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How To Use Excel:
A Beginner's Guide To Getting Started

Written by co-founder <u>Kasper Langmann</u>, Microsoft Office Specialist.

Excel is a powerful application—but it can also be very intimidating.

That's why we've put together this **beginner's guide to getting started with Excel**.

It will take you from the very beginning (opening a spreadsheet), through entering and working with data, and finish with saving and sharing.

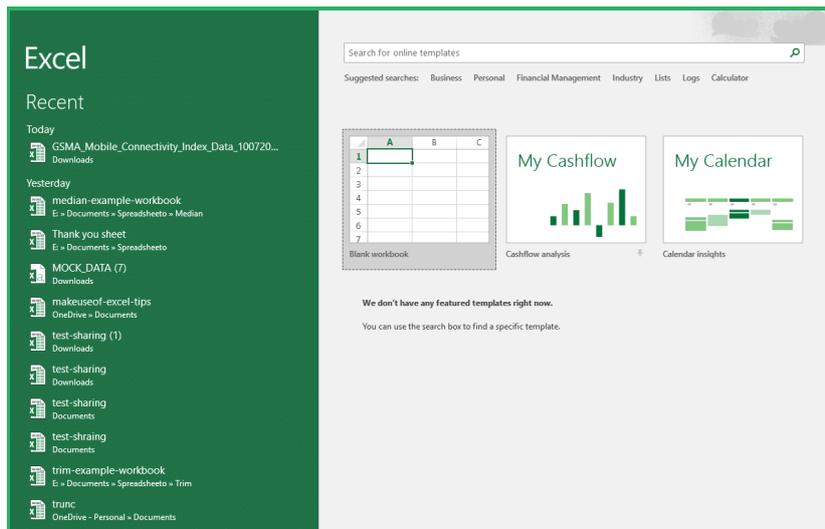It's **everything you need to know** to get started with Excel.

If you want to tag along as you read, please download the free sample Excel workbook here.

Table of Contents

Opening an Excel spreadsheet

When you first open Excel (by double-clicking the icon or selecting it from the Start menu), the application will ask what you want to do.

If you want to open a new Excel spreadsheet, click **Blank workbook**.

To open an existing spreadsheet (like the example workbook you just downloaded), click **Open Other Workbooks** in the lower-left corner, then click **Browse** on the left side of the resulting window.
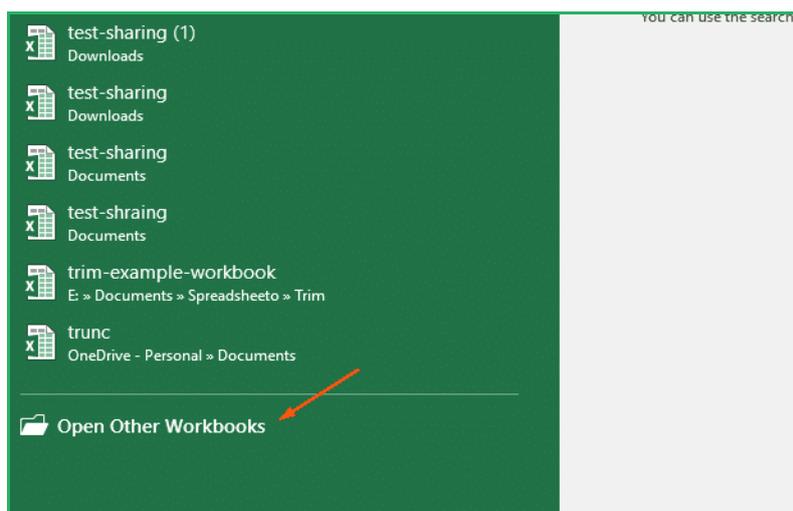
Then use the file explorer to find the Excel workbook you're looking for, select it, and click **Open**.

Workbooks vs. spreadsheets

There's something we should clear up before we move on.

A **workbook** is an Excel file. It usually has a file extension of .XLSX (if you're using an older version of Excel, it could be .XLS).

A **spreadsheet** is a single sheet inside a workbook. There can be many sheets inside of a workbook, and they're accessed via the tabs at the bottom of the screen.

A spreadsheet (a.k.a. a sheet/tab) contains all the cells you can see and use in the >1 million rows >16,000 columns.

Working with the Ribbon
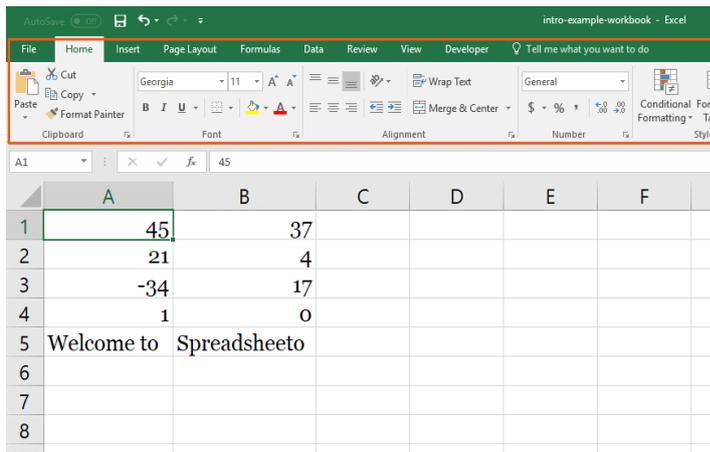
The Ribbon is the central control panel of Excel. You can do just about everything you need to directly from the Ribbon.

Where is this powerful tool? At the top of the window:

There are a number of tabs, including the **File tab, Home tab**, **Insert tab**, **Data tab**, **Review tab**, and a few others. Each tab contains different buttons.

Try clicking on a few different tabs to see which buttons appear below them.
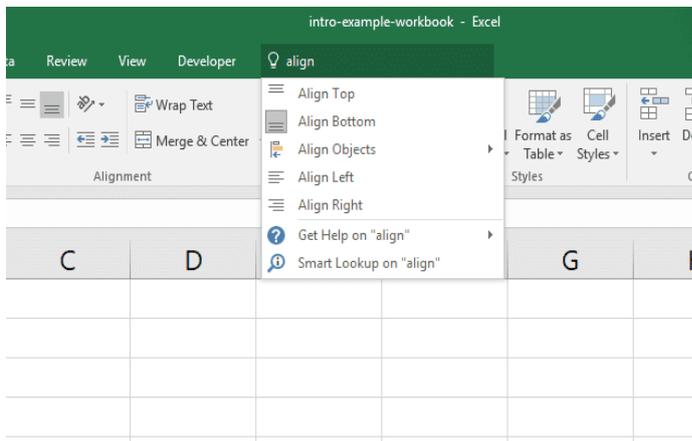
There's also a very useful search bar in the Ribbon. It says **Tell me what you want to do**. Just type in what you're looking for, and Excel will help you find it.

Most of the time, you'll be in the **Home** tab of the Ribbon. But **Formulas** and **Data** are also very useful (we'll be talking about formulas shortly).

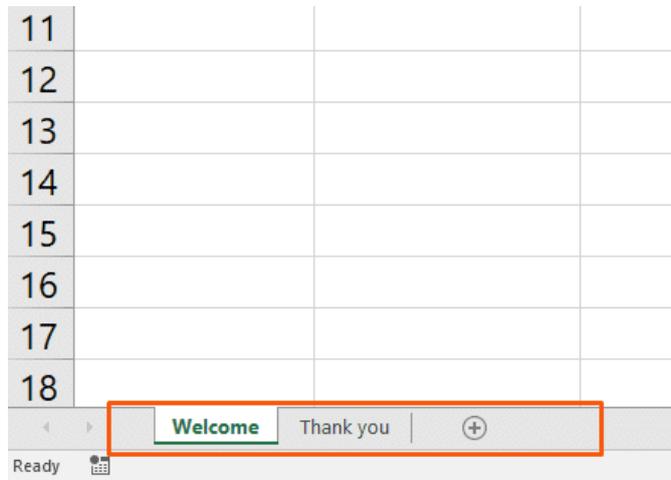## Pro tip: Ribbon sections
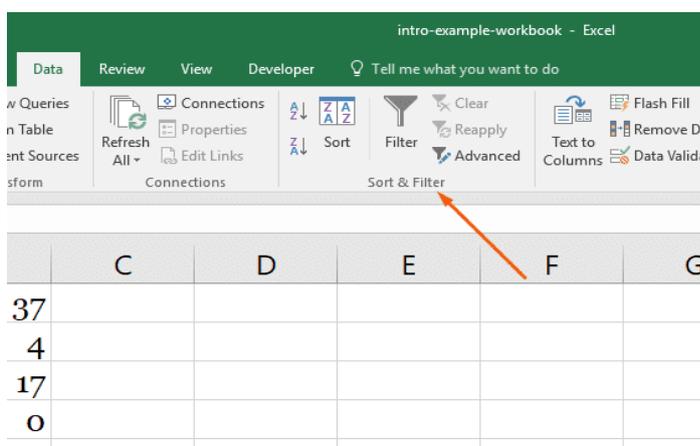
In addition to tabs, the Ribbon also has some smaller sections. And when you're looking for something specific, those sections can **help you find it**.
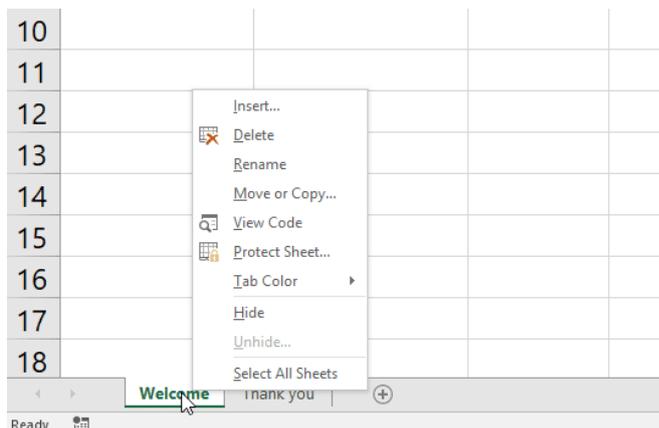
For example, if you're looking for sorting and filtering options, you don't want to hover over dozens of buttons finding out what they do.

Instead, skim through the section names until you find what you're looking for:

Managing your sheets

As we saw, workbooks can contain multiple sheets.

You can manage those sheets with the sheet tabs near the bottom of the screen. Click a tab to open that particular worksheet.

If you're using our example workbook, you'll see two sheets, called **Welcome** and **Thank You**:

To add a new worksheet, click the + (plus) button at the end of the list of sheets.

You can also reorder the sheets in your workbook by dragging them to a new location.

And if you right-click a worksheet tab, you'll get a number of options:

For now, don't worry too much about these options. **Rename** and **Delete** are useful, but the rest needn't concern you.

Entering data

Now it's time to enter some data!

And while entering data is one of the most central and important things you can do in Excel, it's almost effortless.

Just click into a blank cell and start typing.

Go ahead, try it! Type your name, birthday, and your favorite number into some blank cells. You can also copy (**Ctrl + C**), cut (**Ctrl + X**), and paste (**Ctrl + V**) any data you'd like *(or read our full guide on copying and pasting here)*.

Try copying and pasting the data from multiple cells in the example spreadsheet into another column.
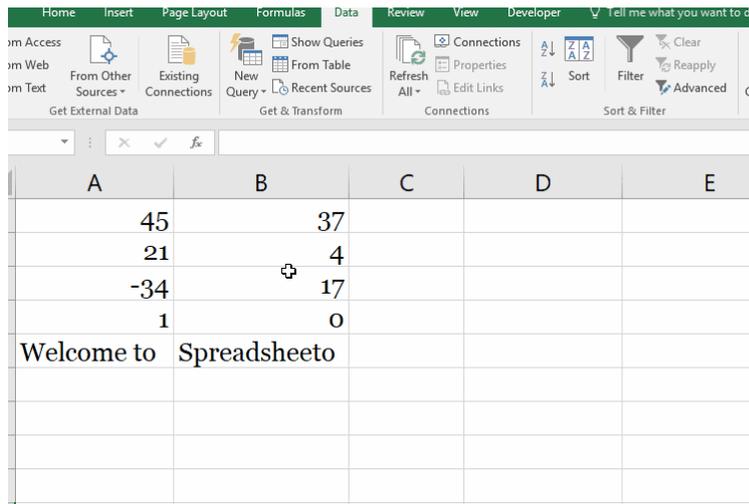
You can also copy data from other programs into Excel. Try copying this list of numbers and pasting it into your sheet:

- 17
- 24
- 9
- 00
- 3
- 12

That's all we're going to cover for basic data entry. Just know that there are lots of other ways to get data into your spreadsheets if you need them.

Basic calculations

Now that we've seen how to get some basic data into our spreadsheet, we're going to do some things with it.

Running basic calculations in Excel is easy. First, we'll look at how to add two numbers.

**Important: start calculations with = (equals)**

When you're running a calculation (or a formula, which we'll discuss next), the first thing you need to type is an equals sign. This tells Excel to get ready to run some sort of calculation.

So when you see something like =**MEDIAN**(**A2:A51**), make sure you type it exactly as it is—including the equals sign.

Let's add 3 and 4. Type the following formula in a blank cell:

=3+4

Then hit **Enter**.
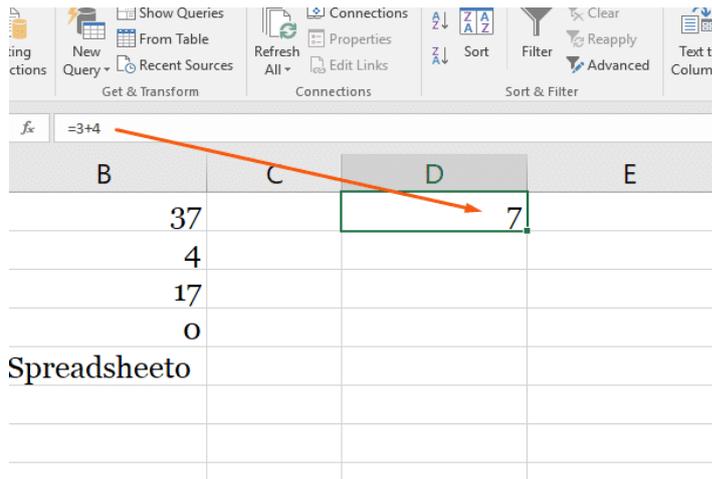
When you hit Enter, Excel evaluates your equation and displays the result, 7.
But if you look above at the **formula bar**, you'll still see the original formula.

That's a useful thing to keep in mind, in case you forget what you typed originally.

You can also edit a cell in the formula bar. Click on any cell, then click into the formula bar and start typing.

Performing subtraction, multiplication, and division is just as easy. Try these formulas:

- =4-6
- =2*5
- =-10/3

What we're going to cover next is one of the most important things in Excel. We're giving it a very basic overview here, but feel free to read our [post on cell references](#) to get the details. Now let's try something different. Open up the first sheet in the example workbook, click into cell C1, and type the following:

=A1+B1

Hit **Enter**.

You should get 82, the sum of the numbers in cells A1 and B1.
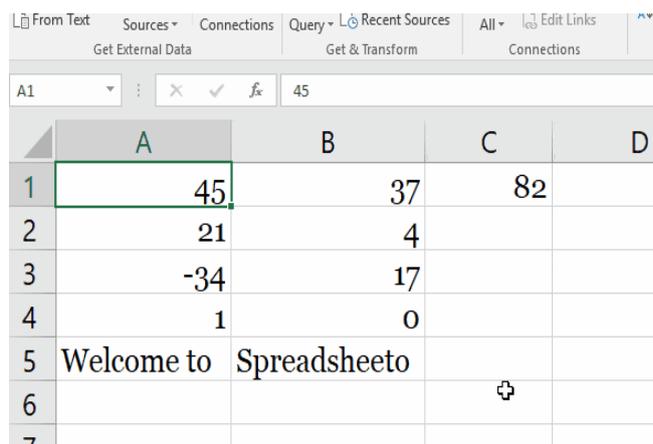
Now, change one of the numbers in A1 or B1 and watch what happens:

Because you're adding A1 and B1, Excel automatically updates the total when you change the values in one of those cells.

Try doing different types of arithmetic on the other numbers in columns A and B using this method.

Unlocking the power of functions

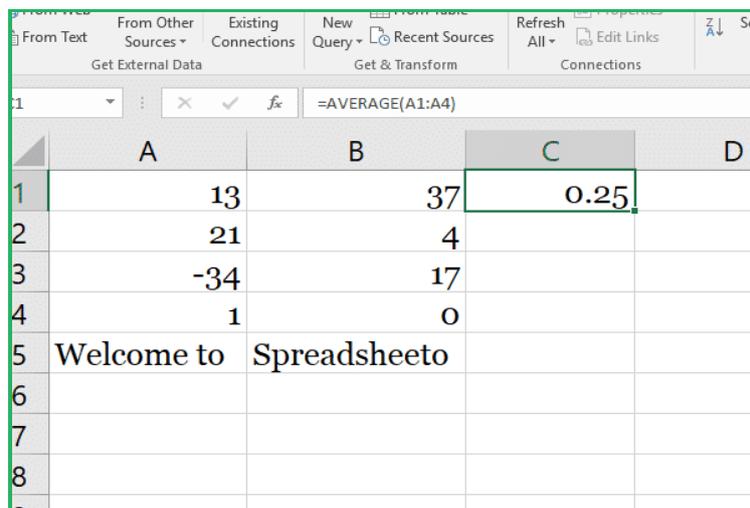Excel's greatest power lies in functions. These let you run complex calculations with a few keypresses.

We'll barely scratch the surface of functions here. Check out our other blog posts to see some of the great things you can do with functions!

Many formulas take sets of numbers and give you information about them.

For example, the AVERAGE function gives you the average of a set of numbers. Let's try using it.

Click into an empty cell and type the following formula:

=AVERAGE(A1:A4)

Then hit **Enter**.

The resulting number, 0.25, is the average of the numbers in cells A1, A2, A3, and A4.

Cell range notation

In the formula above, we used "A1:A4" to tell Excel to look at all the cells between A1 and A4, including both of those cells. You can read it as "A1 through A4."

You can also use this to include numbers in different columns. "A5:C7" includes A5, A6, A7, B5, B6, B7, C5, C6, and C7.

There are also functions that work on text.

Let's try the CONCATENATE function!

Click into cell C5 and type this formula:

=CONCATENATE(A5, " ", B5)

Then hit **Enter.**

You'll see the message "Welcome to Spreadsheeto" in the cell.

How did this happen? CONCATENATE takes cells with text in them and puts them together.

We put the contents of A5 and B5 together. But because we also needed a space between "to" and "Spreadsheeto," we included a third argument: the space between two quotes.

Remember that you can mix cell references (like "A5″) and typed values (like " ") in formulas.

Excel has dozens of useful functions. To find the function that will solve a particular problem, head to the **Formulas** tab and click on one of the icons:
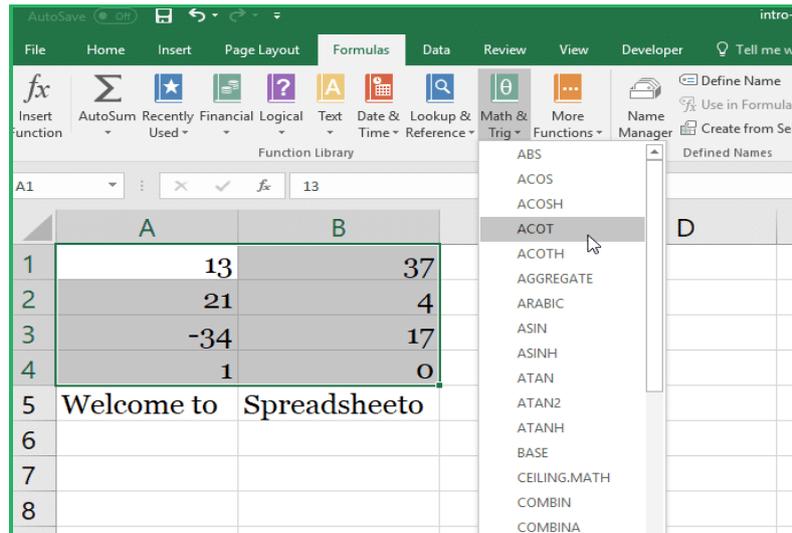
Scroll through the list of available functions, and select the one you want (you may have to look around for a while).

Then Excel will help you get the right numbers in the right places:
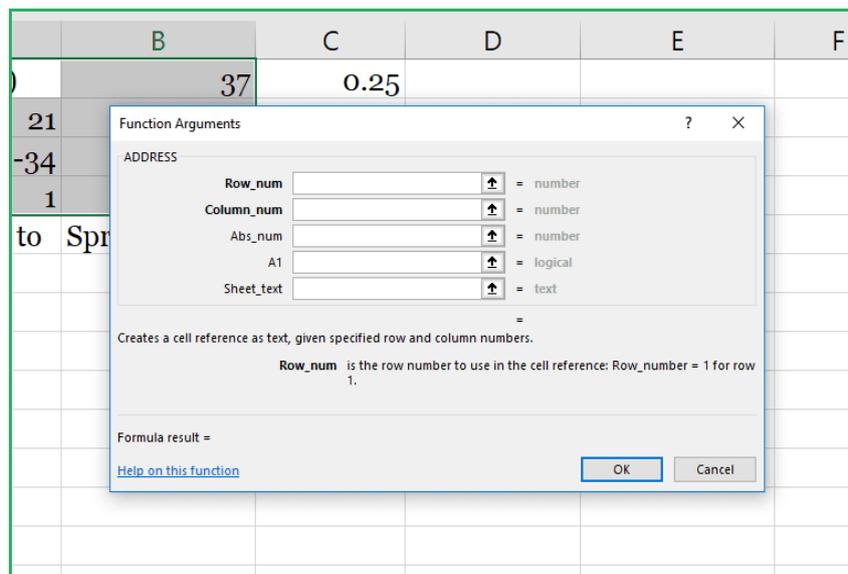
If you start typing a formula, starting with the equals sign, Excel will help you by showing you some possible functions that you might be looking for:

And finally, once you've typed the name of a formula and the opening parenthesis, Excel will tell you which arguments need to go where:
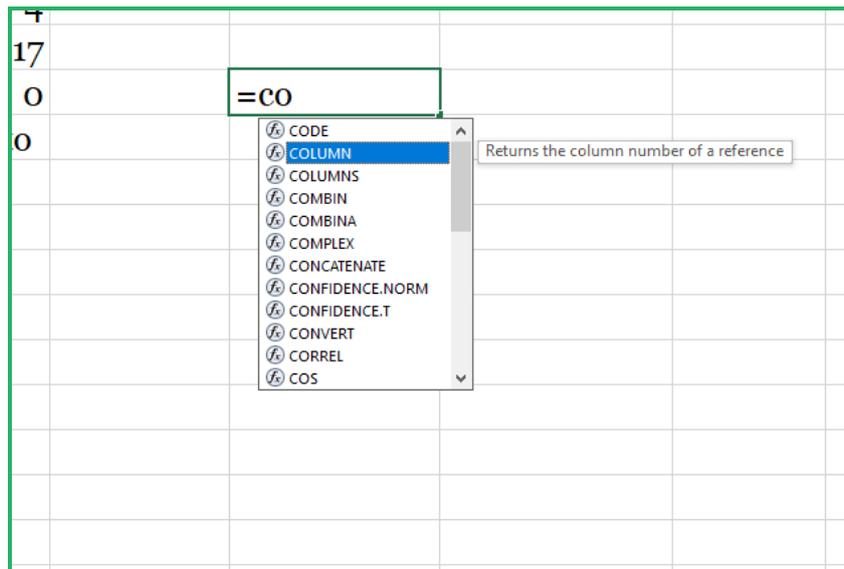

If you've never used a function before, it might be difficult to interpret Excel's reminders. But once you get more experience, it'll become clear.

This is a tiny preview of how functions work and what they can do. It should be enough to get you going on the tasks you need to accomplish right away.

Saving and sharing your work

After you've done a bunch of work with your spreadsheet, you're going to want to save your changes.

Hit **Ctrl** + **S** to save. If you haven't yet saved your spreadsheet, you'll be asked where you want to save it and what you want to call it.

You can also click the **Save** button in the Quick Access Toolbar:
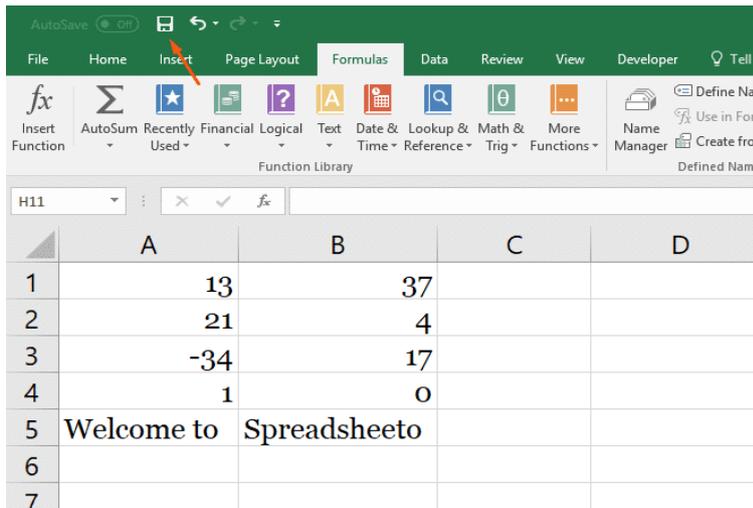
It's a good idea to get into the habit of saving often. Trying to recover unsaved changes is a pain!
The easiest way to share your spreadsheets is via OneDrive.

Click the **Share** button in the top-right corner of the window, and Excel will walk you through sharing your document.

You can also save your document and email it, or use any other cloud service to share it with others.

That's it – Now what?

This was how to use Excel.

Or… at least a small fraction of it.

Microsoft Excel can be intimidating, but once you get the basics down, it's easier to learn the more advanced functions.

This was your introduction to "the basics". So, if you're not ready to get some advanced

Excel knowledge, go ahead and practice with some of the existing data at the office

If you're ready to take your next steps, go ahead and enroll in my 30-minute free online course where you learn: IF, SUMIF, VLOOKUP, and data cleaning.

These are some of the most important topics of Excel

Other resources

Now, you can't excel at Excel without mastering some of the lookup functions like VLOOKUP and the new XLOOKUP.

But also, you don't wanna miss out on pivot tables. You can use these to transform your

Microsoft Excel data into insightful reports in just a few clicks

Or if you're into automating Excel spreadsheet formatting, go ahead and read my guide to conditional formatting here.

"By far this is the best training on the internet"

I've released a <mark>free Excel course</mark> that I think fits you perfectly.

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Basic tasks in Excel

Excel for Microsoft 365 Excel 2021 Excel 2019 Excel 2016

You're welcome to try Microsoft 365 for free

Excel is an incredibly powerful tool for getting meaning out of vast amounts of data. But it also works really well for simple calculations and tracking almost any kind of information. The key for unlocking all that potential is the grid of cells. Cells can contain numbers, text, or formulas. You put data in your cells and group them in rows and columns. That allows you to add up your data, sort and filter it, put it in tables, and build great-looking charts. Let's go through the basic steps to get you started.

Create a new workbook

Excel documents are called workbooks. Each workbook has sheets, typically called spreadsheets. You can add as many sheets as you want to a workbook, or you can create new workbooks to keep your data separate.

1. Click **File**, and then click **New**.

2. Under **New**, click the **Blank workbook**.
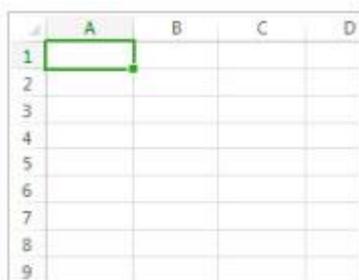

Blank workbook

Enter your data

1. Click an empty cell.

For example, cell A1 on a new sheet. Cells are referenced by their location in the row and column on the sheet, so cell A1 is in the first row of column A.

2. Type text or a number in the cell.

3. Press Enter or Tab to move to the next cell.

Apply cell borders

1. Select the cell or range of cells that you want to add a border to.

2. On the **Home** tab, in the Font group, click the arrow next to Borders, and then click the border style that you want.
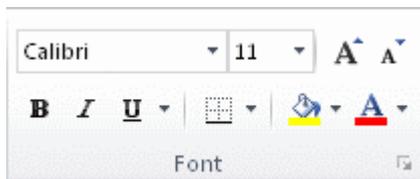
For more information, see Apply or remove cell borders on a worksheet .

Apply cell shading

1. Select the cell or range of cells that you want to apply cell shading to.

2. On the **Home** tab, in the **Font** group, choose the arrow next to **Fill Color**, and then under **Theme Colors** or **Standard Colors**, select the color that you want.

For more information about how to apply formatting to a worksheet, see Format a worksheet.

Use AutoSum to add your data

When you've entered numbers in your sheet, you might want to add them up. A fast way to do that is by using AutoSum.

1. Select the cell to the right or below the numbers you want to add.

2. Click the **Home** tab, and then click **AutoSum** in the **Editing** group.
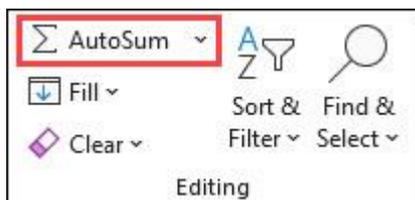
AutoSum adds up the numbers and shows the result in the cell you selected.

For more information, see Use AutoSum to sum numbers

Create a simple formula

Adding numbers is just one of the things you can do, but Excel can do other math as well. Try some simple formulas to add, subtract, multiply, or divide your numbers.

1. Pick a cell, and then type an equal sign (=).

    That tells Excel that this cell will contain a formula.

2. Type a combination of numbers and calculation operators, like the plus sign (+) for addition, the minus sign (-) for subtraction, the asterisk (*) for multiplication, or the forward slash (/) for division.

    For example, enter **=2+4**, **=4-2**, **=2*4**, or **=4/2**.

3. Press Enter.

    This runs the calculation.

    You can also press Ctrl+Enter if you want the cursor to stay on the active cell.

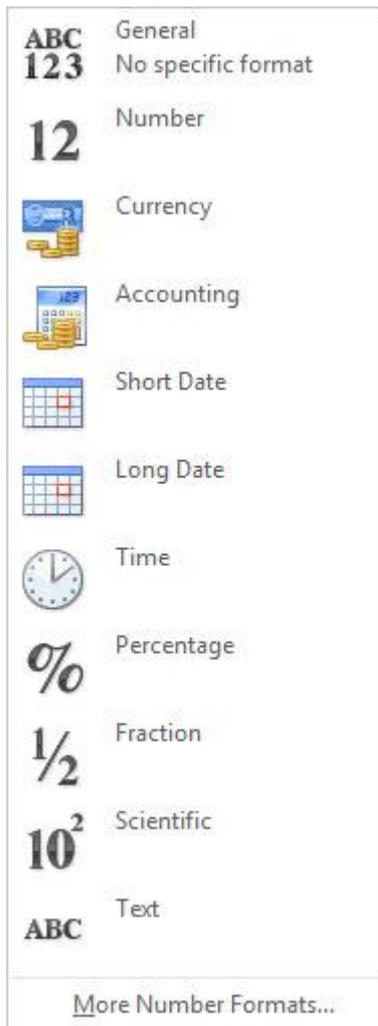For more information, see [Create a simple formula](#).

Apply a number format

To distinguish between different types of numbers, add a format, like currency, percentages, or dates.

1. Select the cells that have numbers you want to format.

2. Click the **Home** tab, and then click the arrow in the **General** box.

3. Pick a number format.

If you don't see the number format you're looking for, click **More Number Formats**. For more information, see Available number formats.

Put your data in a table
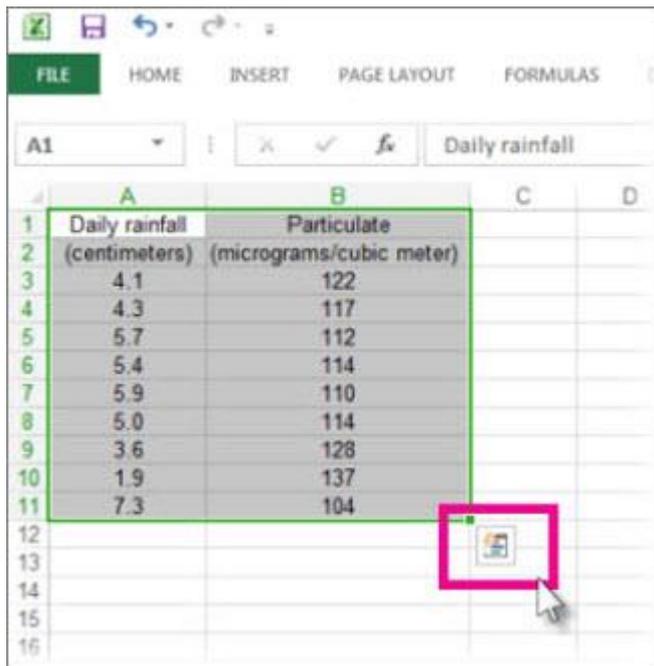
A simple way to access Excel's power is to put your data in a table. That lets you quickly filter or sort your data.

1. Select your data by clicking the first cell and dragging to the last cell in your data.

    To use the keyboard, hold down Shift while you press the arrow keys to select your data.

