right-hand side of the Print Panel, the preview of the worksheet to be displayed

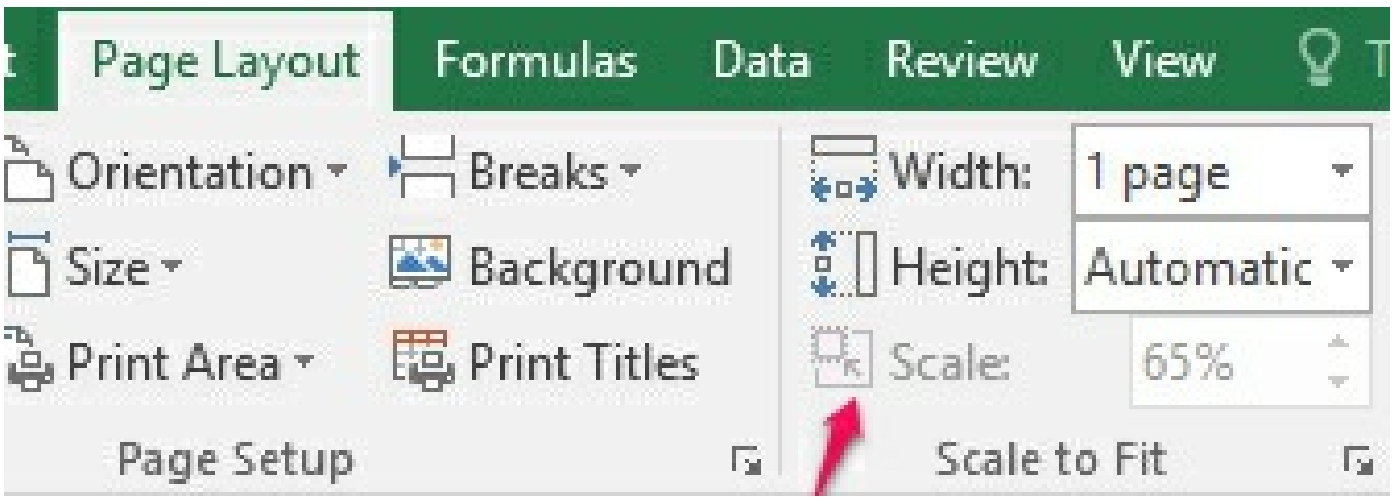


Scaling to Fit Before Printing Your Worksheet

The Scale to Fit option allows you to scale and fit more data in your worksheet on a page before printing them out. This comes in handy when your worksheet contains a lot of columns

To use this feature, here is what to do:

- Go to the **Page Layout** tab and move to the **Scale to Fit** group
- In the **Scale to Fit** group, select **1 page** in the **Width** box and **Automatic** in the **Height** box



CHAPTER TEN

EXCEL SHORTCUTS

There are so many shortcuts in Excel, however, I will be introducing you to some shortcuts that are mostly used in Excel

Editing Shortcut

Shortcut Keys	Functions
F2	**For editing cell**
Ctrl + C	**For copying cell content**
Ctrl + V	**For pasting cell content**
Ctrl + X	**For cutting cell content to another cell**
Ctrl + D	**To fill down**
Ctrl + R	**To fill right**
Alt+ E+ S	**Paste special**

F3	**For pasting the name into a formula**
F4	**Toggle reference**
Alt +Enter	**For starting another new line within the same old cell**
Shift + F2	**For inserting or edit a cell comment**
Shift + F10	**For displaying a shortcut menu**
Ctrl + F3	**For defining the name of a cell**
Ctrl + Shift + A	**For inserting arguments names with parentheses for a function after typing a function name in a formula**
Alt + I + R	**For inserting a row**
Alt + I + C	**For inserting a column**

Navigation shortcuts

Shortcut Keys	Functions
Arrow	**For moving from one cell to the next**
F5	**Go to**
F6	**For switching between the worksheet, the Ribbon, the task pane, and the Zoom controls**
Home	**To go to the beginning of a row**
Ctrl + Home	**For moving to the beginning of a worksheet**
Ctrl + End	**For moving to the last cell that has content in it in the worksheet**
Shift + Arrow	**For selecting the adjacent cell**
Shift + Spacebar	**For selecting an entire row**
Ctrl + Spacebar	**For selecting an entire column**
Ctrl + Shift + Home	**For selecting all to the start of the sheet**
Ctrl+ Shift + End	**For selecting all to the last used cell of the sheet**
Ctrl + Shift + Arrow	**To select the end of the last used row/column**
Ctrl + Left Arrow	**For moving the word to the left while in a cell**
Ctrl + Right Arrow	**For moving the word to the right while in a cell**
PageUp	**For moving the screen up**
PageDown	**For moving the screen down**
Alt + PageUp	**For moving the screen to the left**
Alt+ PageDown	**For moving the screen to the right**
Ctrl + PageUp/Down	**For moving the next or previous worksheet**
Ctrl + Tab	**To move to the next worksheet while on the spreadsheet**
Shift + Tab	**For moving cell to the right**
Tab	**For moving to the next cell**

File shortcuts

Shortcut Keys	Functions
Ctrl + N	**New**
Ctrl + O	**To open**
Ctrl + S	**To save workbook**
F12	**Save As**

Ctrl + P	**Print**
Ctrl + F2	**For opening the preview print window**
Ctrl + Tab	**For moving to the next workbook**
Ctrl + F4	**For closing a file**
Alt + F4	**To close all open Excel files**

Formula shortcuts

Shortcut Keys	Shortcuts
Ctrl + Shift + Enter	**To enter an array formula**
Ctrl + /	**For selecting array formula range**
Ctrl + ‘	**To copy a formula from cell and edit**
Ctrl + [	**For selecting all precedents cells**
Ctrl +]	**For selecting all dependent cells**
F4	**For changing the type of cell reference from relative to absolute**
Alt + =	**Sum range**
F3	**For displaying the range names**

Paste special shortcuts

Shortcut Keys	Functions
Ctrl + Alt + V+T	**Paste Special formats**
Ctrl + Alt + V+V	**Paste Special values**
Ctrl + Alt + V+F	**Paste Special formulas**
Ctrl + Alt + V+ C	**Paste Special comments**

Ribbon Navigation shortcuts

Shortcut Keys	Functions
Alt	**To display Ribbon shortcut**
Alt +F	**To go to the File tab**
Alt + H	**To go to the Home tab**
Alt + N	**To go to the Insert tab**
Alt + P	**To go to the Page Layout tab**
Alt + M	**To go to the Formulas tab**
Alt + A	**To go to the Data tab**
Alt + R	**To go to the Review tab**
Alt + W	**To go to the View tab**
Alt + Q	**To put the cursor in the Search box**
Alt + JC	**To go to the Chart Design tab when the cursor is on a chart**
Alt + JA	**To go to the Format tab when the cursor is on a chart**
Alt + JT	**To go to the Table tab when the cursor is on a table**
Alt + JP	**To go to the Picture Format tab when the cursor is on a picture**

