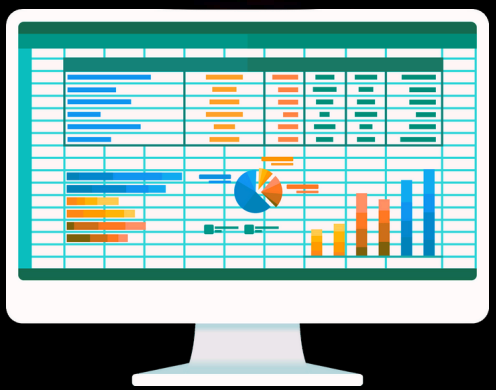
EXCEL

2025

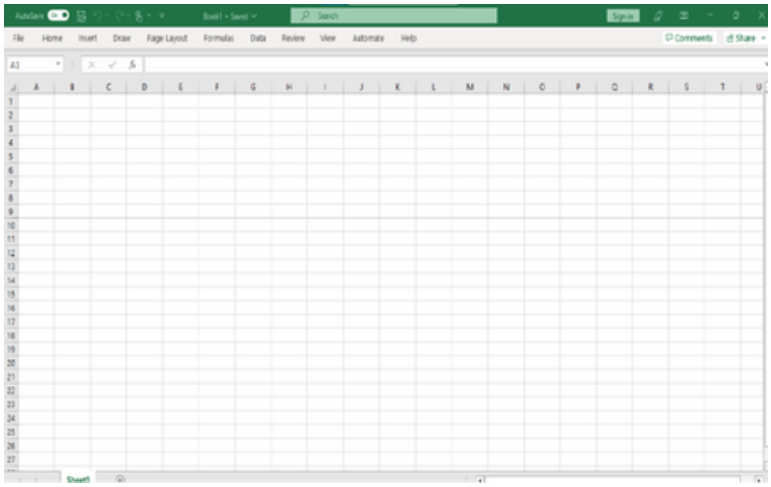
A Comprehensive Quick Reference Guide to Master All You Need to Know about Excel Fundamentals, Formulas, Functions, & Charts

with Real-World Examples



Ankit Pandey

INTRODUCTION



Microsoft's spreadsheet application Excel is part of the Office family of software used mostly for business purposes. Users can edit, arrange, and analyze data in spreadsheet by using Microsoft Excel.

Data scientists as well as other users can organize their data using applications such as Excel to make data easier to understand as details are altered or added. In Excel, there are several boxes referred to as cells that are arranged in columns and rows. These cells contain data.

What’s more? It is possible to use Excel with several other Office applications because it is part of Office 365 suites and Microsoft's Office. The spreadsheet application runs on the iOS, Android, macOS and Windows operating systems.

Excel enables individuals to turn numbers into data which can be used for a lot of purposes both personally and professionally. Excel can execute formulas and functions in addition to simple arithmetic, and with the use of Visual Basic Analysis (VBA), it may also be used to add custom macros. You will go through these features in further detail, in addition to the way Excel differs from Google spreadsheet.

There are several spreadsheet programs, but Excel is one which is most often used. It has been used for over thirty years, and during this period, it has been improved with a rising range of functions.

Excel can be used for various business functions, like business analytics, document management, stock management and invoicing, accounting, and budgeting, A few tasks it could also do for you are as follows:

- Creating charts and graphs
- Storing and importing of data
- Editing text
- Creating dashboards or templates
- Task management and a lot more.

You should first understand the three main important Excel features, which are:

Workbook

Like every other application, a workbook is a separate file.Thereis more than one worksheet in every workbook. A workbook is also described as a single worksheet or as a group of worksheets. Worksheets can be removed, added,

or hidden without being discarded from the workbook, and the ordering of your worksheets can be modified.

Worksheet

A worksheet is made up of separate cells, and each cell may contain text, a value, or formula. Additionally, it includes an invisible sketch layer that contains photos, charts, graphs, and diagrams. Selecting the button at the bottom of a workbook page would then lead you to every worksheet within a workbook. A chart worksheet usually shows a singular chart that can be accessed via selecting a button andcan also be saved in a workbook.

Cell

The smallest and most significant feature of a spreadsheet is a cell. You have the choice of inputting or copying and pasting any data into a cell. Dates, numbers, and texts all constitute data. Also, you can change its border, size, font color and background color, as well as other features. A cell's address, consisting of row number and column number, serves as a distinct identifier for every cell (If a cell is on the 13th column and row CD, the cell will be addressed as CD13).

BASIC COMPONENTS OF MS EXCEL

Cell

The address bar, which is highlighted by a rectangular box, will show the name of the currently selected cell.A cell can also be active when you click on it or use the cursor keys on your keyboard. You can use F2 or double-click a cell to change the active cell.

Columns

A column refers to a vertical cell group. A worksheet has a total of sixteen thousand three hundred eighty-four (16384) columns in a single worksheet. Each column has a unique identifying alphabet, which ranges from A to XFD. Clicking on a column's header will select that column.

Rows

These are horizontal groups of cells. There are total rows of one million forty-eight thousand five hundred seventy-six in one worksheet. From row one (1) to row one million forty-eight thousand five hundred seventy-six (1048576), each row has a unique identifier. By selecting each row number displayed on the left side of the window, you can select a particular row.

Fill Handle

In the lower right-hand corner of the selected cell, there is a small dot named the fill handle. You can input serial numbers; insert ranges, text series, numerical figures, etc. with a fill handle.

Address Bar

The address of the current cell is shown in the address bar.

Formula Bar

Below the ribbon is an input bar called the formula bar. It displays the contents of the currently selected cell and allows you to enter formulas into cells.

Title Bar

This will display the title of your worksheet followed mostly by a phrase "Microsoft Excel".

File Menu

This is a common menu that is found in every application. It includes features such as Print, Excel Options, Share, Open, Save As, and so forth.

Quick Access Toolbar

Using a toolbar called the quick access toolbar, you can easily access the functions you use the most. By adding a new command to the Quick access toolbar, you can add your preferred commands.

Ribbon

Microsoft Excel 2007 introduced ribbons as a replacement for all the command menus. Ribbon tabs are just a collection of unique selection groups, each of which also includes a command.

Worksheet Tab

This tab shows all the worksheets which are present in the workbook. By default, you will see three worksheets in your new workbook with the names Sheet1, Sheet2, and Sheet3 respectively.

The Status Bars

This is a small bar found at the bottom of an Excel window. When you start using Excel, this will offer you immediate assistance.

MICROSOFT EXCEL: A QUICK GUIDE

Microsoft Excel is a spreadsheet application being used for keeping records and analyzing statistical data. Envision a spreadsheet as a collection of data tables with rows and columns. Numbers are assigned to Excel rows and alphabet to columns respectively. Cells are found at the intersection of a row and a column. Numbers specify a row and alphabetical letters specify a column, and together they provide the address of a cell.

In a many ways, everyone works with figures. Everyone has everyday needs that they must meet from their income. The ability to differentiate your personal earnings versus expenses is important to spend money properly. When we want to collect, evaluate, or save such numerical information, Microsoft Excel becomesauseful tool.

In Microsoft Excel, a workbook is different from a worksheet. Worksheets are collected in a workbook. A workbook by convention has 3 sheets to meet your needs; you can add
more sheets or remove the sheets. The titles of the sheets by convention are Sheet1, Sheet2, Sheet3, etc. The sheet labels can be edited to more specific words, such as everyday expenditures, weekly expenses, annual budget etc.

A worksheet consists of columns and rows and cells are formed when a column and a row intersect. Also, data is recorded in cells. Every cell is

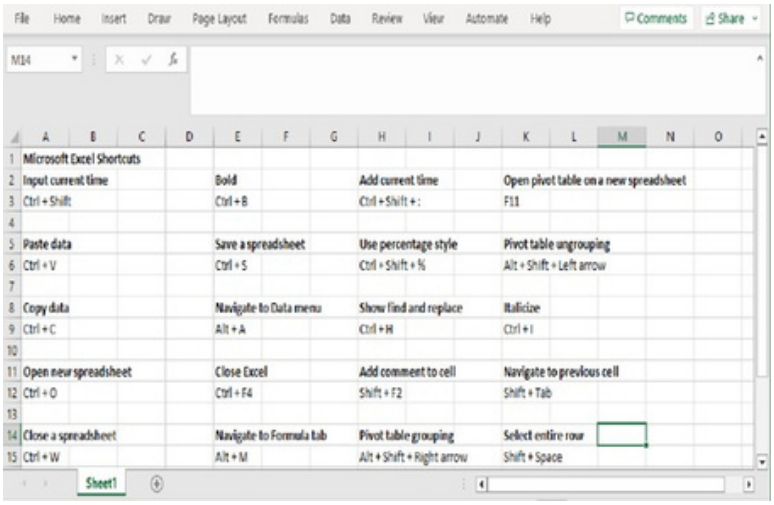
represented with a cell address (rows are commonly labeled with numbers while columns are in letters).

Microsoft Excel: Where can I get it?

Microsoft Excel is accessible in several ways, such as:

- Microsoft Excel can be downloaded from the Microsoft website where the license key must be purchased first.
- It can be purchased in a hardware computer store.

Microsoft Excel Shortcuts



	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	Microsoft Excel Shortcuts														
2	Input current time				Bold			Add current time			Open pivot table on a new spreadsheet				
3	Ctrl + Shift				Ctrl + B			Ctrl + Shift + :			F11				
4															
5	Paste data				Save a spreadsheet			Use percentage style			Pivot table ungrouping				
6	Ctrl + V				Ctrl + S			Ctrl + Shift + %			Alt + Shift + Left arrow				
7															
8	Copy data				Navigate to Data menu			Show find and replace			Italicize				
9	Ctrl + C				Alt + A			Ctrl + H			Ctrl + I				
10															
11	Open new spreadsheet				Close Excel			Add comment to cell			Navigate to previous cell				
12	Ctrl + O				Ctrl + F4			Shift + F2			Shift + Tab				
13															
14	Close a spreadsheet				Navigate to Formula tab			Pivot table grouping			Select entire row				
15	Ctrl + W				Alt + M			Alt + Shift + Right arrow			Shift + Space				

- F2 Verify the formula and the cells represented.
- SHIFT + F11 to open a fresh spreadsheet.
- The function add dialog box is opened by clicking "SHIFT + F3".
- Paste data from notepad using "Control + V".
- Use "Control + C" to copy the existing selection's contents.
- The existing worksheet is saved with "Control + S".
- A new worksheet is opened using "Control + N".
- To display the print dialog box, use "Control + P".

History

Microsoft Excel was created by the Microsoft Corporation early nineteen eighty-five (1985). Excel is a widely used spreadsheet application that separates data into rows and columns which may be altered through the application of formula, allowing the program to perform mathematical operations on the data.

The Lotus Development Corporation initially launched Lotus 1-2-3 in nineteen eighty-two (1982), so it rapidly became an accepted standard for personal computers running Microsoft's MS-DOS computer system. The original prototype of Excel was a competitive spreadsheet created by Microsoft and it was made accessible in nineteen eighty-five for the Macintosh computer made by Apple Incorporated. The new system gained prominence immediately due to its speedy processing and stunning visuals. Excel was able to expand in popularity among Mac users since Lotus 1-2-3 was not accessible for the platform.

In 1987, Microsoft introduced the next version of Excel, which was the first to function on the company's private label Windows operating system. The reliable software's user interface's emphasis on graphics helped it gain popularity immediately.Excel was eventually able to overtake Lotus as the industry standard in the middle of the 1990s because Lotus took a bit longer than expected to release a windows version of its spreadsheet, which allowed Excel to increase its market share.

With the advent of more automated functionalities, various shortcuts, 3-D charts, sketching, outlining, and toolbars, Excel gained significant improvements in early stages. Microsoft modified the naming convention for Excel in 1995to highlight the original year of the product’s debut. The 32-bit machines which used the 386 Central processing unit from Intel Corporation were made with Excel 95 in view. Excel 97 and Excel 99 both saw the launch of new versions of Excel 2000.

A major emerging feature which enables consumers to restore Excel data in case of a system crash was introduced in the Office XP suite's Excel 2002, which also was launched in 2003. Minor upgrades, like the functionality to extract data from all other software, was included in Excel 2000 and 2003. Excel's functionality increased to approximately a million rows and sixteen thousand (16,000) columns when it changed to the Ribbon layout in 2007.

Excel 2010 made some improvements to the Ribbon user interface and pivot tables. Some new tools included in Excel 2013 enabled users to create intricate data models.

The Forecast Sheet component and the capability to display data on a 3D landscape was introduced to the system's revamped version in 2016. Various new functions such as keyboard shortcuts, doing calculations, funnel charts, map charts, as well as other additional features were all included in the upgrade that occurred in 2019. As a result, since its formal launch, Excel has

evolved from a basic simple spreadsheet application to a multifaceted program with a wide range of useful functions.

How does Microsoft Excel Works?

Spreadsheets are used to track, organize, and store data sets using functions and formulas in Excel, a versatile data visualization and reporting program. In addition to many other professions, Microsoft Excel is utilized by data analysts, data scientists, accountants, and marketers.

The Microsoft Office software family includes Excel.Excel provides effective tools for analyzing and reporting numerical data that has different uses in a wide range of industries. Calculations are the program's most basic and noticeable use. Excel allows you to create alternative options, analyze how they operate using different components, and obtain the numerical results of complex calculations.