2. Click the **Quick Analysis** button in the bottom-right corner of the selection.

3. Click **Tables**, move your cursor to the **Table** button to preview your data, and then click the **Table** button.

4. Click the arrow ▾ in the table header of a column.

5. To filter the data, clear the **Select All** check box, and then select the data you want to show in your table.

6. To sort the data, click **Sort A to Z** or **Sort Z to A**.
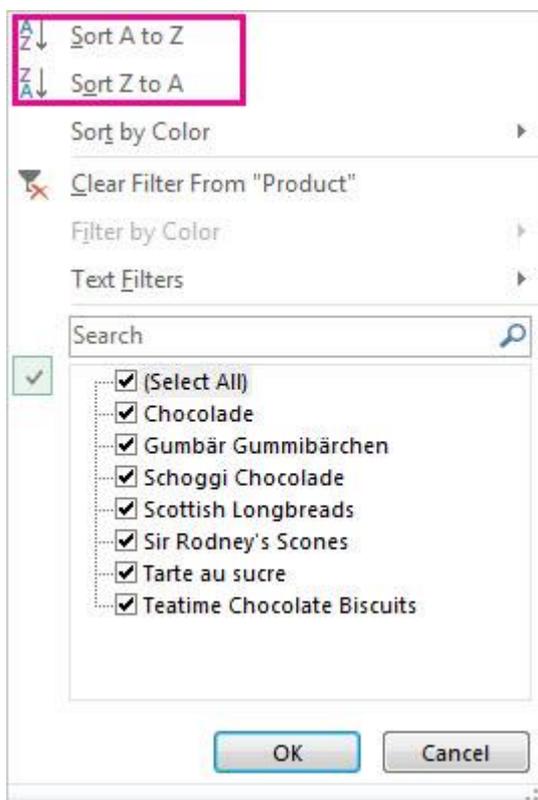
7. Click **OK**.

For more information, see Create or delete an Excel table

Show totals for your numbers using Quick Analysis

The Quick Analysis tool (available in Excel 2016 and Excel 2013 only) let you total your numbers quickly. Whether it's a sum, average, or count you want, Excel shows the calculation results right below or next to your numbers.

1. Select the cells that contain numbers you want to add or count.
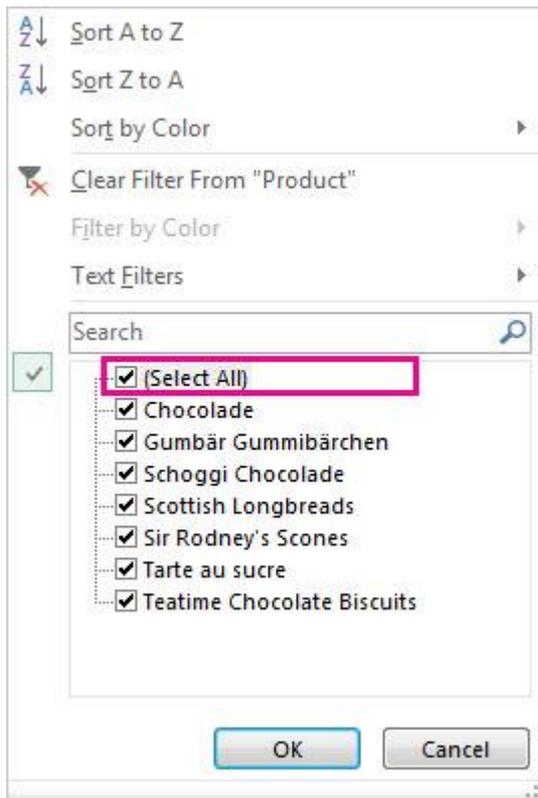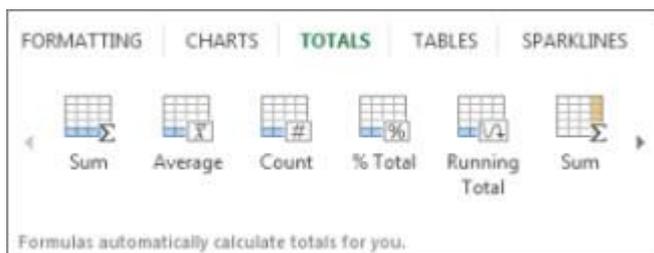
2. Click the **Quick Analysis** button in the bottom-right corner of the selection.

3. Click **Totals**, move your cursor across the buttons to see the calculation results for your data, and then click the button to apply the totals.

Add meaning to your data using Quick Analysis

Conditional formatting or sparklines can highlight your most important data or show data trends. Use the Quick Analysis tool (available in Excel 2016 and Excel 2013 only) for a Live Preview to try it out.

1. Select the data you want to examine more closely.

2. Click the **Quick Analysis** button in the bottom-right corner of the selection.

3. Explore the options on the **Formatting** and **Sparklines** tabs to see how they affect your data.
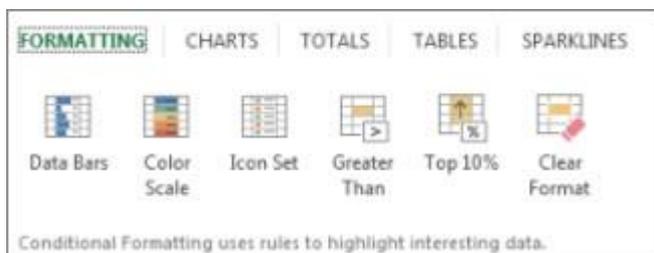
For example, pick a color scale in the **Formatting** gallery to differentiate high, medium, and low temperatures.

	A	B	C	D	E	F	G	H	I	J	K	L	M
1		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2	Avg High	40	38	44	46	51	56	67	72	70	59	45	41
3	Avg Low	34	33	38	41	45	48	51	55	54	45	41	38
4	Record High	61	69	79	83	95	97	100	101	94	87	72	66
5	Record Low	0	2	9	24	28	32	36	39	35	21	12	4

4. When you like what you see, click that option.

Learn more about how to [analyze trends in data using sparklines](#).

Show your data in a chart using Quick Analysis

The Quick Analysis tool (available in Excel 2016 and Excel 2013 only) recommends the right chart for your data and gives you a visual presentation in just a few clicks.

1. Select the cells that contain the data you want to show in a chart.

2. Click the **Quick Analysis** button ⧉ in the bottom-right corner of the selection.

3. Click the **Charts** tab, move across the recommended charts to see which one looks best for your data, and then click the one that you want.

Note: Excel shows different charts in this gallery, depending on what's recommended for your data.

Learn about other ways to [create a chart](#).

Sort your data

To quickly sort your data

1. Select a range of data, such as A1:L5 (multiple rows and columns) or C1:C80 (a single column). The range can include titles that you created to identify columns or rows.

2. Select a single cell in the column on which you want to sort.

3. Click ⧉ to perform an ascending sort (A to Z or smallest number to largest).

4. Click ⧉ to perform a descending sort (Z to A or largest number to smallest).

To sort by specific criteria

1. Select a single cell anywhere in the range that you want to sort.

2. On the **Data** tab, in the **Sort & Filter** group, choose **Sort**.

3. The **Sort** dialog box appears.

4. In the **Sort by** list, select the first column on which you want to sort.

5. In the **Sort On** list, select either **Values**, **Cell Color**, **Font Color**, or **Cell Icon**.

6. In the **Order** list, select the order that you want to apply to the sort operation — alphabetically or numerically ascending or descending (that is, A to Z or Z to A for text or lower to higher or higher to lower for numbers).

   For more information about how to sort data, see Sort data in a range or table .

Filter your data

1. Select the data that you want to filter.

2. On the **Data** tab, in the **Sort & Filter** group, click **Filter**.

3. Click the arrow ▼ in the column header to display a list in which you can make filter choices.

4. To select by values, in the list, clear the **(Select All)** check box. This removes the check marks from all the check boxes. Then, select only the values you want to see, and click **OK** to see the results.

For more information about how to filter data, see Filter data in a range or table.

Save your work

1. Click the **Save** button on the **Quick Access Toolbar**, or press Ctrl+S.

   If you've saved your work before, you're done.

2. If this is the first time you've save this file:

a. Under **Save As**, pick where to save your workbook, and then browse to a folder.

b. In the **File name** box, enter a name for your workbook.

c. Click **Save**.

Print your work

1. Click **File**, and then click **Print**, or press Ctrl+P.

2. Preview the pages by clicking the **Next Page** and **Previous Page** arrows.

The preview window displays the pages in black and white or in color, depending on your printer settings.

If you don't like how your pages will be printed, you can change page margins or add page breaks.

3. Click **Print**.

Activate and use an add-in

1. On the **File** tab, choose **Options**, and then choose the **Add-Ins** category.

2. Near the bottom of the **Excel Options** dialog box, make sure that **Excel Add-ins** is selected in the **Manage** box, and then click **Go**.

3. In the **Add-Ins** dialog box, select the check boxes the add-ins that you want to use, and then click **OK**.

   If Excel displays a message that states it can't run this add-in and prompts you to install it, click **Yes** to install the add-ins.

For more information about how to use add-ins, see Add or remove add-ins.

Find and apply a template

Excel allows you to apply built-in templates, to apply your own custom templates, and to search from a variety of templates on Office.com. Office.com provides a wide selection of popular Excel templates, including budgets.

For more information about how to find and apply templates, see Download free, pre-built templates.

Excel Definition

The ultimate software tool for financial analysis

Over 1.8 million professionals use CFI to learn accounting, financial analysis, modeling and more. Start with a free account to explore 20+ always-free courses and hundreds of finance templates and cheat sheets.

Microsoft Excel Definition

Excel definition: a software program created by Microsoft that uses spreadsheets to organize numbers and data with formulas and functions. Excel analysis is ubiquitous around the world and used by businesses of all sizes to perform financial analysis.

Check out CFI's free Excel Crash Course here!
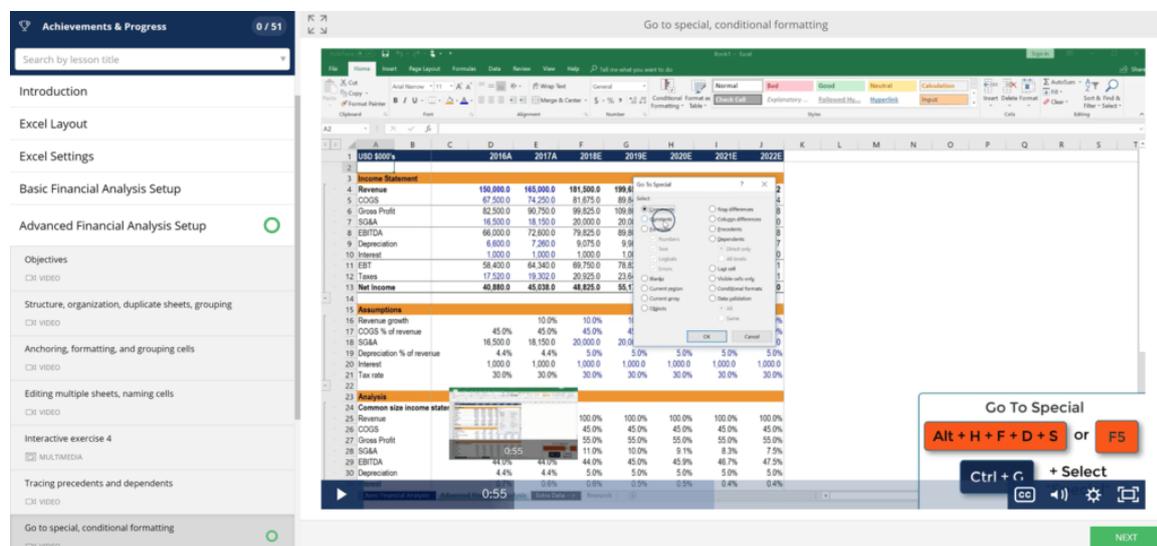
What is Excel used for?

Excel is typically used to organize data and perform financial analysis. It is used across all business functions and at companies from small to large.

The main uses of Excel include:

- Data entry
- Data management
- Accounting
- Financial analysis
- Charting and graphing
- Programming
- Time management
- Task management
- Financial modeling
- Customer relationship management (CRM)
- Almost anything that needs to be organized!

Data functions, formulas, and shortcuts

The Excel software program includes many functions, formulas, and shortcuts that can be used to enhance its functionality.

We have defined the key functions and formulas below in our Excel guide:

- Free Guide: Excel shortcuts, functions and definitions
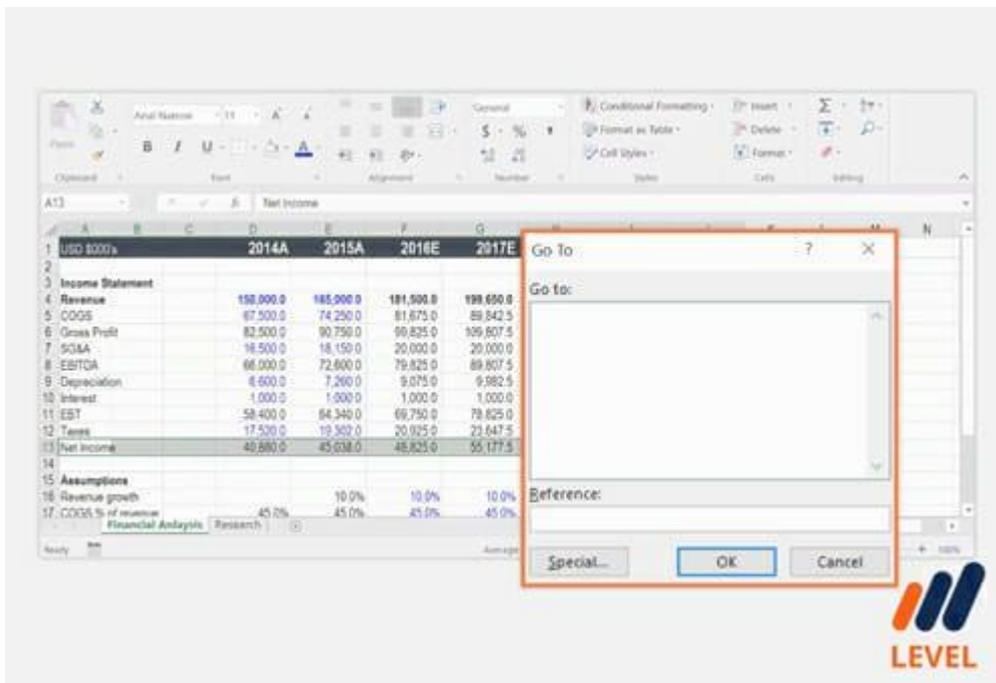
Financial and accounting uses

Excel is used extensively in finance and accounting functions. In fact, many organizations run their entire budgeting, forecasting, and accounting functions entirely out of Excel spreadsheets.

While Excel is defined as a "data" management tool, the data that is most commonly managed is financial. At CFI, we would define Excel as the ultimate financial software. While there are other pieces of financial software that are tailored toward performing specific tasks, the strongest point about Excel is its robustness and openness. Excel models are as powerful as the analyst wishes them to be.

Accountants, investment bankers, analysts, and people in all types of financial career paths rely on excel to perform their daily job functions.

Additional Resources

Thank you for reading CFI's guide to Microsoft Excel. To keep learning and developing your career, these additional CFI resources will be helpful:

Free Excel Fundamentals Course

- Free Excel Course
- Keyboard Shortcuts
- Advanced Formulas in Excel
- Financial Modeling
- **See all Excel resources**

New to Excel? Here's Super Easy Tricks to Get You Started

Written by **Nicole Levine, MFA**

Last Updated: October 29, 2022 Fact Checked

Are you new to Microsoft Excel and need to work on a spreadsheet? Excel is so overrun with useful and complicated features that it might seem impossible for a beginner to learn. But don't worry—once you learn a few basic tricks, you'll be entering, manipulating, calculating, and graphing data in no time! This wikiHow tutorial will introduce you to the most important features and functions you'll need to know when starting out with Excel, from entering and sorting basic data to writing your first formulas.

Things You Should Know

- Use Quick Analysis in Excel to perform quick calculations and create helpful graphs without any prior Excel knowledge.

- Adding your data to a table makes it easy to sort and filter data by your preferred criteria.

- Even if you're not a math person, you can use basic Excel math functions to add, subtract, find averages and more in seconds.

Understanding Workbooks and Worksheets
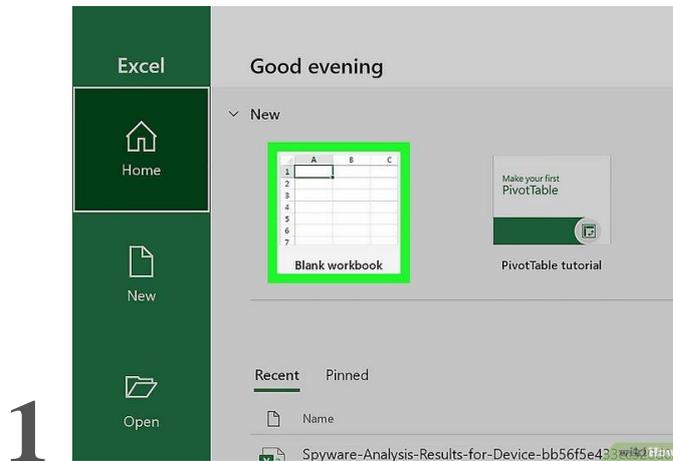
Create or open a workbook. When people refer to "Excel files," they are referring to **workbooks**, which are files that contain one or more sheets of data on individual tabs. Each tab is called a **worksheet** or spreadsheet, both of which are used interchangeably. When you open Excel, you'll be prompted to open or create a workbook.

- To start from scratch, click **Blank workbook**. Otherwise, you can open an existing workbook or create a new one from one of Excel's helpful templates, such as those designed for budgeting.
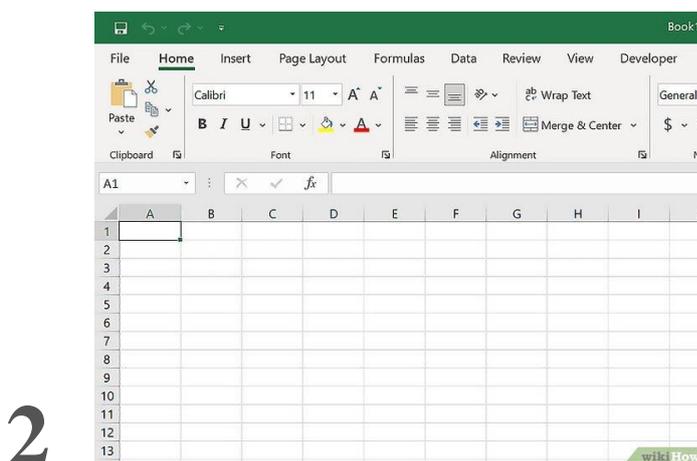
Explore the worksheet. When you create a new blank workbook, you'll have a single worksheet called **Sheet1** (you'll see that on the tab at the bottom) that contains a grid for your data. Worksheets are made of individual **cells** that are organized into columns and rows.

- **Columns** are vertical and labeled with letters, which appear above each column.

- **Rows** are horizontal and are labeled by numbers, which you'll see running along the left side of the worksheet.
- Every cell has an address which contains its column letter and row number. For example, the top-left cell in your worksheet's address is **A1** because it's in column A, row 1.
- A workbook can have multiple worksheets, all containing different sets of data. Each worksheet in your workbook has a name—you can rename a worksheet by right-clicking its tab and selecting **Rename.**
- To add another worksheet, just click the + next to the worksheet tab(s).

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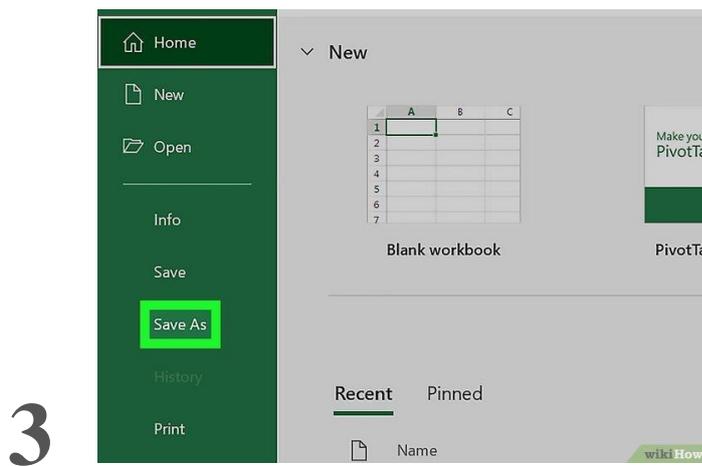
Save your workbook. Once you save your workbook once, Excel will automatically save any changes you make by default.[1] This prevents you from accidentally losing data.

- Click the **File** menu and select **Save As**.
- Choose a location to save the file, such as on your computer or in OneDrive.
- Type a name for your workbook. All workbooks will automatically inherit the the .XLSX file extension.
- Click **Save**.

## Entering and Formatting Data
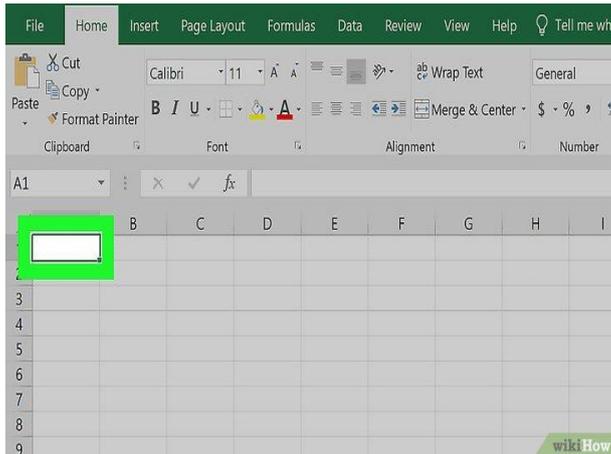
1 **Click a cell to select it.** When you click a cell, it will highlight to indicate that it's selected.

- When you type something into a cell, the input text is called a **value**. Entering data into Excel is as simple as typing values into each cell.
- When entering data, the first row of your worksheet (e.g., A1, B1, C1) is typically used as headers for each column. This is helpful when creating graphs or tables which require labels.
  - For example, if you're adding a list of dates in column A, you might click cell A1 and type `Date` into the cell as the column header.
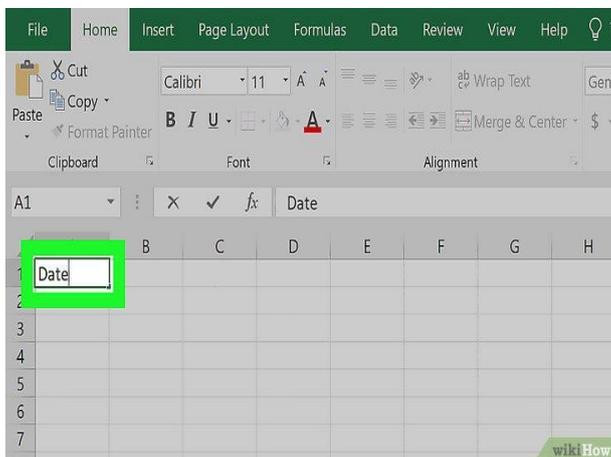

2 **Type a word or number into the cell.** As you're typing, you'll see the letters and/or numbers appear in the cell, as well as in the formula bar at the top of the worksheet.
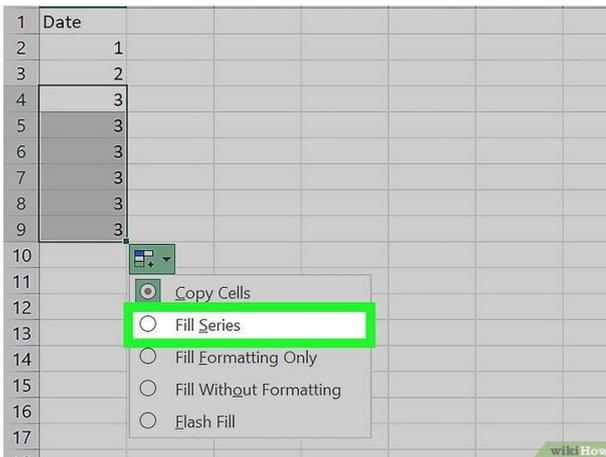
- When you start practicing more advanced Excel features like creating formulas, this bar will come in handy.
- You can also copy and paste text from other applications into your worksheet, tables from PDFs and the web.

3
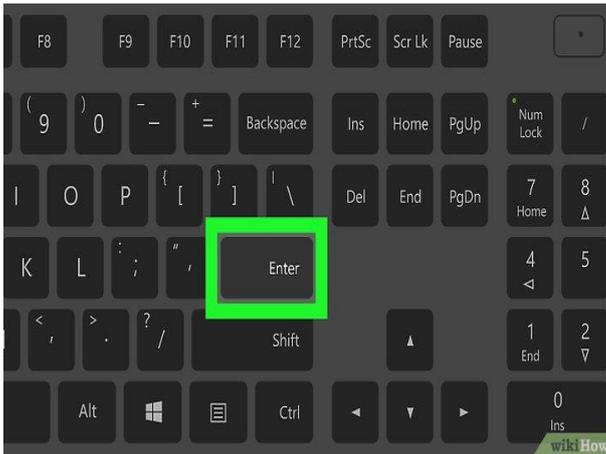
Press ⏎ Enter or ⏎ Return . This enters the data into the cell and moves to the next cell in the column.

4

Automatically fill columns based on existing data. Let's say you want to make a list of consecutive dates or numbers. Or what if you want to fill a column with many of the same values that follow a pattern? As long as Excel can recognize some sort of pattern in your data, such as a particular order, you can use Autofill to automatically populate data into the rest of your column. Here's a trick to see it in action.

- In a blank column, type 1 into the first cell, 2 into the second cell, and then 3 into the third cell.
- Hover your mouse cursor over the bottom-right corner of the last cell in your series—it will turn to a crosshair.
- Click and drag the crosshair down the column, then release the mouse button once you've gone down as far as you like. By default, this will fill the remaining cells with the value of the selected cell—at this point, you'll probably have something like 1, 2, 3, 3, 3, 3, 3, 3.

- Click the small icon at the bottom-right corner of the filled data to open AutoFill options, and select **Fill Series** to automatically detect the series or pattern. Now you'll have a list of consecutive numbers. Try this cool feature out with different patterns!
- Once you get the hang of AutoFill, you'll have to try flash fill, which you can use to join two columns of data into a single merged column.

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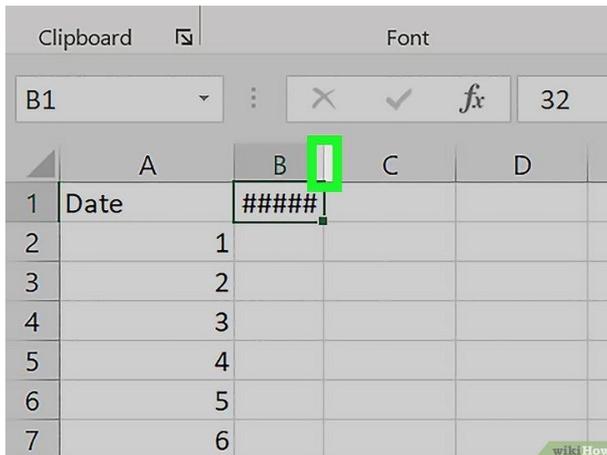
Adjust the column sizes so you can see all of the values. Sometimes typing long values into a cell hides the value and displays hash symbols ### instead of what you've typed. If you want to be able to see everything, you can snap the cell contents to the width of the widest cell. For example, let's say we have some long values in column B:

- To expand the contents of column B, hover the cursor over the dividing line between the B and C at the top of the worksheet—once your cursor is right on the line, it will turn to two arrows pointing in either direction.[2]
- Click and drag the separator until the column is wide enough to accommodate your data, or just double-click the separator to instantly snap the column to the size of the widest value.

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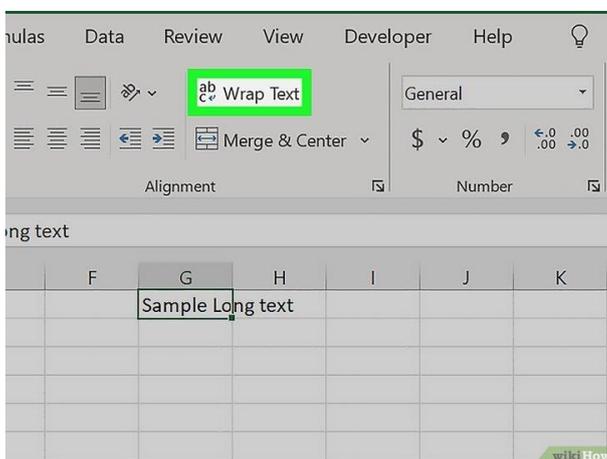
Wrap text in a cell. If your longer values are now awkwardly long, you can enable text wrapping in one or more cells. Just click a cell (or drag the mouse to select multiple cells), click the **Home** tab, and then click **Wrap Text** on the toolbar.
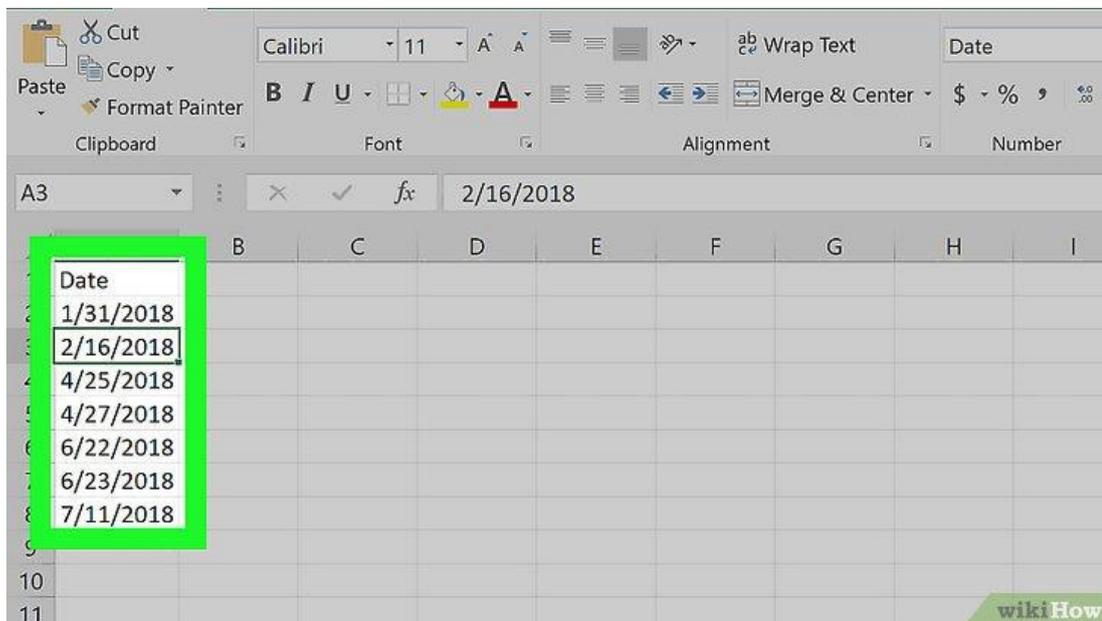
Edit a cell value. If you need to make a change to a cell, you can double-click the cell to activate the cursor, and then make any changes you need. When you're finished, just press **Enter** or **Return** again.

- To delete the contents of a cell, click the cell once and press **delete** on your keyboard.
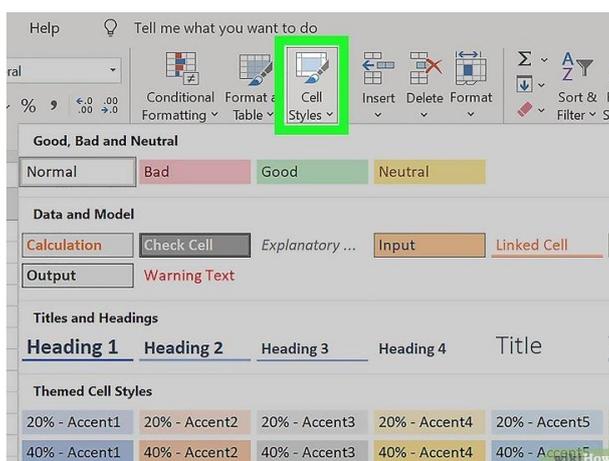
Apply styles to your data. Whether you want to highlight certain values with color so they stand out or just want to make your data look pretty, changing the colors of cells and their containing values is easy—especially if you're used to Microsoft Word:

- Select a cell, column, row, or multiple cells at once.
- On the **Home** tab, click **Cell Styles** if you'd like to quickly apply quick color styles.
- If you'd rather use more custom options, right-click the selected cell(s) and select **Format Cells**. Then, use the colors on the **Fill** tab to customize the cell's background, or the colors on the **Font** tab for value colors.

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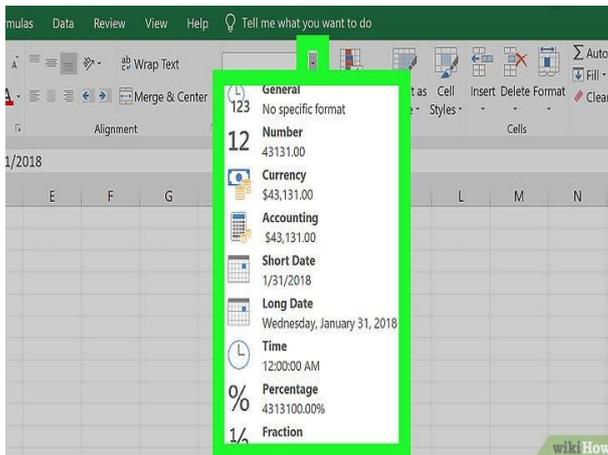
Apply number formatting to cells containing numbers. If you have data that contains numbers such as prices, measurements, dates, or times, you can apply number formatting to the data so it will display consistently.[3] By default, the number format is **General**, which means numbers display exactly as you type them.

- Select the cell you want to format. If you're working with an entire column or row, you can just click the column letter or row number to select the whole thing.
- On the Home tab, click the drop-down menu at the top-center—it'll say **General** by default, unless you selected cells that Excel recognizes as a different type of number like **Currency** or **Time**.
- Choose one of the formatting options in the list, such as **Short Date** or **Percentage**, or click **More Number Formats** at the bottom to expand all options (we recommend this!).
- If you selected **More Number Formats**, the Format Cells dialog will expand to the **Number** tab, where you'll see several categories for number types.
- Select a category, such as **Currency** if working with money, or **Date** if working with dates. Then, choose your preferences, such as a currency symbol and/or decimal places.
- Click **OK** to apply your formatting.