Alt + JI	To go to the Draw tab
Alt + B	To go to the Power Pivot tab

Clear shortcuts

Shortcut Keys	Functions
Delete	For clearing cell data
Alt+ h + e + f	For clearing cell format
Alt+ h + e + m	For clearing cell comments
Alt+ h + e + a	For clearing all data formats and comments

Selection shortcuts

Shortcut Keys	Functions
Shift + Arrow	For selecting a cell range
Ctrl + Shift + Arrows	For highlighting a contiguous range
Shift + Page Up	For extending selection up one screen
Shift + Page Down	For extending selection down one screen
Alt + Shift + Page Up	For extending selection left one screen
Alt + Shift + Page Down	For extending selection right one screen
Ctrl + A	For selecting or highlighting all cells in the worksheet
Ctrl + Space	To select the whole column or row
Shift + Ctrl + Space Bar	For selecting table
Alt + ;	For selecting visible cells
Shift + Home	For selecting a range from start cell to far left
Shift + End + Arrow	For selecting a range from the start cell to the direction of the arrow
Ctrl + *	For selecting a continuous range of data
Ctrl + Shift + 0	For selecting all cells with comment
F5 + Alt +S +K + Enter	For selecting all blank cells

Data editing shortcut

Shortcut Keys	Functions
Ctrl + D	To fill down from cell above
Ctrl + R	To fill right from cell left
Ctrl + F	To find and replace
F5 + Alt + s +o	For showing all constants
F5 + Alt + s +c	For highlighting the cell with comments

Data editing (inside a cell) shortcuts

Shortcut Keys	Functions
F2	For editing the active cell
Enter	To confirm a change in a cell before opting out of that cell
Esc	To cancel a cell entry before opting out of that cell

Alt + Enter	**To insert a line break within a cell**
Shift + Left/Right	**For highlighting within a cell**
Ctrl + Shift + Left/Right	**For highlighting contiguous items**
Home	**To move to the beginning of the cell contents**
End	**For moving to the end of a cell content**
Backspace	**For deleting a character from left**
Delete	**For deleting a character from the right**
Tab	**For accepting autocomplete suggestion**
Ctrl + Page Up/Down + Arrows	**For referencing a cell from another worksheet**

Other shortcuts

Shortcut Keys	Functions
Ctrl + Z	**To undo last action**
Ctrl + Y	**To redo the last action**
Ctrl + 9	**To hide selected rows**
Ctrl + 0	**To hide selected rows**
Ctrl + Shift + (	**To unhide hidden rows in a selection**
Ctrl + Shift +)	**To unhide hidden columns in a selection**
Ctrl + ;	**To enter date**
Ctrl +:	**To enter time**
Ctrl + ‘	**To show formula**
Ctrl +]	**For selecting an active cell**
Alt	**To drive menu bar**
Alt + Tab	**To open the next program**
Alt + =	**To autosum**

CHAPTER ELEVEN
TIPS AND TRICKS

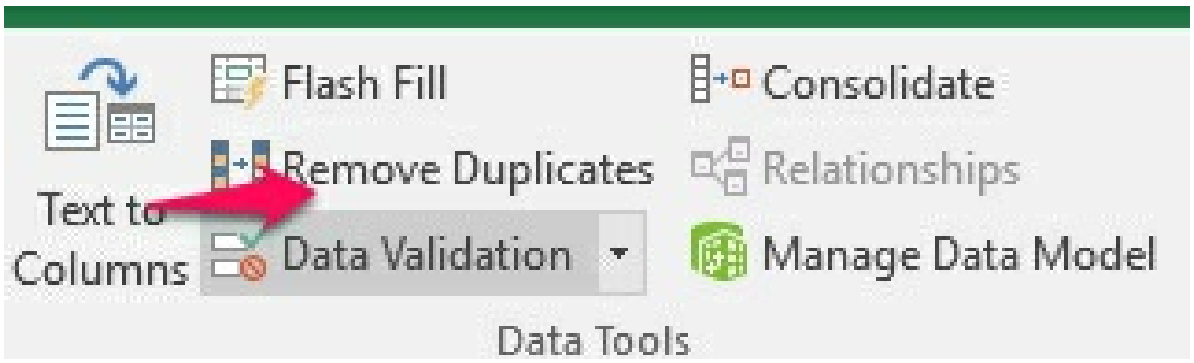
Here in this chapter, you will be learning some tips and tricks that will advance your skills in the use of Excel. These tips and tricks will also save your time and energy to carry out certain tasks.

Below are some of the tips and tricks you will be needing in the course of working with Excel

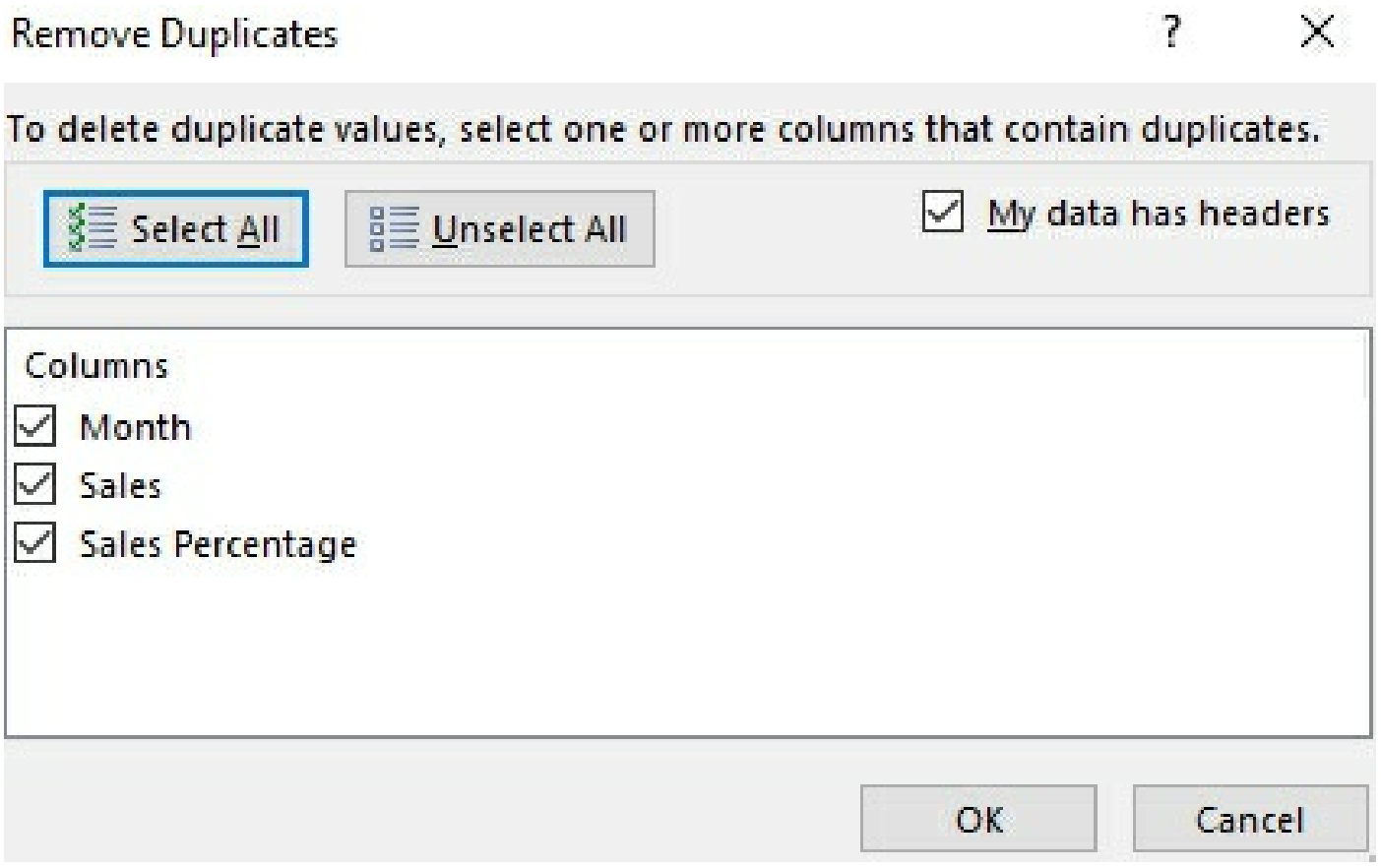
Removing Duplicates Values from Your Worksheet