With the use of histogram, bar graphs, charts and graphs, this software also allows you to represent analytical models and data graphically. Excel is an effective statistical tool since it has features like multivariate analysis, linear and polynomial fits, standard deviation, mean and error range in graphs, etc. Thus, this application is far more than a table with just an advanced installed calculator.

In a business setting where complex calculations and budgeting are extremely necessary, Excel has also found usage. For instance, this application is indeed

the appropriate software for setting and maintaining track of user databases that can be used for brand awareness.

Excel can also be utilized to organize events as well as other commercial transactions by creating a table with the activities that need to be done and the personnel who will execute them. Due to a variety of effective features with automated computations, this application also serves as an effective tool for maintaining a budget, because doing so saves a lot of time and reduces the chance of making mistakes. Excel is an essential tool in several fields due to its broad range of applications.

Features of Excel

Microsoft Excel includes a wide range of features, including graphical, functional, dataset, and other features.

Graphical Features of Excel

Various graphical tools can be used in Excel to display data as images and graphs. The following are examples of graphical features of Excel:

Pictures

Users can add any picture to the files to enhance their data; Backgrounds of worksheets, charts, and shapes are a few examples.

Shapes

To exhibit the data in shapes and info graphics, a variety of shapes are available. With the help of the free form characteristics, you may make any shape.

Clip Arts

To present a visual message, we can add readily available clip arts.

Smart Arts

You can also use Smart Arts to graphically connect data in different ways to display information.

Charts

Charts are really a great way to present data in a comprehensive graphical style.

Functional Features of Excel

Users can execute difficult computations with the use of Excel features and tools that also improve Excel's functionalities.The following are examples of functional features of Excel:

Conditional Format

Data can also be formatted in accordance with certain criteria using conditional formatting. This enables you to view the important data range.For data analysis and ETL, Excel has a large collection of add-ins.

Functions

There are over three hundred (300) installed formulas in Excel Cells, which includes formulas for String, Math, Date, Text, and more, that can be used to carry out variety of calculations.

Hyperlinks

To efficiently navigate in between various sections of the dataset in Excel, use hyperlinks.

Spell-check

The installed spell check function can be used to prevent spelling and grammatical mistakes in the dataset.

Add-ins

To increase the function of a spreadsheet, you can create .NET or Visual Basic Application (VBA) add-ins for Excel.

VBA Macros

Excel has Visual Basic Application programming that is used in VBA macros. You may automate repetitive work by using macro features.

Dataset Features of Excel

You can create datasets and execute a range of data processing tasks with Excel. The following are examples of dataset features of Excel:

Slicers

This enables you to connect several pivot tables and analyze information with buttons; this was introduced in Excel 2010.

Pivot Table

To efficiently create cross tables with summary data, use pivot tables.

Tables

You can arrange rows and columns using child and parent records. As a result, it will be simple to launch a short investigation.

Grouping

The columns and rows can be grouped through child and parent entries.

Sorting

Data can be sorted in Microsoft Excel. Data can be arranged using a column or more in either descending or ascending order.

Filtering

Excel allows you to filter data. A variety of choices can be set to filter only the most important options. Microsoft Excel has a function called Advanced Filtering that enables you to execute more complicated filters.

Database

Excel can be used as a database to upload a million records. Youcan load data into Excel via connecting to various databases.

Data Validations

You can maximize the kinds of information which can be entered into a cell using the data validation feature. In addition, you can display a drop option which you can select from a specified set of choices.

Other Microsoft Excel Features

Other features of Microsoft Excel includes:

New Data Types

Geography and Stock are the two new kinds of data that was introduced in Excel 2019, which can be used to connect online data to your spreadsheets. To improve analysis and reports, you can add specific business-related data into your spreadsheets. In your spreadsheets, you can connect demographic as well as other data about states and cities by using geography kinds of data.

Most business professionals now include data in business spreadsheets; however, they do not want to spend time searching for it or entering it manually. Geography and Stock data types provide easy and quick access to this data. These two major data types improve Excel's accuracy and effectiveness as a result.

Six New Features

The six new features that were introduced to Excel 2019 were well-liked by many users.Here are the six brand-new features in Excel 2019: SWITCH, IFS, TEXTJOIN, MINIFS, MAXIFS, and CONCAT.

Filtering Pivot Tables Using Timelines and Slicers

Now with assistance of a screen graphical object called slicers, you can quickly filter data in several columns in your pivot tables. The date type in the Data Model can serve as a filter for pivot table data graphically using a timeline.

Quick Analysis Tool

The Quick Analysis tool for worksheets is accessible in the bottom corner of every selected table. With this tool, it is feasible to add values to columns or rows, create a pivot table or chart, and use conditional formatting for data in the chosen table.

Recommended Pivot Table

Microsoft Excel users now create pivot tables, when it involves creating them for data sets uploaded into data tables and data lists imported from separate database management systems. Simply place the cell pointer in a cell of the data list and choose “Insert” and select “Recommended PivotTables” from the Ribbon. The Recommended Pivot Tables will then open, showing a list of several pivot tables that you can create on a new worksheet in the existing Excel workbook by selecting the “OK” button.

Office Add-ins

By using Office Add-ins, users can extend function by installing a selection of customized mini programs also known as applications that are accessible

from the Office Store directly from inside the application.

Detailed Record of a Cloud File

It is straightforward to save and update your preferred spreadsheets on your Firm's SharePoint website or OneDrive using the Excel Save and Open screens. Excel's AutoSave Feature saves all your edit updates to the workbook files as you operate when you manually save a workbook file to the cloud. By selecting the newly added Model History button which is located close to the Share button on that same row also with Ribbon tabs, you can view all previously created versions of the document and copy or restore them.

If you store your workbooks in any of these cloud-based storage services, you can view them through any device that runs Excel and from anywhere.

Additionally, youcan also review and update your workbooks via Excel online, which is easily accessible using basically all major web browsers, when you do not have access to a PC to run Excel.

Integrated Data Model

When you import datasets from separate database management programs and create data sets in Excel, you can create one-to-one and one-to-many connections. Data generated from any of these columns can be included in the Excel charts and pivot tables that you generate due to the links between the data lists and tables in the data model.

Simple options for file sharing

Using Excel to share data and co-author worksheets with coworkers has never been easier or possibly more successful.It is easier for you to share by using Excel online because a Share button is available, and it is located at the top right of the rows with Ribbon bars in the worksheet view. You can present workbooks which are saved on your OneDrive in the cloud via Skype meetings and publish them to social internet sites in addition to inviting others to view and edit them.

Why Should You Learn Excel?

Excel is a versatile spreadsheet and data analytical tool that includes numerous features. A fast and effective method of learning Excel will be to take an online Excel course. Although there are four major advantages of learning Excel for your job, as well as reasons you should learn Excel.

Your worth in the employment market increases when you learn Microsoft Excel. Since Excel is used in various ways, employers always place a high priority on this skill. Taking Excel classes will teach you more advanced tools for using the software that will make you stand out in the employment market.

Microsoft Excel is used in many different situations, such as:

- Making plans for employees.
- Budget management.
- Keeping records of expenses and income.
- Taking note of inventories.
- To present data, create dashboards, info graphics, and charts.
- Microsoft Excel training increases your productivity.

Your ability to finish a range of projects and jobs efficiently will improve as your Excel skills improve. For instance: Data can be easy to understand through adding a template to a group of cells or a cell depending on predetermined criteria using conditional formatting. You can track and manage trends in a large dataset and use the information to guide business strategies by using charts and pivot tables.

Proficient Excel skills are vital for several roles in the finance sector. In addition to the financial management system, accountants will need Excel. Excel is commonly the primary tool used mostly by financial analysts when executing financial modeling. Business analysts can use Excel's analytical and reporting tools to enable them to make more effective business decisions.

Excel skills are also useful for contingent workers. Journalists usually handle a lot of data, and Excel can help them do it effectively. Excel is a tool that marketers can use to manage clients at different points in the purchase process. Excel can also be used by freelancers to keep track of their work, money, and time.

To be relevant in today's business environment, every business must expand and advance. Offering development initiatives that allow employees to keep abreast with the latest technologies and do respective jobs as effectively as possible is one option to differentiate yourself from your competitors and boost profitability. Employers can protect their employees, one of their most significant assets, by investing in ongoing promotion and training.

Skilled employees work to maintain their position in the organization and seek challenges. Employers can boost employee continuity by offering them the continuing training they need to be as efficient as they desire, minimizing turnover of employees as well as the risk of losing the best staff to competing companies. These training and learning programs frequently include Excel for Businesses as a part of their modules.

Most jobs within an organization can benefit from and utilize a few key abilities that are the subject of advanced Excel learning. When you stick to a course, you will become more skilled at using Excel. The advantages of receiving Excel training include the following:

- Assess, manipulate, and visualize data.
- Write formulas which will enable you to present additional details on crucial business operations, such as inventory levels and utilization, budgets, financial estimates, project efficiency and workflow.
- Create a data set that is easy to understand so that management staff can easily examine current initiatives or conditions in the organization.

- Create spreadsheets with integrated data structure and visualization of the inputted information.
- Study and comprehend spreadsheets and data from various customers, suppliers, and organizations.
- Through being able to analyze data at a more complex level, one can provide solutions to issues that affect the organization.
- Complex economic and inventory accounting must be balanced, organized, and maintained.
- Design tracking software for various tasks and departments, with consideration for diverse workflow processes.
- Advanced Excel training will not just give companies more professionally skilled employees, it will also give employees the skills they must function better in their current jobs and prepare them for promotional offers to senior positions.

Whenever you are dealing with huge amounts of information and calculations, Excel is a vital tool for boosting productivity and enables employees to be more effective. Your ability to make use of Microsoft Excel's most complex capabilities comes by a better understanding of the application that allows you to finish jobs and execute data analysis more effectively. Additionally, you will be able to keep your team members abreast of new information that will speed up the workflow process.

The skill to optimize your calculations will be much stronger when you have extensive Excel knowledge. Calculations that need to be repeated regularly take a lot of time, particularly if accuracy is needed. Users can make calculations that are more difficult by using Excel's more sophisticated tools. Whenever a formula is created and each defined function has been written, the software will execute each of your calculations, allowing you to work on

some other projects and ensuring that such data you receive is correct the very first time.

Benefits of Excel

Microsoft Excel has a lot of benefit, and these benefit is as follows;

Microsoft Excel is Available via Mobile Apps and Online

Even though Microsoft Excel provides a web edition and many organizations are switching to the cloud nowadays. It contains a huge number of functionalities, including functions such as, pivot charts, and pivot tables, like the desktop version.

Data Can Be Stored with Hundreds of Rows

Excel has a limitation on the number of columns and rows, but data isnotlimited. Due to this, Microsoft introduced Power Pivoting, a tool which enables you to save data in a spreadsheet with millions of rows and then do calculations in it.

Clean and Analyze Data

If you often deal with data, you will experience various circumstances which will require you to manage dirty data that needs to be cleaned before use. It is

time-consuming and requires a large amount of effort to transform and clean data. Microsoft created the power query, which is a data transforming and cleaning engine, for addressing this issue. With power query, you can import data from various sources, transform, and transfer it back into the spreadsheet.

You Can Automate with Coding

Microsoft Office includes its own programming language known as Visual Basic for Applications (VBA), which enables you to manually create code foryourregular task in Excel. Using a VBA code, you can automate every task, from basic (bold text) to the advanced (create pivot table).

A Variety of Freely Available Templates

The ability to create templates and dashboards in Microsoft Excel is just one of its best-known features. You can use a variety of free layouts which are available to be downloaded. Excel Templates for Free to get started includes Expense Tracker, Sales Template, and Inventory Template that includes Formulas.

Printing of Report is Easy with Excel

However, if you love preserving trees, there may be a point when you will have to print reports either to present to someone or share with others. You can alter the orientation, paper size, margin, and other printing settings in

Excel. Whenever you want to print a report, there are a ton of options you can utilize for page setup.

Using Charts to Create Data Visualizations is Simple

You can represent your analytical results by using Excel's various charting tools. With only one click, you may enter each of the important types of charts you need for your data presentation.You can view all charts that are available by navigating to the “Insert” tab and choosing the preferred chart.

Furthermore, there is an option named "recommended charts" which you can apply, and Excel will recommend the ideal chart to apply for your data visualization.

Additionally, you have the choice to make complex charts by using various techniques and methods when you feel that you need anything different from the standard charts. You can also design in-cell charts to keep your data simple for anybody to understand.

Excel Has All Data Analysis Tools.

Excel’s major aim is to interpret data and draw inferences from the data. The good thing is that Excel possesses a few of the most effective tools that are available for data analysis. Assuming you have data comprising hundreds of rows; you could use a pivot table to make a summary table from that data.

By creating pivot table, users can carry out the following kinds of data analysis:

- Running overall column
- Addition of date timeline
- Column ranking
- Conditional formatting
- Date grouping in a pivot table.

You can Calculate with Excel

Excel's ability to calculate is what differentiates it from other spreadsheet programs. You can perform all your calculations by using a wide range of functions in Excel. An Excel function is mainly a pre-written equation which, when used with the data you entered, it generates a particular result. In addition, you can make your personal formulas by merging two or more functions together or merely by doing math with operators.

Best Method for Storing Data

Even if you have never used the tools or options it offers, Microsoft Excel is the most effective way to save data.

TIPS TO USE EXCEL TO INCREASE PRODUCTIVITY

Excel is used by many companies globally to complete a wide range of tasks. Excel may be used for anything from basic analysis of data to complex activities such as creating notes, recording sales, managing inventories and more. It offers a grid interface which enables users to arrange and manage various kinds of data according to their preferences for structure and design.