Creating, Sorting, and Filtering Tables
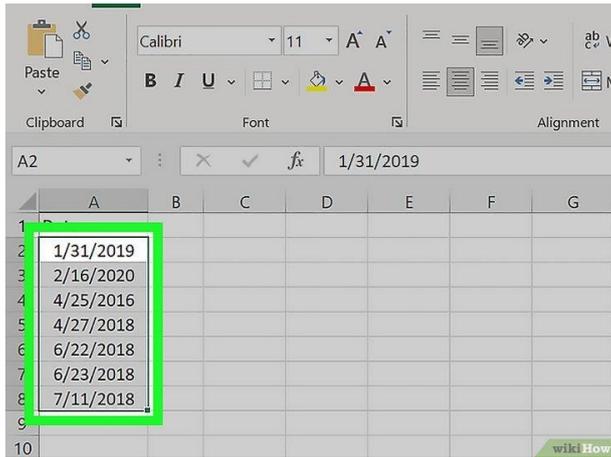
1 **Select all of the data you've entered so far.** Adding your data to a table is the easiest way to work with and analyze data.[4] Start by highlighting the values you've entered so far, including your column headers. Tables also make it easy to sort and filter your data based on values.
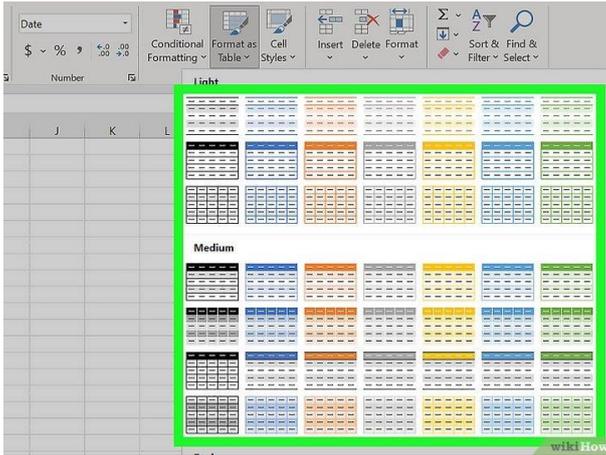
- Tables traditionally apply different or alternating colors to every other row for easy viewing. Many table options also add borders between cells and/or columns and rows.
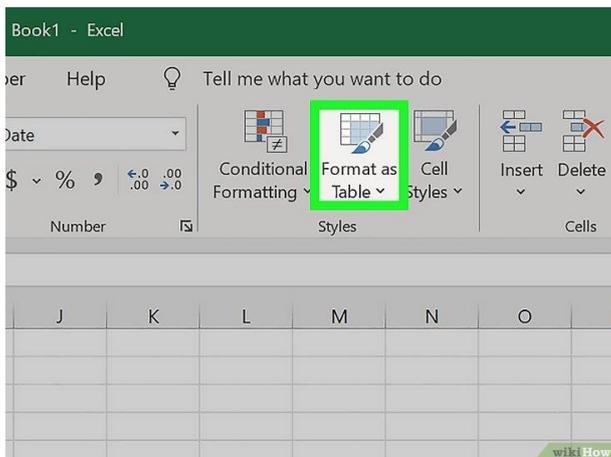
2 **Click** Format as Table. You'll see this at the top-center part of the Home tab.[5]
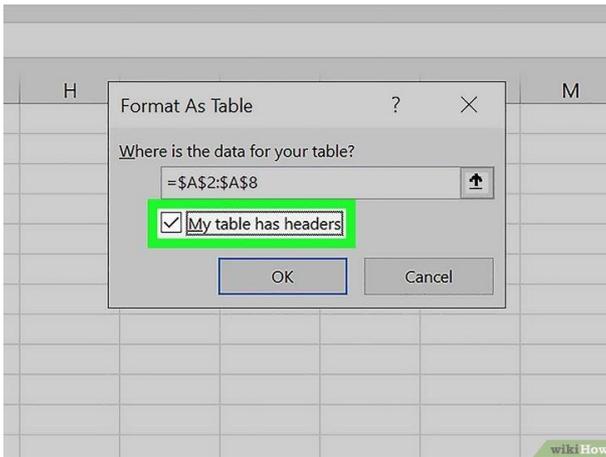
3

Select a table style. Choose any of Excel's default table styles to get started. You'll see a small window titled "Create Table" once selected.
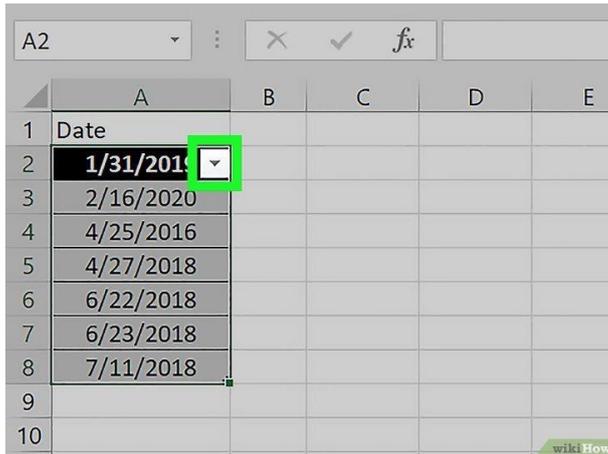
- Once you get the hang of tables, you can return here to customize your table further by selecting **New Table Style**.


4

Make sure "My table has headers" is selected and click OK**.** This tells Excel to turn your column headers into drop-down menus that you can easily sort and filter. Once you click **OK**, you'll see that your data now has a color scheme and drop-down menus.

5

Click the drop-down menu at the top of a column. Now you'll see options for sorting that column, as well as several options for filtering all of your data based on its values.


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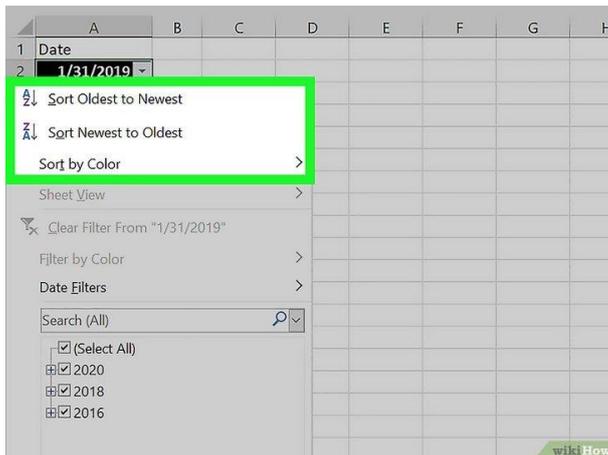
Choose which data to display based on values in this column. The simplest way to do this is to uncheck the values you don't want to display—if you uncheck a particular date, for example, you'll prevent rows that contain the selected date in from appearing in your data. You can also use **Text Filters** or **Number Filters**, depending on the type of data in the column:

- If you chose a numerical column, select **Number Filters**, then choose an option like **Greater Than…** or **Does Not Equal** to be extra specific about which values to hide.
- For text columns, you can choose **Text Filters**, where you can specify things like **Begins with** or **Contains**.
- You can also filter by cell color.

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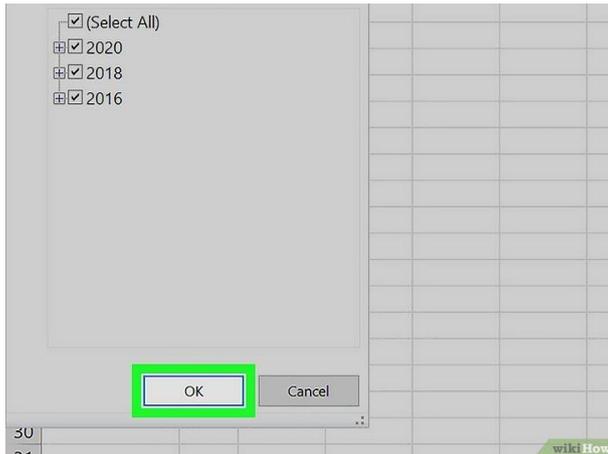
Click OK. Your data is now filtered based on your selections. You'll also see a small funnel icon in the drop-down menu, which indicates that the data is filtering out certain values.

- To unfilter your data, click the funnel icon, click **Clear filter from (column name)**, and then click **OK**.
- You can also filter columns that aren't in tables. Just select a column and click **Filter** on the **Data** tab to add a drop-down to that column.


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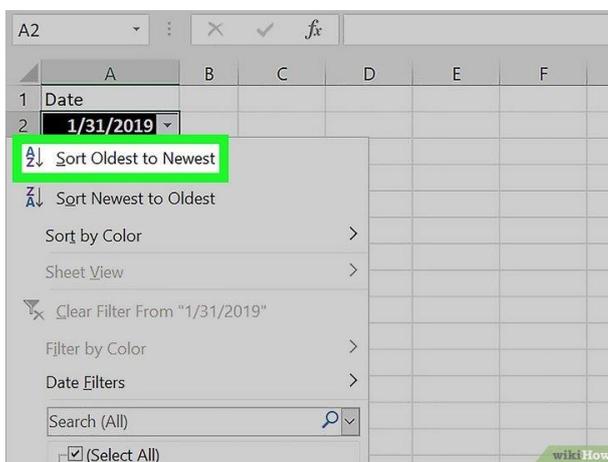
Sort your data in ascending or descending order. Click the drop-down arrow at the top of a column to view sorting options—these allow you to sort all of your data in order based on the current column.

- If you're working with numbers, click **Smallest to Largest** to sort in ascending order, or **Largest to Smallest** for descending order.[6]
- If you're working with text values, **Sort A to Z** will sort in ascending order, while **Sort Z to A** will sort in reverse.

- When it comes to sorting dates and times, **Sort Oldest to Newest** will sort with the earliest date at the top and the oldest date at the bottom, and **Newest to Oldest** displays the dates in descending order.
- When you sort a column, all other columns in the table adjust based on the sort.
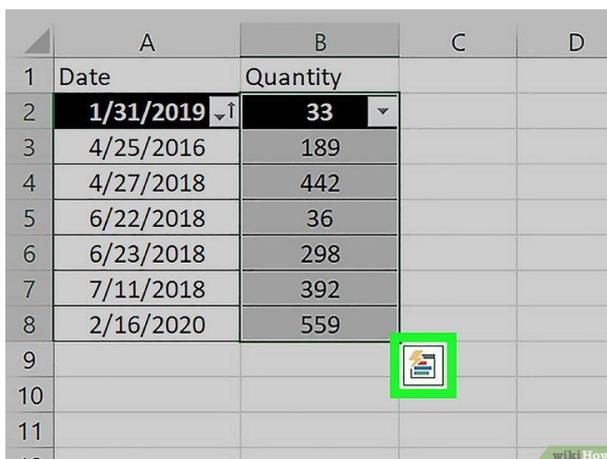
Doing Quick Analysis

1
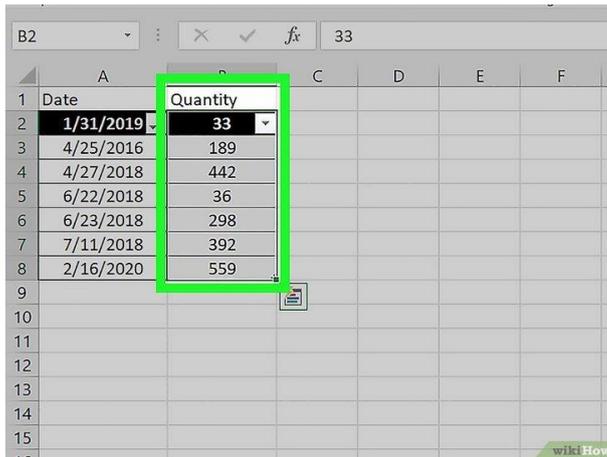
Select the data in your worksheet. Excel's Quick Analysis feature is the easiest way to perform basic calculations (including totals, averages, and counts) and create meaningful tables or graphs without the need for advanced Excel knowledge.[7] Use your mouse to select your data (including your column headers) to get started.

2

Click the Quick Analysis icon. This is the small icon that pops up at the bottom-right corner of your selection. It looks like a window with some colored lines.

3
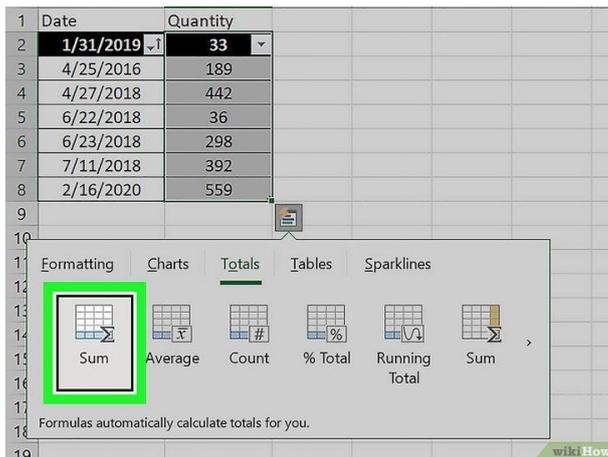
**Select an analysis type.**You'll see several tabs running along the top of the window, each of which gives you different option for visualizing your data:

- For math calculations, click the **Totals** tab, where you can select **Sum**, **Average**, **Count**, **%Total**, or **Running Total**. You'll be able to choose whether to display the results at the bottom of each column or to the right.

- To create a chart, click the **Charts** tab, then select a chart to visualize your data. Before you settle on a chart, just hover the cursor over each option to see a preview.

- To add quick chart data to individual cells, click the **Sparklines** tab and choose a format. Again, you can hover the cursor over each option to see a preview.

- To instantly apply conditional formatting (which is usually a little more complex in Excel) based on your data, use the **Formatting** tab. Here you can choose an option like **Color** or **Data Bars**, which apply colors to your data based on trends.

Performing Basic Calculations

1
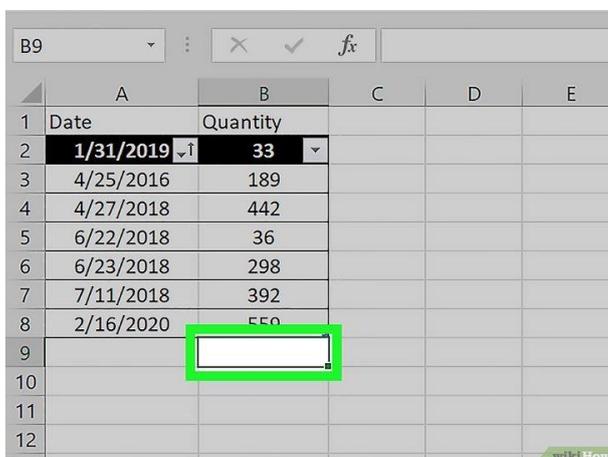
Quickly add data with AutoSum. AutoSum is a built-in Excel function that makes it easy to find the total of one or more columns in a few clicks. **Functions** or formulas that perform calculations and other tasks based on the values of cells. When you use a function to get something done, you're creating a **formula**, which is like a math equation. If you have a column or row of numbers you want to add:

- Click the cell below the numbers you want to add (if a column) or to the right (if a row).[8]
- On the **Home** tab, click **AutoSum** toward the upper-right corner of the app. A formula beginning with `=SUM(cell+cell)` will appear in the field, and a dotted line will surround the numbers you're adding.
- Press **Enter** or **Return**. You should now see the total of the numbers in the selected field. This is here because you created your first formula—which you didn't have to write by hand!
- If you change any numbers in your data after using AutoSum, the AutoSum value will update automatically.
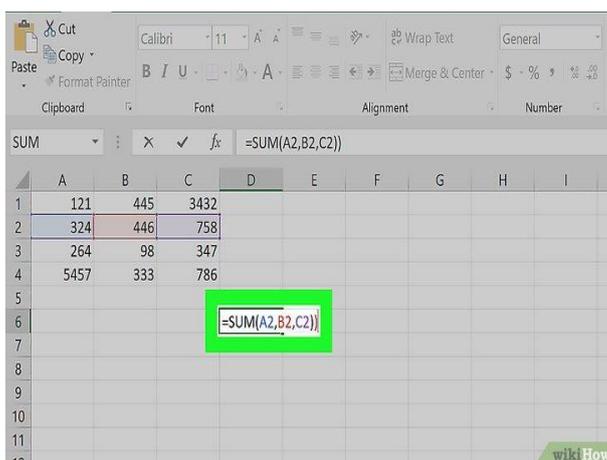

2

Write a simple math formula. AutoSum is just the beginning—Excel is famous for its ability to do all sorts of simple and complex math calculations on data. Fortunately, you don't have to be a math whiz to create simple formulas to create everyday math formulas, like adding, subtracting, and multiplying. Here's some basic formulas to get you started:

- **Add:** — Type `=SUM(cell+cell)` (e.g., =SUM(A3+B3)) to add two cells' values together, or type `=SUM(cell,cell,cell)` (e.g., =SUM(A2,B2,C2)) to add a series of cell values together.
  - If you want to add all of the numbers in a whole column (or in a section of a column), type `=SUM(cell:cell)` (e.g., =SUM(A1:A12)) into the cell you want to use to display the result.

- **Subtract:** Type `=SUM(cell-cell)` (e.g., =SUM(A3-B3)) to subtract one cell value from another cell's value.
- **Divide:** Type `=SUM(cell/cell)` (e.g., =SUM(A6/C5)) to divide one cell's value by another cell's value.
- **Multiply:** Type `=SUM(cell*cell)` (e.g., =SUM(A2*A7)) to multiply two cell values together.

Creating Advanced Formulas

1
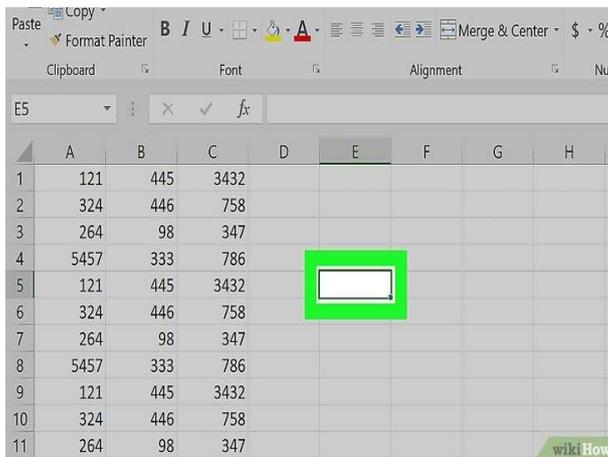
**Select a cell for an advanced formula.** What if you need to do something more complicated than just adding numbers? Even if you don't know how to write formulas by hand, you can still create useful formulas that work with your data in various ways. Start by clicking the cell in which you want to display your formula.

2
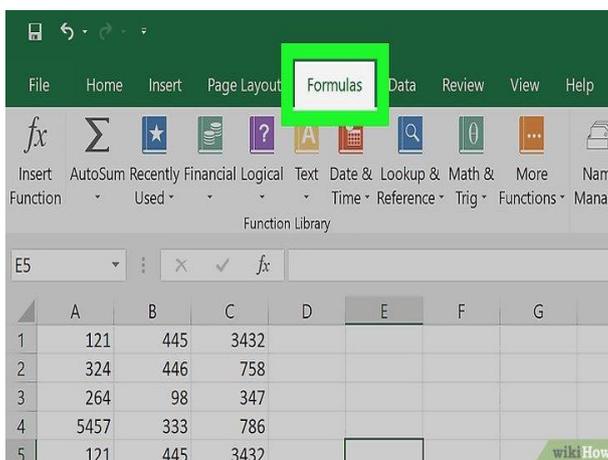
Click the Formulas **tab.** It's a tab at the top of the Excel window.

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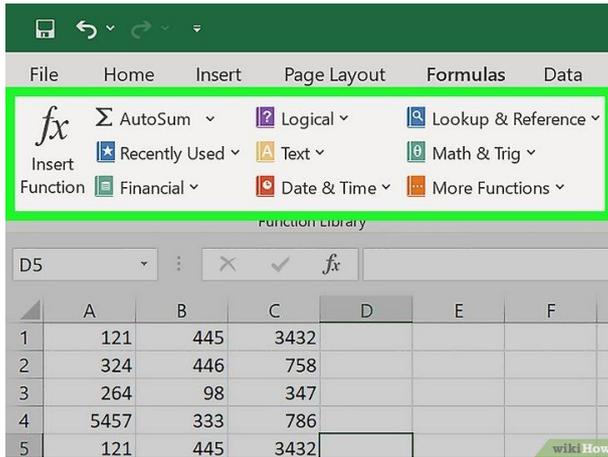
Explore the Function Library. Several function categories appear in the toolbar, such as **Financial**, **Text**, and **Math & Trig**. Click the options to check out the types of functions available, though they might not make a whole lot of sense just yet.

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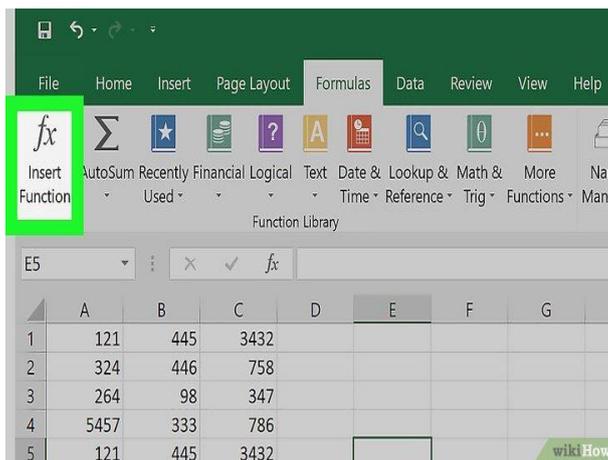
Click Insert Function**.** This option is in the far-left side of the **Formulas** toolbar. This opens the Insert Function window, which gives you a more detailed breakdown of each function.

5
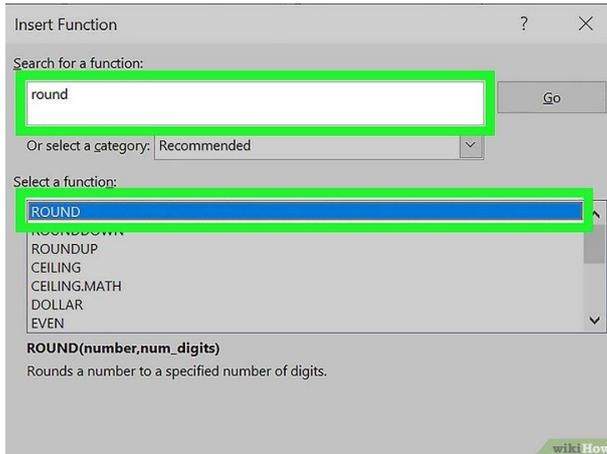
Click a function to learn about it. You can type what you want to do (such as `round`), or choose a category to filter the list of functions. Then, click any function to read a description of how it works and view its syntax.

- For example, to select the formula for finding the tangent of an angle, you would scroll down and click the **TAN** option.

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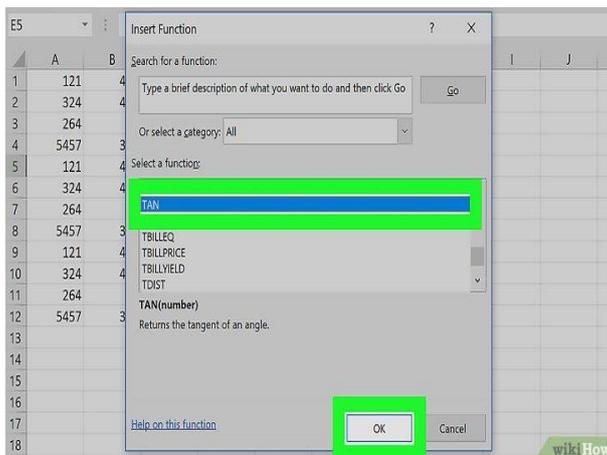
Select a function and click OK**.**This creates a formula based on the selected function.

7
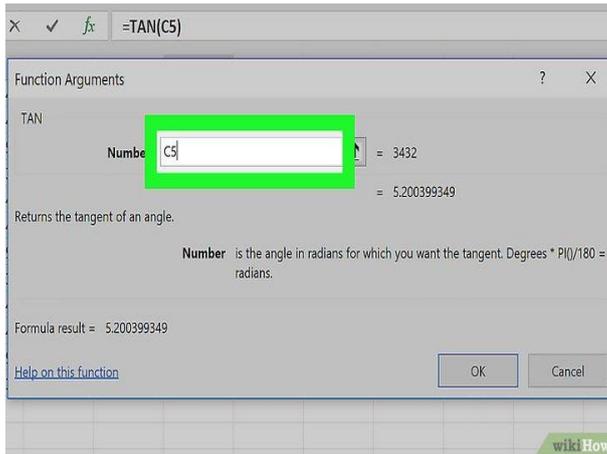
Fill out the function's formula. When prompted, type in the number or select a cell for which you want to use the formula.

- For example, if you select the **TAN** function, you'll type in the number for which you want to find the tangent, or select the cell that contains that number.
- Depending on your selected function, you may need to click through a couple of on-screen prompts.

8
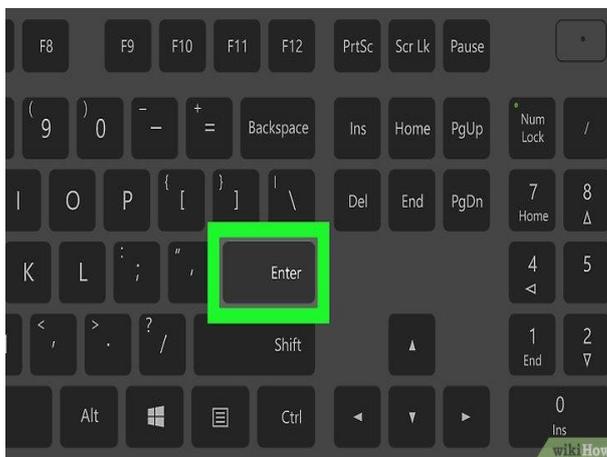
Press ⏎ Enter or ⏎ Return to run the formula. Doing so applies your function and displays it in your selected cell.

Building Charts & Graphs

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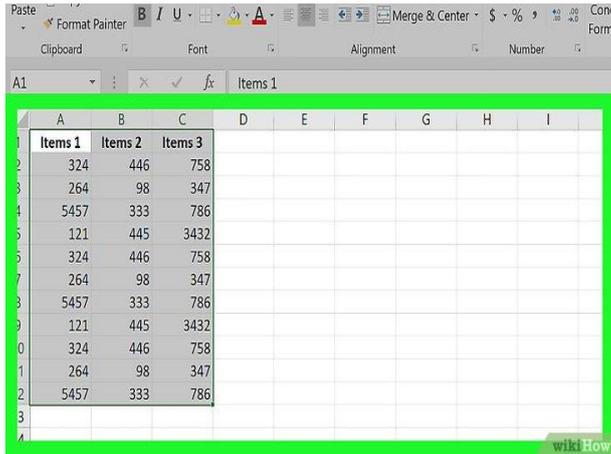
Set up the chart's data. If you're creating a line graph or a bar graph, for example, you'll want to use one column of cells for the horizontal axis and one column of cells for the vertical axis. The best way to do this is to place your data in a table.

- Typically speaking, the left column is used for the horizontal axis and the column immediately to the right of it represents the vertical axis.

2
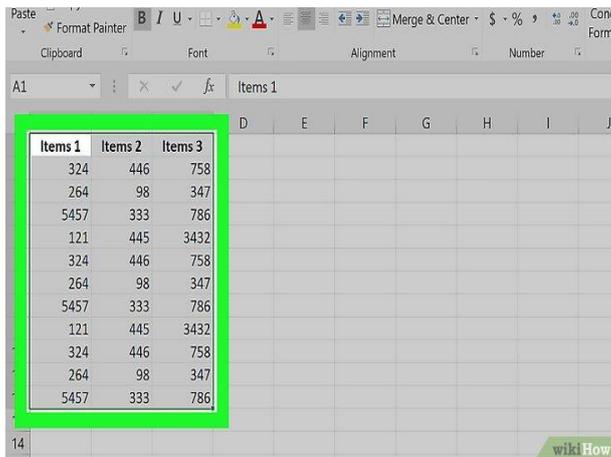
Select the data in your table. Click and drag your mouse from the top-left cell of the data down to the bottom-right cell of the data.

3
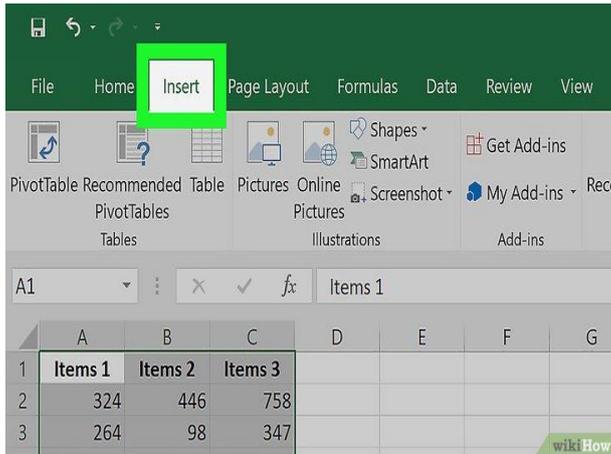
Click the Insert **tab.**It's a tab at the top of the Excel window.

4
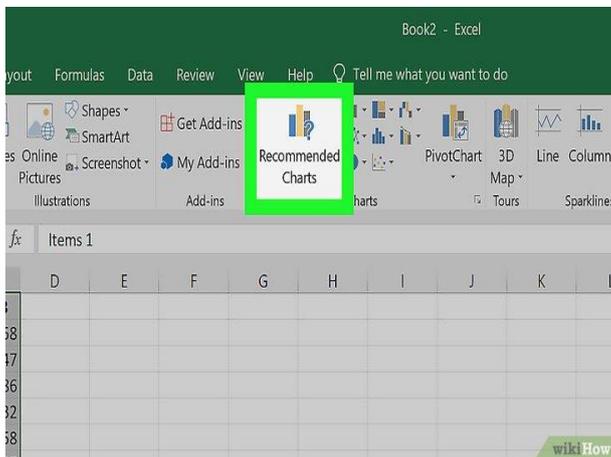
Click Recommended Charts**.**You'll find this option in the "Charts" section of the **Insert** toolbar. A window with different chart templates will appear.

5
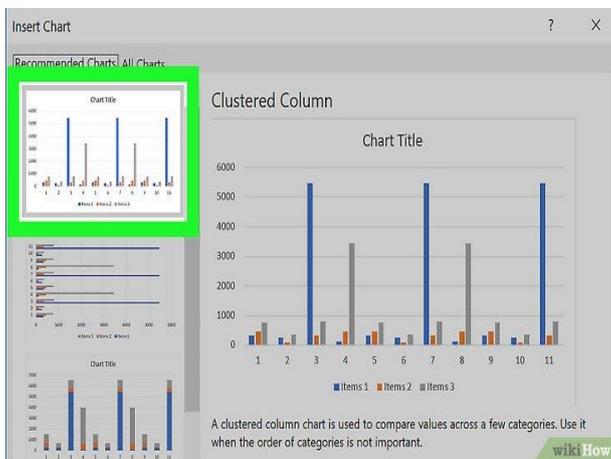
Select a chart template. Click the chart template you want to use based on the type of data you're working with. If you don't see a chart type you like, click the **All Charts** tab to explore by category, such as **Pie**, **Bar**, and **X Y Scatter**.

6
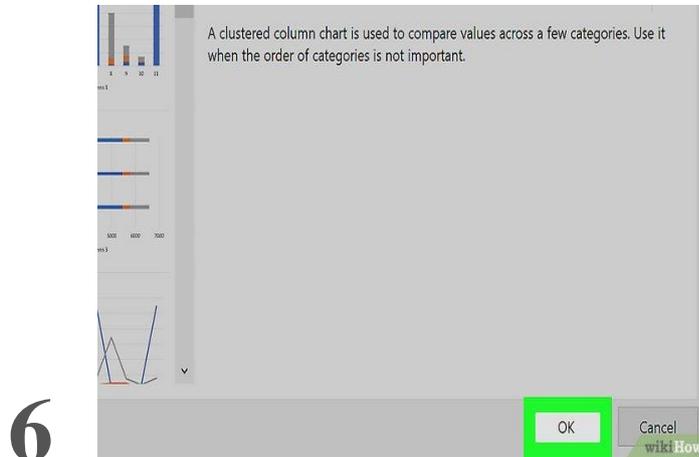
Click OK. It's at the bottom of the window. This creates your chart.

7
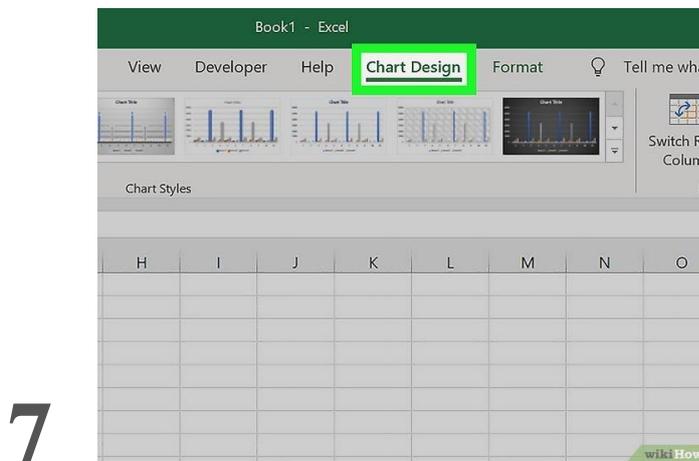
Use the Chart Design tab to customize your chart. Any time you click your chart, the **Chart Design** tab will appear at the top of Excel. You can adjust the chart style here, change colors, and add additional elements.