While working with large data, one of the problems to face is duplicate values. To remove duplicate values from your worksheet, follow the steps given below

- Select any of the cells in the worksheet.
- Go to the **Data** tab and click on **Remove Duplicates** in the **Data Tools** group



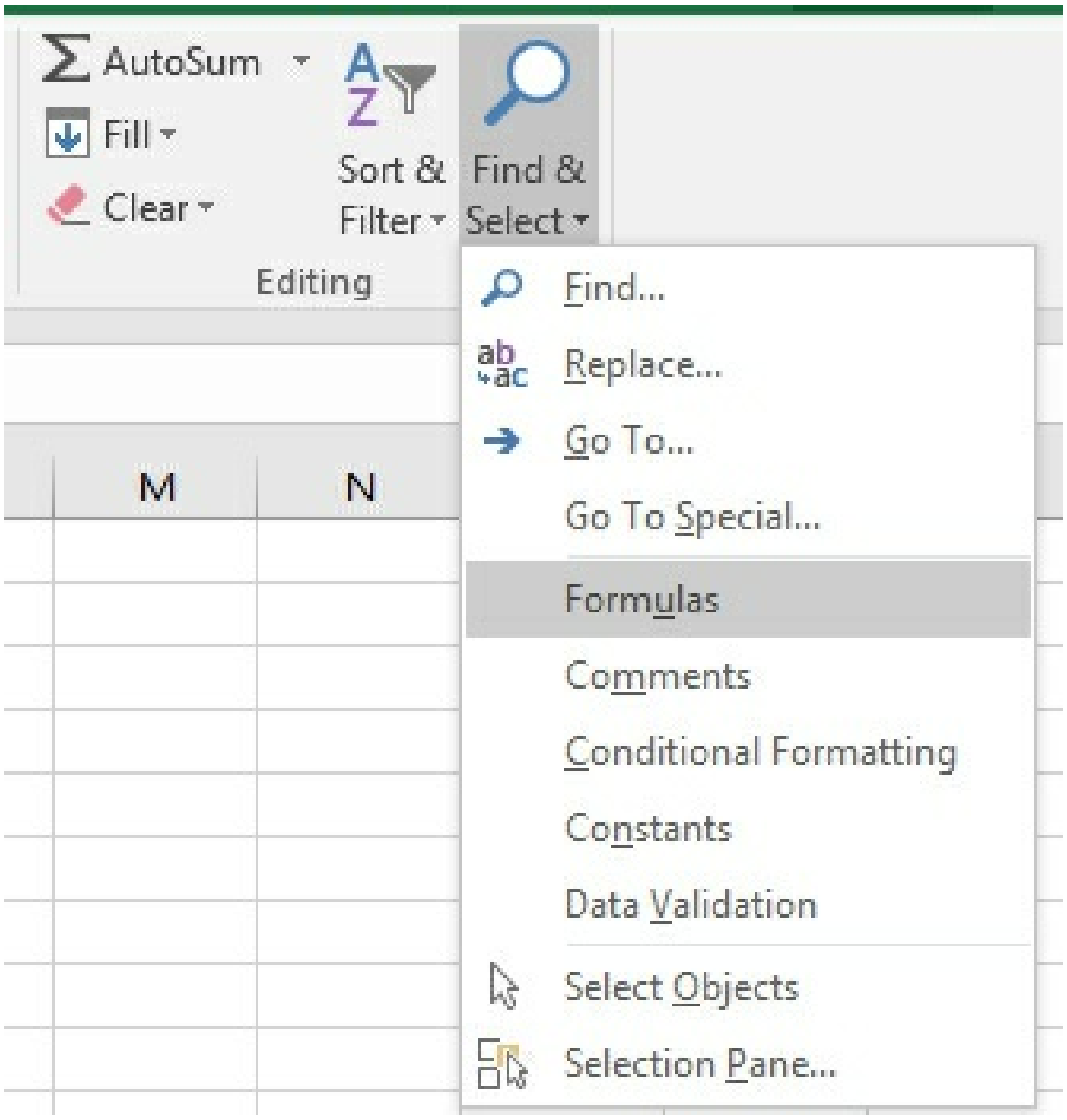
- In the Remove Duplicate dialog box, you can select or deselect the columns that contain duplicates.
- Then click on **Ok**