Microsoft Excel has a lot of tips and features that you can use to improve your productivity, although most users think that it is merely an application for numbers. Ways to use Microsoft Excel to increase your productivity includes:

Using the Keyboard Shortcuts for Excel

If you are not familiar with the appropriate keyboard keys, switching between Excel documents and sheets might be a problem. For instance, click "Ctrl + F1" to hide the ribbon whenever you need a lot of space.

UsingQuick Average, Minimum, Maximum and Sum

Using "Command + Shift + T" on a MacBook or "Ctrl + Shift + T" on a Windows computer will quickly calculate a sum of inputted numbers.You will notice a dropdown on the sum in the filtered Excel table. To view other

options, like maximum, minimum, average, count, standard deviation, etc., click on the dropdown.

Using Freeze Header

When dealing with wide and lengthy spreadsheets, it is challenging to remember every column's header. You can just choose the second line from the header then choose "Freeze Panes" from the "View" menu. The initial header row would be frozen as a response to the content scrolling. This will allow you to quickly check the header whenever you scroll the sheet. The very first column of the spreadsheet can be frozen like the initial row.

Simple Formatting

Large amounts of data input in Excel can be error-prone and time-consuming. Data entry mistakes can be expensive; however, you can reduce the work and errors with just a few simple techniques.

Formatting your cells for a particular dataset is the basic process of controlling errors. Increase the formatting "Number" selections from the "Home" page after selecting the cell or cells in question. Select the kind of data you would like to include in the cells. Choose the category; click on format just on the right side, after that click “Ok” also on the "Number" tab.

Creating Attractive Excel Presentations from Simple Data

Your Spreadsheet contains a basic data table. With just a filter and various row colors, you can change the plain tables into a beautiful Excel table. You can click the inside of your table and use "Control + F1" on your keyboard to change it into a lovely Excel table.

Adding Cell Titles in Excel for Easy Reference

The title of any selected cell or table is displayed in the Excel "Name box" which is directly above any cells on the left. By standard, the application names every cell by adding the row number and column letter.

To avoid issues as well as increase speed when navigating to a certain range of cells; you can give the cells, a table, or range a custom name.

- Choose the range or cell and right-click to select it.
- From the menu selection, choose "Define name".
- Input the cell name then choose scope.
- In the "Comment" text area, you can input any comment to define the cell before selecting "Ok".

Make Use of Excel Charts

A chart is very useful for compressing large amounts of information into simple representations which are simple to analyze and comprehend. You can create quick informative reports by learning how to use Microsoft Excel chart. Take the following actions:

- Open an Excel application, click the "Insert" menu and select "Recommended Charts".

- Excel will display the different types of recommended charts that you can use for your data.
- Preview the recommended charts, select the chart you want and simply click "OK".

Using Microsoft Excel Templates

It requires a lot of effort and time to create the layout of your data. Excel provides a range of pre-made templates for numerous jobs, so you do not need to start from scratch.

How to Use Excel Template?

- Open an Excel application, click the "File" tab on the application screen and choose "New".
- Excel will display a list of template which can be used for a variety of purposes, such as calendars, project management, planning, budgeting, and much more.
- Choose the template you want, and then select the "Create" button that pops-up.

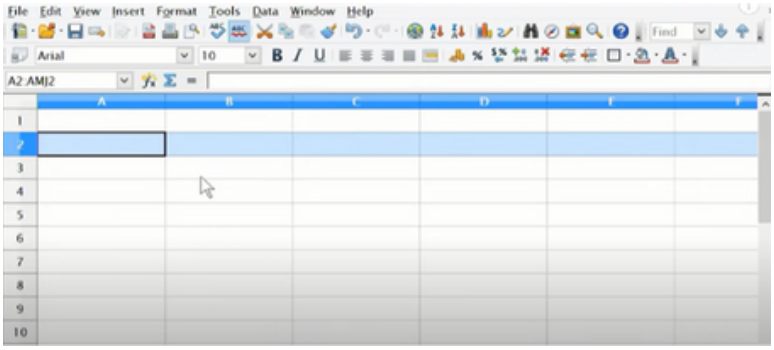
The template can be changed to meet your specific requirements.

Note: Templates can also be gotten online when you are linked to the internet.

In conclusion, every company and business wants to increase their efficiency and productivity, and Excel helps with achieving that.For anyone utilizing Excel to do various tasks, the aforementioned tips and techniques to increase

productivity will help you handle data more accurately and quickly while also saving you time and money.

UNDERSTANDING SPREADSHEET



Using Spreadsheets

A new spreadsheet would be created after the software has already been opened. Navigate to the menu bar and choose "File" to open a fresh spreadsheet. Select "New" in the drop toolbar, then "Spreadsheet" in the cascading menu that will appear. This opens a fresh spreadsheet, and it is displayed in a default template. You can click the white cross symbol which has a red background at the upper right-corner of a spreadsheet page to cancel it. Spreadsheet should be saved after inputting data.

Follow these steps on how you can save your spreadsheet:

- Select "File" from the menu bar in the application screen.
- Select "Save As" from the drop menu.
- A dialog box will pop-up, navigate to the folder that you want your spreadsheet to be saved, choose the right location.
- Input a new name from the "File Name" area if you wish to change the name of the spreadsheet.
- Select "Save" after changing the name of the spreadsheet.

The spreadsheet can also be saved in various file types, such as version number, application file extension, text file, template etc. Calcenables you to view several spreadsheets together. Select the "Calc" button on your device's toolbar to change in between spreadsheets in this situation.

Every time Calc is operated on your device, a certain icon will always be displayed. When this button is selected, the titles of all open spreadsheets are displayed as previously demonstrated. The spreadsheet you would like to view will be displayed when you click on the name. This approach enables you to navigate between several spreadsheets.

Modify the appearance of spreadsheet cell content.

The "Size" and "Font" drop menu are found on the "Font" section of the same "Format Cells" popup menu. The various font sizes and font kinds are accessible under the "Size" menu and "Font" drop menu, respectively. Choose "OK" after choosing the changes needed.

Font

Click the "Format Cells" pop up to format cell content. This pop up has a "Style" drop menu underneath the "Font" section. You can select one of these fonts from a variety of options, such as italic or bold.

Style

In the dialog popup, under the "Font Effects" section, there is a drop menu named "Underlining" which allows you to select whether the data should be

underlined once or twice. From this menu, select the preferred underlining style and click on "OK".

Add various colors to the cell background and content.

Open the "Format Cells" menu and add various colors to the cell content. 'Font Color' drop menu is found underneath the 'Font Effects' section. Select "OK" after choosing the preferred color from the menu. To add color to the cell background, choose the cells that you need to copy the format to transfer it from cell range or a cell to another. Next, right click anywhere within the range of cells and choose "Copy" from the option that displays. Enter the cell you need to replicate the formatting. Right click the cell, and then choose "Paste Special" from the drop-down menu.

Format Cell to Display Percentage, Currency Symbols, Dates and Numbers

Number

Right click on a cell and choose "Format Cells" from the drop-down menu that appears to format the selected cell so that it shows values to a given number of decimal points. In the dialog's 'Options' section, underneath the 'Numbers' category and the 'Number' section, there is a setting called 'Decimal places' that allows you to select the number of decimal points that a number should have.

Date

Date is displayed underneath "Category" in the "Numbers" section within the same "Format Cells" popup that was previously noted. Several date format variations are provided under the "Format". The "Currency" option can be accessible in the same popup box's "Numbers" section. You can choose one of the numerous currency types underneath "Format" and then select "OK" depending on your preferences.

Percentage

Click the same "Format cells" popup that you have previously used to display numbers as percentages. There is a “Percent" section in the dialog box's "Numbers" section and in the category "Format", you have a variety of choices for formatting a number to be shown as a percentage. From this menu, choose the right option, and then click "OK".

IF Function

Use the comparison operators =, >, and < to compare a value from two specified values by using the logical function "IF". Select the cell you want to use the "IF" function, input "=IF (", add condition followed with a comma ',' add a value if the condition is FALSE and another value if the condition is TRUE, separate the values with a comma, close the bracket and click "ENTER".

“Value_if_false”, “Value_if_true”, and “Logical_test”, are the three parameters that the 'IF' operator uses. The conditions which also must be evaluated to know if it is true or false is called “Logical_Test”. If the

conditions are true, the result “Value_if_true” will be shown in the specified cell, and if the condition is not met, the value “Value_If_false” would be shown.

Make Use of Round, Counta, Count, Maximum, Minimum, Average and Sum Functions

Rounding a figure to a desired accuracy is achievable by using the “ROUND” tool from the “Mathematical” section. There are two inputs “count” and “number” that the “ROUND” operator accepts. Thus, the figure that must be rounded is indicated by the prefix “number”, and the number of places that must be added is indicated by the prefix “count”. For example, if the “number” chosen from one cell is 5223.667 and the “count” are 3. The “Round” function operates in this way.

The "COUNTA" method within the "Statistical" group calculates the number of times values are found in the argument list. The parameter list's elements, whether they consist of texts, numbers, as well as other values, are counted with this function.

A "COUNT" function from the "Statistical" class helps to count the number of numbers in the argument list. All value categories, such as text, are ignored by the "COUNT" function, which only counts the number of numbers in the parameter list.

Use the function 'MAX' and 'MIN' from the 'Statistical' category in the Spreadsheet respectively, to return the maximum and minimum values from

every array of inputs. Choose the cell that you tend to show the added result before applying the
"SUM" feature. In the drop menu that appears, choose "Function" after choosing "Insert" from the menu bar. Simply choose "SUM" below "Function" within "Function Wizard" after selecting "Mathematical" below "Category" and select "Next". An "AVERAGE" formula uses the calculated mean of numbers found in the
specified cells. "AVERAGE" function is the same methods as used for the "SUM" feature should be applied. Its only difference is the fact that the 'Statistical' class will be used for the “AVERAGE” function.

Spreadsheet Functions and Formulas

To calculate the correct value, formulas make use of variables and numbers. All cell references for cells in which you must obtain the data needed for the calculations are stored in these variables. A factor must always be considered while creating a formula in a Spreadsheet. It is ideal to refrain from using numbers directly in Worksheet and use cell referencing instead.

Updating the formulas less often when variable must be modified is now made easier. This also saves effort and time. Use the four kinds of arithmetic operations such as division, multiplication, subtraction and addition, and cell referencing to create formulas in a Spreadsheet. All Spreadsheet formulas must start with equals to "=" sign. You have the choice of inputting the formulas directly into the cell or by using the wizard function. For example, values specified in cells "E13" and "E15" are provided by the formula

"=E13+E15". Thus, "E13" and "E15" represent the two cells, and the arithmetic operation is "+".

Formulas #REF!, #NAME? And, #DIV/0! Are Standard error values you need to know?

#REF! : Implies that the referred cell's related sheet, row or column is missing. This indicates that such an error number will be shown if you use a deleted worksheet as a reference in a function or formula.

#DIV/0! : Means division by 0. Although division by 0 is such an inappropriate mathematical function, which means that even if you write a formula of the form "=E7/E8" if E8 has 0 in this instance, the wrong value will also be displayed.

#Name?This code indicates the lack of a suitable reference for an input. This implies that the error value will be shown if you pass the operator an incorrect argument, for example 'e' in place of 'E7' or a similar error.

Absolute and Relative Referencing Cell in Formula

When using formulas in Spreadsheet, make sure you understand how to use absolute cell reference and relative cell reference. Absolute references do not modify regardless of the formula; the very same reference is replicated whenever the formula is being pasted into a different cell. For instance, if a formula is written as "=e10+e12" to do this. Whenever the formula is repeated, the "e12" referencing will not change while the "e10" referencing will change.

Whenever you reference two cells or many cells by using a formula, relative cell referencing prevents the duplicated formula from referring to the same cells in a new position. Based on the initial referencing, it relates to the new cells which have the same relative position to the formula as the old cells.

Worksheet

Choose the preferred worksheet title from the list that appeared at the bottom of the Spreadsheet screen to create a new worksheet and navigate between the various running worksheets. You can navigate between different open worksheets in this manner.

Delete a Worksheet, or Add a Fresh Worksheet

You can add a new worksheet with ease by selecting the "Add Sheet" option in Spreadsheet. By including a specified name, this option only creates a fresh worksheet. Double clicking on the worksheet title once it has been created with the default name will keep bringing up the 'Rename Sheet' menu. Select "OK" after inputting the worksheet's new title in the popup. The worksheet title will be modified. Right-click on the worksheet title to open a drop-down menu; choose "Delete Sheet" to remove the selected worksheet.

A Spreadsheet's Worksheets can be Renamed, Moved, and Copied

Moving a Worksheet to another location within a Spreadsheet, simply tap the worksheet tab and drag it to another new location before you release the

mouse button. Tap and hold the "Control" key whilst still clicking the sheet menu bar and drag it to your preferred location in the same Excel spreadsheet, then release the mouse cursor to copy the worksheet. You can rename a spreadsheet by double clicking on the worksheet title to display the "Rename Sheet" box. Select "OK" after typing the worksheet's new title in the dropdown menu. The worksheet title will be updated.

Manage Worksheet

There are several ways you can manage your workbooks, and this includes:

Selecting a Column or Row

When you want to choose a column or a row, just click on the selected column or row tab once, and the whole column or row will be selected.