8
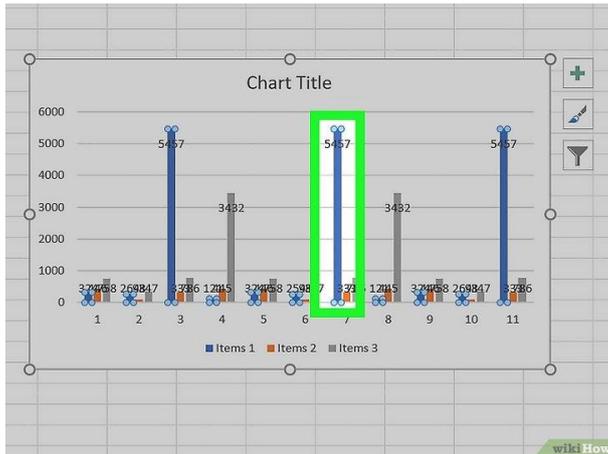
Double-click a chart element to manage it in the Format panel. When you double-click something on your chart, such as a value, line, or bar, you'll see options you can edit in the panel on the right side of excel. Here you can change the axis labels, alignment, and legend data.

Community Q&A

How do you add a check mark or an X mark to a cell?

Community Answer

You can go into Insert, then Symbol, and choose the symbol you want. After that, you can just copy and paste the symbol from one cell to another.

Can I add work sheets on Excel?

Community Answer

Yes. At the bottom left of the Excel you will see the list of sheets. To the left of those sheets you will find a "+" sign. Click on it.

How do I move cell contents to another cell?

Community Answer

Highlight the cell, right-click, and click Copy. Click destination cell, right-click and Paste.

- **How do I make cells large enough to fit the data I put into a cell?**

Community Answer

Click the cell, then drag the column of the cell, from the top to the desired size

How can I sort columns alphabetically?

Community Answer

Highlight the column that you would like to sort. Then, go to "Sort and Filter" on the Home tab and click the option to sort from A-Z.

How do I carry headings from one sheet to the next?

Highlight the row with the headings and copy. Open a new sheet. Highlight the first cell (A1) in the new sheet, and paste.

How do I download Excel?

Excel comes with the OS (operating system) you already have, if it is Microsoft. If you use Microsoft, it should be on your computer, just search for it in the Start Menu. If you are using a Mac, you will not find "Microsoft Excel", but a program similar to it.

How do I print titles on columns?

Click on the cell where you want the title to highlight it, and type in your title.

The arrows do not work. How do I turn this function on?

Click in the cell you are wanting to move. You will see a dark boarder around the cell. Hold you pointer over one of the sides and the arrows will appear.

How do I delete unwanted cells in Excel?

Highlight the cells you don't want and go to the Home tab and click on Delete Cells.

How do I create a multiplication or percentage function?

Go to the accounting box and click on the function, then highlight the columns you want changed.

How do I extend a column in Excel?

Click on the right side of the column, and once the arrow appears, then stretch the lines to the right to extend the size of the column.

How do I print only certain columns instead of the whole spread sheet?

Highlight just the area you want to print. When you go to the print menu where it defaults to "Print Active Sheets", change it to "Print Selection".

How do I make my columns the width I want them?

You can select the lines on the sides of the column and drag them left or right to increase or decrease your column width.

How do I insert a line?

Right click the row you would like to insert above, and click "Insert" in the right-click menu.

How do I merge cells or sheets in Excel?

Click the "home" tab then find "merge cell", click the drop-down button and select "merge across".

How do I carry headings on the next sheet?

Highlight the headings within the sheet you're working in, right click, and do a copy of the headings. Click on the new sheet, insert the cursor within the row that the headings are to appear in, right click and paste.

How do I join cells in Excel?

Highlight the cells to be joined. Right click within the cells and click on format cells. Within the text control area click on the merge cell option, then click on OK.

How do I change columns and rows without affecting the ones above them?

Click on the original column and click the right button. Then choose Insert and the same highlight on the row will appear, then right click on row and B and Insert.

How do I change the background color of a cell?

Community Answer

Highlight the cell you want colored and then go to the highlighter button and select the colour you want. Choose it and the cell will fill with that color.

References

1. ↑https://support.microsoft.com/en-us/office/save-your-workbook-92e4aae0-452d-497f-a470-570610ff720a
2. ↑https://support.microsoft.com/en-us/office/adjust-the-column-size-to-see-everything-4b72b631-ee0a-4539-b1be-499fedc14fe2
3. ↑https://support.microsoft.com/en-us/office/available-number-formats-in-excel-0afe8f52-97db-41f1-b972-4b46e9f1e8d2
4. ↑https://support.microsoft.com/en-us/office/overview-of-excel-tables-7ab0bb7d-3a9e-4b56-a3c9-6c94334e492c
5. ↑https://support.microsoft.com/en-us/office/create-and-format-tables-e81aa349-b006-4f8a-9806-5af9df0ac664
6. ↑https://support.microsoft.com/en-us/office/sort-data-in-a-range-or-table-62d0b95d-2a90-4610-a6ae-2e545c4a4654
7. ↑https://support.microsoft.com/en-us/office/instant-charts-using-quick-analysis-9e382e73-7f5e-495a-a8dc-be8225b1bb78
8. ↑https://support.microsoft.com/en-us/office/use-autosum-to-sum-numbers-543941e7-e783-44ef-8317-7d1bb85fe706

How to Use Excel Like a Pro: 29 Easy Excel Tips, Tricks, & Shortcuts

Written by: [Caroline Forsey](#)

Updated: 11/08/23

Sometimes, Excel seems too good to be true. All I have to do is enter a formula, and pretty much anything I'd ever need to do manually can be done automatically.

Need to merge two sheets with similar data? Excel can do it.

Need to do simple math? Excel can do it.

Need to combine information in multiple cells? Excel can do it.

In this post, I'll go over the best tips, tricks, and shortcuts you can use right now to take your Excel game to the next level. No advanced Excel knowledge required.

Chapters

What is Excel?

Microsoft Excel is powerful data visualization and analysis software, which uses spreadsheets to store, organize, and track data sets with formulas and functions. Excel is used by marketers, accountants, data analysts, and other professionals. It's part of the Microsoft Office suite of products. Alternatives include Google Sheets and Numbers.

Find more [Excel alternatives here](#).

What is Excel used for?

Excel is used to store, analyze, and report on large amounts of data. It is often used by accounting teams for financial analysis, but can be used by any professional to manage long and unwieldy datasets. Examples of Excel applications include balance sheets, budgets, or editorial calendars.

Excel is primarily used for creating financial documents because of its strong computational powers. You'll often find the software in accounting offices and teams because it allows accountants to automatically see sums, averages, and totals. With Excel, they can easily make sense of their business' data.

While Excel is primarily known as an accounting tool, professionals in any field can use its features and formulas — especially marketers — because it can be used for tracking any type of data. It removes the need to spend hours and hours counting cells or copying and pasting performance numbers. Excel typically has a shortcut or quick fix that speeds up the process.

You can also download Excel templates below for all of your marketing needs.

After you download the templates, it's time to start using the software. Let's cover the basics first.

Excel Basics

If you're just starting out with Excel, there are a few basic commands that we suggest you become familiar with. These are things like:

- Creating a new spreadsheet from scratch.

- Executing basic computations like adding, subtracting, multiplying, and dividing.

- Writing and formatting column text and titles.

- Using Excel's auto-fill features.

- Adding or deleting single columns, rows, and spreadsheets. (Below, we'll get into how to add things like multiple columns and rows.)

- Keeping column and row titles visible as you scroll past them in a spreadsheet, so that you know what data you're filling as you move further down the document.

- Sorting your data in alphabetical order.

  Let's explore a few of these more in-depth.

For instance, why does **auto-fill** matter?

If you have any basic Excel knowledge, it's likely you already know this quick trick. But to cover our bases, allow me to show you the glory of autofill. This lets you quickly fill adjacent cells with several types of data, including values, series, and formulas.

There are multiple ways to deploy this feature, but the fill handle is among the easiest. Select the cells you want to be the source, locate the fill handle in the lower-right corner of the cell, and either drag the fill handle to cover cells you want to fill or just double click:

Similarly, sorting is an important feature you'll want to know when organizing your data in Excel.

Sometimes you may have a list of data that has no organization whatsoever. Maybe you exported a list of your marketing contacts or blog posts. Whatever the case may be, Excel's sort feature will help you alphabetize any list.

Click on the data in the column you want to sort. Then click on the "Data" tab in your toolbar and look for the "Sort" option on the left. If the "A" is on top of the "Z," you can just click on that button once. If the "Z" is on top of the "A," click on the button twice. When the "A" is on top of the "Z," that means your list will be sorted in alphabetical order. However, when the "Z" is on top of the "A," that means your list will be sorted in reverse alphabetical order.

Let's explore more of the basics of Excel (along with advanced features) next.

How to Use Excel

To use Excel, you only need to input the data into the rows and columns. And then you'll use formulas and functions to turn that data into insights.

We're going to go over the best formulas and functions you need to know. But first, let's take a look at the types of documents you can create using the software. That way, you have an overarching understanding of how you can use Excel in your day-to-day.

Documents You Can Create in Excel

Not sure how you can actually use Excel in your team? Here is a list of documents you can create:

- Income Statements: You can use an Excel spreadsheet to track a company's sales activity and financial health.
- Balance Sheets: Balance sheets are among the most common types of documents you can create with Excel. It allows you to get a holistic view of a company's financial standing.
- Calendar: You can easily create a spreadsheet monthly calendar to track events or other date-sensitive information.

Here are some documents you can create specifically for marketers.

- Marketing Budgets: Excel is a strong budget-keeping tool. You can create and track marketing budgets, as well as spend, using Excel. *If you don't want to create a document from scratch, download our marketing budget templates for free*.
- Marketing Reports: If you don't use a marketing tool such as Marketing Hub, you might find yourself in need of a dashboard with all of your reports. Excel is an excellent tool to create marketing reports. *Download free Excel marketing reporting templates here*.
- Editorial Calendars: You can create editorial calendars in Excel. The tab format makes it extremely easy to track your content creation efforts for custom time ranges. *Download a free editorial content calendar template here*.
- Traffic and Leads Calculator: Because of its strong computational powers, Excel is an excellent tool to create all sorts of calculators — including one for tracking leads and traffic. *Click here to download a free premade lead goal calculator*.

This is only a small sampling of the types of marketing and business documents you can create in Excel. We've created an extensive list of Excel templates you can use right now for marketing, invoicing, project management, budgeting, and more.

In the spirit of working more efficiently and avoiding tedious, manual work, here are a few Excel formulas and functions you'll need to know.

Excel Formulas

It's easy to get overwhelmed by the wide range of Excel formulas that you can use to make sense out of your data. If you're just getting started using Excel, you can rely on the following formulas to carry out some complex functions — without adding to the complexity of your learning path.

- **Equal sign:** Before creating any formula, you'll need to write an equal sign (**=**) in the cell where you want the result to appear.
- **Addition**: To add the values of two or more cells, use the **+** sign. Example: *=C5+D3*.
- **Subtraction**: To subtract the values of two or more cells, use the **-** sign. Example: *=C5-D3*.
- **Multiplication**: To multiply the values of two or more cells, use the ***** sign. Example: *=C5*D3*.
- **Division**: To divide the values of two or more cells, use the **/** sign. Example: *=C5/D3*.

Putting all of these together, you can create a formula that adds, subtracts, multiplies, and divides all in one cell. Example: *=(C5-D3)/((A5+B6)*3)*.

For more complex formulas, you'll need to use parentheses around the expressions to avoid accidentally using the [PEMDAS order of operations](#). Keep in mind that you can use plain numbers in your formulas.

Excel Functions

Excel functions automate some of the tasks you would use in a typical formula. For instance, instead of using the + sign to add up a range of cells, you'd use the SUM function. Let's look at a few more functions that will help automate calculations and tasks.

- SUM: The SUM function automatically adds up a range of cells or numbers. To complete a sum, you would input the starting cell and the final cell with a colon in between. Here's what that looks like: **SUM(Cell1:Cell2)**. Example: *=SUM(C5:C30)*.
- AVERAGE: The AVERAGE function averages out the values of a range of cells. The syntax is the same as the SUM function: **AVERAGE(Cell1:Cell2).** Example: *=AVERAGE(C5:C30)*.
- IF: The IF function allows you to return values based on a logical test. The syntax is as follows: **IF(logical_test, value_if_true, [value_if_false])**. Example: *=IF(A2>B2,"Over Budget","OK")*.
- VLOOKUP: The VLOOKUP function helps you search for anything on your sheet's rows. The syntax is: **VLOOKUP(lookup value, table array, column number, Approximate match (TRUE) or Exact match (FALSE))**. Example: *=VLOOKUP([@Attorney],tbl_Attorneys,4,FALSE)*.
- INDEX: The INDEX function returns a value from within a range. The syntax is as follows: **INDEX(array, row_num, [column_num])**.
- MATCH: The MATCH function looks for a certain item in a range of cells and returns the position of that item. It can be used in tandem with the INDEX function. The syntax is: **MATCH(lookup_value, lookup_array, [match_type])**.
- COUNTIF: The COUNTIF function returns the number of cells that meet a certain criteria or have a certain value. The syntax is: **COUNTIF(range, criteria).** Example: *=COUNTIF(A2:A5,"London")*.

Okay, ready to get into the nitty-gritty? Let's get to it. (And to all the Harry Potter fans out there ... you're welcome in advance.)

Excel Tips

1. Use Pivot tables to recognize and make sense of data.
2. Add more than one row or column.
3. Use filters to simplify your data.
4. Remove duplicate data points or sets.
5. Transpose rows into columns.
6. Split up text information between columns.
7. Use these formulas for simple calculations.
8. Get the average of numbers in your cells.
9. Use conditional formatting to make cells automatically change color based on data.
10. Use IF Excel formula to automate certain Excel functions.
11. Use dollar signs to keep one cell's formula the same regardless of where it moves.
12. Use the VLOOKUP function to pull data from one area of a sheet to another.
13. Use INDEX and MATCH formulas to pull data from horizontal columns.
14. Use the COUNTIF function to make Excel count words or numbers in any range of cells.
15. Combine cells using ampersand.
16. Add checkboxes.
17. Hyperlink a cell to a website.
18. Add drop-down menus.

19. Use the format painter.
20. Create tables with data.
21. Use tables to conduct a what-if analysis.
22. Make formulas easier to comprehend with named ranges.
23. Group data to improve organization.
24. Use Find & Select to streamline formatting.
25. Protect your work.
26. Create custom number formats.
27. Customize the Excel ribbon.
28. Improve visual presentation with text wrapping.
29. Add emojis.

Note: Some of the GIFs and visuals are from a previous version of Excel. When applicable, the copy has been updated to provide instruction for users of both newer and older Excel versions.

1. Use Pivot tables to recognize and make sense of data.

Pivot tables are used to reorganize data in a spreadsheet. They won't change the data that you have, but they can sum up values and compare different information in your spreadsheet, depending on what you'd like them to do.

Let's take a look at an example. Let's say I want to take a look at how many people are in each house at Hogwarts. You may be thinking that I don't have too much data, but for longer data sets, this will come in handy.

To create the Pivot Table, I go to **Data** > **Pivot Table**. If you're using the most recent version of Excel, you'd go to **Insert** > **Pivot Table**. Excel will automatically populate your Pivot Table, but you can always change around the order of the data. Then, you have four options to choose from.

- **Report Filter**: This allows you to only look at certain rows in your dataset. For example, if I wanted to create a filter by house, I could choose to only include students in Gryffindor instead of all students.
- **Column Labels**: These would be your headers in the dataset.
- **Row Labels**: These could be your rows in the dataset. Both Row and Column labels can contain data from your columns (e.g. First Name can be dragged to either the Row or Column label — it just depends on how you want to see the data.)
- **Value**: This section allows you to look at your data differently. Instead of just pulling in any numeric value, you can sum, count, average, max, min, count numbers, or do a few other manipulations with your data. In fact, by default, when you drag a field to Value, it always does a count.

Since I want to count the number of students in each house, I'll go to the Pivot table builder and drag the House column to both the Row Labels and the Values. This will sum up the number of students associated with each house.

2. Add more than one row or column.

As you play around with your data, you might find you're constantly needing to add more rows and columns. Sometimes, you may even need to add hundreds of rows. Doing this one-by-one would be super tedious. Luckily, there's always an easier way.

To add multiple rows or columns in a spreadsheet, highlight the same number of preexisting rows or columns that you want to add. Then, right-click and select "Insert."

In the example below, I want to add an additional three rows. By highlighting three rows and then clicking insert, I'm able to add an additional three blank rows into my spreadsheet quickly and easily.
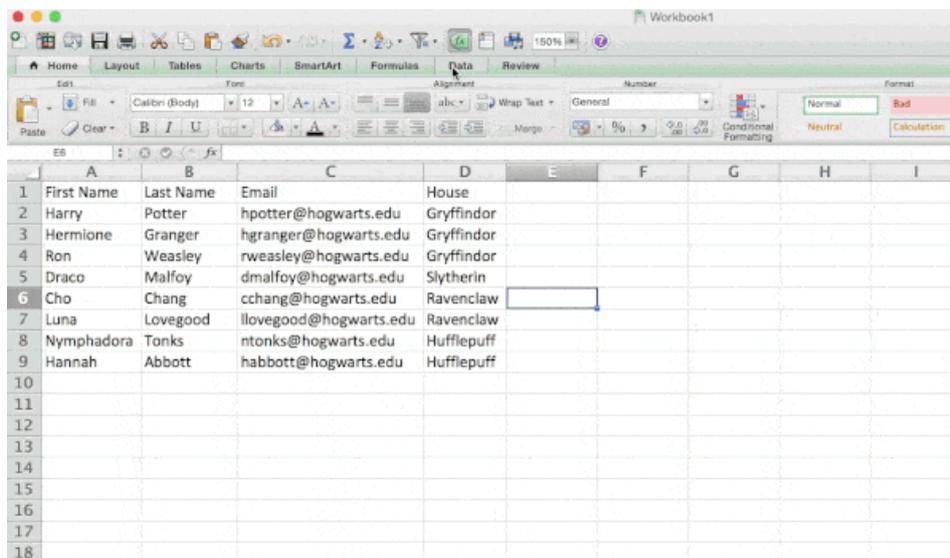

3. Use filters to simplify your data.

When you're looking at very large data sets, you don't usually need to be looking at every single row at the same time. Sometimes, you only want to look at data that fit into certain criteria.

That's where filters come in.

Filters allow you to pare down your data to only look at certain rows at one time. In Excel, a filter can be added to each column in your data — and from there, you can then choose which cells you want to view at once.

Let's take a look at the example below. Add a filter by clicking the Data tab and selecting "Filter." Clicking the arrow next to the column headers and you'll be able to choose whether you want your data to be organized in ascending or descending order, as well as which specific rows you want to show.

In my Harry Potter example, let's say I only want to see the students in Gryffindor. By selecting the Gryffindor filter, the other rows disappear.

Pro Tip: Copy and paste the values in the spreadsheet when a Filter is on to do additional analysis in another spreadsheet.

4. Remove duplicate data points or sets.

Larger data sets tend to have duplicate content. You may have a list of multiple contacts in a company and only want to see the number of companies you have. In situations like this, removing the duplicates comes in quite handy.

To remove your duplicates, highlight the row or column that you want to remove duplicates of. Then, go to the Data tab and select "Remove Duplicates" (which is under the Tools subheader in the older version of Excel). A pop-up will appear to confirm which data you want to work with. Select "Remove Duplicates," and you're good to go.

You can also use this feature to remove an entire row based on a duplicate column value. So if you have three rows with Harry Potter's information and you only need to see one, then you can select the whole dataset and then remove duplicates based on email. Your resulting list will have only unique names without any duplicates.

5. Transpose rows into columns.

When you have rows of data in your spreadsheet, you might decide you actually want to transform the items in one of those rows into columns (or vice versa). It would take a lot of time to copy and paste each individual header — but what the transpose feature allows you to do is simply move your row data into columns, or the other way around.

Start by highlighting the column that you want to transpose into rows. Right-click it, and then select "Copy." Next, select the cells on your spreadsheet where you want your first row or column to begin. Right-click on the cell, and then select "Paste Special." A module will appear — at the bottom, you'll see an option to transpose. Check that box and select OK. Your column will now be transferred to a row or vice-versa.

On newer versions of Excel, a drop-down will appear instead of a pop-up.
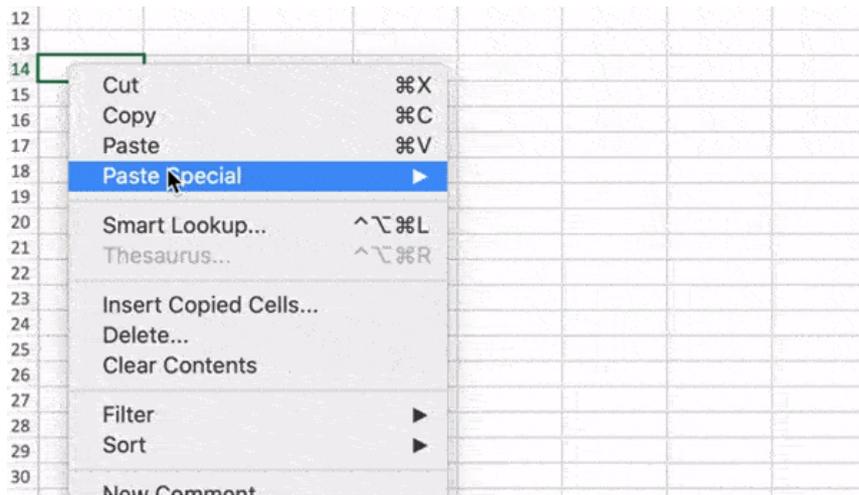
6. Split up text information between columns.

What if you want to split out information that's in one cell into two different cells? For example, maybe you want to pull out someone's company name through their email address. Or perhaps you want to separate someone's full name into a first and last name for your email marketing templates.

Thanks to Excel, both are possible. First, highlight the column that you want to split up. Next, go to the Data tab and select "Text to Columns." A module will appear with additional information.

First, you need to select either "Delimited" or "Fixed Width."

- "Delimited" means you want to break up the column based on characters such as commas, spaces, or tabs.

- "Fixed Width" means you want to select the exact location on all the columns that you want the split to occur.

In the example case below, let's select "Delimited" so we can separate the full name into first name and last name.

Then, it's time to choose the Delimiters. This could be a tab, semi-colon, comma, space, or something else. ("Something else" could be the "@" sign used in an email address, for example.) In our example, let's choose the space. Excel will then show you a preview of what your new columns will look like.

When you're happy with the preview, press "Next." This page will allow you to select Advanced Formats if you choose to. When you're done, click "Finish."
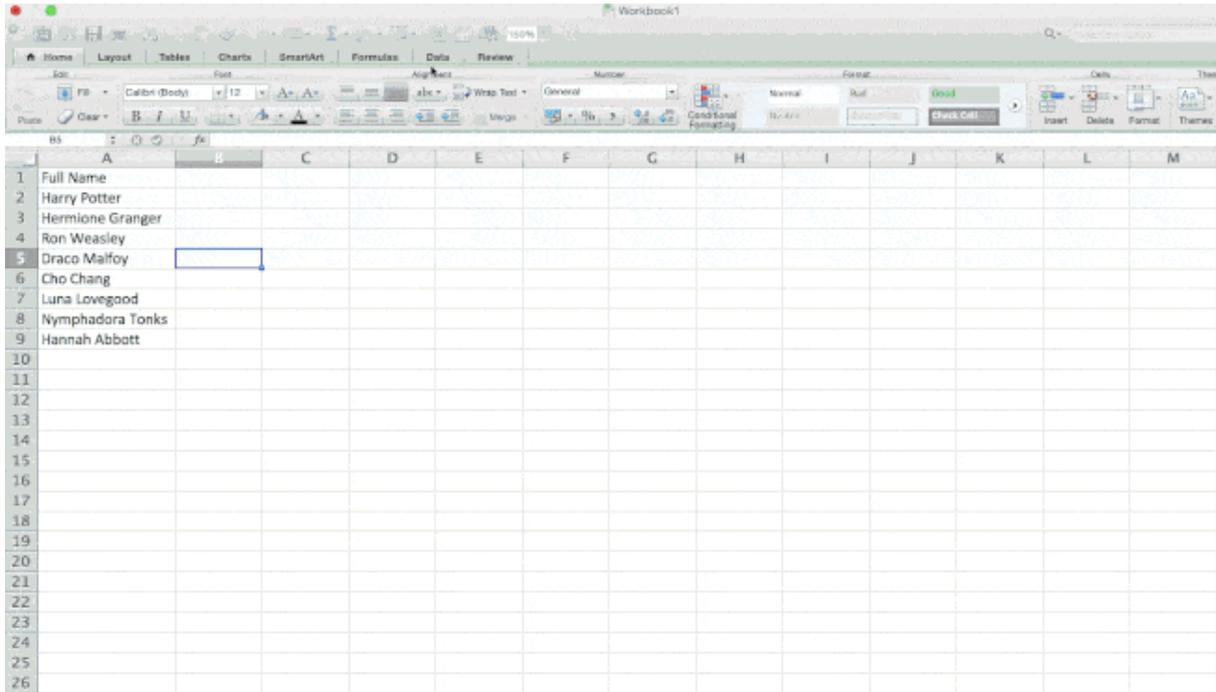
7. Use formulas for simple calculations.

In addition to doing pretty complex calculations, Excel can help you do simple arithmetic like adding, subtracting, multiplying, or dividing any of your data.

- To add, use the + sign.

- To subtract, use the - sign.

- To multiply, use the * sign.

- To divide, use the / sign.

You can also use parentheses to ensure certain calculations are done first. In the example below (10+10*10), the second and third 10 were multiplied together before adding the additional 10. However, if we made it (10+10)*10, the first and second 10 would be added together first.

8. Get the average of numbers in your cells.

If you want the average of a set of numbers, you can use the formula **=AVERAGE(Cell1:Cell2)**. If you want to sum up a column of numbers, you can use the formula **=SUM(Cell1:Cell2)**.

9. Use conditional formatting to make cells automatically change color based on data.

Conditional formatting allows you to change a cell's color based on the information within the cell. For example, if you want to flag certain numbers that are above average or in the top 10% of the data in your spreadsheet, you can do that. If you want to color code commonalities between different rows in Excel, you can do that. This will help you quickly see information that is important to you.

To get started, highlight the group of cells you want to use conditional formatting on. Then, choose "Conditional Formatting" from the Home menu and select your logic from the dropdown. (You can also create your own rule if you want something different.) A window will pop up that prompts you to provide more information about your formatting rule. Select "OK" when you're done, and you should see your results automatically appear.

10. Use the IF Excel formula to automate certain Excel functions.

Sometimes, we don't want to count the number of times a value appears. Instead, we want to input different information into a cell if there is a corresponding cell with that information.

For example, in the situation below, I want to award ten points to everyone who belongs in the Gryffindor house. Instead of manually typing in 10's next to each Gryffindor student's name, I can use the IF Excel formula to say that if the student is in Gryffindor, then they should get ten points.

The formula is: **IF(logical_test, value_if_true, [value_if_false])**

Example Shown Below: **=IF(D2="Gryffindor","10","0")**

In general terms, the formula would be IF(Logical Test, value of true, value of false). Let's dig into each of these variables.

- **Logical_Test**: The logical test is the "IF" part of the statement. In this case, the logic is D2="Gryffindor" because we want to make sure that the cell corresponding with the student says "Gryffindor." Make sure to put Gryffindor in quotation marks here.
- **Value_if_True**: This is what we want the cell to show if the value is true. In this case, we want the cell to show "10" to indicate that the student was awarded the 10 points. Only use quotation marks if you want the result to be text instead of a number.
- **Value_if_False**: This is what we want the cell to show if the value is false. In this case, for any student not in Gryffindor, we want the cell to show "0". Only use quotation marks if you want the result to be text instead of a number.

	A	B	C	D	E	F	G
1	First Name	Last Name	Email	House	House Points		
2	Harry	Potter	hpotter@hogwarts.edu	Gryffindor			
3	Hermione	Granger	hgranger@hogwarts.edu	Gryffindor			
4	Ron	Weasley	rweasley@hogwarts.edu	Gryffindor			
5	Draco	Malfoy	dmalfoy@hogwarts.edu	Slytherin			
6	Cho	Chang	cchang@hogwarts.edu	Ravenclaw			
7	Luna	Lovegood	llovegood@hogwarts.edu	Ravenclaw			
8	Nymphadora	Tonks	ntonks@hogwarts.edu	Hufflepuff			
9	Hannah	Abbott	habbott@hogwarts.edu	Hufflepuff			

Note: In the example above, I awarded 10 points to everyone in Gryffindor. If I later wanted to sum the total number of points, I wouldn't be able to because the 10's are in quotes, thus making them text and not a number that Excel can sum.

The real power of the IF function comes when you string multiple IF statements together, or nest them. This allows you to set multiple conditions, get more specific results, and ultimately organize your data into more manageable chunks.

Ranges are one way to segment your data for better analysis. For example, you can categorize data into values that are less than 10, 11 to 50, or 51 to 100. Here's how that looks in practice:

=IF(B3<11,"10 or less",IF(B3<51,"11 to 50",IF(B3<100,"51 to 100")))

It can take some trial-and-error, but once you have the hang of it, IF formulas will become your new Excel best friend.

11. Use dollar signs to keep one cell's formula the same regardless of where it moves.

Have you ever seen a dollar sign in an Excel formula? When used in a formula, it isn't representing an American dollar; instead, it makes sure that the exact column and row are held the same even if you copy the same formula in adjacent rows.

You see, a cell reference — when you refer to cell A5 from cell C5, for example — is relative by default. In that case, you're actually referring to a cell that's five columns to the left (C minus A) and in the same row (5). This is called a relative formula. When you copy a relative formula from one cell to another, it'll adjust the values in the formula based on where it's moved. But sometimes, we want those values to stay the same no matter whether they're moved around or not — and we can do that by turning the formula into an absolute formula.

To change the relative formula (=A5+C5) into an absolute formula, we'd precede the row and column values by dollar signs, like this: **(=$A$5+$C$5)**. (Learn more on Microsoft Office's support page [here](#).)

12. Use the VLOOKUP function to pull data from one area of a sheet to another.

Have you ever had two sets of data on two different spreadsheets that you want to combine into a single spreadsheet?

For example, you might have a list of people's names next to their email addresses in one spreadsheet, and a list of those same people's email addresses next to their company names in the other — but you want the names, email addresses, and company names of those people to appear in one place.

I have to combine data sets like this a lot — and when I do, the VLOOKUP is my go-to formula.

Before you use the formula, though, be absolutely sure that you have at least one column that appears identically in both places. Scour your data sets to make sure the column of data you're using to combine your information is exactly the same, including no extra spaces.

The formula: **=VLOOKUP(lookup value, table array, column number, Approximate match (TRUE) or Exact match (FALSE))**

The formula with variables from our example below: **=VLOOKUP(C2,Sheet2!A:B,2,FALSE)**

In this formula, there are several variables. The following is true when you want to combine information in Sheet 1 and Sheet 2 onto Sheet 1.

- **Lookup Value**: This is the identical value you have in both spreadsheets. Choose the first value in your first spreadsheet. In the example that follows, this means the first email address on the list, or cell 2 (C2).
- **Table Array**: The table array is the range of columns on Sheet 2 you're going to pull your data from, including the column of data identical to your lookup value (in our example, email addresses) in Sheet 1 as well as the column of data you're trying to copy to Sheet 1. In our example, this is "Sheet2!A:B." "A" means Column A in Sheet 2, which is the column in Sheet 2 where the data identical to our lookup value (email) in Sheet 1 is listed. The "B" means Column B, which contains the information that's only available in Sheet 2 that you want to translate to Sheet 1.
- **Column Number**: This tells Excel which column the new data you want to copy to Sheet 1 is located in. In our example, this would be the column that "House" is located in. "House" is the second column in our range of columns (table array), so our column number is 2. [**Note**: Your range can be more than two columns. For example, if there are three columns on Sheet 2 — Email, Age, and House — and you still want to bring House onto Sheet 1, you can still use a VLOOKUP. You just need to change the "2" to a "3" so it pulls back the value in the third column: =VLOOKUP(C2:Sheet2!A:C,3,false).]
- **Approximate Match (TRUE) or Exact Match (FALSE)**: Use FALSE to ensure you pull in only exact value matches. If you use TRUE, the function will pull in approximate matches.

In the example below, Sheet 1 and Sheet 2 contain lists describing different information about the same people, and the common thread between the two is their email addresses. Let's say we want to combine both datasets so that all the house information from Sheet 2 translates over to Sheet 1.
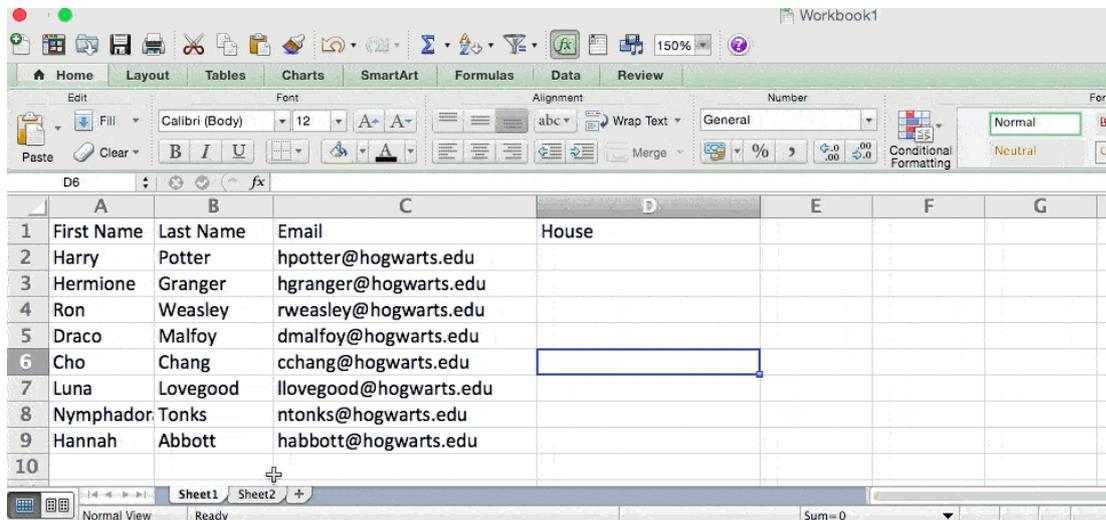
So when we type in the formula =**VLOOKUP(C2,Sheet2!A:B,2,FALSE)**, we bring all the house data into Sheet 1.