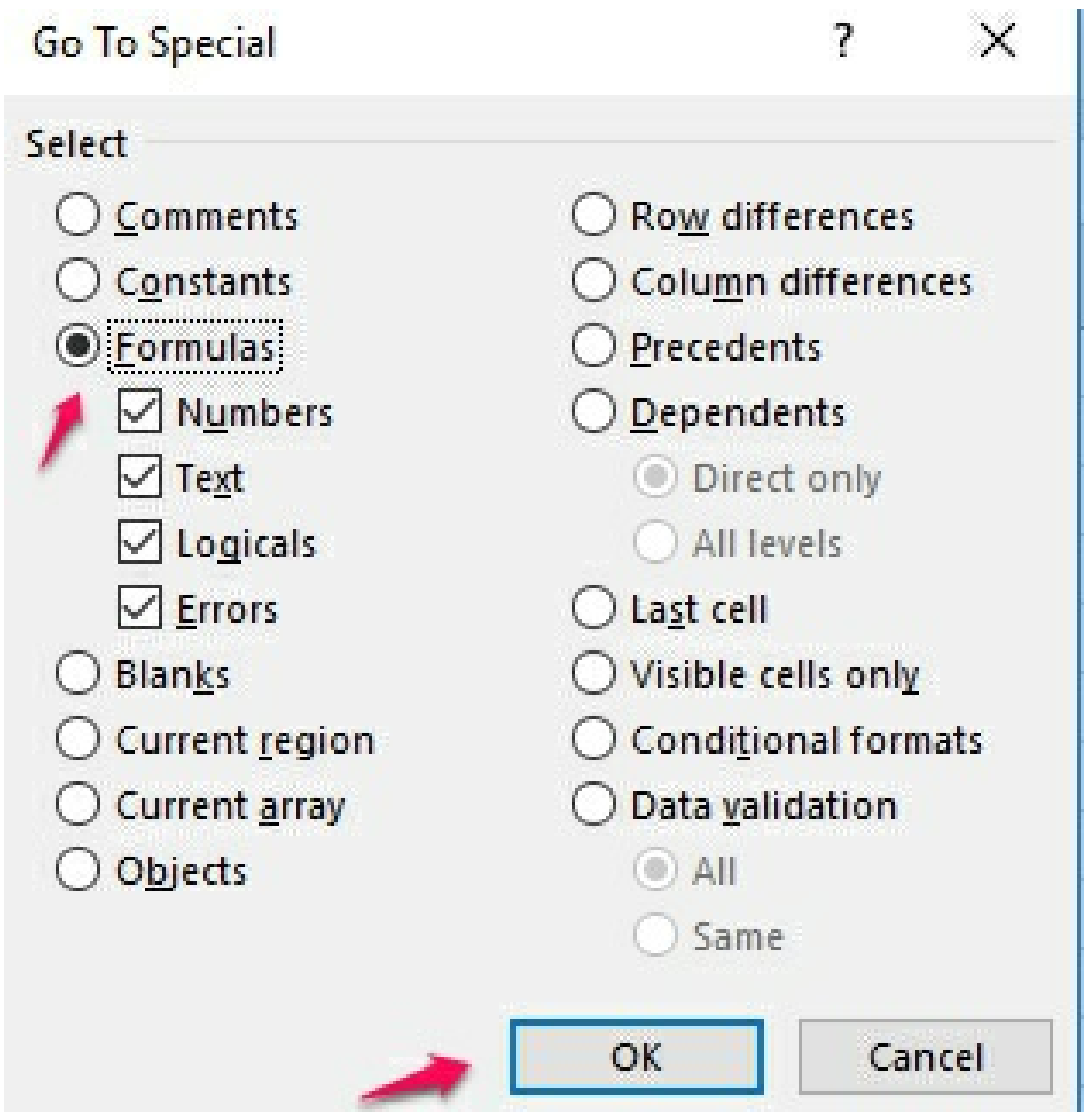
Deleting Error Cells

It is normal to have error values when working with large data. However, it is not professional to still keep them on the worksheet. To remove error cells in your worksheet, follow the steps below

- Go to the **Home tab,** click on **Find and Select** command in the **Editing** group
- In the **Find and Select** drop-down menu, click on **Go To Special**

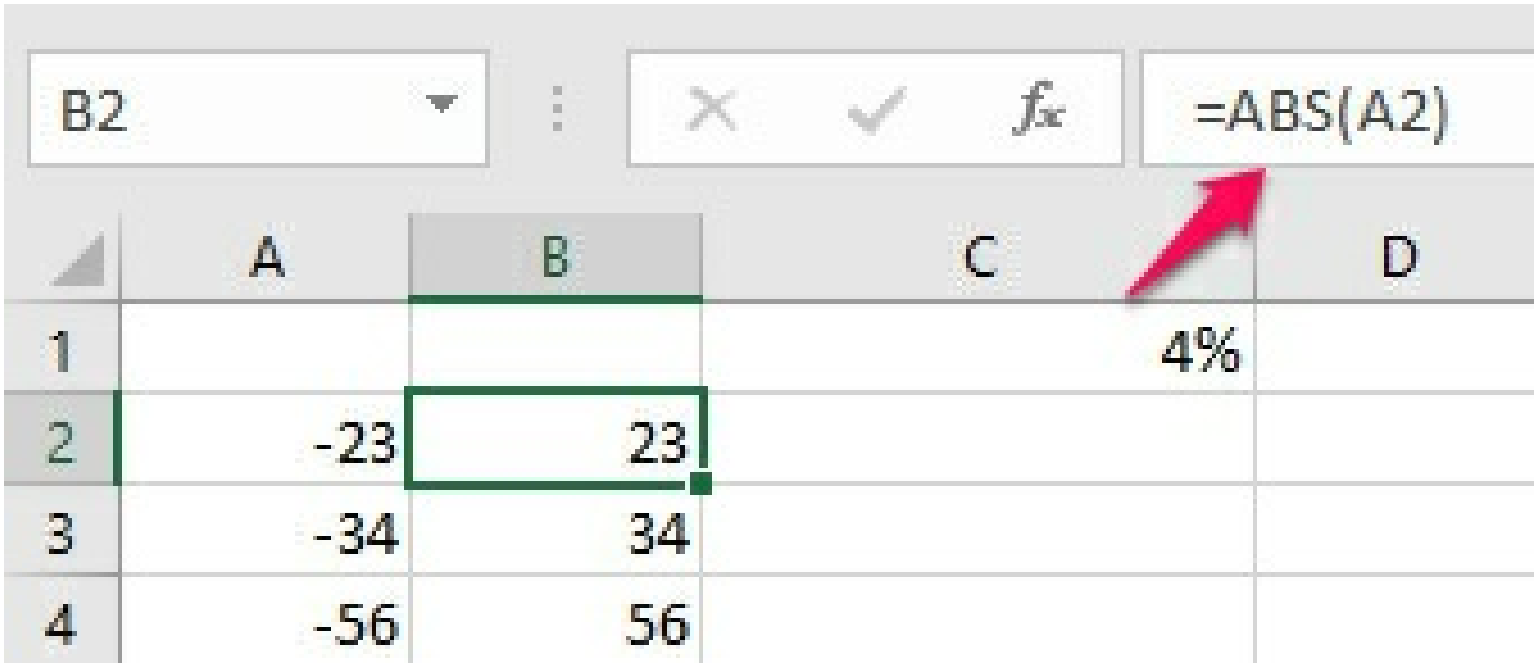


- In the **Go To** Special dialog box, click on **Formul**a, and mark the **Erro**r check box.
- Then click on **OK**. Here, all the errors in the worksheet are deleted, and then click on the **Delete** button to delete them.