Delete or Add Columns and Rows

To add a column or row, right-click on the row header above where you would like to add the row or the column header towards the left of where you would like to add the column. Select "Insert Columns Left" for columns from the ensuing submenu, and "Insert Rows Above" for rows. It will add a fresh row or column to the worksheet. Right click on the column or row header that you want to delete or choose several rows or columns and right click on any headers from the wide ranges, to erase the chosen column or row.

Modify Row Height, Column Width to a Specific Value

Right-click on the column header and select "Column Width" from the shortcut menu, or right-click on the row header and select "Row Height" from the shortcut menu, as needed, to modify the row heights or column widths. The "Row Height" or "Column Width" pop-up box will be shown, which allows you to change the height or width of the row or column. Select "OK" when you have inputted the right value.

Unfreeze, Freeze Column or Row Titles

Tap on the row header under the column or row you would like to freeze or click on the column header towards the right side of the column you would want to freeze. Thereafter, choose "Window" from the menu bar. Select "Freeze" in the ensuing drop menu. According to your preferences, this will freeze the columns and rows. By choosing "Freeze" again from the drop menu beside "Window" on the menu bar, you can unfreeze both columns and rows.

You can "Delete", "Move" and "Copy" Cells in Spreadsheet

Choose a range of cells or cells you would like to copy the contents to another worksheet, between worksheet, or within a worksheet. Next, right click any part of the selected area, and on the menu that displays choose "Copy". Proceed to the location of the cell where you want to copy the specified cell range or cell. This location could be within a separate worksheet from the same spreadsheet, the present worksheet, or the other opened spreadsheet. Right click the cell and select "Paste" from the displayed option. This means that the information will be copied between two different locations.

Cut, Copy and Paste Cells in Spreadsheet

Make use of the "Fill" option to copy the data by selecting and dragging the cursor to the preferred cell or cells. Then, choose "Edit" from the menu bar. Choose "Fill" from the drop menu that displays. Choose "Right," "Down," Up," or "Left," from the cascading menu based on the cells you already specified. It will also duplicate the specified cell's data to all the remaining cells.

Choose the cell which you would want to begin the series with, also while continuing to hold the mouse cursor, choose the cell in which the series must be formed, to add data gradually. Then, choose "Edit" from the menu bar. Choose "Fill" from the drop menu that is displayed and choose "Series" from the cascading menu. A "Fill Series" text box will be displayed, input the entries, and choose the "Direction" and the "Series Type" then choose "OK". Your series will be pasted in the chosen cells.

Delete the Content of a Cell in a Spreadsheet

Right-click on the cell you want to delete and select "Delete Contents" from the menu that is displayed and select "Ok".

Arrange and Edit Cells in Spreadsheet

When you double-click on a cell, it will enable you to change or amend the contents. Use the backspace key on your keyboard to discard any previous

information from that cell, then input the new data as needed. This shows how a cell's contents can be amended or changed in Spreadsheet.

Make Use of "Redo" and "Undo" Command

The "undo" command is used to restore the results of any most current modifications made to the file, beginning with the most current ones. The report's latest change is made again when the "redo" command is used. Navigate to the menu and select "Edit" to view the undo and redo commands. Select "Undo" or "Redo" from the next drop menu, based on whether you would like to use the "undo" or "redo" command.

Use "Find" Command

You can also use the search option by selecting "Edit" which is found in the menu bar, select "Find" from the drop options.

"Replace" Command is Used for Certain Worksheet Content

Navigate to the menu and choose "Edit" to use the replace option for a particular piece of information in a worksheet. Next, from the ensuing drop menu, choose "Find and Replace." With this, the "Find and Replace" popup will be shown. Input the text that should be replaced within that "Search For" section and the phrase that should replace it in the "Replace With" section of this dialog. Then, select "Replace" to edit the text of the cells one at a time or "Replace All" to edit the contents of every cell at once.

Use "Match Case" Checkbox

This command will enable you to search for data in cells that the information did not only match the provided information that is inputted in the "Search For" which is in the same case too. "Other Options" can be used to display the expanding options.

Cell Range can be Sorted in Descending or Ascending Alphabetical Order or Descending or Ascending NumericalOrder.

For numeric descending and ascending of numeric order in a cell, choose the cell range first, then select "Data" from the menu tab. Select "Sort" from the displayed option. The "Sort Range" box will be open initially and required if other cells are included or the specified cells only, choose "Current Selection" to sort the cells.

Cell in a Spreadsheet

There should not be more than a piece of information in each cell of a spreadsheet. If you need to input a person's name, the first name, middle name (if available), and last name, must all be typed in separate cells. This makes it easier and efficient to edit and analyze data.

The best practices for creating lists should be recognized: make sure the cells surrounding your list are blank, before a Total row leaves a blank row to separate it from the other rows, avoid having blank columns or rows in the main section list.

Most vital point is to organize your information so that it will be recognized as a list once it appears in a Calc spreadsheet as a table. Whenever you manipulate information in Calc, you only have to choose a cell from the listing, and all the tools will automatically choose your list according to a set of algorithms. Every blank column or row is considered as the list boundary. Which is why it is essential that a list never contains any blank columns or rows. Specific lists must also be separated by a border of blank columns or rows.

In a cell, input a text, date, or number.

Double-click the cell you would like to input a number, and then enter it by using your keyboard. Numerals are by convention positioned to the right.Choose a cell and input the dates in required form after following the instructions. The date component is separated with a hyphen (-) or slash (/). The date style would automatically change to the one that was chosen for Calc. Double-click a cell, and then input the text you want when you want to add text. The text elements are by convention aligned left.

Improve Efficiency

Use the Zoom option by selecting the minus (-) or plus (+) symbol from the zoom slider just on the status bar will alter the display magnification. Select the percent figure from the status bar for more customized modifications. The "Zoom and View Layout" menu will appear. By choosing the preferred values from this window, the proper changes can also be done.

Integrated toolbars can be hidden or displayed. The ribbon can be minimized and restored. By using the 'View' option on the menu bar, you can choose if the other toolbars in Calc are hidden or shown. Choose the "View" and "Toolbars" from the down menu. A range of several toolbars will be displayed, and they can be unchecked or checked to hide or display them, respectively.

Create A New Spreadsheet or Workbook in Microsoft Excel

Excel Workbooks File Kinds are Non-Native and Native Processes Worksheet in MS Excel Modify the Worksheet Page Data search and Replacing using Color Search Extra. MS Excel is a software application which is used to produce spreadsheets and makes up a part of the Microsoft Office suite. Furthermore, the field of corporate statistics has greatly benefited from the usage of spreadsheets in Excel.

Microsoft Excel Workbook

Data can be inputted and saved in Microsoft Excel workbook; a file accessible within the Microsoft Excel software. Worksheets are spread across a workbook. Every worksheet comprises a set of cells which can be changed to suit the user's needs and includes data that pertains to a specific subject.

Data created in a worksheet is described by a workbook. Furthermore, spreadsheets serve as the only devices used for manipulating data. Every workbook in MS Excel has its own distinct tab whenever the title of the workbook is shown in the title bar, operating on two systems or one workbook simultaneously gets simpler. Whenever you start a fresh project, you can commonly create a fresh workbook. Microsoft Excel has different approaches to creating a workbook; these include Create an empty Workbook, run a current Excel workbook, and use a template to create a workbook.

Create an Empty Workbook.

Excel users have the choice of creating a fresh worksheet from a blank one. A fresh workbook may also be made based on a current one. Three worksheets have been included by standard in a brand-new workbook. The number of files in a workbook is sometimes altered, therefore, to meet specific needs.

Run a Current Excel Workbook

A current workbook refers to one that has already been uploaded and saved to an online or computer. Current workbooks saved on online data storage platforms, SkyDrive, local PC drives, as well as other data backup sites can all be accessed. Anybody can login or sign up on SkyDrive (which is a Microsoft application that provides online data storage).

Use a Template to Create a Workbook.

Worksheet that is already created but can still be changed to satisfy users' demands is called a template. Customized formatting and preset formulas are part of the Excel template. When creating a fresh project, this helps to save energy and time. You must choose the best template in line with your requirements to create a workbook from one. Apart from Microsoft, there are various other users and standalone service providers who can create custom templates.

Keeping Microsoft Excel Workbook Safe

It is necessary to secure the data you are publishing whenever you send your Excel attached document. Your information might be something you would

like to share, but it does not guarantee that another person should edit the data. Spreadsheets usually have important files that the receiver should not remove or alter anything from the data.

All spreadsheets can be secured by using Excel's installed functionalities. I will provide a few tips in this section regarding how to keep the integrity of data of your worksheets in Excel. The following are the three primary strategies you will know in this segment:

- Encrypt the whole Excel workbook with a password to block unauthorized individuals from opening it.
- Secure personal sheets and the workbook layout to prevent removing or adding more sheets.
- Selectively enable or restrict alterations to important cells or formulas in your Excel spreadsheets, make use of the protection feature.

Encrypt the Whole Excel Workbook with a Password to Block Unauthorized Individuals from Opening It

By adding a passcode to a whole Excel workbook to keep others from accessing it. When using Excel, click the Information tab from the File tab. To encrypt your workbook to use a password, select the Protect Workbook option. Note that passwords are usually case sensitive like the case with every password, and make sure you use a secure and strong blend of characters, numbers, and letters.

Password Encryption

To secure a workbook by using a password, click on "File", navigate to the "Info tab" and select "Protect Workbook", and from the options click on "Encrypt". For the sake of security for your workbook, use strong passwords, and save it somewhere safe. You have the possibility of losing accessibility to your important workbooks forever if you do not save your passwords properly.

Mark Workbook as Final

Choose the Mark as Final option when you prefer to be slightly less strict with securing your spreadsheets in Excel. You must activate editing as well after marking an Excel spreadsheet as the final document, which changes the document to read only option. Navigate to "File", click on the "Info button", and choose "Protect Workbook" again to set a document to read only option. You can mark the file as the final document, by selecting Mark as Final and selecting the box.

Secure Personal Sheets and the Workbook Layout to Prevent Removing or Adding More Sheets

This will protect any Spreadsheet from being rearranged, removed, or added in an Excel workbook, securing the structure of your workbook. If you prefer to enable anybody to have access to your workbook but still restrict the modifications they can make to your data. Through restricting the user's ability to modify the sheets of the workbook and the structure of the workbook is preserved. Click on "Review" from Excel's ribbon, then choose "Protect Workbook'' from the drop menu to permit this security.

Secure Excel Workbook

To secure your Excel workbook's organizational layout, click the "Review" menu, choose "Protect Workbook", and input a password. Passwords to change and unlock the worksheet can also be shared with preferred individuals. Select the "Protect Workbook" tab again and enter the password to unlock an Excel workbook.

Selectively Enable or Restrict Alterations to Important Cells or Formulas in Your Excel Spreadsheets, Make Use of the Protection Feature

Click the "Review" menu in Excel and select "Protect Sheet" a vast array of choices will pop-up. Choose whatever option suits you and click on "Ok". You can fine-tune ways you desire to safeguard the cells in your spreadsheet by using windows.

How to Input Date in Microsoft Excel

There are various ways to input a date in a cell in Excel; these include January 7, 2023, 7-Jan or 7-Jan-2023. Although Excel understands that you are inputting a date when you input text like that into a cell, the date style is automatically added to that field. Most times, Microsoft Excel formats the recently added date in accordance with the date settings of the Window's default, though occasionally it may retain it just as you input it.

Several Methods of Inputting Date in Microsoft Excel

Whenever your date entry shows on the left side in a cell due to Excel not detecting the date you entered, try typing your date in a particular format which is like your usual long or short date formats. The easiest way to access these formats in Excel is by clicking on the "Home" menu, from the "Number" section, choose either "long date" or "short date" from the drop menu. These formats are displayed with just an asterisk in the Formatting Cell dialog window.

Inputting current time and date in Excel

You can insert the current time and date in Excel as a dynamic or static number.

Excel shortcuts for inputting the current date as a timestamp.

Adding a "fixed date" that won't change over time or if the worksheet is updated is known as "timestamping". To set the current date or current time as a fixed value which will not be updated the following day, make use of one of these shortcuts:

- Use the key "Ctrl +” to add the current date to a cell.
- Use "Ctrl + Shift +" to input current time.
- Use "Ctrl +, the Space bar, then press Ctrl + Shift +" to input the present time and date.

Add the present time and date, that are regularly updated.

Choose from the Microsoft Excel date functions listed below to input the current date in Excel for it to be accurate always:

- =NOW() adds the current time and current date to a cell.
- =TODAY() function adds the current date.

How to Apply Microsoft Excel's Auto-populate Dates

You can always use algorithms to generate a date sequence, or you can permit Excel to "auto date" a row or a column by applying the "AutoFill" function as shown below when you want to input dates in a cell range.

Automatically Populate Per Day Date Series

Users can also use Excel's AutoFill function in prescribed manner to fill a row or column automatically with an increasing date series which rises by a day.

The Very First Cell must have the Initial Date

You can select a cell with a date by clicking on it and drag the fill tool down or across the cells you need Excel to insert dates to. In Excel, whenever you choose a range of cells or a cell, a tiny green box (which is the fill handle) will appear in the bottom-right side. You can automatically fill years, months, or weekdays automatically in a date sequence which increases by a day.

Excel's Pop-up Calendar Allows You to Add a Date

This can be a great idea to add a pop-up calendar in your worksheet when you want to set up a spreadsheet for the other users and you also want to ensure that individuals input accurate dates. Dates can be inputted by your

clients just with a few clicks of the mouse, so you can be sure that every date is correctly typed.