Keep in mind that VLOOKUP will only pull back values from the second sheet that are to the right of the column containing your identical data. This can lead to some limitations, which is why some people prefer to use the INDEX and MATCH functions instead.

13. Use INDEX and MATCH formulas to pull data from horizontal columns.

Like VLOOKUP, the INDEX and MATCH functions pull in data from another dataset into one central location. Here are the main differences:

- VLOOKUP is a much simpler formula. If you're working with large data sets that would require thousands of lookups, using the INDEX and MATCH function will significantly decrease load time in Excel.

- The INDEX and MATCH formulas work right-to-left, whereas VLOOKUP formulas only work as a left-to-right lookup. In other words, if you need to do a lookup that has a lookup column to the right of the results column, then you'd have to rearrange those columns in order to do a VLOOKUP. This can be tedious with large datasets and/or lead to errors.

So if I want to combine information in Sheet 1 and Sheet 2 onto Sheet 1, but the column values in Sheets 1 and 2 aren't the same, then to do a VLOOKUP, I would need to switch around my columns. In this case, I'd choose to do an INDEX and MATCH instead.

Let's look at an example. Let's say Sheet 1 contains a list of people's names and their Hogwarts email addresses, and Sheet 2 contains a list of people's email addresses and the Patronus that each student has. (For the non-Harry Potter fans out there, every witch or wizard has an animal guardian called a "Patronus" associated with him or her.) The information that lives in both sheets is the column containing email addresses, but this email

address column is in different column numbers on each sheet. I'd use the INDEX and MATCH formulas instead of VLOOKUP so I wouldn't have to switch any columns around.

So what's the formula, then? The formula is actually the MATCH formula nested inside the INDEX formula. You'll see I differentiated the MATCH formula using a different color here.

The formula: **=INDEX(table array, MATCH formula)**

This becomes: **=INDEX(table array, MATCH (lookup_value, lookup_array))**

The formula with variables from our example
below: **=INDEX(Sheet2!A:A,(MATCH(Sheet1!C:C,Sheet2!C:C,0)))**

Here are the variables:

- **Table Array**: The range of columns on Sheet 2 containing the new data you want to bring over to Sheet 1. In our example, "A" means Column A, which contains the "Patronus" information for each person.
- **Lookup Value**: This is the column in Sheet 1 that contains identical values in both spreadsheets. In the example that follows, this means the "email" column on Sheet 1, which is Column C. So: Sheet1!C:C.
- **Lookup Array**: This is the column in Sheet 2 that contains identical values in both spreadsheets. In the example that follows, this refers to the "email" column on Sheet 2, which happens to also be Column C. So: Sheet2!C:C.

Once you have your variables straight, type in the INDEX and MATCH formulas in the top-most cell of the blank Patronus column on Sheet 1, where you want the combined information to live.
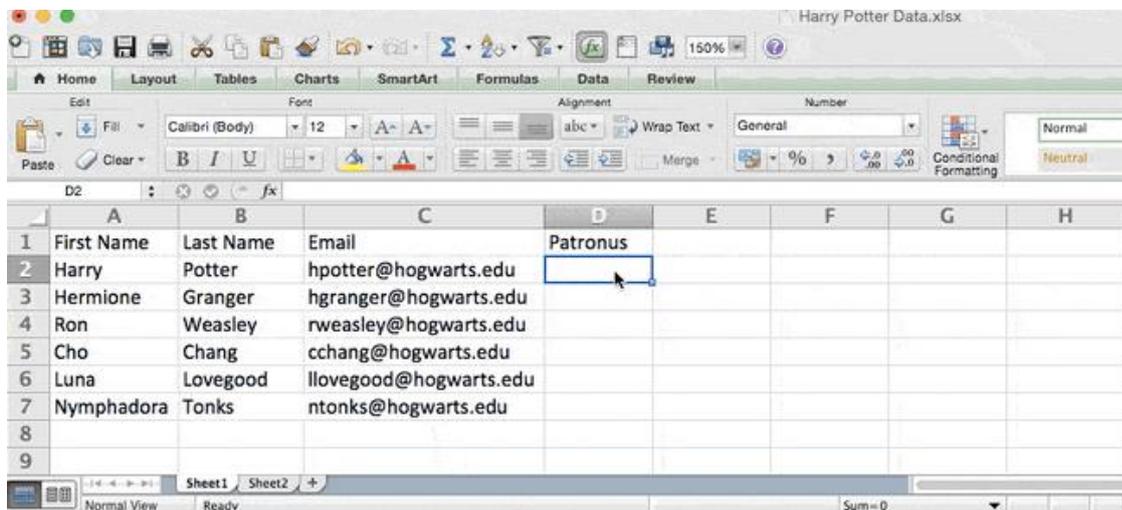
14. Use the COUNTIF function to make Excel count words or numbers in any range of cells.

Instead of manually counting how often a certain value or number appears, let Excel do the work for you. With the COUNTIF function, Excel can count the number of times a word or number appears in any range of cells.

For example, let's say I want to count the number of times the word "Gryffindor" appears in my data set.

The formula: **=COUNTIF(range, criteria)**

The formula with variables from our example below: **=COUNTIF(D:D,"Gryffindor")**

In this formula, there are several variables:

- **Range**: The range that we want the formula to cover. In this case, since we're only focusing on one column, we use "D:D" to indicate that the first and last column are both D. If I were looking at columns C and D, I would use "C:D."
- **Criteria**: Whatever number or piece of text you want Excel to count. Only use quotation marks if you want the result to be text instead of a number. In our example, the criteria is "Gryffindor."

Simply typing in the COUNTIF formula in any cell and pressing "Enter" will show me how many times the word "Gryffindor" appears in the dataset.

15. Combine cells using &.

Databases tend to split out data to make it as exact as possible. For example, instead of having a column that shows a person's full name, a database might have the data as a first name and then a last name in separate columns. Or, it may have a person's location separated by city, state, and zip code. In Excel, you can combine cells with different data into one cell by using the "&" sign in your function.

The formula with variables from our example below: **=A2&" "&B2**

Let's go through the formula together using an example. Pretend we want to combine first names and last names into full names in a single column. To do this, we'd first put our cursor in the blank cell where we want the full name to appear. Next, we'd highlight one cell that contains a first name, type in an "&" sign, and then highlight a cell with the corresponding last name.

But you're not finished — if all you type in is =A2&B2, then there will not be a space between the person's first name and last name. To add that necessary space, use the function **=A2&" "&B2**. The quotation marks around the space tell Excel to put a space in between the first and last name.

To make this true for multiple rows, simply drag the corner of that first cell downward as shown in the example.

16. Add checkboxes.

If you're using an Excel sheet to track customer data and want to oversee something that isn't quantifiable, you could insert checkboxes into a column.

For example, if you're using an Excel sheet to manage your sales prospects and want to track whether you called them in the last quarter, you could have a "Called this quarter?" column and check off the cells in it when you've called the respective client.

Here's how to do it.

Highlight a cell you'd like to add checkboxes to in your spreadsheet. Then, click DEVELOPER. Then, under FORM CONTROLS, click the checkbox or the selection circle highlighted in the image below.
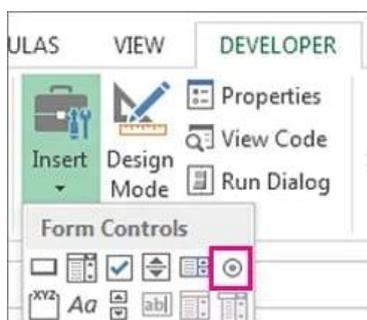
Once the box appears in the cell, copy it, highlight the cells you also want it to appear in, and then paste it.

17. Hyperlink a cell to a website.

If you're using your sheet to track social media or website metrics, it can be helpful to have a reference column with the links each row is tracking. If you add a URL directly into Excel, it should automatically be clickable. But, if you have to hyperlink words, such as a page title or the headline of a post you're tracking, here's how.

Highlight the words you want to hyperlink, then press Shift K. From there a box will pop up allowing you to place the hyperlink URL. Copy and paste the URL into this box and hit or click Enter.

If the key shortcut isn't working for any reason, you can also do this manually by highlighting the cell and clicking **Insert** > **Hyperlink**.

18. Add drop-down menus.

Sometimes, you'll be using your spreadsheet to track processes or other qualitative things. Rather than writing words into your sheet repetitively, such as "Yes", "No", "Customer Stage", "Sales Lead", or "Prospect", you can use dropdown menus to quickly mark descriptive things about your contacts or whatever you're tracking.

Here's how to add drop-downs to your cells.

Highlight the cells you want the drop-downs to be in, then click the Data menu in the top navigation and press Validation.
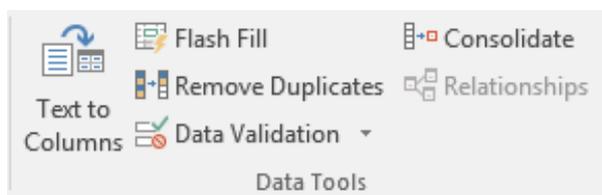
From there, you'll see a Data Validation Settings box open. Look at the Allow options, then click Lists and select Drop-down List. Check the In-Cell dropdown button, then press OK.

19. Use the format painter.

As you've probably noticed, Excel has a lot of features to make crunching numbers and analyzing your data quick and easy. But if you ever spent some time formatting a sheet to your liking, you know it can get a bit tedious.

Don't waste time repeating the same formatting commands over and over again. Use the format painter to easily copy the formatting from one area of the worksheet to another. To do so, choose the cell you'd like to replicate, then select the format painter option (paintbrush icon) from the top toolbar.

20. Create tables with data.

Converting your data into a table not only makes it visually appealing but also provides improved data management and analysis capabilities.

To get started, you'll need to select the range of cells that you want to convert into a table. Then, go to the Home tab in the Excel ribbon. In the Styles group, click on the Format as Table button — it looks like a grid of cells. Then, choose a table style from the available options, or customize a table if desired.

In the Create Table dialog box, make sure the range you selected is correct. If Excel did not automatically detect the range correctly, you can adjust it manually. If your table has headers (column names), ensure that the "My table has headers" option is checked. This allows Excel to treat the first row as the header row.

Once everything is ready, click the OK button, and Excel will convert your selected data into a table.

|	A	B	C	D
1	First Name	Last Name	Email	House
2	Harry	Potter	hpotter@hogwarts.edu	Gryffindor
3	Hermoine	Granger	hgranger@hogwarts.edu	Gryffindor
4	Ron	Weasley	rweasley@hogwarts.edu	Gryffindor
5	Draco	Malfoy	dmalfoy@hogwarts.edu	Slytherin
6	Cho	Chang	cchang@hogwarts.edu	Ravenclaw
7	Luna	Lovegood	llovegood@hogwarts.edu	Ravenclaw
8	Nymphadora	Tonks	ntonks@hogwarts.edu	Hufflepuff
9	Hannah	Abbott	habbott@hogwarts.edu	Hufflepuff
10				
11				

After your data is converted into a table, you'll notice some additional features and functionalities become available:

- The table is automatically assigned a name, such as "Table1" or "Table2," which you can modify if needed.

- Filter drop-down arrows appear in the header row, allowing you to filter data within the table easily.

- The table is formatted with alternating row colors, making it visually appealing.

- Total rows are automatically added at the bottom of each column, allowing you to perform calculations like sum, average, etc., for the data in that column.

21. Use tables to conduct a what-if analysis.

In addition to making your data more organized, tables can also help you conduct what-if analyses. This allows you to test various combinations of input values and observe the resulting outcomes.

A what-if analysis can be beneficial when it comes to decision making, planning, forecasting, financial modeling, sensitivity analysis, resource planning, and more.

To get started, you'll need to set up your worksheet with the necessary formulas and variables you want to analyze. Then, determine the input values that you want to vary. Typically, you will choose one or two input variables.

Select the cell where you want to display the results of your what-if analysis. Then, go to the Data tab in the Excel ribbon and click on the What-If Analysis button. From the dropdown menu, select Data Table.

In the Table Input dialog box, enter the input values that you want to test for each variable. If you have one variable, enter the different input values in a column or row. If you have two variables, enter the combinations in a table format.

Select the cells in the table area that correspond to the formula cell you want to analyze. This is the cell that will display the results for each combination of input values.

Click OK to generate the data table. Excel will calculate the formula for each combination of input values and display the results in the selected cells. The data table acts as a grid, showing the various scenarios and their corresponding outcomes.

Once your table is created, you can use it to identify trends, patterns, or specific values of interest. Play around with the input values and see how it may affect the final results.

22. Make formulas easier to comprehend with named ranges.

Instead of referring to a range of cells by its coordinates (e.g., A1:B10), you can assign a name to it. This makes formulas more readable and easier to manage.

To get started, select the cell or range of cells that you want to name. Go to the Formulas tab in the Excel ribbon and click on the Define Name button in the Defined Names group. Alternatively, you can use the keyboard shortcut Alt + M + N + D.

In the New Name dialog box, enter a name for the selected cell or range in the Name field. Make sure the name is descriptive and easy to remember. By default, Excel assigns the selected cell or range's reference to the Refers to field in the dialog box. If needed, you can modify the reference to include additional cells or adjust the range.

Click the OK button to save the named range. Once you've named a range, you can use it in your formulas by simply typing the name instead of the cell reference. For example, if you named cell A1 as "Revenue," you could use =Revenue instead of =A1 in your formulas.

Using named ranges offers several benefits:

- **Improved formula readability:** Named ranges make formulas easier to understand and navigate, especially in complex calculations or large datasets.
- **Flexibility for range adjustments:** If your dataset changes, you can easily modify the range assigned to a named range without updating each formula that references it.
- **Enhanced collaboration:** Named ranges make it easier to collaborate with others, as they can understand the purpose of a named range and use it in their own calculations.
- **Simplified data analysis:** When using named ranges, you can create more intuitive data analysis by referring to named ranges in functions like SUM, AVERAGE, COUNTIF, etc.

To manage named ranges, you can go to the Formulas tab, click on the Name Manager button in the Defined Names group. The Name Manager offers functionalities to modify, delete, or review existing named ranges.

23. Group data to improve organization.

Grouping data in Excel provides a way to organize, analyze, and present information more effectively, making it easier to identify patterns, trends, and insights within your data. For instance, if you have a list of leads generated, you can group the data by month to create a monthly performance report.

Grouping data especially makes it easier to navigate and work with large data sets. It helps in organization and reduces clutter by collapsing the groups that are not immediately needed.

To group data in Excel, select the range of cells or columns that you want to group. Make sure the data is sorted properly, if needed.

On the Data tab in the Excel ribbon, click on the Group button. It is usually found in the Outline or Data Tools group.
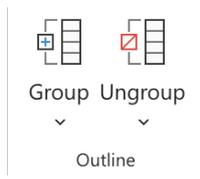
You can specify the grouping levels by choosing options like Rows or Columns. For example, if you want to group data by month, you can select Months. You can also set additional options such as Summary rows below detail or Collapse the outline to the summary levels. These options affect how the grouped data is displayed.

Once you have the options you want selected, click on the OK button, and Excel will group the selected data based on your settings.

After your data is grouped, you will see a plus (+) or minus (-) button next to the grouped rows or columns. Clicking on the plus button expands the group to show the individual records, and clicking on the minus button collapses the group to hide the details.

24. Use Find & Select to streamline formatting.

Why format and clean up your spreadsheet manually when you can do it in just a few clicks? Using the Find & Select tool can help you maintain accuracy and consistency in your documents.

To get started, open the Excel worksheet that contains the data you want to search. Press the Ctrl + F keys on your keyboard or go to the Home tab and click on the Find & Select drop-down menu. Then, select Find from the menu. The Find and Replace dialog box will open.
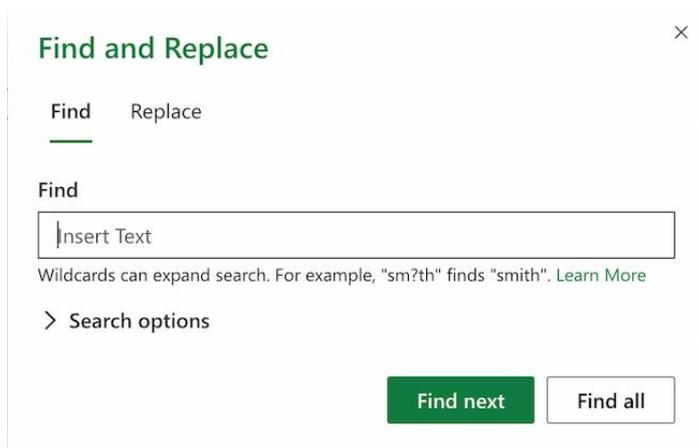
In the Find field, enter the specific data you want to find. Optionally, you can narrow down your search to specific cells, rows, columns, or formulas by choosing the appropriate options in the dialog box.

Click on the Find next button to search for the first occurrence of the data. Excel will highlight the cell containing the data.

To replace the found data with new information, click on the Replace button in the dialog box. This will replace the highlighted occurrence with the data you enter in the Replace field.

To replace all occurrences of the data at once, click on the Replace All button. Once you have finished finding and replacing, you can close the dialog box.

Note: Be cautious when using the Replace All feature, as it replaces all occurrences without confirmation. It is always a good practice to review each replacement carefully before using the Replace All option.

25. Protect your work.

Protecting your work in Excel is essential for data security, maintaining data integrity, preserving intellectual property, and complying with legal or regulatory requirements. It allows you to have control over who can access and modify your work, minimizing risks and maintaining the quality and confidentiality of your data.

Here are a couple ways you can protect your work:

Protect a Worksheet

1. Open your Excel worksheet and navigate to the **Review** tab.
2. Click on the **Manage Protection** button in the **Protection** group.
3. A **Manage Protection** dialog box will appear. There, you can select whether or not you want to protect the sheet. Set a password if desired and choose the options you want to apply, such as preventing users from making changes to cells, formatting, inserting/deleting columns or rows, etc.
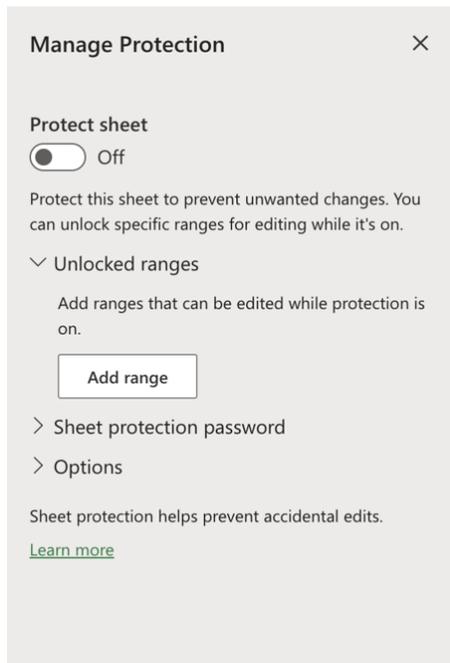
Protecting a Workbook

1. Open your Excel workbook and navigate to the **File** tab.
2. Click on Info and select **Protect Workbook** from the options.
3. Choose **Encrypt with Password** and enter a password if desired.
4. Click OK to protect the workbook.
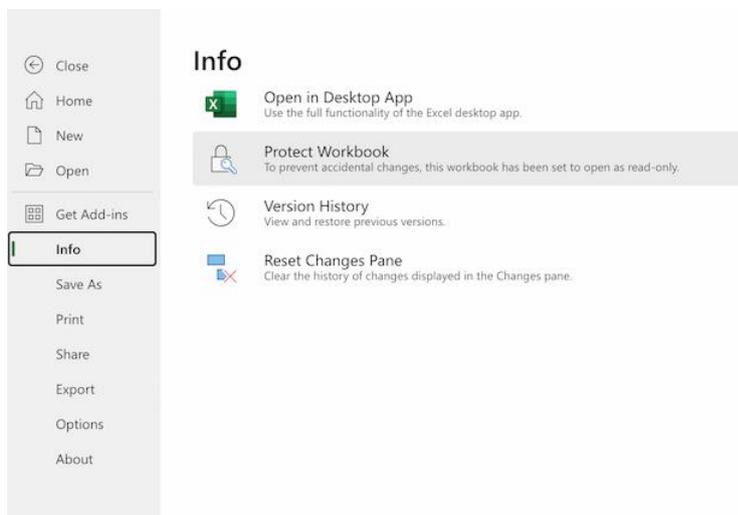
Taking these extra steps ensures your work is protected. Just make sure to keep your passwords safe and secure.

26. Create custom number formats.

To display data in unique ways, use custom number formats. Doing this can help with data presentation, data clarity, consistency, localization, and masking sensitive data.

To get started, select the cell or range of cells that you want to format. Right-click on the selected cells and choose Number Format from the context menu. Then, find the Category list and select Custom.

In the Type field, you can enter a custom number format code to define your desired format. Here are some examples of custom number formats:

- To display numbers with a specific number of decimal places, use the **0** or **#** symbol to represent a digit, and a zero or hashtag without a decimal point to represent optional digits. For example, **0.00** will display two decimal places, **0.###** will display up to three decimal places, and ### will display no decimal places.
- To display a specific text or character alongside numbers, use the **@** symbol. For example, **$0** will display a dollar sign before the number.
- To display percentages, use the **%** symbol. For example, **0%** will display the number as a percentage.
- To create custom date or time formats, use codes such as **dd** for day, **mm** for month, **yy** for two-digit year, **hh** for hours, **mm** for minutes, and **ss** for seconds. For example, **dd/mm/yyyy** will display the date in the format of day/month/year.

As you enter your custom number format in the Type field, you will see a Sample section that shows a preview of how the format will be applied. Click OK to apply the custom number format to the selected cells.

27. Customize the Excel ribbon.

Although the Excel ribbon already contains various tools that are used to execute common functions and commands, you can customize it to fit your specific needs and preferences.

This can help streamline your workflow and make commonly used commands more easily accessible. It also allows you to remove unnecessary elements that you don't use, making it easier to navigate and find the tools you need.

To make customizations, start by right clicking on an empty area of the ribbon and select Customize the Ribbon. In the Excel Options window that appears, you'll see two sections. The left section displays the tabs currently visible in the ribbon, while the right section displays the tabs you can add.

To customize the ribbon, you have several options:

- To add a new tab, click on **New Tab** in the right section and give it a name.
- To add a group within an existing tab, select the tab in the left section, click **New Group** in the right section, and name it.

- To add commands to a group, select the group in the right section, choose commands from the left section, and click Add. You can also customize the order of the commands using the Up and Down buttons.

You can also remove tabs, groups, or commands from the ribbon. Select the item you want to remove in the left section and click Remove.

To change the order of tabs and groups, select the item in the left section and use the Up and Down buttons to rearrange them.

Click OK in the Excel Options window to save your changes and apply the customized ribbon.

To extend Excel's functionality even further, you can customize the ribbon with additional applications by clicking on the Add-ins button in the Home tab.
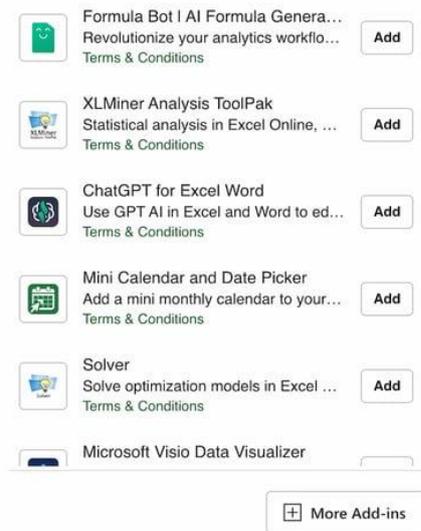
Note: Customizing the ribbon is specific to your Excel installation and won't affect other users' ribbons.

28. Improve visual presentation with text wrapping.

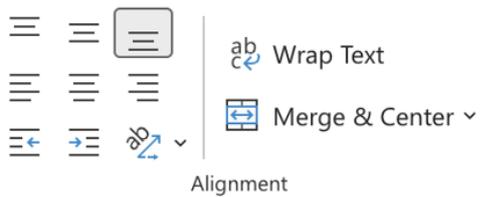Even though spreadsheets aren't always the most interesting things to look at, you can still take the time to make them easier to read by wrapping text.

Doing this lets you display multiple lines of text within a single cell. It's particularly handy when you need to include line breaks or break up paragraphs of information within a cell without increasing the row height.

Select the cell(s) with the text you want to wrap. Navigate to the toolbar at the top of the Excel window and locate the Wrap Text button (an icon with an angled arrow). It is typically found in the Alignment section. Then, click on Wrap Text.

29. Add emojis.

Give your spreadsheets a little personal touch by adding in emojis.

To get started, click on the cell where you want to insert an emoji. Then, open the emoji keyboard. This step may vary based on your operating system.

- **Windows:** Use the keyboard shortcut **Win + .** or **Win + ;** to open the emoji keyboard.
- **macOS:** Use the keyboard shortcut **Ctrl** + **Cmd** + **Space** to access the emoji keyboard.

Browse through the available emojis and click on the one you want to insert. The selected emoji should now appear in the selected cell.
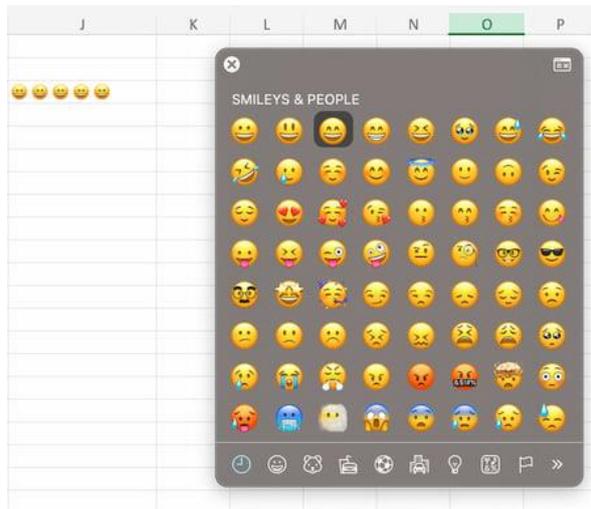
Emojis may appear small by default in Excel cells. If you want to make them larger to improve visibility, you can adjust the cell size by dragging the row height and column width accordingly.

You can also copy emojis from external sources on the web or other applications and paste them directly into Excel cells.

Note: The ability to use emojis in Excel depends on the version of Excel and the device you are using. Some older versions or platforms may not support emojis or display them correctly. Therefore, it's important to ensure compatibility with the Excel version and platform you are working with.

Excel Keyboard Shortcuts

Creating reports in Excel is time-consuming enough. How can we spend less time navigating, formatting, and selecting items in our spreadsheet? Glad you asked. There are a ton of Excel shortcuts out there, including some of our favorites listed below.

Create a New Workbook

PC: Ctrl-N | Mac: Command-N

Select Entire Row

PC: Shift-Space | Mac: Shift-Space

Select Entire Column

PC: Ctrl-Space | Mac: Control-Space

Select Rest of Column

PC: Ctrl-Shift-Down/Up | Mac: Command-Shift-Down/Up

Select Rest of Row

PC: Ctrl-Shift-Right/Left | Mac: Command-Shift-Right/Left

Add Hyperlink

PC: Ctrl-K | Mac: Command-K

Open Format Cells Window

PC: Ctrl-1 | Mac: Command-1

Autosum Selected Cells

PC: Alt-= | Mac: Command-Shift-T

Other Excel Help Resources

- How to Make a Chart or Graph in Excel [With Video Tutorial]
- Design Tips to Create Beautiful Excel Charts and Graphs
- Totally Free Microsoft Excel Templates That Make Marketing Easier
- How to Learn Excel Online: Free and Paid Resources for Excel Training

Use Excel to Automate Processes in Your Team

Even if you're not an accountant, you can still use Excel to automate tasks and processes in your team. With the tips and tricks we shared in this post, you'll be sure to use Excel to its fullest extent and get the most out of the software to grow your business.

Editor's Note: This post was originally published in August 2017 but has been updated for comprehensiveness.

Top 30 Excel Formulas and Functions You Should Know

By Shruti M

Last updated on Jan 31, 2024

Microsoft Excel is the go-to tool for working with data. There are probably a handful of people who haven't used Excel, given its immense popularity. Excel is a widely used software application in industries today, built to generate reports and business insights. Excel supports several in-built applications that make it easier to use.

One such feature that allows Excel to stand out is - Excel sheet formulas. Here, we will look into the top 25 Excel formulas that one must know while working on Excel. The topics that we will be covering in this article are as follows:

- What is Excel Formula?
- Excel Formulas and Functions

What is Excel Formula?

In Microsoft Excel, a formula is an expression that operates on values in a range of cells. These formulas return a result, even when it is an error. Excel formulas enable you to perform calculations such as addition, subtraction, multiplication, and division. In addition to these, you can find out averages and calculate percentages in excel for a range of cells, manipulate date and time values, and do a lot more.

Formulas in Excel: An Overview

- Choose a cell.
- To enter an equal sign, click the cell and type =.

- Enter the address of a cell in the selected cell or select a cell from the list.
- You need to enter an operator.
- Enter the address of the next cell in the selected cell.
- Press Enter.

There is another term that is very familiar to Excel formulas, and that is "function". The two words, "formulas" and "functions" are sometimes interchangeable. They are closely related, but yet different. A formula begins with an equal sign. Meanwhile, functions are used to perform complex calculations that cannot be done manually. Functions in excel have names that reflect their intended use.

The example below shows how we have used the multiplication formula manually with the '*' operator.

Sample Formula: "=A2*B2"

Fig: Microsoft Excel Formula

This example below shows how we have used the function - 'PRODUCT' to perform multiplication. As you can see, we didn't use the mathematical operator here.

Sample Formula: "=PRODUCT(A2,B2)"

Fig: Microsoft Excel Function

Excel formulas and functions help you perform your tasks efficiently, and it's time-saving. Let's proceed and learn the different types of functions available in Excel and use relevant formulas as and when required.

Excel Formulas and Functions

There are plenty of Excel formulas and functions depending on what kind of operation you want to perform on the dataset. We will look into the formulas and functions on mathematical operations, character-text functions, data and time, sumif-countif, and few lookup functions.

Let's now look at the top 25 Excel formulas you must know. In this article, we have categorized 25 Excel formulas based on their operations. Let's start with the first Excel formula on our list.

1. SUM

The SUM() function, as the name suggests, gives the total of the selected range of cell values. It performs the mathematical operation which is addition. Here's an example of it below:

Sum "=SUM(C2:C4)"

Fig: Sum function in Excel

As you can see above, to find the total amount of sales for every unit, we had to simply type in the function "=SUM(C2:C4)". This automatically adds up 300, 385, and 480. The result is stored in C5.

2. AVERAGE

The AVERAGE() function focuses on calculating the average of the selected range of cell values. As seen from the below example, to find the avg of the total sales, you have to simply type in:

AVERAGE =AVERAGE(C2, C3, C4)

Fig: Average function in Excel

It automatically calculates the average, and you can store the result in your desired location.

3. COUNT

The function COUNT() counts the total number of cells in a range that contains a number. It does not include the cell, which is blank, and the ones that hold data in any other format apart from numeric.

COUNT =COUNT(C1:C4)

Fig: Microsoft Excel Function - Count

As seen above, here, we are counting from C1 to C4, ideally four cells. But since the COUNT function takes only the cells with numerical values into consideration, the answer is 3 as the cell containing "Total Sales" is omitted here.

If you are required to count all the cells with numerical values, text, and any other data format, you must use the function 'COUNTA()'. However, COUNTA() does not count any blank cells.

To count the number of blank cells present in a range of cells, COUNTBLANK() is used.

4. SUBTOTAL

Moving ahead, let's now understand how the subtotal function works. The SUBTOTAL() function returns the subtotal in a database. Depending on what you want, you can select either average, count, sum, min, max, min, and others. Let's have a look at two such examples.
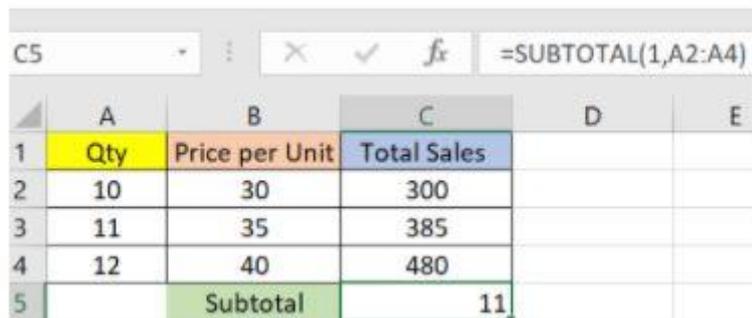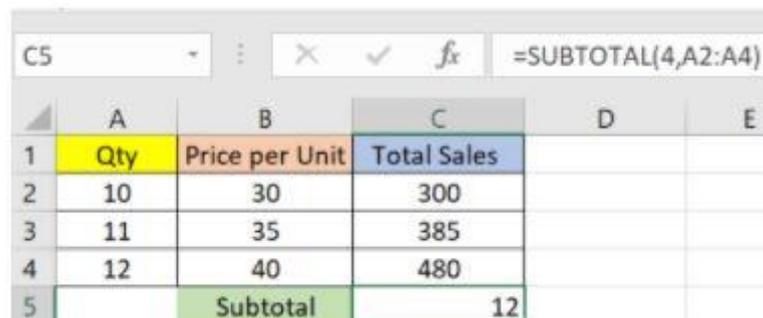

Fig: Subtotal function in Excel

In the example above, we have performed the subtotal calculation on cells ranging from A2 to A4. As you can see, the function used is

SUBTOTAL =SUBTOTAL(1, A2: A4)

In the subtotal list "1" refers to average. Hence, the above function will give the average of A2: A4 and the answer to it is 11, which is stored in C5. Similarly,

"=SUBTOTAL(4, A2: A4)"

This selects the cell with the maximum value from A2 to A4, which is 12. Incorporating "4" in the function provides the maximum result.
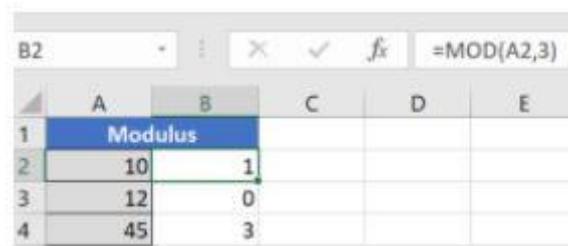

Fig: Count function in Excel

5. MODULUS

The MOD() function works on returning the remainder when a particular number is divided by a divisor. Let's now have a look at the examples below for better understanding.