Changing Negative Values to Positive Values in Your Worksheet

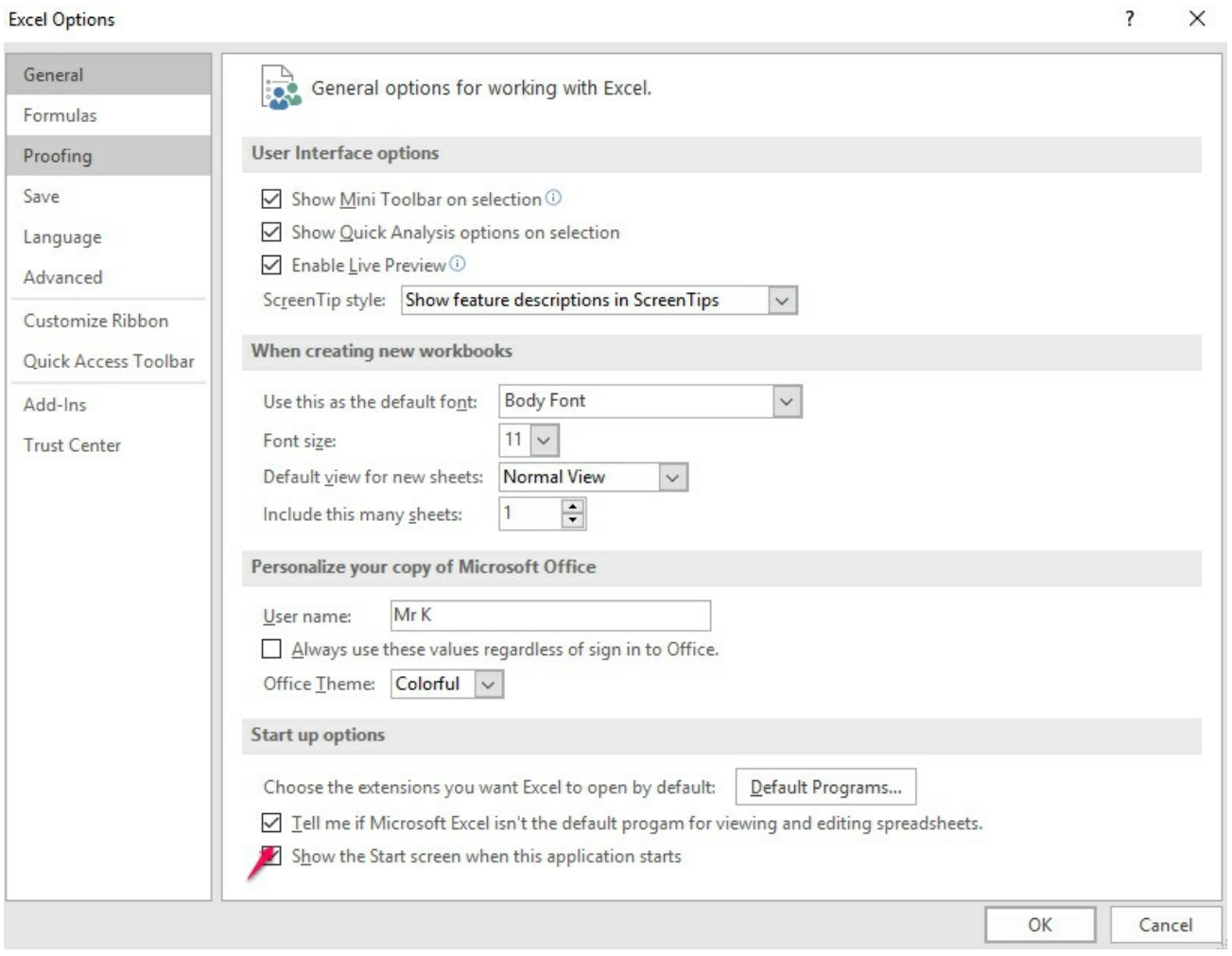
To change a negative value to a positive value, use the ABS function as displayed in the image below



Disabling the Excel Start Screen

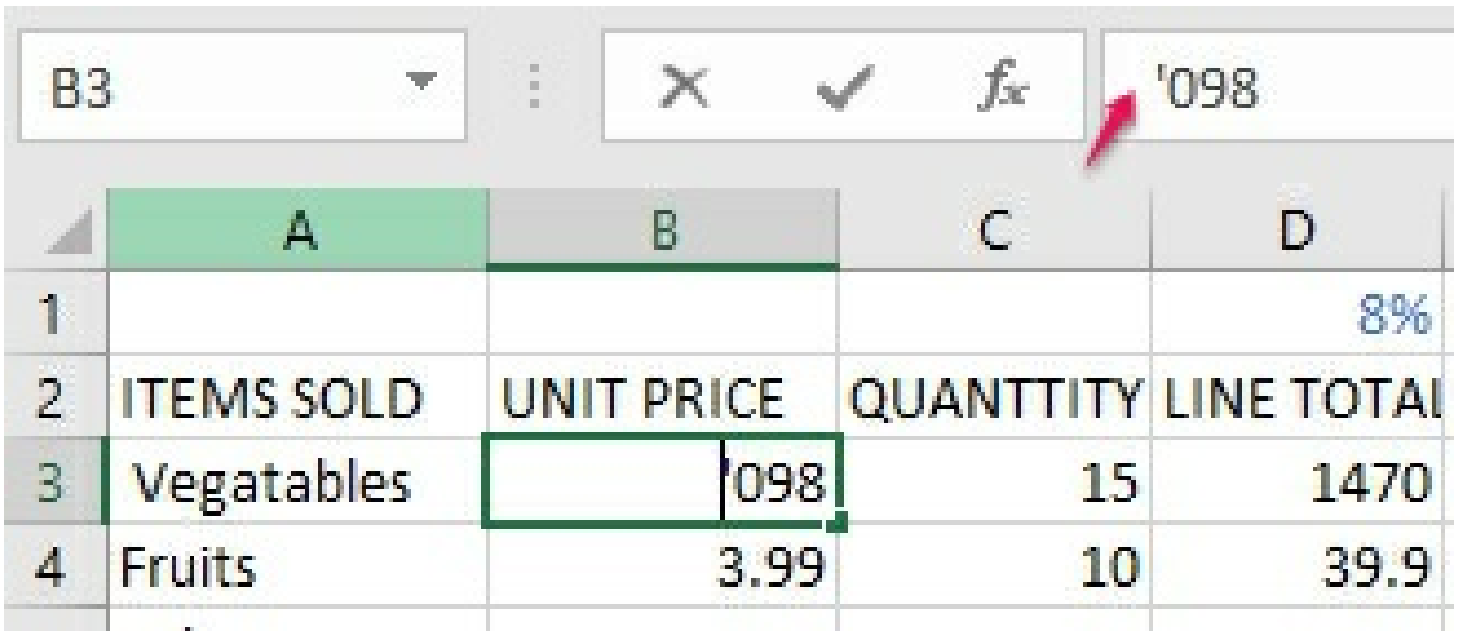
Maybe you are one of those people who don't like seeing the Excel start screen each time you open the Excel program; all you need to do is to disable it. To do this, follow the steps given below

- Go to the **File tab** and navigate down to **Options**
- In the Excel Options dialog box, go **to General**, and unmark **Shows the Start screen when the application starts** under **Start-up Options**



How to Make Excel Show leading Zero?