Delete or Edit Cell Content in Spreadsheet

To control the information shown in Excel cell, the Spreadsheet author and partners with Editor or Administrator can have access to the sheet, and they can decide to delete, update, or add to the cell content.

Input Data into a Cell

To input the data, select a cell and type in the data. Furthermore, you may copy data and paste data into cells. A cell that already has data will be overwritten once you type into it. The kind of information you can input in the cell depends on the kind of column. For instance, if such a column is a pop-up list kind, you can choose an option from the list by selecting on a cell. You can also click on a cell and choose a date from a calendar if a column is a date kind.

Delete Column Content

To select the top column header, click on it. Click "Delete" or " Backspace" keys. This will totally empty every cell's column, and the column itself will not be deleted.

Delete Row Content

To delete all the row content; select the number of rows to its left and highlight the rows. Click "Backspace" or "Delete" from your keyboard. Apart

from deleting the row, it will also empty all its cells of all data.

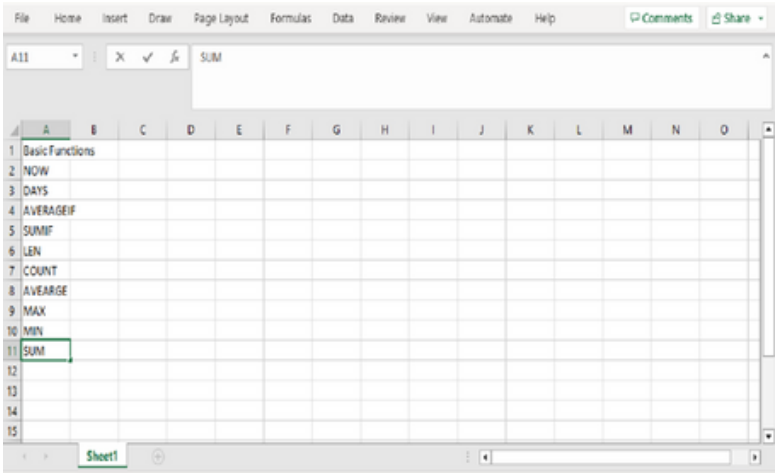
Delete Cell Content

To delete the current cell contents, choose a cell or more cells, then click "Backspace" or "Delete" from your keyboard. Additionally, you can select "Clear Contents" by right clicking a cell.

Edit Cell in Spreadsheet

Data in a cell is either edited manually or through reviewing the cell contents in a form. Use key F2 to enable a cell to be modifiable. Select the preferred formatting feature from the menu on the left after choosing the cell you would like to modify the formatting.

EXCEL MAIN FUNCTIONS AND FORMULAS

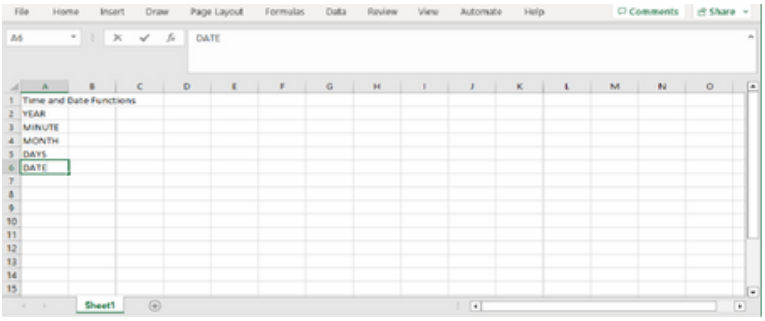


What are Functions and Formulas in Microsoft Excel?

Using a particular value in a specified order, the standard formula function in Excel is used. To use a function, you can quickly decide the minimum value, maximum value, average, count, sum for a group of cells. For instance, the SUM function in cell E5 determines the total of the values in the range E3:E4.

A formula in Microsoft Excel can run on information from a wide cell range of operators and addresses. For instance, formula =E3+E4+E5 produces the total of the data in cells E3 through E5. A formula with real numbers can appear like this: =10*5.

Time and Date Functions



Time and Date values can be modified by using these functions, and these include YEAR, MINUTE, MONTH, DAYS and DATE which are all under Date and Time category. The table below lists a few basic time and date functions.

S/N FUNCTION USAGE

DESCRIPTION

1 YEAR =YEAR(“08/06/2023”) A date value is used to return the year.

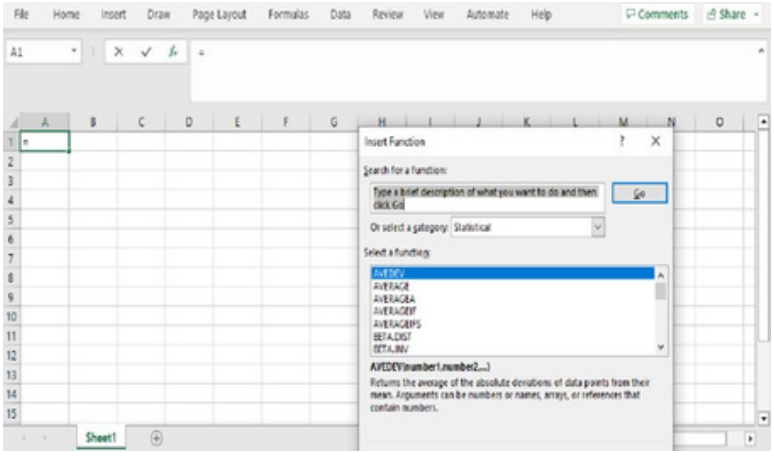
2 MINUTE =MINUTE(“10:20”) A time value that returns the minutes

3 MONTH =MONTH(“8/6/2023”) A date value is used to return the month.

4 DAYS =DAYS(F9,F9) Estimate how many days there are between two dates.

5 DATE =DATE(2023,6,8) Microsoft Excel code generates a number that matches the date.

Basic Functions



S/N	FUNCTION	USAGE	DESCRIPTION	CATEGORY
1	NOW	=NOW()	Provides the system's current time and date	Time and Date
2	DAYS	=DAYS(B3,A3)	Provides the days between two dates	Time and Date
3	AVERAGEIF	=AVERAGEIF(C2:C6,"Yes",B2:B6)	Calculates a range of cells which meet the required specification are averaged	Statistical
4	SUMIF	=SUMIF(G5:G9,">=1000",F5:F9)	Adds every value in a cell group which matches a special criterion	Trig and Math
5	LEN	=LEN(A3)	In a string text, it provides the number of characters	Text
6	COUNT	=COUNT(A2:A6)	Calculates how many cells are in a group of cells	Statistical
7	AVERAGE	=AVERAGE(B2:B4)	Computes the average value in a group of cells	Statistical
8	MAX	=MAX(F3:F9)	Identifies the highest value within a group of cells	Statistical
9	MIN	=MIN(C6:C3)	identifies the smallest value within a group of cells	Statistical
10	SUM	=SUM(D2:D4)	Adds every number in a cell group	Trig and Math

VLOOKUP Function

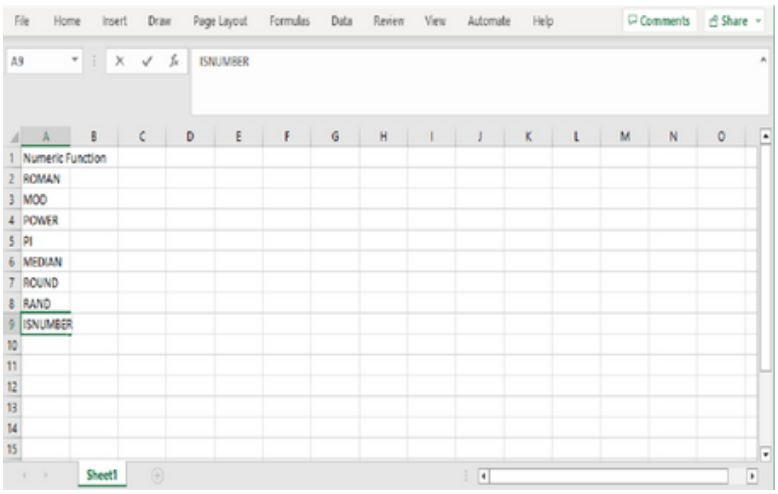
To provide a number within the same row from a specific column, the VLOOKUP function performs a vertical look up in the top left-hand corner.

A serial value section in the household supply budget identifies a particular product in the budgeting. The VLOOKUP tool can also be used if you have enough item product code and need to know the description of the product. For example: "=VLOOKUP" (D6, B2:C3, 2, FALSE) (D6, B2:C3,2,FALSE).

In the above example:

- "=VLOOKUP" draws the vertical look - up function.
- The value to search within the left-most column is determined by "D6".
- The table collection that contains the data is specified by "B2:C3".
- The column value with the row number which the VLOOKUP function would return is determined by the value "2".
- False indicates to the VLOOKUP function that we have been searching for an actual match of the specified look-up number.

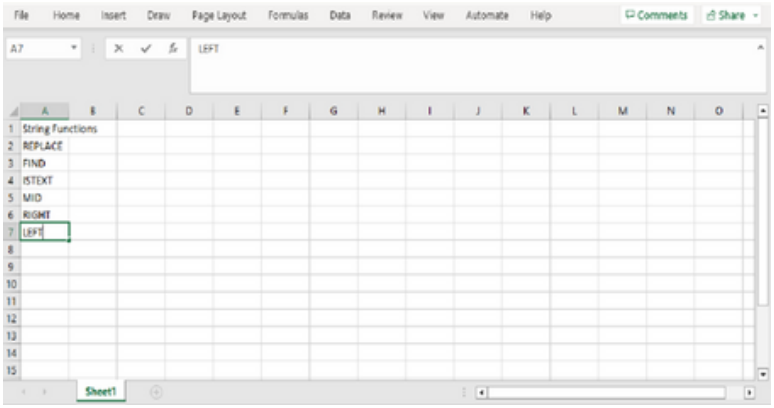
Numeric Function



These actions are carried out on numerical data. A few of the typical numerical functions are displayed in the table below.

S/N	FUNCTION	DESCRIPTION	CATEGORY	USAGE
1	ROMAN	Change a value to roman numerals	Trig and Math	=ROMAN(2000)
2	MOD	Divides two digits and returns the remainder	Trig and Math	=MOD(9,2)
3	POWER	Returns the outcome of raising a numerical value to a power	Trig and Math	=POWER(3,9)
4	PI	Returns the PI(π) math function's value	Trig and Math	=PI()
5	MEDIAN	Returns the value placed in the center of the specified set of numbers	Statistical	=MEDIAN(6,8,3,4,5)
6	ROUND	A numeric value is rounded to the given number of decimal places	Trig and Math	=ROUND(6.13377,4)
7	RAND	An integer value between 0 and 1 is generated	Trig and Math	=RAND()
8	ISNUMBER	Returns If a given value is a number, True, or else False	Information	=ISNUMBER(D5)

String Functions



Textual data editing is done using these key Excel functions. A few of the basic string functions are outlined in the table below.

S/N FUNCTION DESCRIPTION CATEGORY USAGE

1 REPLACE Removes a section of a text and replaces it with another text Text =REPLACE(“Roofing”,2,2,”xx”)

2 FIND Returns the initial placement of one string of text from insideanother Text =FIND(“oo”,”Roofing”,1)

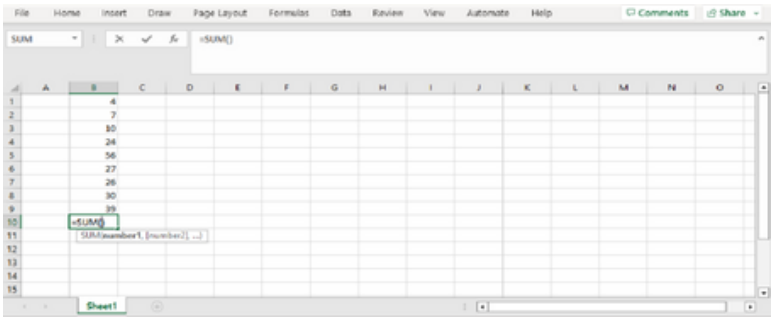
3 ISTEXT If the given argument is String, returns True Information =ISTEXT(value)

4 MID A string's mid letters can be recovered from an initial point and length provided in the string Text =MID(“GURU99”,2,3)

5 RIGHT Returns a specific number of characters from a string's end which is the right side Text =RIGHT(“GURU99”,2)

6 LEFT Returns a specific number of characters from the beginning which is the left side of a string Text =LEFT(“GURU99”,4)

Add Functions



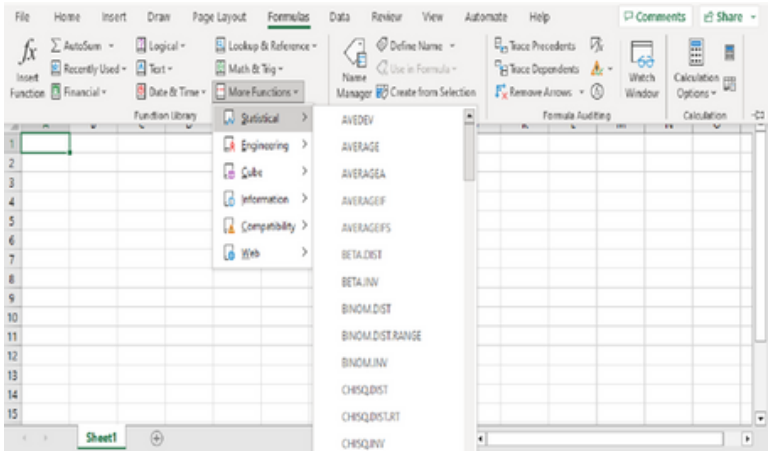
The structure of every function is the same. For instance, SUM (D2:D6). This function's title is SUM. You will provide Excel with the cell range D2:D6 as entry, as indicated by the text contained in brackets above which is the arguments. The numbers in cells D2, D3, D4, D5, and D6 are merged using the SUM function. Remember which function to use for every job and which arguments to use are challenging.