- In the first example, we have divided 10 by 3. The remainder is calculated using the function

MODULUS =MOD(A2,3)

- The result is stored in B2. We can also directly type "=MOD(10,3)" as it will give the same answer.

Fig: Modulus function in Excel

- Similarly, here, we have divided 12 by 4. The remainder is 0 is, which is stored in B3.
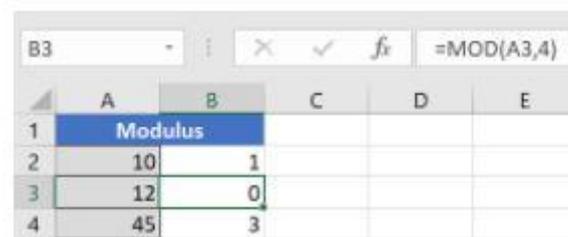
Fig: Modulus function in Excel

6. POWER

The function "Power()" returns the result of a number raised to a certain power. Let's have a look at the examples shown below:

Fig: Power function in Excel

As you can see above, to find the power of 10 stored in A2 raised to 3, we have to type:

Power =POWER (A2,3)

This is how power function works in Excel.

7. CEILING

Next, we have the ceiling function. The CEILING() function rounds a number up to its nearest multiple of significance.

Fig: Ceiling function in Excel

The nearest highest multiple of 5 for 35.316 is 40.

8. FLOOR

Contrary to the Ceiling function, the floor function rounds a number down to the nearest multiple of significance.

Fig: Floor function in Excel

The nearest lowest multiple of 5 for 35.316 is 35.

9. CONCATENATE

This function merges or joins several text strings into one text string. Given below are the different ways to perform this function.

- In this example, we have operated with the syntax:

CONCATENATE =CONCATENATE(A25, " ", B25)

Fig: Concatenate function in Excel

- In this example, we have operated with the syntax:

"=CONCATENATE(A27&" "&B27)"

Fig: Concatenate function in Excel

Those were the two ways to implement the concatenation operation in Excel.

Also Read: [How to Use Concatenate in Excel?](#)

10. LEN

The function LEN() returns the total number of characters in a string. So, it will count the overall characters, including spaces and special characters. Given below is an example of the Len function.
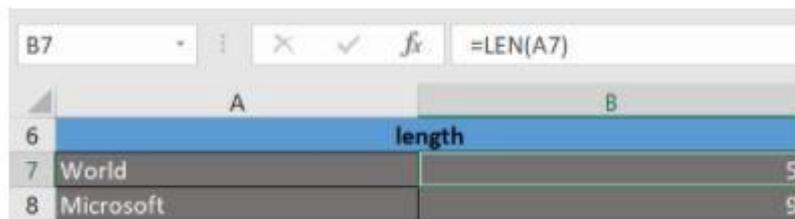
Fig: Len function in Excel

Let's now move onto the next Excel function on our list of this article.

11. REPLACE

As the name suggests, the REPLACE() function works on replacing the part of a text string with a different text string.

The syntax is "=REPLACE(old_text, start_num, num_chars, new_text)". Here, start_num refers to the index position you want to start replacing the characters with. Next, num_chars indicate the number of characters you want to replace.

Let's have a look at the ways we can use this function.

- Here, we are replacing A101 with B101 by typing

REPLACE =REPLACE(A15,1,1,"B")
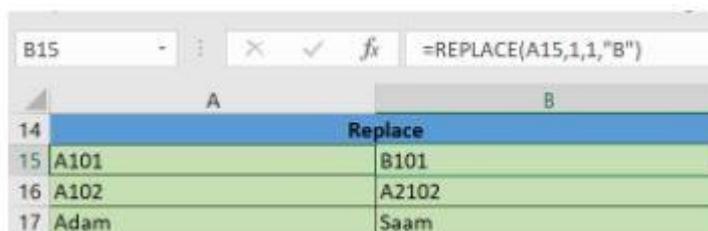
Fig: Replace function in Excel

- Next, we are replacing A102 with A2102 by typing:

"=REPLACE(A16,1,1, "A2")"

Fig: Replace function in Excel

- Finally, we are replacing Adam with Saam by typing:

"=REPLACE(A17,1,2, "Sa")"

Fig: Replace function in Excel

Let's now move to our next function.

12. SUBSTITUTE

The SUBSTITUTE() function replaces the existing text with a new text in a text string.

The syntax is "=SUBSTITUTE(text, old_text, new_text, [instance_num])".

Here, [instance_num] refers to the index position of the present texts more than once.

Given below are a few examples of this function:

- Here, we are substituting "I like" with "He likes" by typing:

"=SUBSTITUTE(A20, "I like","He likes")"

Fig: Substitute function in Excel

- Next, we are substituting the second 2010 that occurs in the original text in cell A21 with 2016 by typing "=SUBSTITUTE(A21,2010, 2016,2)".

Fig: Substitute function in Excel

- Now, we are replacing both the 2010s in the original text with 2016 by typing "=SUBSTITUTE(A22,2010,2016)".

Fig: Substitute function in Excel

That was all about the substitute function, let's now move on to our next function.

13. LEFT, RIGHT, MID

The LEFT() function gives the number of characters from the start of a text string. Meanwhile, the MID() function returns the characters from the middle of a text string, given a starting position and length. Finally, the right() function returns the number of characters from the end of a text string.

Let's understand these functions with a few examples.

- In the example below, we use the function left to obtain the leftmost word on the sentence in cell A5.

Fig: Left function in Excel

Shown below is an example using the mid function.

Fig: Mid function in Excel

- Here, we have an example of the right function.

Fig: Right function in Excel

14. UPPER, LOWER, PROPER

The UPPER() function converts any text string to uppercase. In contrast, the LOWER() function converts any text string to lowercase. The PROPER() function converts any text string to proper case, i.e., the first letter in each word will be in uppercase, and all the other will be in lowercase.

Let's understand this better with the following examples:

- Here, we have converted the text in A6 to a full uppercase one in A7.
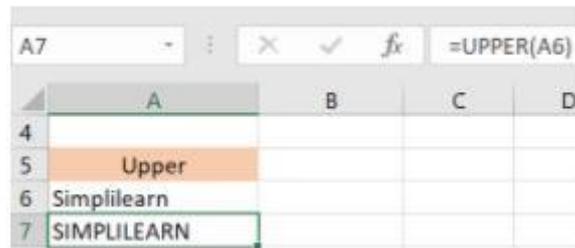
Fig: Upper function in Excel

- Now, we have converted the text in A6 to a full lowercase one, as seen in A7.
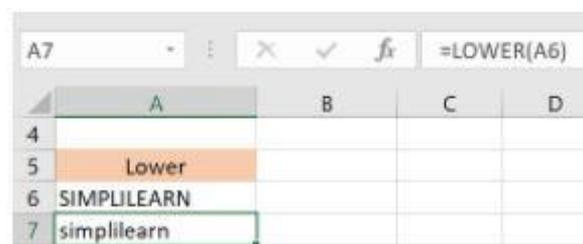
Fig: Lower function in Excel

- Finally, we have converted the improper text in A6 to a clean and proper format in A7.
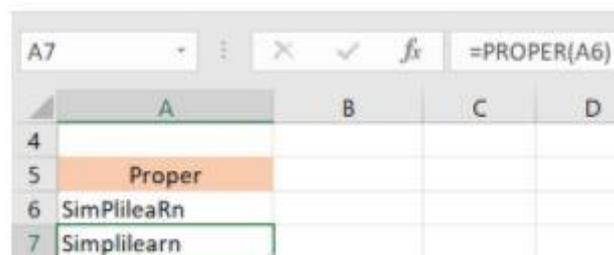
Fig: Proper function in Excel

Now, let us hop on to exploring some date and time functions in Excel.

15. NOW()

The NOW() function in Excel gives the current system date and time.

The result of the NOW() function will change based on your system date and time.

16. TODAY()

The TODAY() function in Excel provides the current system date.

Fig: Today function in Excel

The function DAY() is used to return the day of the month. It will be a number between 1 to 31. 1 is the first day of the month, 31 is the last day of the month.

Fig: Day function in Excel

The MONTH() function returns the month, a number from 1 to 12, where 1 is January and 12 is December.

Fig: Month function in Excel

The YEAR() function, as the name suggests, returns the year from a date value.

Fig: Year function in Excel

17. TIME()

The TIME() function converts hours, minutes, seconds given as numbers to an Excel serial number, formatted with a time format.

Fig: Time function in Excel

18. HOUR, MINUTE, SECOND

The HOUR() function generates the hour from a time value as a number from 0 to 23. Here, 0 means 12 AM and 23 is 11 PM.

Fig: Hour function in Excel

The function MINUTE(), returns the minute from a time value as a number from 0 to 59.

Fig: Minute function in Excel

The SECOND() function returns the second from a time value as a number from 0 to 59.
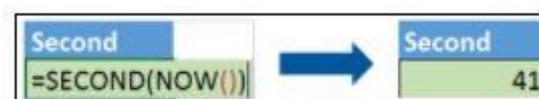
Fig: Second function in Excel

19. DATEDIF

The DATEDIF() function provides the difference between two dates in terms of years, months, or days.

Below is an example of a DATEDIF function where we calculate the current age of a person based on two given dates, the date of birth and today's date.

Fig: Datedif function in Excel

Now, let's skin through a few critical advanced functions in Excel that are popularly used to analyze data and create reports.

20. VLOOKUP

Next up in this article is the VLOOKUP() function. This stands for the vertical lookup that is responsible for looking for a particular value in the leftmost column of a table. It then returns a value in the same row from a column you specify.

Below are the arguments for the VLOOKUP function:

lookup_value - This is the value that you have to look for in the first column of a table.

table - This indicates the table from which the value is retrieved.

col_index - The column in the table from the value is to be retrieved.

range_lookup - [optional] TRUE = approximate match (default). FALSE = exact match.

We will use the below table to learn how the VLOOKUP function works.

If you wanted to find the department to which Stuart belongs, you could use the VLOOKUP function as shown below:

Fig: Vlookup function in Excel

Here, A11 cell has the lookup value, A2: E7 is the table array, 3 is the column index number with information about departments, and 0 is the range lookup.

If you hit enter, it will return "Marketing", indicating that Stuart is from the marketing department.

21. HLOOKUP

Similar to VLOOKUP, we have another function called HLOOKUP() or horizontal lookup. The function HLOOKUP looks for a value in the top row of a table or array of benefits. It gives the value in the same column from a row you specify.

Below are the arguments for the HLOOKUP function:

lookup_value - This indicates the value to lookup.

table - This is the table from which you have to retrieve data.

row_index - This is the row number from which to retrieve data.

range_lookup - [optional] This is a boolean to indicate an exact match or approximate match. The default value is TRUE, meaning an approximate match.

Given the below table, let's see how you can find the city of Jenson using HLOOKUP.

Fig: Hlookup function in Excel

Here, H23 has the lookup value, i.e., Jenson, G1:M5 is the table array, 4 is the row index number, 0 is for an approximate match.

Once you hit enter, it will return "New York".

22. IF Formula

The IF() function checks a given condition and returns a particular value if it is TRUE. It will return another value if the condition is FALSE.

In the below example, we want to check if the value in cell A2 is greater than 5. If it's greater than 5, the function will return "Yes 4 is greater", else it will return "No".

Fig: If function in Excel

In this case, it will return 'No' since 4 is not greater than 5.

'IFERROR' is another function that is popularly used. This function returns a value if an expression evaluates to an error, or else it will return the value of the expression.

Suppose you want to divide 10 by 0. This is an invalid expression, as you can't divide a number by zero. It will result in an error.

	A	B
1	iferror	
2	10	Cannot divide
3	0	

The above function will return "Cannot divide".

23. INDEX-MATCH

The INDEX-MATCH function is used to return a value in a column to the left. With VLOOKUP, you're stuck returning an appraisal from a column to the right. Another reason to use index-match instead of VLOOKUP is that VLOOKUP needs more processing power from Excel. This is because it needs to evaluate the entire table array which you've selected. With INDEX-MATCH, Excel only has to consider the lookup column and the return column.

Using the below table, let's see how you can find the city where Jenson resides.

Z	AA	AB	AC	AD
First Name	Last Name	Department	City	Date Hired
Ben	Button	HR	Chicago	10-11-2001
Jenson	Carry	IT	Kansas	20-06-2002
Jhonny	Davis	Marketing	New York	01-12-2004
Lucy	Evans	Operations	Los Angeles	25-02-2011
Stuart	Patinson	Sales	Boston	17-08-2015
Trent	Zampa	Sales	Houston	10-01-2018

Index Match	
First Name	City
Jenson	=INDEX(AC1:AC7,MATCH(AB12,Z1:Z7,0))

Index Match	
First Name	City
Jenson	Kansas
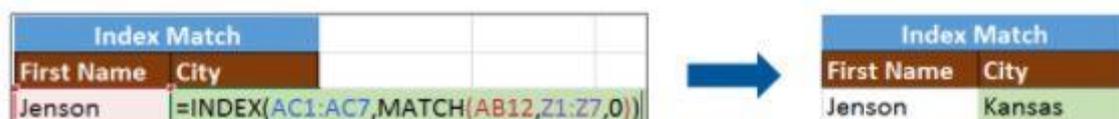
Fig: Index-Match function in Excel

Now, let's find the department of Zampa.

24. COUNTIF

The function COUNTIF() is used to count the total number of cells within a range that meet the given condition.

Below is a coronavirus sample dataset with information regarding the coronavirus cases and deaths in each country and region.

Let's find the number of times Afghanistan is present in the table.

	A	B	C	D	E	F	G	H	I	J	K
1	dateRep	day	month	year	cases	deaths	countriesAndTerritories	geoId	countryterritoryCode	popData2018	continentExp
2	03-06-2020	3	6	2020	759	5	Afghanistan	AF	AFG	37172386	Asia
3	02-06-2020	2	6	2020	545	8	Afghanistan	AF	AFG	37172386	Asia
4	01-06-2020	1	6	2020	680	8	Afghanistan	AF	AFG	37172386	Asia
5	31-05-2020	31	5	2020	866	3	Afghanistan	AF	AFG	37172386	Asia
6	30-05-2020	30	5	2020	623	11	Afghanistan	AF	AFG	37172386	Asia
7	29-05-2020	29	5	2020	580	8	Afghanistan	AF	AFG	37172386	Asia
8	28-05-2020	28	5	2020	625	7	Afghanistan	AF	AFG	37172386	Asia
9	27-05-2020	27	5	2020	658	1	Afghanistan	AF	AFG	37172386	Asia
10	26-05-2020	26	5	2020	591	1	Afghanistan	AF	AFG	37172386	Asia
11	25-05-2020	25	5	2020	584	2	Afghanistan	AF	AFG	37172386	Asia
12	24-05-2020	24	5	2020	782	11	Afghanistan	AF	AFG	37172386	Asia
13	23-05-2020	23	5	2020	540	12	Afghanistan	AF	AFG	37172386	Asia
14	22-05-2020	22	5	2020	531	6	Afghanistan	AF	AFG	37172386	Asia
15	21-05-2020	21	5	2020	492	9	Afghanistan	AF	AFG	37172386	Asia
16	20-05-2020	20	5	2020	581	5	Afghanistan	AF	AFG	37172386	Asia
17	19-05-2020	19	5	2020	408	4	Afghanistan	AF	AFG	37172386	Asia
18	18-05-2020	18	5	2020	262	1	Afghanistan	AF	AFG	37172386	Asia
19	17-05-2020	17	5	2020	0	0	Afghanistan	AF	AFG	37172386	Asia
20	16-05-2020	16	5	2020	1063	32	Afghanistan	AF	AFG	37172386	Asia
21	15-05-2020	15	5	2020	113	6	Afghanistan	AF	AFG	37172386	Asia
22	14-05-2020	14	5	2020	259	3	Afghanistan	AF	AFG	37172386	Asia
23	13-05-2020	13	5	2020	280	5	Afghanistan	AF	AFG	37172386	Asia

Fig: Countif function in Excel

The COUNTIFS function counts the number of cells specified by a given set of conditions.

If you want to count the number of days in which the cases in India have been greater than 100. Here is how you can use the COUNTIFS function.

25. SUMIF

The SUMIF() function adds the cells specified by a given condition or criteria.

Below is the coronavirus dataset using which we will find the total number of cases in India till 3rd Jun 2020. (Our dataset has information from 31st Dec 2020 to 3rd Jun 2020).

	A	B	C	D	E	F	G	H	I	J	K
9078	31-12-2019	31	12	2019	0	0	India	IS	ISL	353574	Europe
9079	03-06-2020	3	6	2020	8909	217	India	IN	IND	1352617328	Asia
9080	02-06-2020	2	6	2020	8171	204	India	IN	IND	1352617328	Asia
9081	01-06-2020	1	6	2020	8392	230	India	IN	IND	1352617328	Asia
9082	31-05-2020	31	5	2020	8380	193	India	IN	IND	1352617328	Asia
9083	30-05-2020	30	5	2020	7964	265	India	IN	IND	1352617328	Asia
9084	29-05-2020	29	5	2020	7466	175	India	IN	IND	1352617328	Asia
9085	28-05-2020	28	5	2020	6566	194	India	IN	IND	1352617328	Asia
9086	27-05-2020	27	5	2020	6387	170	India	IN	IND	1352617328	Asia
9087	26-05-2020	26	5	2020	6535	146	India	IN	IND	1352617328	Asia
9088	25-05-2020	25	5	2020	6977	154	India	IN	IND	1352617328	Asia
9089	24-05-2020	24	5	2020	6767	147	India	IN	IND	1352617328	Asia
9090	23-05-2020	23	5	2020	6654	137	India	IN	IND	1352617328	Asia
9091	22-05-2020	22	5	2020	6088	148	India	IN	IND	1352617328	Asia
9092	21-05-2020	21	5	2020	5609	132	India	IN	IND	1352617328	Asia
9093	20-05-2020	20	5	2020	5611	140	India	IN	IND	1352617328	Asia
9094	19-05-2020	19	5	2020	4970	134	India	IN	IND	1352617328	Asia
9095	18-05-2020	18	5	2020	5242	157	India	IN	IND	1352617328	Asia
9096	17-05-2020	17	5	2020	4987	120	India	IN	IND	1352617328	Asia
9097	16-05-2020	16	5	2020	3970	103	India	IN	IND	1352617328	Asia
9098	15-05-2020	15	5	2020	3967	100	India	IN	IND	1352617328	Asia
9099	14-05-2020	14	5	2020	3722	134	India	IN	IND	1352617328	Asia
9100	13-05-2020	13	5	2020	3525	122	India	IN	IND	1352617328	Asia

Fig: Sumif function in Excel

The SUMIFS() function adds the cells specified by a given set of conditions or criteria.

Let's find the total cases in France on those days when the deaths have been less than 100.

26. Goal Seek

Goal Seek is a function in-built in Advanced Excel Functions that allows you to get the desired output by changing the assumptions. The process is dependent on the trial and error method to achieve the desired result.

Let's look at an example to understand it better.

Example

In this example, we aim to find what will be the rate of interest if the person wants to pay

$5000 per month to settle the loan amount.

PMT function is used when you want to calculate the monthly payment you need to pay to settle the loan amount.

Let's go through this problem in steps to see how we can calculate the interest rate that will settle a loan of $400,000 by $5,000 a month payment.

- PMT formula should now be entered in the cell that is the Payment cell adjacent. Currently, there is no value in the rate of interest cell, Excel gives us the payment of $3,333.33 because it assumes the rate of interest to be 0%. Ignore it.

- Go to Data > What - If Analysis > Goal Seek

- Set the monthly payment to -5,000. The deduction in amount signifies the negative value.

  Set rate of interest as the changing cell.
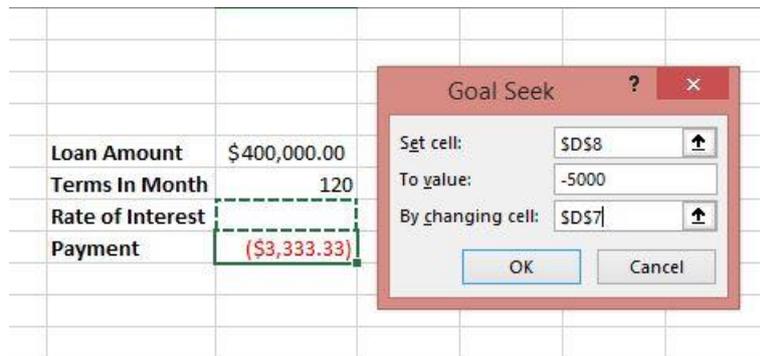
- Click OK. You will see the goal seek function automatically gives the interest rate that is required to pay the loan amount.

Go to Home > Number and change the value to Percentage.
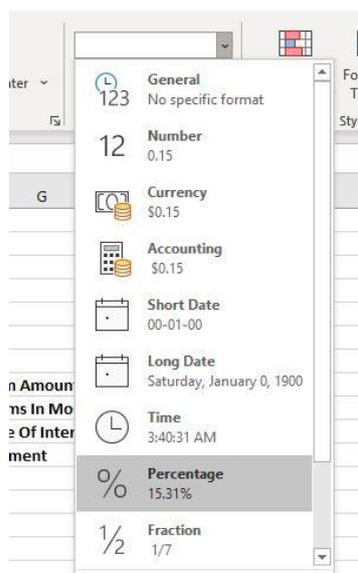
Your outcome will look like below:

Loan Amount	$400,000.00
Terms In Month	120
Rate of Interest	9%
Payment	($5,000.00)

27. What-If Analysis with Solver

What-If Analysis is the method of changing the values to try out different scenarios for formulas in Advanced excel.

Several different sets of values can be used in one or multiple of these Advanced excel formulas to explore the different results.

A solver is ideal for what-if analysis. It is an add-in program in Microsoft Excel and is helpful on many levels. The feature can be used to identify an optimal value for a formula in the cell known as the objective cell. Some constraints or limits are however applicable on other formula cell values on a worksheet.

Solver works with decision variables which are a group of cells used in computing the formulas in the objective and constraint cells. The solver adjusts the value of decision variable cells to work on the limits on constraint cells. This process aids in determining the desired result for the objective cell.

Also Read: The Best Guide to Build an Excel Dashboard

Activating Solver Add-in

- On the File tab, click Options.
- Go to Add-ins, select Solver Add-in, and click on the Go button.
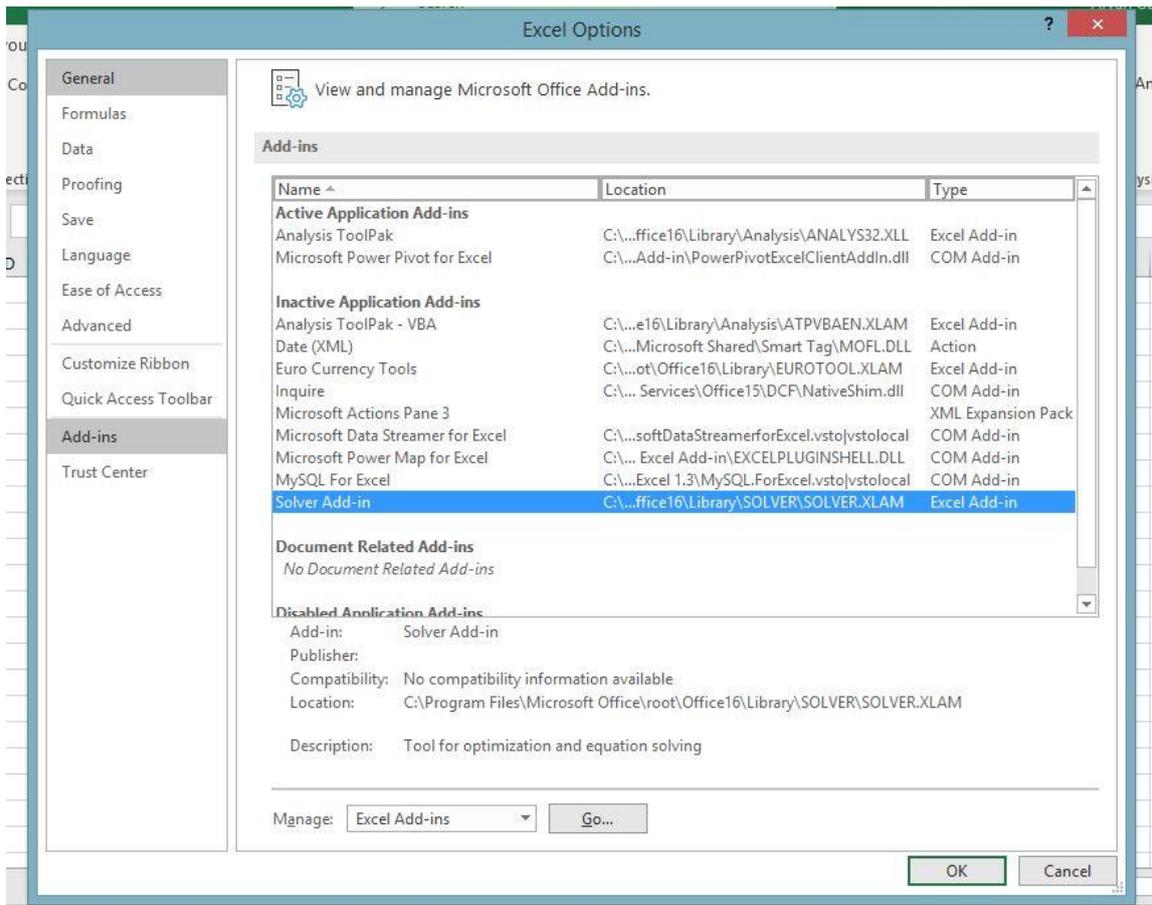
- Check Solver Add-in and click OK.
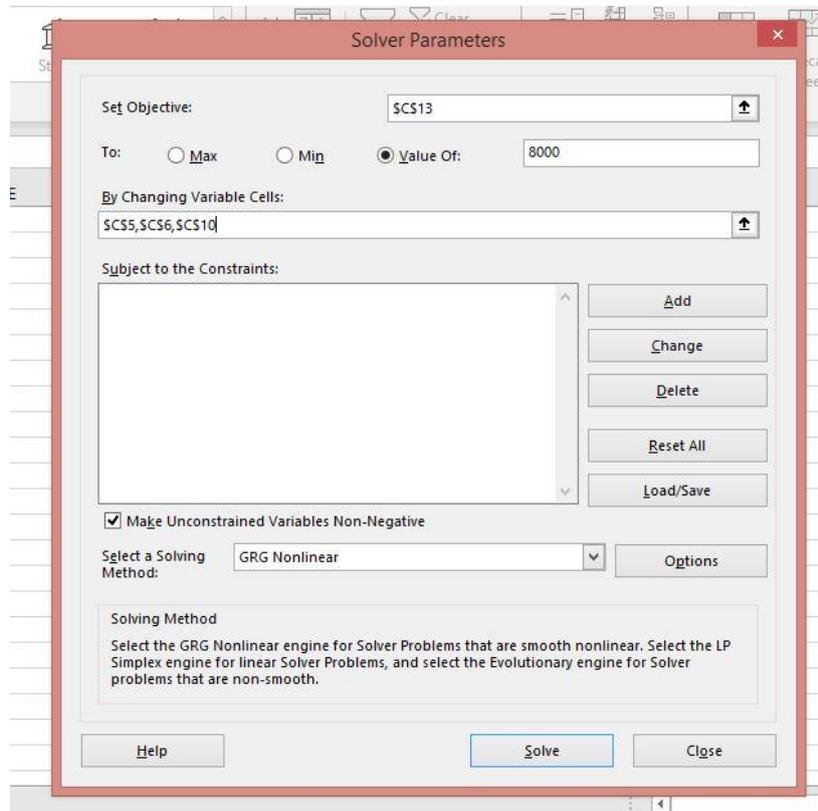
- In the Data tab, in the Analyze group, you can see the Solver option is added.
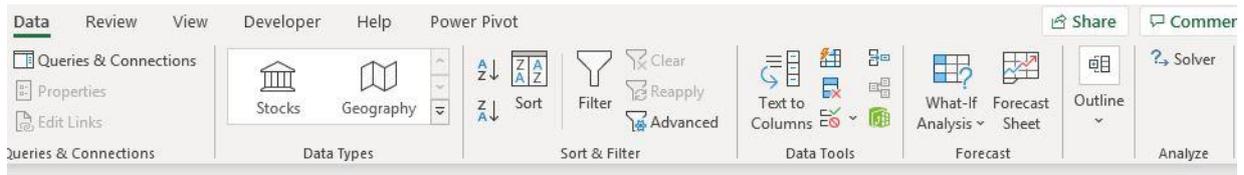
How to Use Solver in Excel

In this example, we will try to find the solution for a simple optimization problem.

Problem: Suppose you are the business owner and you want your income to be $8000.

Goal: Calculate the units to be sold and price per unit to achieve the target.

For example, we have created the following model:

- On the Data tab, in the Analysis group, click the Solver button.
- In the set objective, select the income cell and set its value to $8000.
- To Change the variable cell, select the C5, C6, and C10 cells.
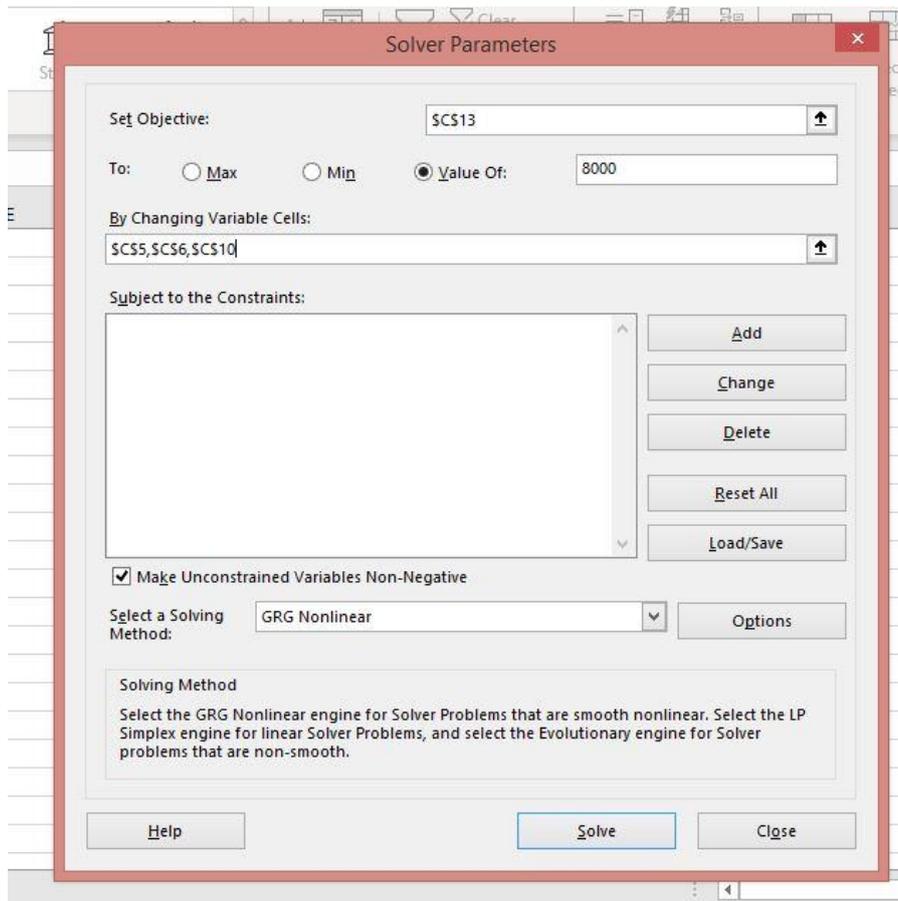
- Click Solve.

Your data model will change according to the conditions.

28. If-Else

[IF function](#) is used to test the condition and return a value if the condition is indeed true and a predetermined different value if it turns out to be false.

If-Else =IF(test, true result, false result)

C2	▼	⋮	✕	✓	fx	=IF(B2>40,"Pass","Fail")

	A	B	C
1	Subject	Marks	Result
2	Maths	35	Fail
3	Science	76	Pass
4	Computer Science	67	Pass
5			

29. If-Error

The Excel IFERROR function returns an alternative result when a formula generates an error and an expected result when no error is detected.

> If-Error =IFERROR (value, value_if_error)

For example, Excel returns a divide by zero error when a formula tries to divide a number by 0.

C1	▼	⋮	✕	✓	fx	=A1/B1

	A	B	C	D
1	300	⚠ 0	#DIV/0!	
2				
3				

By using the IFERROR function, you can add a message if the formula evaluates to an error.

C1	▼	⋮	✕	✓	fx	=IFERROR(A1/B1,"Enter the value not equal to 0 in B1")

	A	B	C	D	E
1	300	0	Enter the value not equal to 0 in B1		
2					

30. Index and Match

This is an Advanced Excel function. MATCH function is designed to return the position of a value in a specified range, while the INDEX function returns a specific value present in a uni-dimensional range.