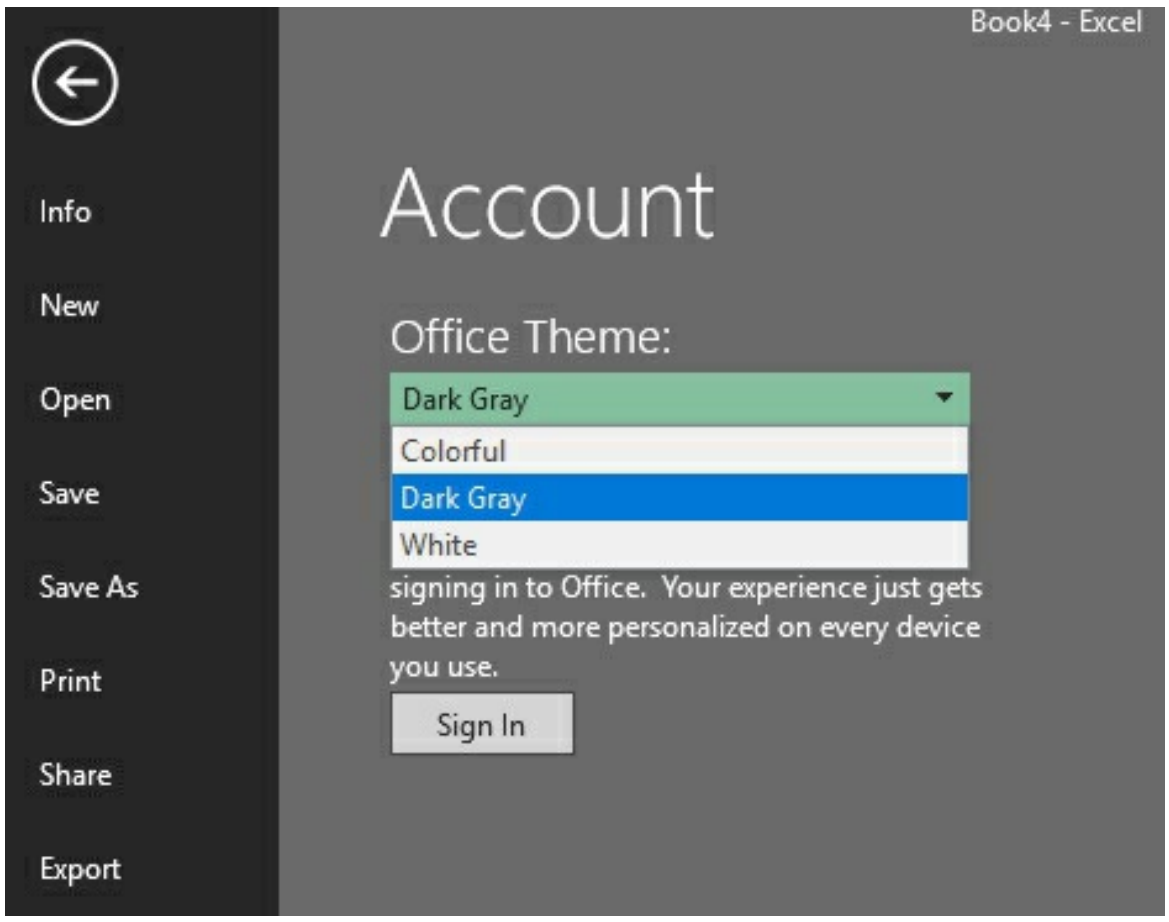
By default, when a value begins with zero, Excel removes the zero automatically. To ensure that the zero that begins your value is not deleted, enter a single quote mark before the zero



Changing the Screen Background of Your Excel Environment

To change the background screen of your Excel interface, follow the steps given

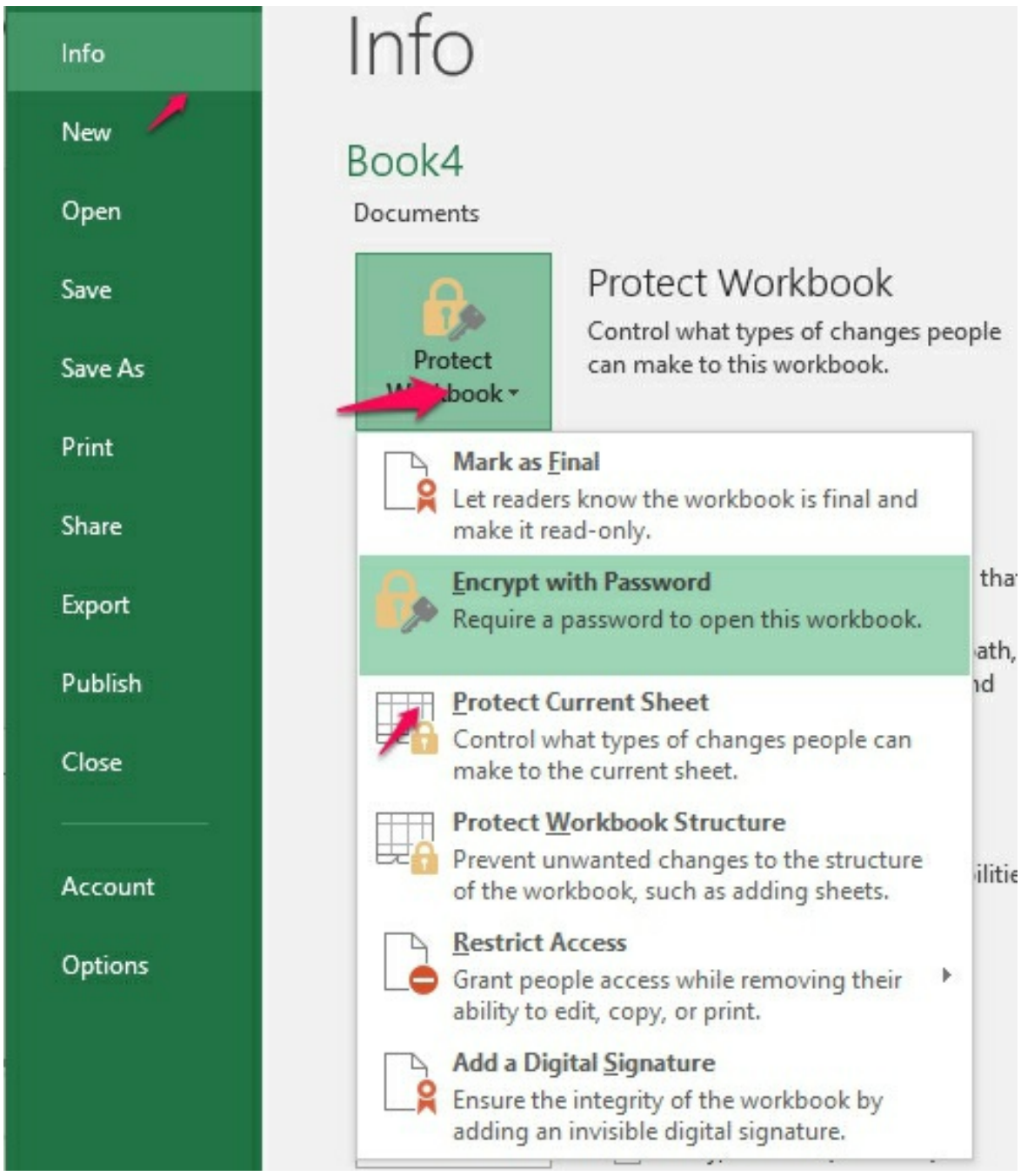
- Go to the **File** tab and click on **Account**
- Go to the **Office Theme** and choose any option in the drop-down list.