You can add the right arguments and formula for your requirement by using the "Insert Function" dialog box. You can access the Insert Function dialog box, by clicking on "Formulas", click "Insert function", search the function you want, input a short explanation of what you want the function to achieve, and then select "Go". From the "Select a Function" drop-down menu, you will see a list of functions which will probably suit your requirements and are based on your description.

You can also choose a type from the drop menu, and click "OK" or carry out any of the following steps:

- "Select All": The "Select a function" tab will show all functions alphabetically.
- "Select a Function Category": The "Select a function" option will show the functions in that category alphabetically.
- "Select Most Recently Used": The "Select a function" option will show the functions you have added recently in alphabetical order.

Few vital Excel Function from the "Function Library" menu includes:



Mathematical

POWER: The power of a numeral value raised to the next number will be returned.

SQRT: This will give you a number's positive square root.

Logical

NOT: This will return a logical number which is the opposite of any logical number or statement that the user provides.

AND: Review a wide range of user-defined situations and return.

TRUE if ALL conditions are valid or FALSE if not valid.

OR: Examine a range of user-defined criteria and return TRUE if

ANY of them are TRUE, or FALSE if otherwise.

Statistical

COUNTIF: This will show how many cells within a specific range suit a particular requirement.

SUM: This will return the total of the numbers in the specified table.

MAX: From a set of specified numbers, "MAX" will return the highest value.

Time and Date

TODAY: This will provide the current date.TIME: This will provide a time based on the second, minute and hour provided by the User.NOW: This will provide the current time and date.

Text Functions

RIGHT: Return a certain number of characters from the finish of a given text.

LOWER: All the characters in a string of text are converted to lowercase.

UPPER: All the characters in a string of text are converted to uppercase.

CONCATENATE: This will combine two text strings or more text strings together.

LEFT: A specific number of characters from the onset of a given text string will be returned.

Common Errors to Avoid in Excel

In this section, I will list and explain ten common errors you should never make in Microsoft Excel and how to work in Excel without running into problems.

Merge and Center Cells

Merging and centering cells have the frustrating problem of interfering when choosing a set of cells. Furthermore, they can make calculation errors and hinder you from sorting and copying and pasting of data. Make use of the Centre Across Selection method as a fix.Even though it has the exact appearance as merged cells, it does not restrict it anyway. The selected and merged cells make use of the center across method which seems identical.

Non-Tabular Layout

Data presented incorrectly constitutes one of the commonest errors I find. We have Tabular and Non-Tabular data layout. Tabular Data can be used by unpivoting the year columns in Power Query, and it is easy to rectify this data arrangement.

This is the best format to use by separating the year column from the values column. Non-Tabular data layout seems to be relatively good; the year data are spread over several columns. Whenever you do this, it is challenging to

use the installed tools, such as features, and pivot tables which are created to interact with data in a tabular layout.

Format Date as Text

Date that are formatted as a text, that generally come from documents transferred from external devices, may be challenging to distinguish because they seem the same on the cell's face as well as in the formula bar. Dates that are correctly inputted will show their date bar code when you use the “Ctrl+Backspace” keyboard shortcut.

Since you cannot use dates as references in calculations, dates formatted as text are problematic. The text dates, for instance, give me an error whenever I attempt to figure out the number of days between the first dates and last dates, but still the proper date serial numbers calculate it accurately. Text dates can be changed into date serial numbers as an alternative. You can correct dates that are formatted as text in Microsoft Excel in various ways.

External Links Mistakes

A safe option is to use Power Query to retrieve data and transfer it into your document if you want to reference data from an external file. When you do this, your formulas will not be corrupted, and you may update the query without accessing the external file.

Format the whole Rows or Columns

Formatting an entire row or column is simple and quick, it only increases the number of redundant data in your document, expanding the size of your file beyond what is needed. Use “Ctrl+T” to format any data in an Excel table or format from the style library. You can also select "None" (which is found on the top-left option in the style gallery) if you want to create your unique format. Whenever you use formats to a table's column, every fresh row you add will also get those formats by default.

Format Data to Encode

Data is commonly encoded by using colors of the cell fill. This is an issue since it is impossible to count information which matches a fill color because formulas cannot refer to the color of a cell's fill. Add numbers or text in the cells and conditional format to highlight the cells with the defined value: The numbers on the cell's appearance are concealed due to the custom number formats you used in the conditional formatting rule. You can also use a custom number as a reference when determining the count.

Color Formatting in Excel

It's not important to highlight data with flashy colors. Flashy colors make your viewer uncomfortable and the data difficult to read, rather than attracting attention to the data. Use complementing colors and keep it simple.

Several Records in a Single Cell

Although it can be tempting to enter as much information as you can into a cell, using these makes it hard to use formulas to analyze your data. It is simple to create a formula to count the number of days in a layout with different cells for each data.

Sum Ranges with Missing Cells

There are times when adding additional rows of data for SUM calculation can affect the new row to be omitted from the SUM. To get the final cell reference in the range, use OFFSET.

Use .xls kind of file

From Excel 2007 till present, the .xls file type was updated with .xlsx; nonetheless, most third-party applications still provide the option to export data to .xls files, that are modeled on the Binary Interchange File Format and store data in the binary format. XML data is saved and stored in ZIP files for .xlsx files that are based on the Office Open XML style. Simple unzipping the .xlsx file will enable you to view the internal structure and files.

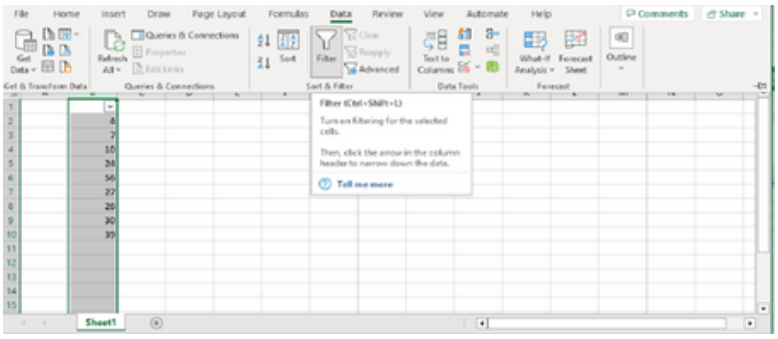
Create a duplicate of the document and save it as an .xlsx file format as a workaround.

DATA FILTERING AND SORTING IN MICROSOFT EXCEL

In this chapter, I will describe the filtering and sorting of data in Excel. The choices of sorting data varied. You can group data based on similar characteristics, like:

- Format (for example cell color)
- Times and dates (oldest to newest, or newest to oldest)
- Numbers (high and low, or low to high)
- Text (Z to A or A to Z)
- Data can be sorted across several rows or columns in addition to by individual characteristics.
- You can also sort data by using custom lists.

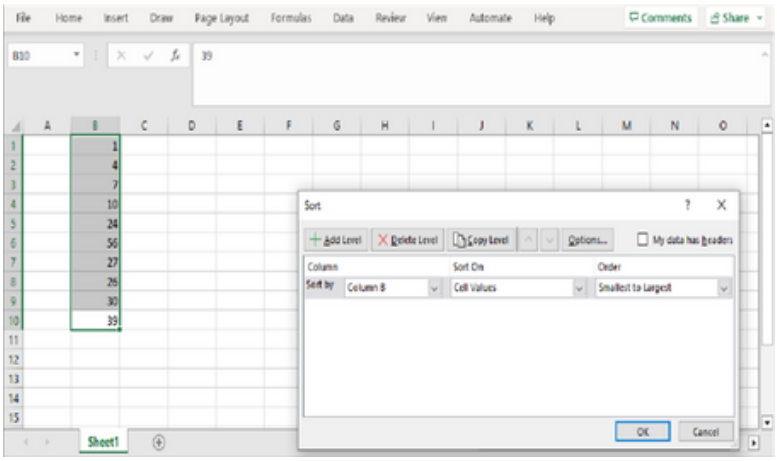
How to Filter Data in Excel



To concentrate on the data you desire to see, you can always use filters to temporarily hide a portion of the information in a column. You can define exact matches, comparisons ('less than, greater than'), or data that does not suit basic criteria for filtering. These operators can be used to compare two values. The output of applying these operators to compare two values is a logical value, which can only be either FALSE or TRUE. The table below consist of Excel's comparison operators:

Comparison operator	Example	Meaning	Result(C1=1,G1=2)
<>	C1<>G1	Not equal to	TRUE
<=	C1<=G1	Less than or equal to	TRUE
>=	C1>=G1	Greater than or equal to	FALSE
<	C1<G1	Less than	TRUE
>	C1>G1	Greater than	FALSE
=	C1=G1	Equal to	FALSE

How to Sort Data in Excel

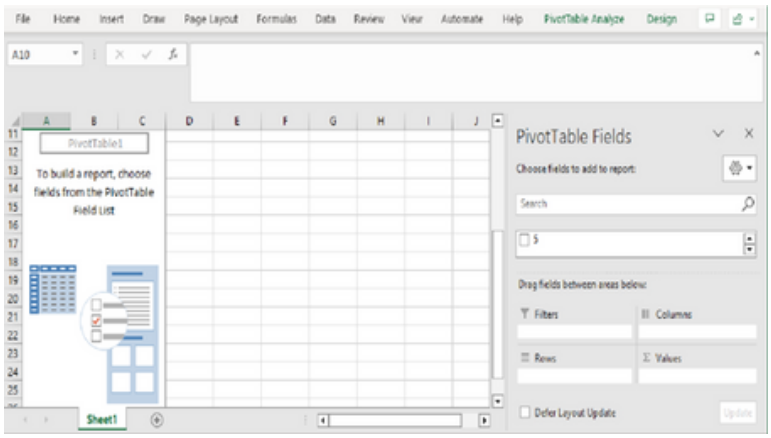


Sorting data in Microsoft Excel can be done through the steps below:

- Choose a cell from the column you wish to sort.
- Navigate to the "Data" menu and select "Sort and Filter" from the drop-down menu.
- Click on the "Sort" icons either from Z to A to sort your data in descending order or A to Z to sort your data in ascending order.
- Click on the "Sort" option to view additional options for sorting data.

- To use the "Advanced Filter", navigate to the "Data" tab, from the drop-down menu click on "Advanced" from the "Sort and Filter" section.

Pivot Tables

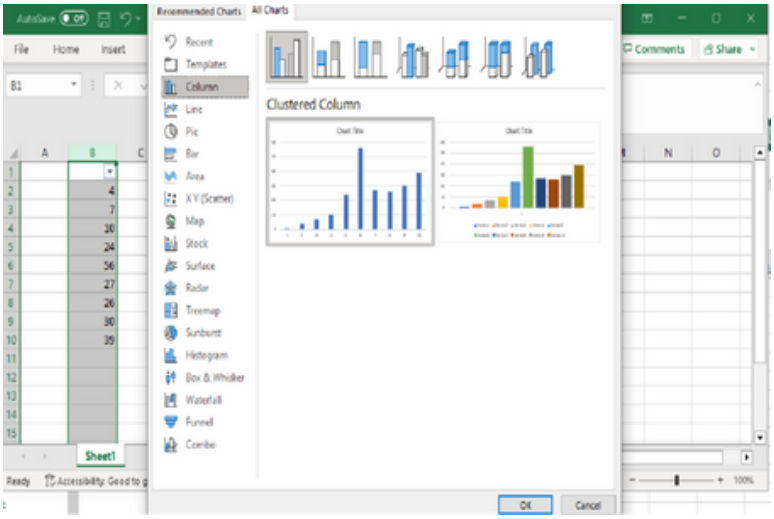


Excel has pivot tables by default. They make it easy and fast to sort and analyze huge amounts of data. Using only a little level of work, pivot tables let you get answers to a few simple queries about your data from input tables having thousands, hundreds, and tens of rows.

Pivot table is also used to sort common sales data, to achieve the following:

- Referencing
- compile an order breakdown report by type of item, month, and client.
- give a summary of the highest order value by month and customer.
- calculate the usual quarterly earnings to a specific customer.
- compile a list of sales by client based on the type of item bought.
- calculate the total sales by product category.
- totaling the items ordered by every customer.
- calculate the total sales for each customer.

HOW TO USE GRAPHS AND CHARTS INEXCEL?



One of several best methods to present data in an acceptable and simple way is by creating graphs and charts. In Excel, you can build more than only line or bar charts. Once you know how to use each of them, you can use it to get more meaningful information for the projects that either your team or you are working on.

Type of Excel Chart

Surface chart

This chart presents data in groups of values as a three-dimensional surface.

Stock Chart

This is used to depict how stock prices have changed over a particular period.

Bubble or Scatter Chart

This shows the negative or positive relationship between two variables.

Waterfall, Tunnel or Radar Chart

These contrast the total of different data sets.

Doughnut or Pie charts

It displays data as a percentage of the overall value.

Line Chart

This shows changes over time in a way similar to bar charts.