The MATCH function returns the position of the ID you are looking for. The INDEX function will return the value of the salary corresponding to the position.

31. Offset Function

The OFFSET function returns a reference to a range of cells that is a specified number of rows and columns from a cell or range of cells.

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

Example:

Consider the following data:

To reference C4 starting at A1, reference is A1, rows is 3 and cols is 2:

SUM Function With OFFSET

In this example we have a monthly sales data of two years. The goal is to find the sum of sales for a specific month.

The OFFSET function returns a 1x2 range, 8 rows below cell A2, and 1 column right of cell A2. The SUM function then calculates the sum of this range.

	A	B	C	D	E	F
1	3	56	123	45	67	
2	45	34	50	976	126	
3	67	67	62	344	445	
4	98	22	67	563	763	
5	40	96	187	123	789	
6	122	99	34	234	987	
7	56	11	44	91	31	
8						
9						

FAQs

1. What are the basic formulas in Excel?

Basic formulas in Excel include arithmetic operations like addition, subtraction, multiplication, and division—for example, SUM, AVERAGE, COUNT, and PRODUCT.

2. What is MS Excel formulas and functions?

MS Excel formulas and functions are expressions used to perform calculations or manipulate data in Excel. Formulas start with an equal sign (=) and can contain functions, mathematical operations, cell references, and constants.

3. How to write a formula in Excel?

To write a formula in Excel, start with an equal sign (=), followed by the formula expression. For example, to add two numbers in cells A1 and B1, write "=A1+B1" in another cell.

4. What are basic Excel skills?

Basic Excel skills include:

- Entering data.
- Formatting cells.
- Using basic formulas and functions.
- Creating simple charts.
- Sorting and filtering data.

- Understanding cell references.

5. What is VLOOKUP in Excel?

VLOOKUP is a function in Excel used to search for a value in the first column of a table range and return a related value from a specified column. It's commonly used for data lookup and retrieval.

6. What is a formula in Excel?

An Excel formula is a mathematical expression that works with values in a specific range of cells. These formulas yield a result, even if it's an error. They empower you to carry out addition, subtraction, multiplication, and division calculations within Excel.

7. What are the 5 important formulas in Excel?

Some important Excel formulas include:

1. SUM: The SUM formula adds the values in a range of cells.
2. AVERAGE: The AVERAGE formula averages the values in a range of cells.
3. COUNT: The COUNT formula calculates the quantity of cells that hold numeric values within a designated range of cells.
4. IF: The IF formula assesses a condition and provides a specific output if the condition is true, or an alternative output if the condition is false.
5. VLOOKUP: The VLOOKUP formula searches for a value in a table and returns the corresponding value from another column in the table.

87 Excel Tips and Tricks: From Beginners to Pros

Published November 28, 2023

Written By **Susan Harkins**

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Discover 87 Excel tips and tricks that will take you from a beginner to a pro. Improve your efficiency, productivity and skills with these helpful Excel techniques.

Microsoft Excel was first released in 1985, and the spreadsheet program has remained popular through the years. You can master Excel by reading these tips and tricks on how to add a dropdown list in an Excel cell to find duplicates, how to delete blank rows in Excel and more.

How to use Excel dropdown lists

How to add a drop-down list to an Excel cell
Drop-down lists can greatly facilitate data entry. Here's a look at how to use Excel's data validation feature to create handy lists within your worksheets.

How to add a condition to a drop down list in Excel
Learn this quick and easy method for adding a condition to a data validation list in Excel.

How to add color to a dropdown list in Excel
This tutorial shows the steps for adding color to a dropdown list in Microsoft Excel.

How to create an Excel drop down list from another tab
Here's a quick tip for creating a Microsoft Excel drop down list from another tab.

How to use UNIQUE() to populate a dropdown in Microsoft Excel
Populating a dropdown with a dynamic list is easy thanks to Microsoft Excel's UNIQUE() dynamic array function.

How to use macros in Excel

How to use VBA procedures to generate a list of sheet names in an Excel workbook
Use one or both of these simple Microsoft Excel macros to list all the sheets in an Excel workbook.

How to add a timestamp to an Excel record
Like many Excel tasks, there's an easy way and a better way to enter a timestamp for your records. Learn about both in this article.

How to send a scheduled Microsoft Excel report email using Power Automate
If the boss wants to review a Microsoft Excel report every day at the same time, don't worry: You can use a Power Automate flow to automatically send that report on time.

How to convert a birth date to an age without an expression using Microsoft Excel Power Query
In Microsoft Excel, you don't need an expression to calculate someone's age — use Power Query to simplify the process.

How to use Excel pivot tables

How to filter a pivot table in Excel
Pivot tables generate great reports in Microsoft Excel, but adding a filter or two can make them even more flexible. Here's how.

How to add conditional formatting to a Microsoft Excel PivotTable without expressions
Learn how to combine a pivot table with a slicer and conditional formatting to provide on-the-fly highlights.

4 tips for refreshing Excel PivotTable objects
Up-to-date information can be critical; these 4 tips will add flexibility and increase efficiency when refreshing pivot tables.

How to combine Excel VLOOKUP() and PivotTable for simple solutions

Combining features often extends the flexibility and efficiency of your solution. In this article, we used the VLOOKUP() function to add an important detail to a tracking list.

How to display the top n records in an Excel PivotTable using built-in options

To display specific values in a PivotTable in Microsoft Excel, use one of the many built-in filters, such as Top 10.

How to convert a Microsoft Excel slicer into a series of filtering buttons on a PivotChart

Slicers are a good way to filter data in a Microsoft Excel PivotTable or PivotChart, but they take up a bit of room. By moving the buttons to the chart, you free up room for more visuals.

How to manipulate data in Excel

How to conditionally return the last value in a column in Excel

Returning the last value based on a condition seems like a difficult problem to solve unless you try one of these two easy-to-implement solutions.

A quick way to delete blank rows in Excel

Deleting blank rows in an Excel data range is easy with this technique, but watch out for unintended consequences.

Six ways to remove blank rows from an Excel worksheet (free PDF)

Blank rows can find their way into your worksheets through various means — but no matter how they get there, it's a good idea to get rid of them. This e-book walks through five manual techniques for deleting blank rows and then winds up with a macro-based approach.

Copy an Excel sheet from one workbook to another

Susan Harkins shows you two quick ways to copy data from one Excel workbook to another.

How to average unique values in Excel the easy way

If you need to average a list of values in Microsoft Excel that contain duplicates without including the duplicates, don't fret over a complex expression when you can easily remove those duplicates from the calculation.

How to parse data in Microsoft Excel
Simplify your data transformation by skipping complex parsing expressions and instead using Flash Fill and Power Query in Microsoft Excel.

How to Extract Delimited Data Using Excel Power Query
Learn how to use Excel Power Query's extract and split column features to extract delimited strings into their components with this step-by-step tutorial.

How to use styles and visuals in Excel

How to limit the columns in a filtered result set in Microsoft Excel
Microsoft Excel's Advanced Filter feature displays records that match specific criteria. You can also limit the columns returned by this feature.

How to easily print Excel sheets in black and white
Printing a colorized Excel spreadsheet in black and white is easy, whether you do so manually or use a short VBA procedure. Here's how.

How to create a fun people chart in Excel
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How to force a consistent phone number format in Microsoft Excel
Combine an Excel custom format with data validation and remove the pressure for input perfection from personnel by letting Excel do the work.

How to use Excel styles efficiently
Learn what styles are and how they can help you format your sheets more effectively and efficiently.

How to create a burndown chart in Microsoft Excel
Try this easy-to-implement Microsoft Excel chart to keep you and your team members on track.

2 ways to display negative numbers in red in Microsoft Excel
Learn how to use either of these methods in Microsoft Excel to display negative values in red.

How to use a border to discern groups more easily in Microsoft Excel
If your data is grouped in Microsoft Excel, try displaying a border between groups. Learn how to make your Excel tables easier to read.

How to create a static view of Excel data while collaborating
When collaborating in Excel, sometimes the collaboration can be

distracting. Here's how to make a static image so you can do your own work without interruption.

How to suppress 0 values in an Excel chart
There isn't a one-size-fits-all solution for removing 0 values from an Excel chart. Here's a look at a few methods.

How to Adjust Text to Fit in Excel Cells With 3 Methods
Trying to make all of the text or words fit properly in your Excel spreadsheet? Learn how to make text fit in Excel with our tutorial.

How to use Excel's find feature to highlight or delete matching values
Excel's Find feature offers more than just finding values if you know the right steps.

How to use Find All to manipulate specific matching values in Excel
Filters are great tools, but you can't remove specific items from the results. When you need to do this, try Find All in Excel instead.

How to use functions in Excel

How to use EOMONTH() to return the last day of the month and more in Excel
There's more to EOMONTH() in Microsoft Excel than the last day of the month. Learn how to put it to use in your spreadsheets.

How to turn complex formulas into easy-to-use custom functions using LAMBDA() in Excel
In Excel spreadsheets, complex formulas are difficult to enter without making mistakes. Microsoft Excel's LAMBDA() function can make such errors easier to find.

How to parse time values in Microsoft Excel
Using three Microsoft Excel functions, you can easily parse time components from a full date value.

How to split a column using an IF() function in Excel
If you need to conditionally split values into multiple columns in Microsoft Excel, consider using the IF() function. Here's how.

How to combine Excel's VLOOKUP() function with a combo box for enhanced searching
A combo box's autocomplete feature linked to a lookup function creates a flexible search tool.

How to use the newish XLOOKUP() dynamic array function in Excel
Microsoft Excel's dynamic array function XLOOKUP() might completely replace VLOOKUP() and HLOOKUP().

How to use UNIQUE() to populate a dropdown in Microsoft Excel
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How to use numbers and calculations in Excel

4 ways to multiply in Microsoft Excel
There's more than one method for multiplying in Microsoft Excel, and one of them doesn't require an expression.

How to enter and display fractions in Excel
Entering fractions in Microsoft Excel isn't exactly intuitive, but it is easy. Learn how to enter and display fractions as either fractions or as decimal values.

How to create a floating bar chart in Excel
Making a floating bar chart in Microsoft Excel is a great way to visually represent distribution between entities. Susan Harkins will show you how.

How to calculate a conditional running total using a PivotTable in Excel
At the sheet level, conditional running totals require focused expressions, but an Excel PivotTable requires only a few field swaps. Susan Harkins shows you how.

How to calculate conditional rank in Excel
A straight ranking result is easy using one of Microsoft Excel's ranking functions. Calculating a conditional rank is even easier if you let an Excel PivotTable do all the work.

How to subtotal transactions by conditional date components in Excel
If you need a monthly or yearly balance for revenue transactions in Microsoft Excel, you're in luck because both are easy! Here's how to find the totals you need.

How to do more advanced averaging in Excel
Averaging values in an Excel sheet is easy. But perhaps you want to ignore zeros or include multiple sheets. Knowing how each averaging function works is the key to choosing the right one.

How to average with and without the highest and lowest values in Excel
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How to copy expressions without changing cell references in Excel
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How to handle VBA's four most common errors in Microsoft 365 apps
Correcting Microsoft VBA code is easier if you understand what the basic error messages mean.

How to highlight unique values in Excel
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3 ways to suppress zero in Excel
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Use Excel to calculate the hours worked for any shift
With Microsoft Excel, you can create a worksheet that figures the hours worked for any shift. Follow these step-by-step instructions.

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If a user inadvertently changes the formulas in your Excel workbooks, all your hard work could go out the window. This ebook explains how to protect and hide those formulas so they remain safe and intact.

How to determine the number of remaining workdays for Microsoft Excel projects
Knowing how many days you've allotted to a project is important, but once

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How to parse data in Microsoft Excel
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How to Extract Delimited Data Using Excel Power Query
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How to use conditional formatting in Excel

How to use conditional formatting to highlight due dates in Excel
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How to use Excel's conditional formatting to make larger values more readable
Reporting lots of large values in Excel is probably a good thing, but if you want them to be readable, try this easy technique.

How to add a conditional format that highlights groups in Excel
Learn how to add a highlight to expose groups in your Microsoft Excel data using a helper column and Excel's conditional formatting feature.

How to use the selected value in a combo to determine conditional formatting in Excel
Thanks to the linked cell property in Microsoft Excel, it's super easy to use the selected value as a condition in a macro or conditional formatting rule.

How to highlight the top n values in a Microsoft Excel sheet
This formulaic conditional formatting Excel rule will let viewers determine how many top values to view on the fly.

How to avoid a conditional formatting rule in Excel that doesn't work as expected
Formulaic conditional formatting rules in Microsoft Excel can be tricky, so learn how to avoid a common mistake.

More Excel tips, tricks and downloads

How to enter data quickly in Excel
Microsoft Excel users, follow these two easy methods to reduce data entry time and errors when customized features aren't available.

How to quickly import a .txt or .csv file into Microsoft Excel
Microsoft Excel has an import wizard, but if you structure the text correctly, you can bypass the wizard altogether.

How to use hyperlinks to move quickly between sheets in Microsoft Excel
The busier a Microsoft Excel workbook is, the more ways you need to get around in it. Check out these shortcuts to help you move between sheets.

5 ways to rename a sheet in Microsoft Excel
Renaming an Excel sheet is a quick and easy task, but there's more than one way to do it. Susan Harkins will show you how.

How to extract the date and time from a serial date in Excel
If you have to work with a date stamp in Microsoft Excel that includes date and time, you can use these simple expressions to extract both components, making them easier to work with.

6 shortcuts for working with Table objects in Excel
Use these six shortcuts to select Table elements and insert columns and rows quickly in Microsoft Excel, making your use of Tables that much easier.

How to use Find All to manipulate specific matching values in Excel
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6 ways to save time using Flash Fill in Microsoft Excel
Source data won't always come in the form you need in Excel. When that happens, consider using Flash Fill to save time and aggravation.

How to use sheet view for more flexible collaboration in Excel
Whether you're tired of losing your spot when collaborating or you want to customize the way you view your data, sheet views in Microsoft Excel are for you.

How to use shortcuts to sort in Microsoft Excel
If you run sorts in Excel a lot, you might benefit from shortcuts or even a macro. Here are some ways to make your sorting life easier.

How to use passwords to grant users access to different Microsoft Excel workbook ranges
If multiple users work in the same Microsoft Excel file, you can limit their access to only the ranges where they need to work.

How to transfer data from Word forms to an Excel worksheet
Avoid the hassle of manually importing Word form data into Excel. With the help of an Excel wizard, you can quickly step through the process.

How to find duplicates in Excel
You'll need more than one trick up your sleeve to find duplicates in Microsoft Excel.

How to fix common printing problems in Microsoft Excel
Printing Microsoft Excel spreadsheets can be tricky, but you can avoid most printing problems by following these tips.

How to highlight details for better insight with sparkline charts in Excel
Sparklines are in-cell charts in Microsoft Excel that are easy to create and extremely helpful, but they can be more insightful with just a few specific settings.

How to turn ordinary sparklines into meaningful information with a few simple formats
Sparklines are a great visual tool, but you can increase their impact with a little simple formatting.

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The tips, tricks and shortcuts in this ebook will help you get extra mileage from Excel's powerful features, generate accurate results and save time on your worksheet tasks.

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How to use Excel's what-if tools to analyze business scenarios (free PDF)
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These new Excel features for working with text and lists will save you time

Often known as the universal data munging tool, Excel is trying out new options for processing messy text as well as entering it more quickly and accurately in the first place.

Excel Workbook For Dummies Cheat Sheet

By: Greg Harvey

Updated: 11-30-2021

From The Book: Excel Workbook For Dummies

Perform Excel File menu commands with handy hot keys

You activate the Excel hot keys by pressing the Alt key before you type the various sequences of mnemonic letters. The mnemonic letter for all the commands on the Excel File menu in the Backstage View is F (for File). Therefore, all you have to concentrate on learning in the following table is the second letter in the File menu hot key sequence.

Unfortunately, not all these second letters are as easy to associate and remember as Alt+F. For example, check out the Account option hot key sequence — Alt+FD — where the second mnemonic letter (D) doesn't occur anywhere in the option name!

Hot Keys	Excel Ribbon Command	Function
Alt+FH	File→Home	Displays the Home panel, where you can choose a template, or open a recent or pinned workbook
Alt+FN	File→New	Displays the Available Templates panel in the Backstage View box where you can open a blank workbook or one from a template
Alt+FO	File→Open	Displays the Open dialog box in the regular worksheet view where you can select a new Excel workbook to open for editing or printing
Alt+FI	File→Info	Displays the Information panel in the Backstage View where you can see a preview of the current worksheet along with statistics about the workbook as well as protect the workbook, check the file for compatibility issues, and manage different versions created by the AutoRecover feature

Alt+FS	File→Save	Saves changes to a workbook. When you first select this command for a new workbook, Excel displays the Save As dialog box	
Alt+FA	File→Save As	Displays the Save As dialog box in the regular worksheet view where you can modify the filename, location where the file is saved, and format that the file is saved in	
Alt+FA	File→Save a Copy	For a OneDrive file, displays the Save a Copy screen in the Backstage view where you choose the OneDrive folder to save a copy of the file, the filename, and the format in which the file is to be saved	
Alt+FP	File→Print	Displays the Print panel in the Backstage View where you can change the print settings before sending the current worksheet, workbook, or cell selection to the printer	
Alt+FH	File→Share	Displays the Share panel in the Backstage View where you can send the current workbook as an e-mail attachment or fax it using Internet Fax, attach it to an e-mail as a PDF file, save it in a new file format, or save it online to your company's SharePoint site or your own Windows Live SkyDrive	
Alt+FE	File→Export	Displays the Export screen in the Backstage view where you can change the workbook file type or convert it to an Adobe PDF or Microsoft XPS document	
Alt+FU	File→Publish	Enables you to upload all or part of your workbook to Microsoft Power BI (Business Intelligence), a standalone program that enables you to create rich visual reports and dashboards for your Excel data	
Alt+FC	File→Close	Closes the current workbook without exiting Excel	
Alt+FD	File→Account	Displays the Account screen in the Backstage view where you can modify your user information, select a new background and theme for all Office	

		programs, add connected storage services, and get the product ID and other information on your version of Office	
Alt+FK	File→Feedback	Displays the Feedback screen in the Backstage view where you can send Microsoft your comments about Excel features you like and dislike as well as make suggestions for new features and other improvements	
Alt+FI	File→Options	Displays the Excel Options dialog box in the regular worksheet view where you can change default program settings, modify the buttons on the Quick Access toolbar, and customize the Excel Ribbon	
Alt+FX	File→Exit Excel	Quits the Excel program and closes all open workbooks after prompting you to save them	

Common Excel hot keys to perform formula commands

All the hot key sequences for selecting the most common formula-related commands in Excel begin with the sequence Alt+M because the M in forMulas was the only mnemonic key still available (F was already assigned to the File menu commands).

Hot Keys	Excel Ribbon Command	Function
Alt+MF	Formulas→Insert Function	Opens the Insert Function dialog box (same as clicking the Insert Function button on the Formula bar
Alt+MUS	Formulas→AutoSum→Sum	Selects the occupied range above the cell cursor and inserts SUM formula to total the range
Alt+MUA	Formulas→AutoSum→Average	Selects the occupied range above the cell cursor and inserts AVERAGE formula to calculate the average of total in the range

Alt+MUC	Formulas→AutoSum→Count Numbers	Selects the occupied range above the cell cursor and inserts COUNT formula to count the number of values in the range
Alt+MI	Formulas→Financial	Opens a drop-down menu listing all Financial functions — click name to insert function into current cell
Alt+ME	Formulas→Date & Time	Opens a drop-down menu listing all Date and Time functions — click name to insert function into current cell
Alt+MN	Formulas→Name Manager	Opens Name Manager dialog box showing all range names in workbook where you can add, edit, and delete names
Alt+MMD	Formulas→Define Name	Opens New Name dialog box where you can assign a name to the cell selection or define a new constant
Alt+MS	Formulas→Use in Formula	Displays drop-down menu with range names in workbook that you can insert into current formula by clicking
Alt+MC	Formulas→Create from Selection	Opens Create Names from Selection dialog box where you indicate which rows and columns to use in naming cell selection
Alt+MH	Formulas→Show Formulas	Displays and then hides all formulas in cells of the worksheet
Alt+MXA	Formulas→Options→Automatic	Turns automatic recalculation back on

Alt+MXE	Formulas→Options→Automatic Except for Data Tables	Turns automatic recalculation back on for all parts of the worksheet except for ranges with Data Tables
Alt+MXM	Formulas→Options→Manual	Turns on manual recalculation
Alt+MB	Formulas→Calculate Now	Recalculates formulas throughout the entire workbook when manual recalculation is turned on
Alt+MJ	Formulas→Calculate Sheet	Recalculates formulas in the current worksheet when manual recalculation is turned on

Excel view commands via hot keys

The mnemonic letter for all the view-related commands in Excel is W (the last letter you see in vieW).

Hot Keys	Excel Ribbon Command	Function
Alt+WL	View→Normal	Returns the worksheet to normal view from Page Layout or Page Break Preview
Alt+WP	View→Page Layout	Puts the worksheet into Page Layout View showing the page breaks, margins, and rulers
Alt+WI	View→Page Break Preview	Puts the worksheet into Page Break Preview showing page breaks that you can adjust
Alt+WE	View→Full Screen	Puts the worksheet in full-screen mode which hides the File Menu, Quick Access toolbar, and Ribbon — press the Esc key to restore previous viewing mode
Alt+WVG	View→Gridlines	Hides and redisplays the row and column gridlines that form the cells in the Worksheet area

Alt+WG	View→Zoom to Selection	Zooms the Worksheet area in or out to the magnification percentage needed to display just the cell selection
Alt+WJ	View→100%	Returns the Worksheet area to the default 100% magnification percentage
Alt+WN	View→New Window	Inserts a new window in the current workbook
Alt+WA	View→Arrange All	Opens the Arrange dialog box where you can select how workbook windows are displayed on the screen
Alt+WF	View→Freeze Panes	Opens the Freeze Panes drop-down menu where you select how to freeze rows and columns in the Worksheet area: Freeze Panes (to freeze all the rows above and columns to the left of the cell cursor); Freeze Top Row; or Freeze First Column
Alt+WS	View→Split	Splits the worksheet into four panes using the top and left edge of the cell cursor as the vertical and horizontal dividing lines — press hot keys again to remove all panes
Alt+WH	View→Hide	Hides the current worksheet window or workbook
Alt+WU	View→Unhide	Opens the Unhide dialog box where you can select the window or workbook to redisplay
Alt+WB	View→View Side by Side	Tiles two open windows or workbooks one above the other form comparison — press hot keys again to restore the original full windows
Alt+WW	View→Switch Windows	Opens the Switch Windows drop-down menu where you can select the open window or workbook to make active

Excel hot keys for editing commands

The mnemonic letter for all the editing commands is H (for Home) because all of these commands are conveniently located on the Home tab of the Ribbon.

However, even if you can remember to associate editing with the Home tab and keep in mind that Alt+H is always the starting point, you're still not home free because the remaining letters in the hot key sequences are not as easy to remember as you might like.

Fortunately, the most common editing commands (Cut, Copy, and Paste) still respond to the old Ctrl+key sequences (Ctrl+X, Ctrl+C, and Ctrl+V, respectively), which are a lot quicker than their Alt+H equivalents, provided that you already know and regularly use them.

Hot Keys	Excel Ribbon Command	Function
Alt+HVP	Home→Paste→Paste	Pastes the currently cut or copied cell selection or graphic objects in the worksheet
Alt+HX	Home→Cut	Cuts the cell selection or selected graphic objects out of the workbook and places them on the Windows Clipboard
Alt+HC	Home→Copy	Copies the cell selection or selected graphic objects to the Windows Clipboard
Alt+HFP	Home→Format Painter	Activates the Format Painter
Alt+HFO	Home→Clipboard Dialog Box Launcher	Displays and hides the Clipboard task pane
Alt+HII	Home→Insert→Insert Cells	Opens Insert dialog box so you can indicate the direction in which to shift existing cells to make room for the ones being inserted
Alt+HIR	Home→Insert→Insert Sheet Rows	Inserts blank rows equal to the number of rows in the cell selection
Alt+HIC	Home→Insert→Insert Sheet Columns	Inserts blank columns equal to the number of columns in the cell selection
Alt+HIS	Home→Insert→Insert Sheet	Inserts a new worksheet in the workbook

Alt+HDD	Home→Delete→Delete Cells	Opens Delete dialog box so you can indicate the direction in which to shift existing cells to replace the ones being deleted
Alt+HDR	Home→Delete→Sheet Rows	Deletes rows equal to the number of rows in the cell selection
Alt+HDC	Home→Delete→Sheet Columns	Deletes columns equal to the number of columns in the cell selection
Alt+HDS	Home→Delete→Sheet	Deletes the current worksheet after warning you of data loss if the sheet contains cell entries
Alt+HEA	Home→Clear→Clear All	Clears the contents, formatting, and comments from the cell selection
Alt+HEF	Home→Clear→Clear Formats	Clears the formatting of the cell selection without removing the contents and comments
Alt+HEC	Home→Clear→Clear Contents	Clears the contents of the cell selection without removing the formatting and comments
Alt+HEM	Home→Clear→Clear Comments	Clears all comments in the cell selection without removing the formatting and contents

What are macros and how do you use macros for Excel?

Updated 19 March 2023

A macro is a scripting tool that can help you work more efficiently in programs such as Microsoft Excel. Macros are basic instructions that empower users to automate tasks so they can work on other projects or complex work. Although disabled by default in most programs to prevent attacks from macro viruses, you can enable macros from within the software. In this article, we discuss what a macro is and outline how to enable macros in Microsoft Excel for individual sessions and on a permanent basis, in addition to answering some frequently asked questions.

What are macros for Excel?

Macros for Excel are instructions you can customise to complete repetitive tasks automatically. Implementing macros in different types of software can help save users time when working on repetitive tasks, like filling in cells. Software developers can create macros by using the programming language Visual Basic for Applications. Macros provide an automated input sequence that allows users to imitate keystrokes, mouse actions and other basic inputs. Generally, macros are a way to automate repetitive tasks that are the same.

Typically, these types of inputs are common in spreadsheet software applications like Excel. Using macros with little understanding of what they do can be problematic because nefarious users, such as hackers, can use macros as a route of entry to install viruses, malware or adware onto computers or networks. It's due to this threat that most programs, including Excel, disable macros by default.

How macros improve the user experience in Excel

When working with spreadsheet software applications, such as Excel, repetitive tasks are quite common. This can include populating hundreds of cells with similar information and editing multiple cells with the same data points. Macros fit into the Excel framework as a way to automate most of these tasks, freeing up users from the repetition. Essentially, macros are a recording of your steps in Excel, which makes them suitable for use in other tasks with the click of a button.

For example, if you handle customer accounts at the end of every working day, this would require you to download the latest data from your bank and format it to suit your filing requirements. If you do the same routine every day, a macro is a great way to automate the task so that you no longer do it manually. When considering the benefits of macros, know that they can be a useful way to automate the importing and formatting of data.

What to do before creating your first macro in Excel

Before creating your own macros in Excel, it's necessary to enable the use of macros from within the software. For Excel, this requires you to view the developer features. This is not visible by default, which means it's first necessary to display it through the customise report feature. Macros stay hidden by default because of the risk they present to users who don't know much about them.

Hackers can penetrate systems by creating nefarious macros with embedded malware or viruses. This is why it's a good idea to always create your own macros or use macros from a trusted source. When creating your own macros, consider saving them in your workbook using a macro-enabled format such as .XLSM. Remember that macro file names cannot contain any spaces or else they aren't going to work.

Enabling macros in Excel for individual sessions

Enabling macros for a single session of Excel gives you the option to use macros without changing the default settings of Excel. Once you complete your single session, it's best to automatically disable macro to ensure security. To enable macros in Excel for a single session, follow these steps.

1. **Open 'Excel' and the 'macro file':** Once you have Excel running, open the file that contains the macro you intend to use. Once you open this file, Excel is going to display a yellow box with a security warning to let you know that macros are currently disabled.
2. **Click on the 'info' tab:** Click on the 'file' option located at the upper left portion of the toolbar and select the 'info' option.
3. **Enable macros:** From the 'security warning' option, click on 'enable content' and you're going to see a drop down menu. From here, click 'advanced options', select 'enable content for this session' and click 'OK' to confirm that you have enabled macros for this session.
4. **Make sure to disable macros for the next session:** Although it typically occurs automatically, it's worthwhile to make sure during your next Excel session that macros remain disabled. In this case, you're going to see the same yellow box with the security warning.

Enabling macros permanently in Excel

If you are looking to use macros on a permanent basis in Excel, you can speak with the system administrator to discuss the risks. You are essentially keeping a door open which could let dangerous viruses into your network, so permanently enabling macros might be a serious risk. If you are sure you want to keep macros on permanently in Excel, follow these steps.

1. **Open your 'Excel file':** While in Excel, open the macro file that you wish to use. It's going to have a yellow security message box to let you know that macros are currently disabled.

2. **Locate the Trust Center:** The Trust Center is where you can alter and adjust the security and privacy settings within Excel and other Microsoft Office applications. You can locate it by clicking 'File', then 'Options' and 'Trust Center' from the navigation panel on the upper left portion of the screen.
3. **Find 'Macro Settings':** From within the Trust Center, you can adjust settings related to the security of data and documents. Click 'Trust Center Settings' and select 'Macro Settings'.
4. **Enable all macros:** From within macro settings, click on the 'Enable all macros' button and confirm it by clicking 'OK'. A warning message is going to appear which tells you to avoid enabling all macros due to the risks of dangerous code affecting your computer or network.
5. **Know how to disable macros in the future:** If you want to disable macros after permanently enabling them, you can return to the Trust Center and click on 'Disable all macros with notifications.'

Changing macro settings in Excel

Enabling macros temporarily or permanently can help you work smarter within Excel. If you want to get more value out of using macros, you can tweak macro settings from within Excel. To do this, follow these steps.

1. **Open 'Microsoft Excel':** To begin, launch Microsoft Excel on your computer to start the software.
2. **Select the 'Options' tab:** On the upper left of the screen, click the 'File' tab and scroll down until you can see the 'Options' menu. Click on it and a new window is going to open up.
3. **Find the Trust Center:** Scroll through the new window until you see the 'Trust Center' panel on the left side and click on it.
4. **Change macro settings:** In the Trust Center, you have several options to choose from when changing the settings, like disabling all macros without notification, disabling all macros with notification and disable all macros except digitally signed macros. Once you have selected one, click 'OK' to complete the process.

Frequently asked questions about Excel and macros

Below are some frequently asked questions about Excel and macros, together with their respective answers:

What's Excel VBA?

VBA is an acronym for Visual Basic for Applications. This is a simple programming language that you can use in Excel through its Visual Basic Editor (VBE). You can access this through the 'Developer' tab, which you can add to the ribbon in the interface. You can modify the VBA code within the Excel VBA editor to change the macro itself. Additionally, you can run and record macros in Excel without learning how to use Excel VBA.

I can't find the 'Developer' ribbon. Where can I enable it from?

This tab isn't visible by default in most Microsoft Office software applications. There are two ways of displaying it. The first is to go to 'File' and click on 'Options', which is on the bottom left. Click on the 'Customise Ribbon' tab and check the box next to 'Developer' on the right-hand list. Alternatively, you can right-click somewhere on the existing ribbon's tabs and select 'Customise Ribbon' and check the box for 'Developer' in the right-hand menu.

Please note that none of the companies, institutions or organisations mentioned in this article are affiliated with Indeed.

How to Create Macros in Excel: Step-by-Step Tutorial (2024)

Get ready to have your mind blown!

Because in this tutorial, you learn how to create your own macros in Excel!

That's right! And you don't need to know VBA (Visual Basic for Applications)!

Instead, you will use the Excel macro recording feature to send your spreadsheet experience

into overdrive!

So, read on and try it out yourself using this practice Excel workbook.

Table of Contents

What are Excel macros?

A macro is a small program or set of actions that you can run repeatedly. Excel macros are used to automate repetitive tasks to save a lot of time and hassle.

For example, open and take a look at the practice Excel workbook.

	A	B	C	D	E	F	G	H	I
1	**Contact Name**	**Contact Number**	**Area Code**	**Extension**	**Landline**	**Title**	**First Name**	**Last Name**	
2	Mr. Scott Michael	(603) 831-7058 ext. 101	(603)	101	831-7058	Mr.	Scott	Michael	
3	Mr. John Widows	(201) 762-8800 ext. 205	(201)	205	762-8800	Mr.	John	Widows	
4	Ms. Letty Auburn	(262) 440-6554 ext. 112	(262)	112	440-6554	Ms.	Letty	Auburn	
5	Mr. Bynum Grey	(479) 650-1920 ext. 508	(479)	508	650-1920	Mr.	Bynum	Grey	
6	Mrs. Melanie Jannett	(307) 750-2901 ext. 302	(307)	302	750-2901	Mrs.	Melanie	Jannett	
7	Mr. Tom Leighland	(209) 529-3381 ext. 100	(209)	100	529-3381	Mr.	Tom	Leighland	
8									
9									

Businesses would often have lists like this one. These are potential customers they might want to reach out to and market their products.

Notice how Columns C to H are just pieces of information extracted from Columns A & B. *(Learn how to extract strings from texts in [this tutorial](#)!)*

To streamline the worksheet, you can hide Columns A & B. You can also hide the rest of the columns on the right starting from Column I.

Let's do this using Excel macros!

How to record Excel macros

1. Click on the **View** tab in the Excel ribbon
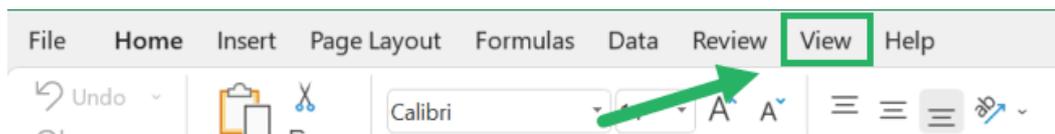
2. Next, click on the **Macros** button on the right side of the **View** ribbon
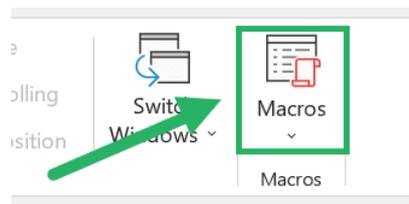
3. This will open the **Macros** drop-down.