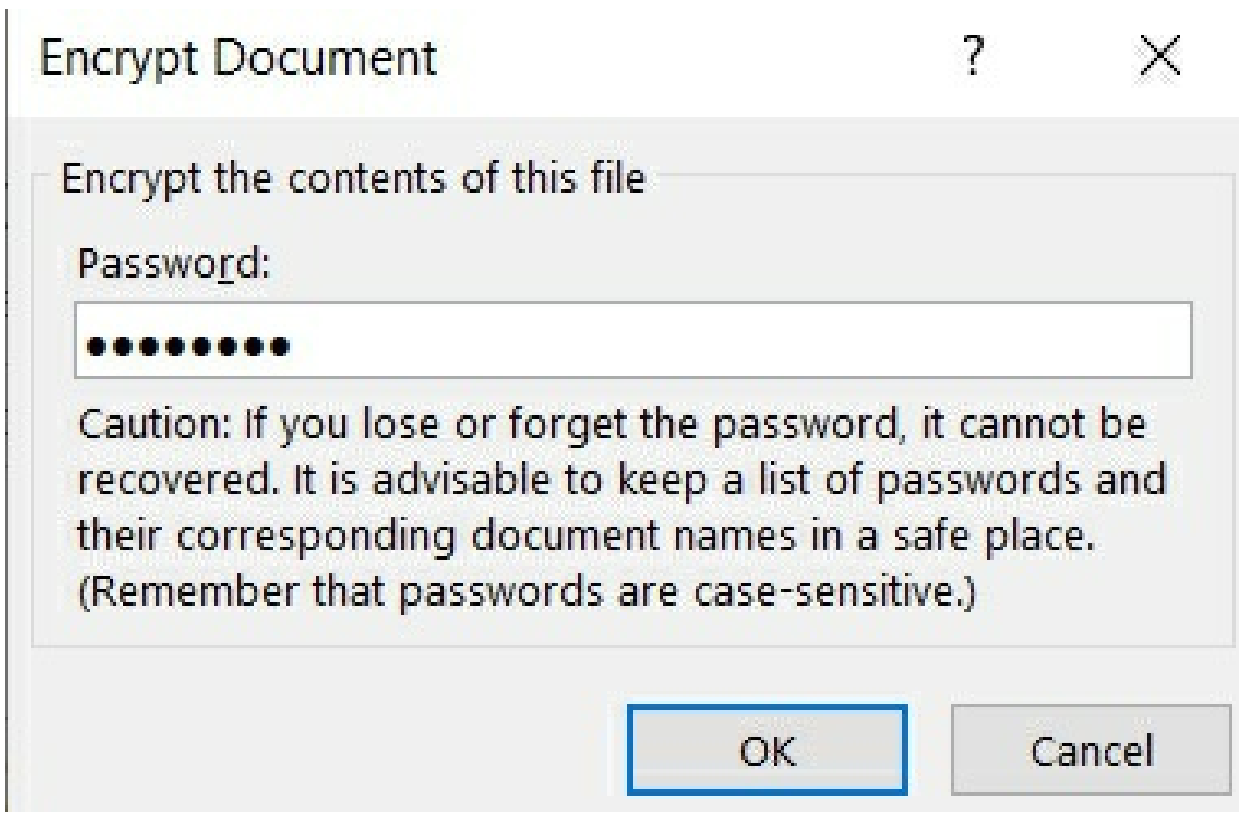
Locking a File with a Password

You can lock your file with a password to others from accessing your files. To password your file, follow the steps given below

- Go to the **File** tab and click on **Info**
- In the **Info** window**,** click on **Protect Document** button, and choose **Encrypt with Password** on the drop-down list.



- In the **Encrypt** dialog box, input the password in the **Password** text box and then click on **Ok.**



- Enter the password again in the **Confirm Password** dialog box.