Column Chart

This Chart also shows how data has evolved over time.

Bar Graph

Shows data frequency at varying levels or for various variables.

Area Chart

This shows the strength of a pattern among two or more data over a specific period.

Other Charts include Hierarchy Chart, Statistic Chart, Maps Charts, PivotChart, and Combo Chart.

How to Use Your Data to Build Graph in Excel

Your data should be entered into Excel.

Your data must first be inputted into Excel. It's possible that you exported the data from a survey or marketing program. Or maybe you input your data manually.

Select from the Chart and Graph choices.

Bar or Column graphs, Scatter or Bubble plots, pie graphs, line graphs and much more are all featured as graphs and charts in Excel. Go to the "Chart" menu after selecting "Insert" to view the graph and chart choices.

Highlight your information and add the preferred chart to the spreadsheet.

The Y and X axis labels must be included with the data to create a bar graph. The column icon in the "Charts" tab by clicking the "Insert" menu. The dropdown pane that displays allows you to select the desired graph.

Change the axis of each data.

Right click on the bar graph, choose "Select Data", then choose Switch Row or Column to edit what shows on the Y and X axes. Select "OK" at the bottom when you are through.

Modify the chart's axis labels and legend size.

Based on the charts or graphs you selected, the legend and axis labels you used while creating your initial chart in Excel could be small.

Whenever you are through with creating charts, you must make the labels bigger and more understandable. Click on each chart's labels separately to increase them. Then, instead of just opening a fresh Format tab, switch back into Excel's navigation menu bar from the "Home" menu. Next, you can reduce or increase the axis and legend labels of your chart as preferred by using the font size and type selection options.

Adjust data color and layout.

Tap on the bar chart and choose the "Charts Design" option to modify the legend and label layout. Here, you can select your preferred layout for the chart label, axis label and legend.

Edit the Y axis measurement choice.

Select the percentage on the Y axis of your graph to display the "Format Axis" box and edit the kind of measurement presented there. On the "Axis Options" box, you can show units or change if the Y-axis shows percentages with no decimal place or two decimal places.

Rearrange your data.

Right click on your chart and tap "Select Data" to open the same selection box you will use in adding preferred chat to your spreadsheet. It will arrange the data so that the respondents' replies are shown in reverse order. To reverse the arrangement of your information on the graph, arrow up and down this time.

Name your Graph.

The title that shows shortly after creating your chart is "Chart Title". Click "Chart Title" to display an editing cursor and change this name. The name of your chart would then be completely changeable. After you have chosen a name you prefer, choose "Home" from the top menu bar, and apply the formatting options for the type to give it the priority it requires.

Export Chart or Graph

You can export a graph or chart as a picture if it is simply how you want it after having screenshotted it in the spreadsheet. Through this approach, you may produce a clear picture of your graph that can be added to a PowerPoint or Canva presentation, along with other visual templates. Right click on the Excel graph select "Save as Picture" to save it as a picture. Name the image of your graph andchoose where to save it on your computer and select the file format you desire to use in the dialogue box.

Graphs and Charts Best Practices

Use a dynamic name for your chart.

A cell in a worksheet can be connected to the name of your chart to update it. It is a little bit of a hack that will make you appear smart to your customer or company. The ideal uses for dynamic names are for constantly updating data, such as everyday data inputted manually, or data recovered from a database and pasted into Excel.

Make customized charts.

You are not restricted to the several themes that Excel offers. Create a chart by using your brand's colors and save it as a theme if you want your data to match your brand.

View and use other Themes in Excel

Despite Excel's great chart editing features, most users rarely change it from the default "Office" configuration. By clicking "Page Layout" select "Themes" (for Mac: navigate to "Home" and click on "Themes") and select a new theme from the drop menu.

Tidy your axes.

Always make sure that your axes are always clean.

Avoid making people to tilt their head while interpreting your data

This makes it difficult and prone to mistakes when interpreting data. If your axis labels are longer, it is preferable to make your chart larger so that they may be presented horizontally, or even better, use a bar chart rather than a column chart.

Always sort your data before creating a chart in Excel

Unsorted data results in charts that are far more complex to understand and read.

Include a descriptive title to your Chart.

Everything you are trying to communicate is clear to you when you are the one bringing the data altogether. However, it is not always clear to others who will strive to comprehend what you are trying to convey. Click your chart and then click "Chart Tools" select "Layout" choose "Labels" and click on "Chart Title" to add a chart title. To add a title to your chart on Mac click on " Charts" select "Chart Layout" choose "Labels" and tap "Chart Title".

With just a set of data, you can remove legends.

It is not necessary to use the legend that Excel displays if you are simply showing one data on a chart. Simply ensure the chart title contains the metric you are presenting.

Reposition the legend.

The legend should generally be placed at the bottom or top of a chart. I usually position the legend above instead of below, but when there is too much data at the top or if there is a pie chart. To reposition it, simply access the formatting menu and select the preferred place from the Legend Options category which is known as Placement on a Mac.

Your chart background noise should be removed.

It is necessary to remove the noise and concentrate on relevant information when presenting data because the background noise keeps you from focusing on the important things.

Data Charting Methods in Excel

Control a missing and zeros data in your chart. By choosing the chart series, select "Chart Tools", choose "Design Tab", click on "Select Data", click on "Hidden and Empty Cells", and select "OK" to control how missing data or zero values are presented in a chart. **Excel charts has various colors that can be used.** Excel will continually use the exact same color for each bar when plotting a chart only with a range of data. This can be changed by choosing the series, using right click, and choosing "Format Data Series", followed by "Fill". If the chart only contains a series, the options to change the color of each point will be provided. **Title your chart smartly** The data of a worksheet cell can be used as the chart's title. Navigate to "Chart Tools", choose "Layout" menu, and click on "Chart Title"' to title and position your chart title. Always make sure you title your chart smartly. **Grow your chart automatically.** If you possess data which will change over time, you may build your chart to develop as additional data is included to your data storage. To achieve this, choose the data and click on "Format as Table" from the "Home" menu of the ribbon after choosing the data. When you use the table information as the base for your chart, your chart will enlarge automatically when more data is included because your data is presented as a table.

Create a combined chart.

Choose the preferred data, then create the basic chart, like a column chart. Then click on "Chart Tools", choose "Design Tab" and select "Change Chart Type" and choose the second chart type, choosing the data that you desire to present in a different manner, like a line chart. Column and Bar charts, for instance, cannot be effectively merged but a column and line chart can be combined.

Plotting on the second axis of a chart

Small data, like percentages, will always get lost and become unreadable when plotted against bigger data, such as millions. Plotting the percentages on the second axis will enable you to identify the solution to the problem.

Bigger bars

It is possible that your chart's bars are abnormally thin whenever you plot data that are date-based. To correct this, click on the "X axis" of the chart, and select "Format Axis" from the menu bar. Select "Text Axis" by first selecting the "Axis Options". This adjusts the axis's layout, resulting in bigger bars. The spacing width can then be adjusted to make it bigger if needed.

Change the column spacing and overlapping.

Right click any series on the chart and select "Format Data Series" to change the space between columns or the overlap between two chart series. Use the Series Overlapping option to overlap the series by moving toward Overlapped or to separate the series apart by dragging toward Separated.

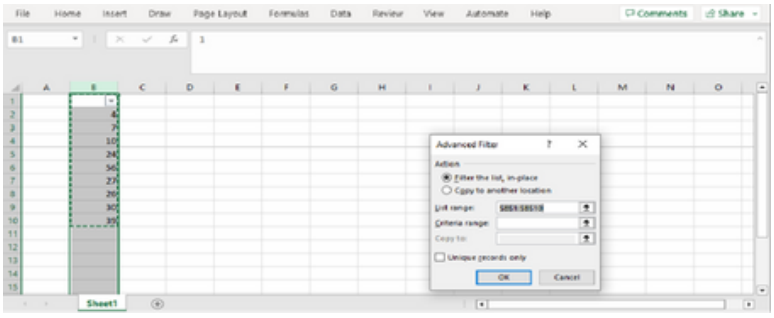
Excel chart can be saved as a picture.

The best way to save a chart as a picture is to size the worksheet's chart such that it would have the perfect size. Click on "File" select "Save As", and select the place to save the file, choose Web Page from the "Save As Type" drop menu, input a title, and then click on "Save".

Use the white and black patterns.

The sequence to change can be selected from the drop menu at the top-left of the ribbon by choosing a chart and selecting "Chart Tools" from the "Layout" menu. Click "Fill" and select "Pattern Fill" from the Format Selection menu. Set the background and foreground colors of a monochromatic chart to white and black, respectively, and pick a fill pattern for the series. For the second series, repeat the same procedure while using a different pattern.

MICROSOFT EXCEL ADVANCED FORMULAS AND FUNCTIONS



TRIM Function

Unwanted spaces within text are tidied up using this Excel formula. For example, you can use the TRIM function to remove spaces from the beginning of names in a cell.

OFFSET Formula

When you combine this function with "AVERAGE" or "SUM" it can make the calculations dynamic. It works the best when adding continuous data into a dataset which already exists. Excel has a range in which we must provide the number of columns, number of rows and reference cells. Under Excel's Lookup and Reference functions, the OFFSET Function is a subset. A collection of cells will also be returned by OFFSET. It will return a certain number of columns and rows from a specific start range.

Charts and pivot tables are widely used in financial analysis. To assure that the original data in charts or pivot tables is often current, use the OFFSET function to create a dynamic named range. In OFFSET syntax, "cols", "rows" and "reference" are required arguments while "width" and "height" are optional arguments.

OFFSET Function Formula

= OFFSET(reference, rows, cols, [height], [width])

- Width: The width of the returning array is given by this. The returning range contains the same width as the reference given if it is missing.
- Height: Height of the given range is provided. The height of the given reference argument is applied to define the given range if it is omitted.
- Cols: The number of columns between the beginning of the supplied reference and the beginning of the returned range.

- Rows: This is the rows number between the beginning of the supplied reference and the beginning of the returned range.
- Reference: This is a cell range that must be offset. It may consist of several cells or a single cell.

LEFT, MID and RIGHT Formula

This formula can be applied to split a particular substring out of a text string. The RIGHT formula too is used in the same manner. The difference is that you will have to view the text from the string's right. The start position and length of the preferred text string must be provided in the case of an excel MID function.

Excel's LEFT function is used to cut out a specified set of characters from a string beginning on the left side. The RIGHT function cuts out a certain range of characters beginning on a string's right side. It uses the very same arguments as the LEFT function, number, and text character. The MID function accepts an inputted string and extracts a specific number of characters beginning at a specific location.

VLOOKUP Formula

This is one of Excel's most frequently used formulas. The major reason for this is the ease of using this formula and the way it can be used to look up a particular value from separate tables, each of which includes a standardized variable.

CONCATENATE Formula

This Excel function is one of the formulae that has a wide range of uses. It helps to combine various text strings into a text string. CONCATENATE Formula: =CONCATENATE(text1, [text2], ...). Text1 is a required argument which is the first item to be joined. These items can be a number, cell

reference or text value. Text2 is also a required argument which adds text items that you want to merge.

SUMIF Formula

This formula filters all the observations according to specific criteria before adding them all together. Whenever one cell matches a single condition, the Excel SUMIF function delivers the total of those cells. Text, numbers, and dates can all be subjected to conditions. For partial matching, the SUMIF function supports wildcards (*,?) in addition to the logical operators (=, <,>).

The SUMIF function adds the values of cells in one range that meet one or more conditions. To total cells based on numbers, text values and dates use the SUMIF function which is a commonly used function. SUMIF Syntax: =SUMIF(range, criteria, [sum_range]). Sum_range: Range to sum which is optional. Cells in range are merged if omitted. Criteria simply means the criteria to use. Range is to apply criteria to range.

IF OR Formula

Like this, if any of the various conditions has to be met, you can use Excel's OR function in place of the AND function. The IF function provides a lot more significance when used with logical operations like NOT< OR and AND because it permits combining various conditions to be examined. Incorporate the OR function in the logical test of IF to analyze two or even more conditions and return a result when any of the conditions is TRUE and a separate outcome when all conditions are FALSE. IF(OR(condition1, condition2,...), value if true, value if false) entails carrying out an action if a cell is "this" OR "that," and another if it is not.

IF AND Formula

The IF's common syntax is known to all of us. To build a new field depending on the limitations in an existing field, use the IF formula. When using AND to produce a flag based on several columns, you can have a wide range of limitations or conditions. The IF function appears to be one of those things in the world that is infinite and finite. Thus, you must merge the IF and AND functions in a formula to create the IF AND argument.

The formula is as follows: IF(AND(condition1, condition2,...), value if true, value if false), which implies taking action if conditions 1 and 2 are both true; if not, do something different. You are not restricted to using just one logical function in Excel IF formula. You are permitted to merge the OR, AND, IF, AND and other functions to carry out the necessary logical tests on different combinations of response to variations.

MATCH Formula

To build a new field depending on constraints in an existing field, use the IF formula. Using AND, you will generate a flag depending on several columns with a range of constraints or conditions.

INDEX Formula

By giving the number of columns, rows, or both, you can apply this formula to get the number of a cell in each table.

VLOOKUP Formula in Excel

Whenever you are searching for a specific piece of information in a dataset or table, the VLOOKUP Function can be used to extract the necessary information or data. The VLOOKUP function instructs Excel to find a certain piece of information in a table or set of data and provides corresponding

information about it. The formula for VLOOKUP is
=VLOOKUP(lookup_value, table_array, col_index_num, [range_lookup])

VLOOKUP Formula Arguments

Range-lookup

This is an optional argument which specifies what will be returned if the function cannot locate an exact fit for the lookup value. Whenever the parameter is set to either FALSE or TRUE, the following results will be achieved:

FALSE: Failure to find an exact match or exact match, will result in an error being returned.
TRUE: Using the closest match just below lookup value in the absence of an exact match.

Col_index_num

This is a required argument which specifies the column value in the given table array you wish to retrieve a value from.

Table_array

This is a required argument in which the data array to be searched is the table array. The leftmost column of this array is where the VLOOKUP function looks.

Lookup_value

This is also a required argument. This identifies the value in a table's first column that we want to search up.

VLOOKUP Uses

Sort the data.

Making sure your data is organized and suitable for using the VLOOKUP function is the very first stage to using it properly. The data you would like to look up must be located to the left of the related data you would like to extract because VLOOKUP functions in a left to right manner.

Set the function's lookup conditions.

You must specify what you want Excel to look for. The very first step is to input the formula "=VLOOKUP(," preceded by the choice of the cell containing the data you want to look up.

Inform the function of the search area.

You must choose the table that contains the data, and you will instruct Excel to look for the data you choose in the previous step in the leftmost column.

Specify which column will contain the data.

Excel needs to know what column the data has you want the VLOOKUP to generate. Excel requires a number which matches the table's column number to execute this.

Approximate or exact match

By adding "True" or "False" in the function, you also can tell Excel whether you are searching for a close or an exact match. When searching up a particular number that may not be included in the table, for instance the number 8.226, an approximation would be helpful. Excel in this instance, will search for the closest number to 8.226, even if this number is not in the database. This will ensure that errors in the VLOOKUP formula are minimized.

INDEX Formula in Excel

A selected cell from a given range or an array is returned by an INDEX formula. In other terms, you can use the INDEX formula when you are interested in an element's real value but can calculate where it stands in relation to other items in the range. This function is flexible and smart. In Excel, INDEX function comes in two different kinds which are reference and array form.

Syntax uses of INDEX Function

INDEX Formula: INDEX(array, row_num, [column_num])

- Column_num: Identifies the column in which a value should be returned. Row number is necessary if column number is left out.
- Row_num: Is the index into the array's row where a value should be returned. Column number is important if row number is left out.
- Array: A set of cells referred to as a range or a table.

For instance, the formula =INDEX(B2:C4, 7, 2) will return cell C4, which is located at the meeting of the 2nd column and 7th row in the range B2:C4.

INDEX array form: INDEX(reference, row_num, [column_num], [area_num])

- Area_num: This is a selection parameter specifying which range from the reference argument ought to be used. First range specified in reference will serve as the outcome if the INDEX formula is left out.
- Column_num: The array form also applies to the column value that is used to return a cell reference.
- Row_num: Like the array form, it returns the range's number of rows from which the cell reference will be returned.
- Reference: This consists of a range or ranges.

For instance, the formula =INDEX((A5:E6, C4:B3), 2, 5, 3) will return cell B3 value, that is at the meeting of the 5th column and 2nd row in the second part (C4:B3).

Basic Uses of Excel INDEX Function

Use the Excel INDEX formula, to choose one range from a set of ranges.

The flexibility of the INDEX function to choose a range from a set of ranges is also another smart and efficient usage of the function. For instance, if you have multiple lists, each containing a distinct number of elements, you can use a single formula to estimate the sum or average of the values in any given range.

Strong INDEX or MATCH with VLOOKUP

The INDEX function excels when you execute lookups vertically. If you have used the VLOOKUP function, you are quite aware of the various limits. For instance, you can just get data from column to the left of the lookup column, and the maximum limit of a lookup value is two hundred and twenty-five (255) characters.

Dynamic range and drop list can be created by using INDEX formula.

As is often the case, you may not be aware of the precise number of rows or columns you will need when you begin to organize your data in a worksheet. The primary benefit of this method is that you are not required to change each formula in your worksheet on a regular basis to make sure they reference the right ranges.

Applying INDEX Function with additional functions (MIN, MAX, AVERAGE, SUM etc.)

An INDEX formula does not only return numbers, it returns a reference to the cell that has value because the outcome of an INDEX formula is a reference, you can apply it to build a dynamic range in other functions.

Having every value in a column or row

INDEX function has the capability to retrieve a data array from a column or a row in contrast to getting a single cell. Skipping the row number argument or setting it to Zero will return all data for that column. Similarly, if you supply an empty value or zero for column number, you will receive the full row.

Finding the Nth entry on a table

Use the INDEX function whenever you desire to retrieve a specific item from a list, you input =INDEX (range, n), where range is a collection of cells, or a defined range and n represents the item's location.

MATCH Formula

To get a lookup value's placement in a table, column, or row, use the Excel MATCH function. This function allows partial matches with wildcards (*?)

and precise and approximate matching. To get a number at a matched place, MATCH function is commonly used in combination with the INDEX function.

=MATCH(lookup_value, lookup_array, [match_type])

- Lookup_array: An array reference or a group of cells.
- Lookup_value: This is a lookup array's matching value.
- Match_type: Next or exact lowest (default); -1 implies next largest or an exact match while 0 implies an exact match.

Uses of MATCH Function

1. MATCH function can be applied to find a value in an array or range.

2. It supports wildcards (*?) for partial matches as well as accurate and approximate matches.

3. It only accepts horizontal or vertical single ranges or arrays. Nonetheless, by presenting MATCH with the single row or column which has the lookup value, you can use MATCH to find entries in a two-dimensional table or range. Sometimes, you can get a matching column and row by using MATCH twice in a single calculation.

4. It determines the location while INDEX provides the value at that location.

Notes

In connection with the INDEX function, the MATCH function is widely used in many applications.

The lookup value can have the wildcards when the match type is fixed to zero.

The lookup array must be arranged as stated above, match type is either 1 or -1.

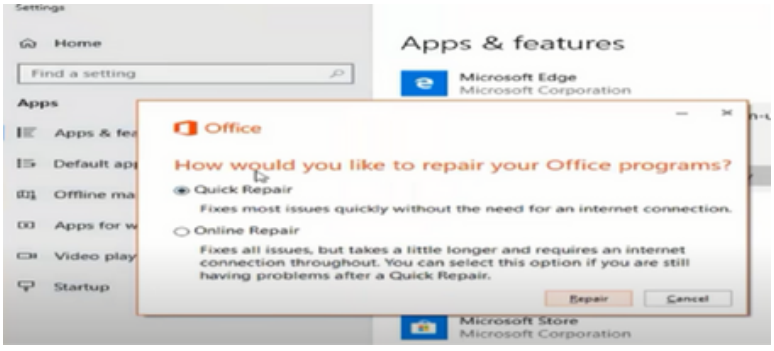
MATCH Function returns the first match when there are repetitions.

Only text with such a length of up to two hundred and twenty-five characters can be used with MATCH Function in Excel.

When no matches are detected, MATCH provides the #N/A error.

MATCH Function in Excel is not case sensitive.

TROUBLESHOOTING



Microsoft Excel is an efficient tool for analyzing and storing various kinds of data. Educational institutions, small enterprises, and some of the top companies around the world all use it daily. Your day can be ruined, and your organization may even lose a lot of money if Excel returns and error, freezes or crashes. However, if you are familiar with the processes for

troubleshooting Excel, there are several simple solutions for these issues based on the nature of the problem. Freezing, Not Responding, or Has Stopped Working been Microsoft Excel's troubleshooting issues.

How to troubleshoot issues in Excel

Check that Excel is active and running.

Check if Excel is simply working on something and you will have to be patient before you begin some of the most difficult troubleshooting processes. If Excel is open, it can be seen in the taskbar at the bottom of the window.

Use the Safe Mode to start Excel.

You can begin the application in safe mode to avoid having any of the starting problems. Holding down the "Control" (Ctrl) key while launching Excel or using excel.exe /safe into the command prompt will activate Excel in safe mode.

Remove the Add-Ins in Excel

The next process is removing add-ins in Excel, and this is achieved through the following steps:

- Navigate to the "File" menu.
- Select "Options" from the drop-down menu.
- From the "Option" tab, choose "Add-Ins".

- Choose "Go" which is next to the "Manage list" tab.
- Click on "Ok" after removing the Add-Ins.

Update Your Applications Regularly Excel changed whenever it started working one moment and quit functioning
the next moment. It is likely you have missed a crucial update. To find out if this fixes your problem, there are some items you can check and update. Firstly, is your Windows installation updated? Install the most current suggested updates and changes if you have not already done so. Secondly, do you have any Excel updates? Download and update them as well if they are available. After all these updates have been completed, restart your computer, and proceed to launch Excel once again.

A third-party software should be examined for issues.

Virus scanning and add-in disablement can make Excel stop functioning. For instance, several Excel files are created by external programs. It might not function or work properly if such files are not created appropriately. Simply open the file in a software different from the third-party one to confirm this. If it does, there is a fault with the file instead of the Excel software.

Run a Selective Startup to Detect Issues

Procedures, applications, and services could be incompatible with Excel. Other programs and services usually launch with Windows, a few of which could cause problems. By conducting a selective startup, also known as a "clean boot" you can assess how such exist and what they represent. There

seems to be one further thing you can try which is fixing your office software if this method was found to be conflict free.

Fix your Office Software

Your Excel application may also have suffered a terrible malfunction and requires help to resume operations. However, the self-repair function in Office programs can usually be used to fix them. The steps may be different based on the base operating system. Any of the above Excel troubleshooting processes can help you get back on track.

How to Troubleshoot Formulas in Microsoft Excel

What will happen if Excel is presenting more technical issues, like a formula issue? It is often frustrating to deal with formulas and functions related issues. There are basic errors which occur in Excel if you are dealing with a worksheet or just a problem in general. The below Excel troubleshooting process will help you in identify and solve spreadsheet formula issues:

Make Use of Error Checking

Excel has a setting related to this that you may not or may have enabled. It is usually a good idea to have it activated to be conscious of errors and can even receive support where necessary. Navigate to the "File" menu, choose "Options", and then click on "Formulas" to activate it. "Enable Background Error Checking" must be checked and click on "OK".

Discard Basic Mistakes

Everyone will have encountered one or two of these mistakes: Failing to close your parentheses, using a colon in a cell range instead of a semicolon or forgetting to begin a formula with the equal sign. These are simply just a few instances of basic mistakes that could enable Excel to provide a solution that you do not understand or want. Other mistakes include trying to divide a number by zero and inputting the dollar sign ($) in the inappropriate cell.

Excel can Help.

Excel will provide you tips and recommendations whenever you input formulas that obviously contain mistakes. Excel's guidance can often help you in preventing or fixing mistakes.

Use the Auditing Tools in Excel

Excel offers its users a range of auditing tools which can be used to detect and fix calculation errors. Search for the tools in the "Formula Auditing Group" section by selecting the "Formulas" menu. Trace Precedents and Trace Dependents visually help you to know which worksheet cells go into a formula. Your complete worksheet will be checked by error checking. A formula's variables will be analyzed by "Evaluate Formula", that will then notify you of any areas that may be causing problems.

MICROSOFT EXCEL FREQUENTLY ASKED QUESTIONS (FAQS)

What is the easiest way to access a specific section of a worksheet?

Just use the name box to quickly go back to a specific section of the worksheet.

What function does "Name Box" in Microsoft Excel's offer?

By inputting a cell address or range name in the name box, users can go to a certain area on the worksheet.

How can a fresh Excel worksheet be added?

The "Insert worksheet" menu is found at the bottom of the screen to add a new worksheet in Excel.

Describe Ribbon

The word "ribbon" is defined as a region at the top of the software that occupies the Microsoft Excel menu items and toolbars.

Can You Freeze the Top Row in Excel?

Yes, you can freeze the top row in Microsoft Excel by selecting the "View" menu from the ribbon, then choose the "Freeze Top Row" box under the "Freeze Panes".

What is the best way to add the Fahrenheit sign to a worksheet?

You can use the keyboard shortcut "ALT" plus 0176.

How can Excel formulas be seen in cells?

Use the "Control (Ctrl) + ~" which is a keyboard shortcut.

How can I sort data horizontally in Excel?

Microsoft Excel has an "Options" menu which allows you to fix the sort from Left to Right when you click on "Ribbon", select "Data" and choose "Sort".

Why does the text on my cell look like #####?

It indicates that such a cell is not big enough to show the full text. To expand the column, pull the right cell border and drag it to the right.

Instead of seeing a result, I am seeing a formula in Excel.

Navigate to the "Formulas" and disable the "Show Formulas" option under the "Formulas Auditing".

CONCLUSION

In a nutshell, Microsoft Excel has a lot of advantages, and it is used for various purposes, features, and functions. Excel is the perfect means for storing both small and large data, used for cleaning and transforming data, automating with coding, template usage to make your work easier and faster, easy printing of reports, visualization, or presentation of data with graphs and charts, has every data analysis tools that can be used to analyze data, can also be used to calculate etc.

Excel is very simple and easy to use, you can import and export data with ease, it can be used on different devices such as Mac, Windows, iOS, and Android, and it also has multiple spreadsheets. You can use Microsoft Excel to return the result of an argument or statement by using the Formulas and Functions. It is not a stressful application, easily accessible without issue and it is not only use by data analysis alone, everyone uses Excel, and it is also used in different settings such as organizations, companies, schools, offices for various reasons like project management, business administration, program management, office administration, operation management, accounting, contracts etc.