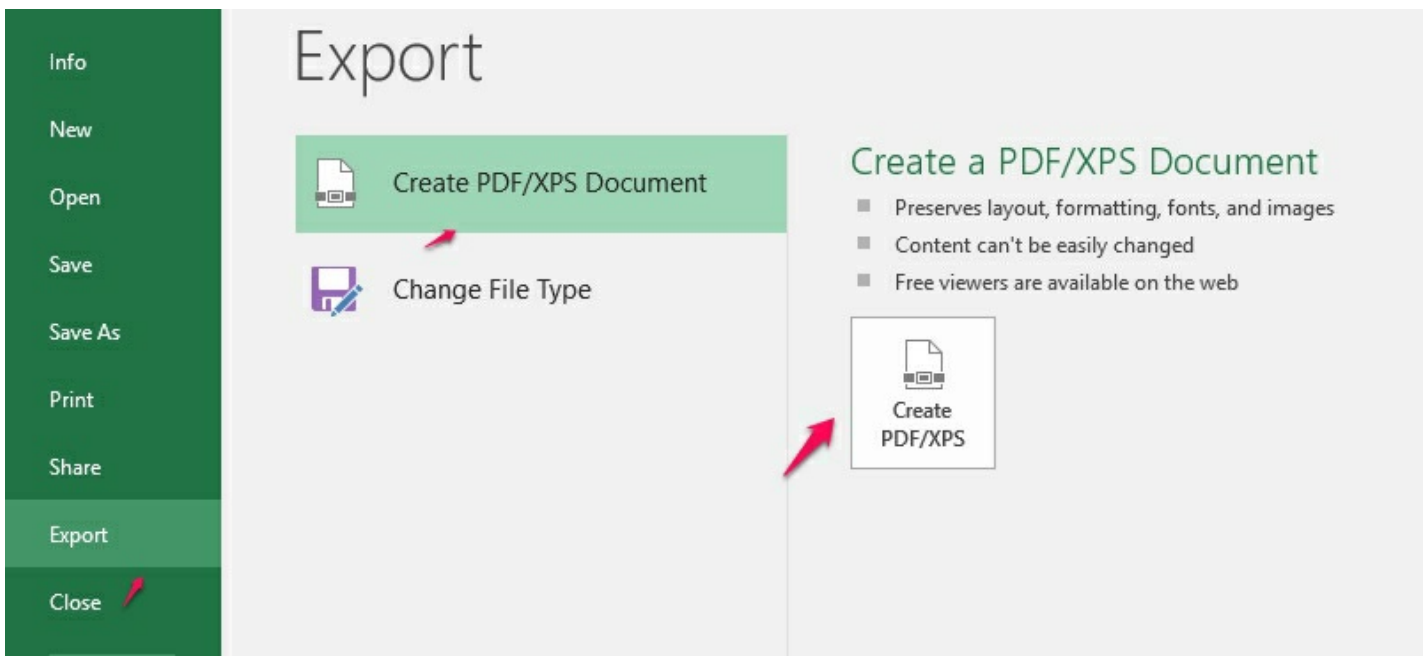
- Then click on **Ok**

Saving Excel File as a PDF

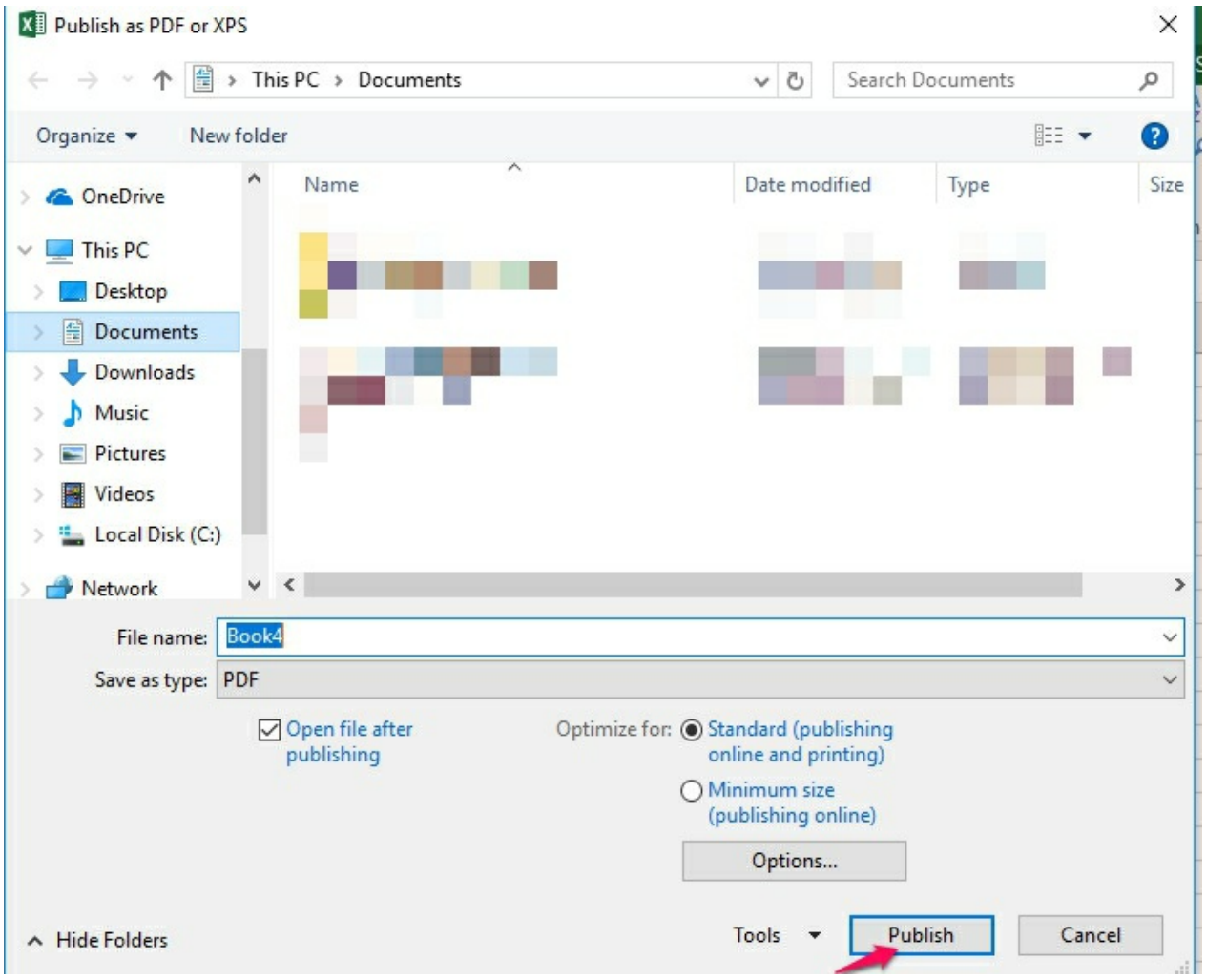
PDF, an acronym for **Portable Document File** is a file created to be displayed and printed in a Web browser and Adobe Acrobat Reader.

To save an Excel file as a PDF, follow the steps given below

- Go to the **File** tab and click on **Export** to open the **Export** window
- Click on **Create a PDF/XPS** button



- In the **Publish as PDF or XPS** dialog box appears, enter the name of the file and the location where you want to save the file.
- Then click on the **Publish** button



CONCLUSION

The use of Excel cannot be over emphazied especially in a world where the introduction of computer has led to various changes in every sphere of influence especially in the area of business.

It is therefore pertinent that as an individual who is concerned about creating impact most importantly in the workplace, should ensure he or she gets more acquinted to the use of Excel of which this guide will be of great help to achieve this purpose.

Lest I forget, don’t forget to recommend this guide to everyone around you.

INDEX