Click **Record Macro**.
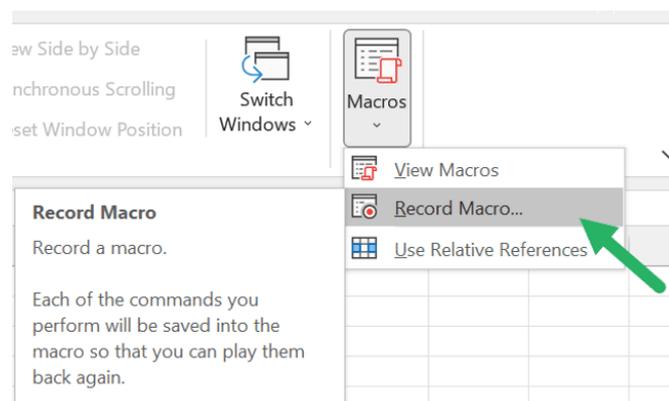
4. Enter a name for your macro, something like **Hide_Columns**.
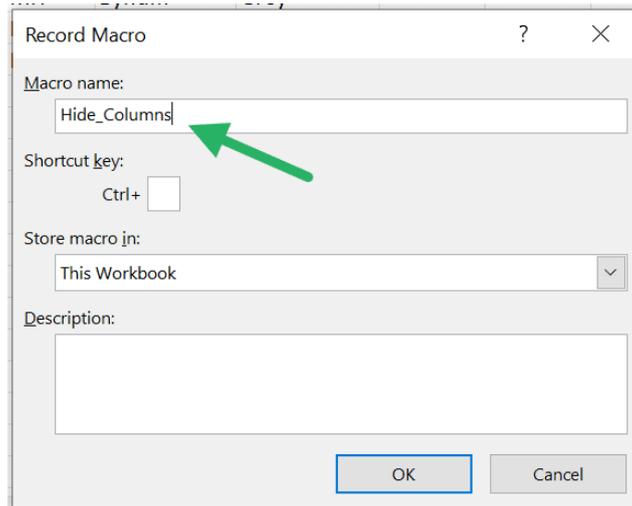
Excel macros can be stored in the Personal Macro Workbook. This is saved in the system files of Microsoft Excel and macros saved here can be used in other workbooks.
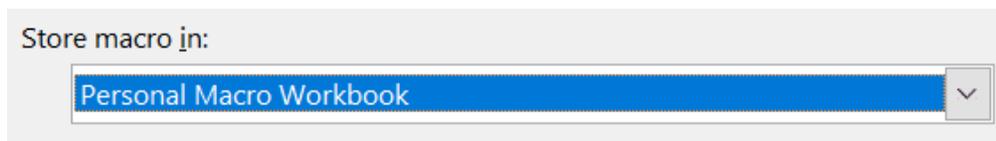
For this Excel macro tutorial, you only need to save the macros in the current Excel file.

4. Select **Store macro in: This Workbook** then click the **OK** button.

Excel is now recording your actions to create a macro.

5. Select Columns A & B and then right-click on the highlighted **Column Bar** to **Hide** them.
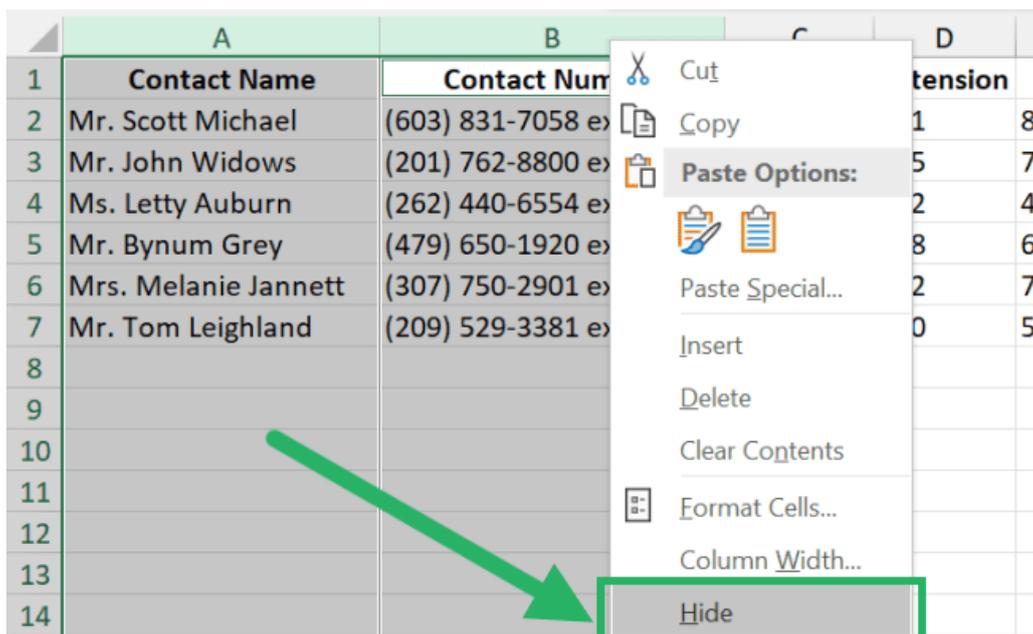
6. Then select Column I and press **Ctrl** + **Shift** + **Right Arrow** to include all remaining columns on the right.

7. Right-click on the highlighted **Column Bar** then click on **Hide**.

Your worksheet should now look like this:

To end the macro recording:

8. On the **View** ribbon, click on **Macros** and select **Stop Recording**.
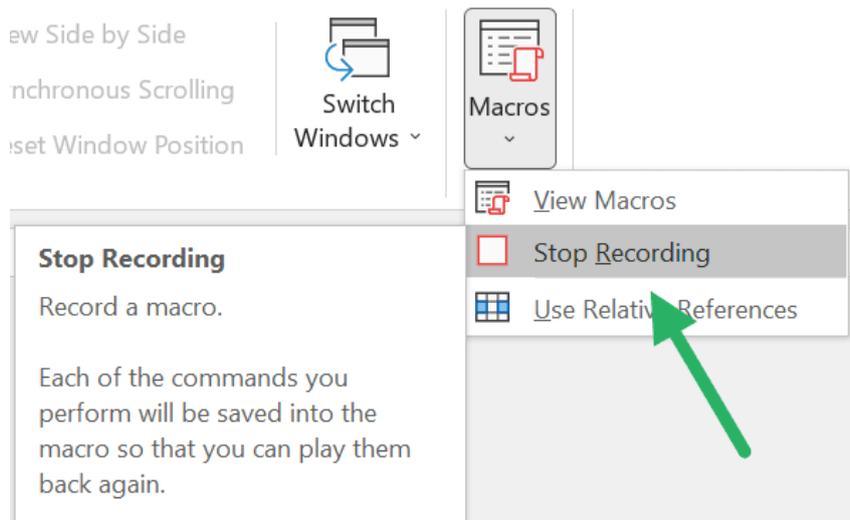
Good job!

You have created your first macro in Excel!

But wait, where is the recorded macro?

To view all of the available Excel macros :

1. Select **View Macros**.
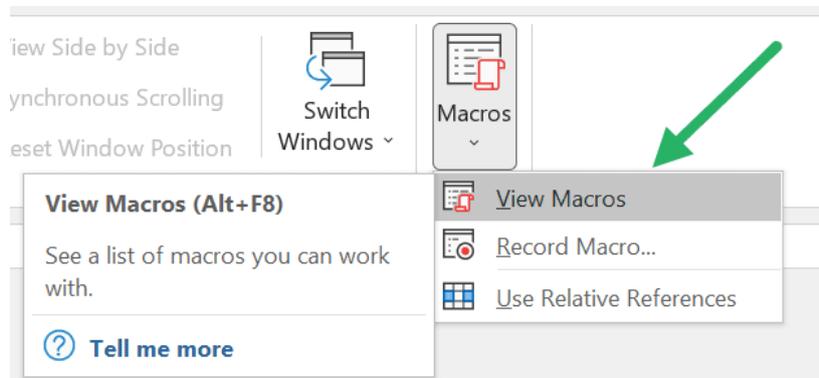
2. This opens the **Macro** window. Saved macros will be listed here and you can **Run** whichever one you need.

You can also click on **Edit** to view the VBA code window.
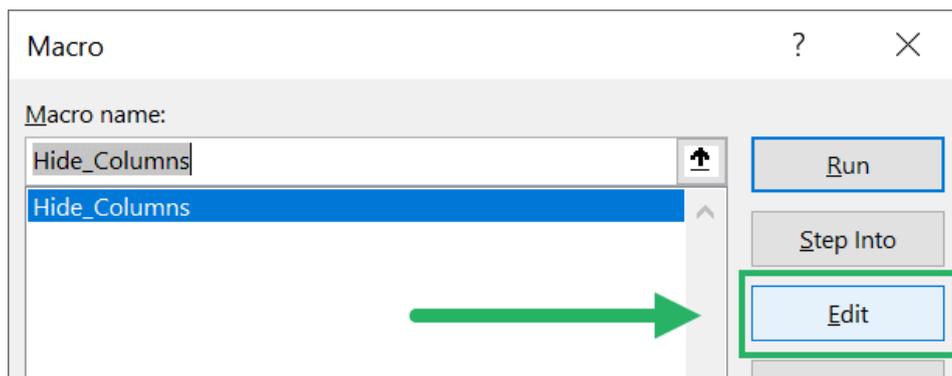
3. The VBA code editor opens.
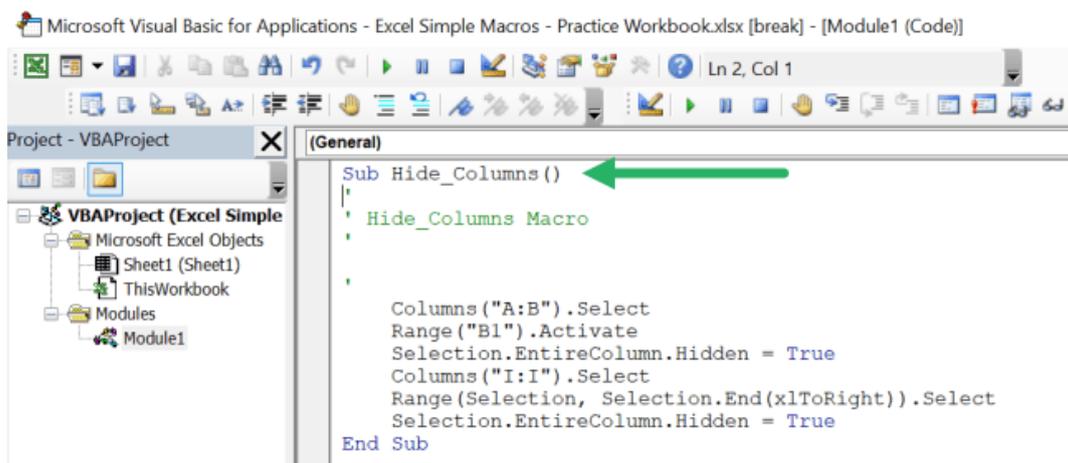
Notice the **Hide_Columns Sub** procedure. You don't have to write or edit VBA code for the macro.

Excel automatically generated each code line based on the recorded keystrokes and mouse clicks.

The **Record Macro** feature is powerful enough for general spreadsheet automation needs.

But if you want to customize your own VBA macro, you can learn more about Visual Basic for Applications (VBA) here.

Using the Developer tab

Let's record another macro to **Unhide** the hidden columns.

This time, you can record the macro from the **Developer** tab.

The Developer tab gives you access to a lot of useful Microsoft Excel features such as the Visual Basic Editor. It also allows you to quickly insert form controls such as buttons and checkboxes.

However, the Developer tab is not visible in the Excel ribbon by default.

To add it:

1. Right-click on the Excel ribbon.

Select **Customize the Ribbon**.
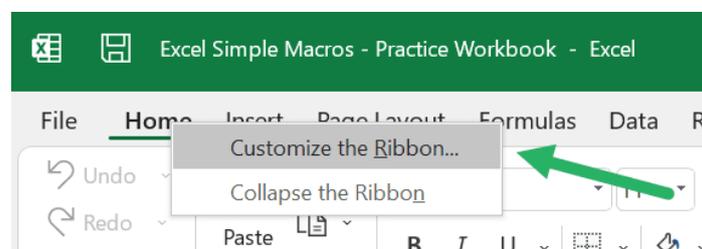
2. This opens the **Customize Ribbon** window.

On the right side, check the **Developer** tab checkbox.
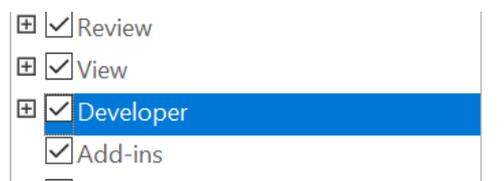
3. You should now see the **Developer** tab.
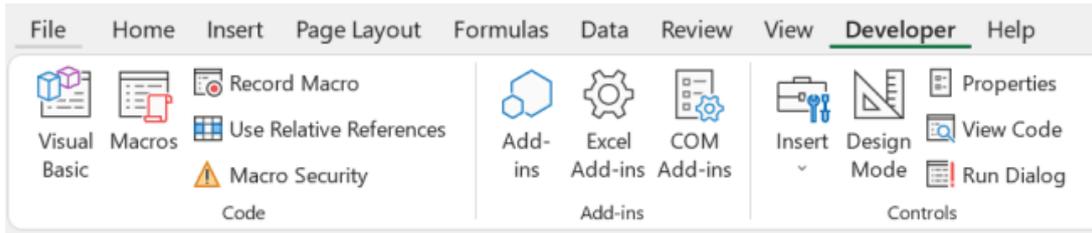
To start recording the **Unhide** macro:

1. Click on the **Record Macro** button in the **Developer** tab.
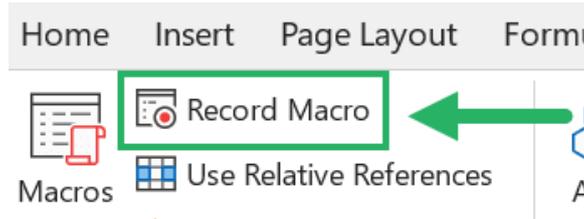
2. Name this macro **Unhide_Columns**.
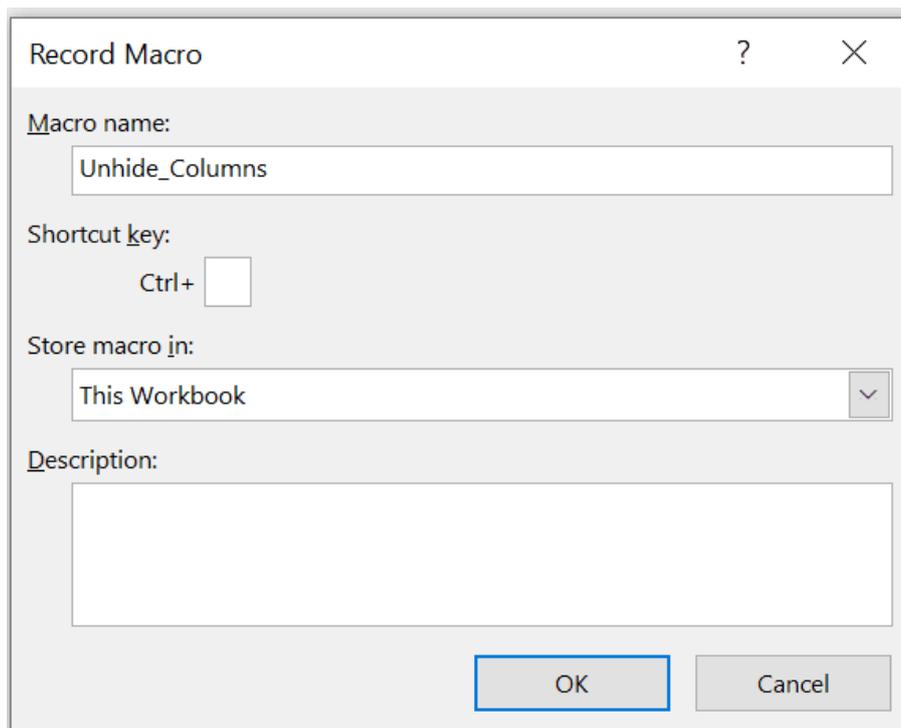
3. Click **OK**.

The recording has started.

4. Press **Ctrl** + **A twice** to select all cells.

5. Right-click anywhere on the **Column Bar** then click **Unhide**.
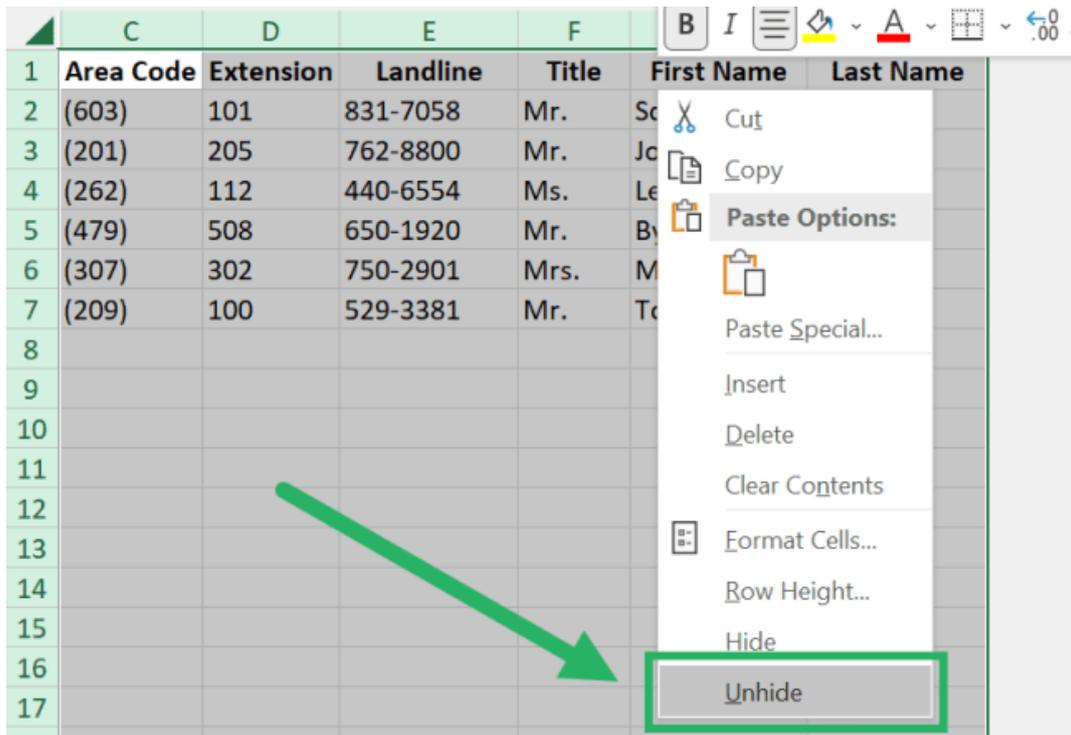
6. Click on the **Stop Recording** macro button to finish up.

Great work!

Now you have two recorded macros that can be executed.

How to run an Excel macro

To run your macros:

1. Click on the **Macros** button from the **Developer** tab.
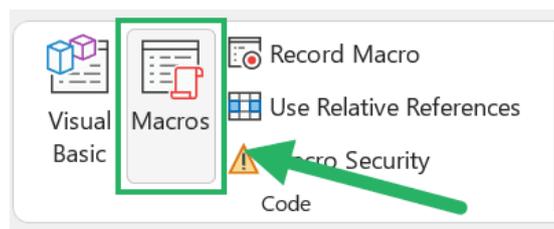
2. In the **Macro** window, select the macro **Hide_Columns** and click on **Run**.
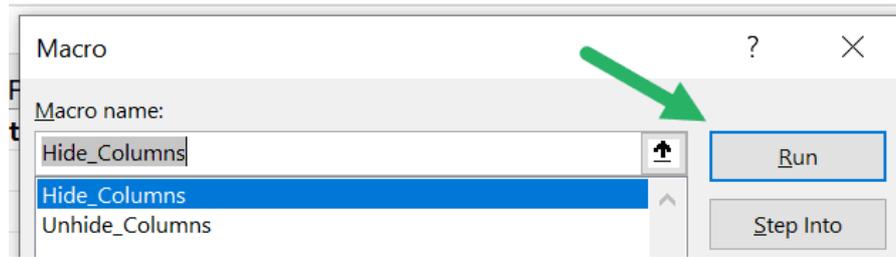
The macro executes the actions recorded earlier and hides the unnecessary columns.

You can also run macros from the View ribbon.

Run Excel macro from the View tab

This time, run the **Unhide_Columns** to show all the columns.

1. On the View ribbon, click the **Macros** button and select **View Macros**.

2. Select the **Unhide_Columns** macro and **Run** it.
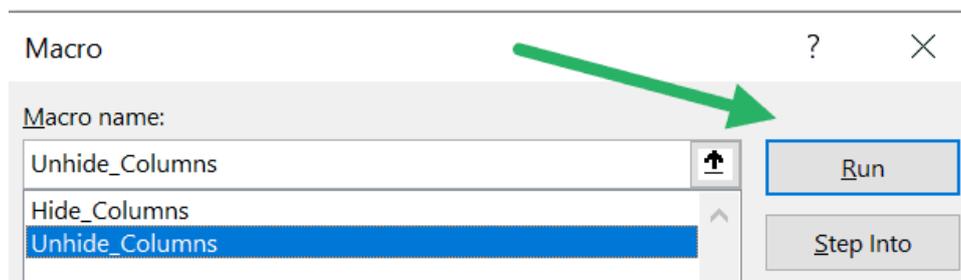
This unhides all the columns in the worksheet.

As you can see, the **Macro** window allows you to quickly run all the available macros.

But you can execute them even faster by using buttons and shortcuts

Run Excel macro from a button

For this next example, you will assign macros to buttons which will be located on top of the table.

1. Insert 2 rows above the table headers. Select **Row 1** then press **Ctrl** + **Shift** + **Plus Sign**(+) twice.

	A	B	C	D	E	F	G	H
1								
2								
3								
4	**Contact Name**	**Contact Number**	**Area Code**	**Extension**	**Landline**	**Title**	**First Name**	**Last Name**
5	Mr. Scott Michael	(603) 831-7058 ext. 101	(603)	101	831-7058	Mr.	Scott	Michael
6	Mr. John Widows	(201) 762-8800 ext. 205	(201)	205	762-8800	Mr.	John	Widows
7	Ms. Letty Auburn	(262) 440-6554 ext. 112	(262)	112	440-6554	Ms.	Letty	Auburn
8	Mr. Bynum Grey	(479) 650-1920 ext. 508	(479)	508	650-1920	Mr.	Bynum	Grey
9	Mrs. Melanie Jannett	(307) 750-2901 ext. 302	(307)	302	750-2901	Mrs.	Melanie	Jannett
10	Mr. Tom Leighland	(209) 529-3381 ext. 100	(209)	100	529-3381	Mr.	Tom	Leighland

2. To create a button, click on **Insert** > **Illustrations** > **Shapes**.

Then select the **Rectangle**.
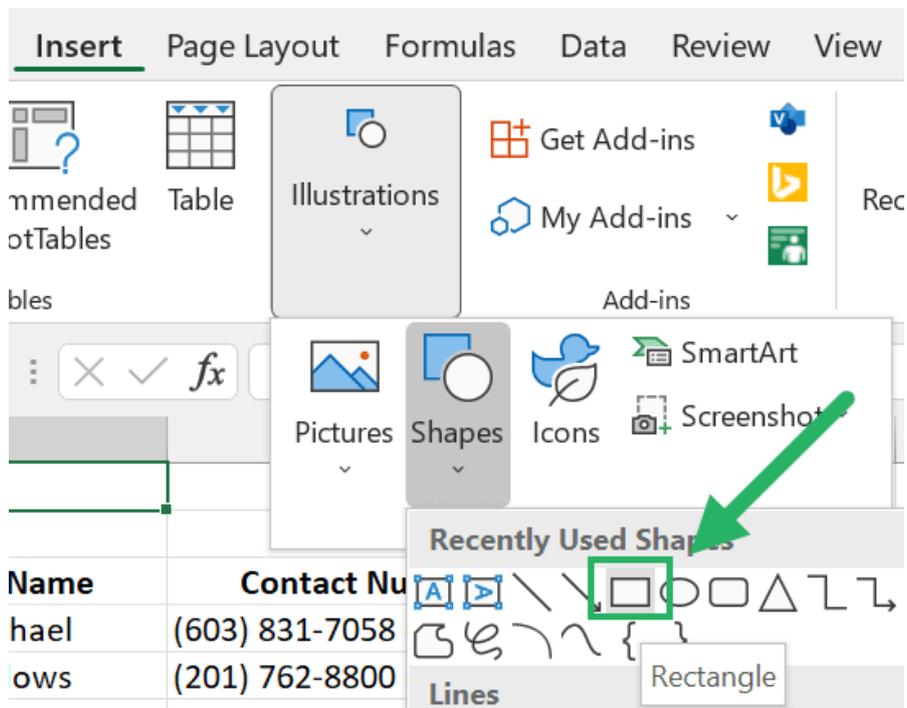
3. Draw a rectangle and format it as you'd like. Label it "HIDE".

This will be your **HIDE** button. Place it between columns A & B so it will be hidden with the columns when the macro runs.

4. To assign a macro, right-click the shape and select **Assign Macro**.
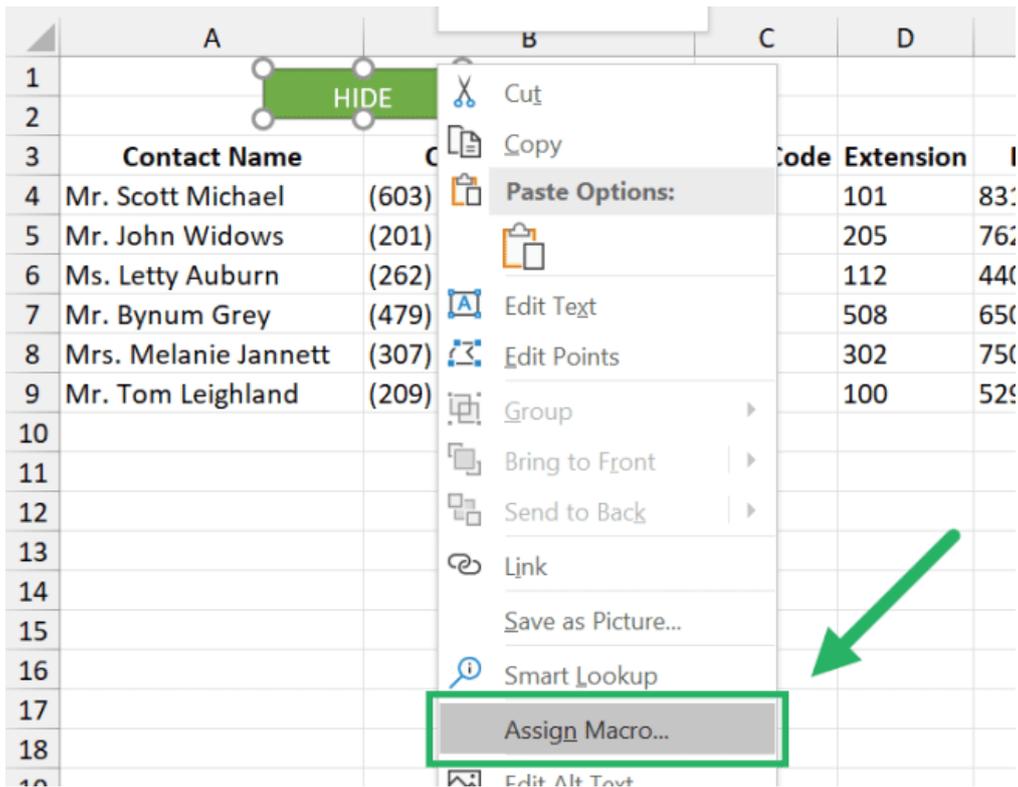
5. In the **Assign Macro** window, select **Hide_Columns** and click **OK**.
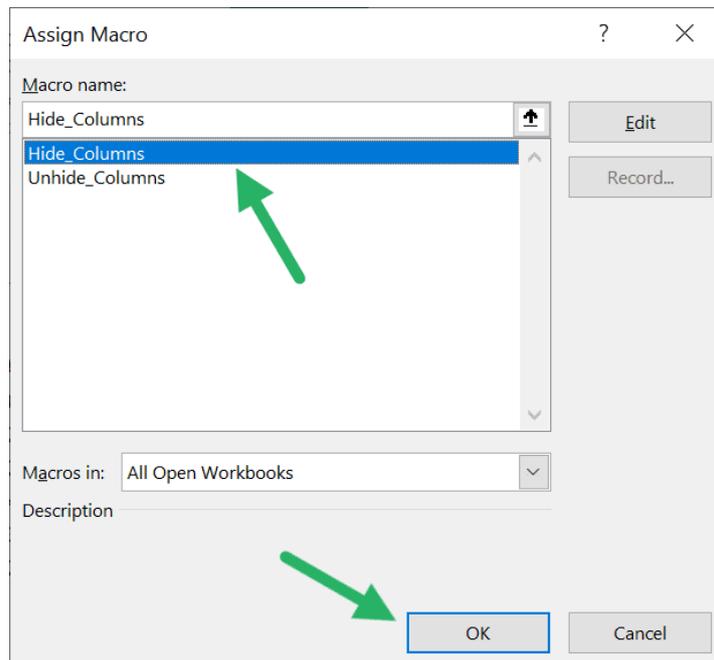
The **Hide** button now works!

Now, do the same for the **Unhide_Columns** macro.

6. Create another rectangle button and label it "UNHIDE".

7. Repeat **Steps 4 & 5** but this time, assign the **Unhide_Columns** macro.

Alright!

Now you can quickly run your macros using the **HIDE** and **UNHIDE** buttons.

Run Excel macro from a shortcut key

It is sometimes better to run macros using a keyboard shortcut.

For this next example, you want to quickly highlight people on the list that expressed interest in the business.

To create a macro for this:

1. Select any cell within the table.

2. On the **Developer** tab, toggle ON the **Use Relative References** button.
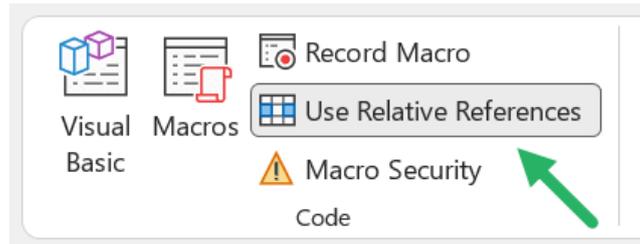
3. Start recording with the **Record Macro** button on the **Developer tab**.

Or, you can also click the **Record Macro** button on the .

4. Name the macro **Mark_Interested**.

Then assign a shortcut key. For example, **Ctrl + Q**.
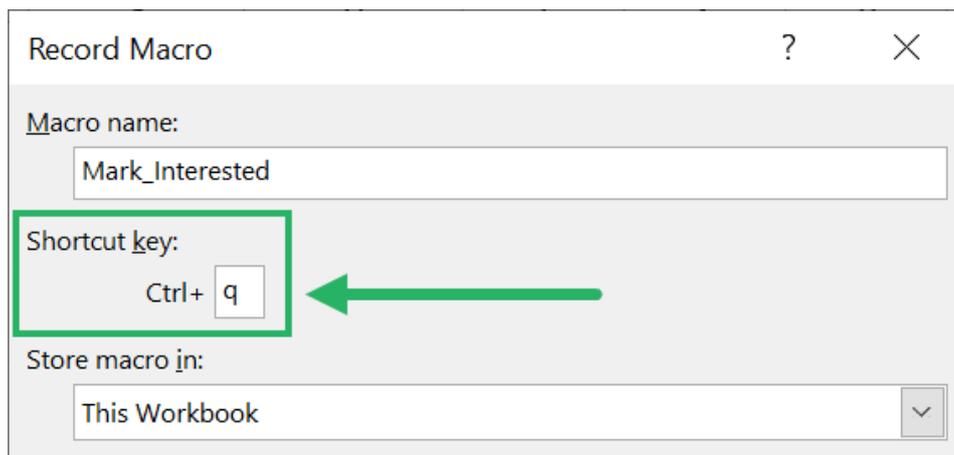
Click **OK**. The recording has now started.

4. Highlight the row of the **Active Cell** using the keyboard shortcut **Shift** + **Space Bar**.

When selecting cells or expanding selections while recording a macro, it is best to use keyboard shortcuts.

This is so that Excel can record the selections as **relative references**.

For example, if you select **Row 4** by clicking on the **Row Bar**, Excel will record this as an **absolute reference**. This means it will always select Row 4 regardless of the currently **Active Cell**.

When you use the **Shift + Space Bar** shortcut instead, it tells Excel to select the row of the current **Active Cell**.

5. Apply the formatting:

- Fill using the color **Green**
- Change font color to **White**

6. End the macro recording from the **Status Bar**
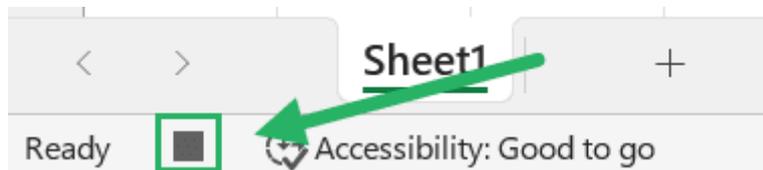
All done!

Try to use the shortcut **Ctrl + Q** to quickly apply formatting to entire rows.

Saving macro-enabled workbooks

If you save the practice workbook, this window will pop up:

Microsoft Excel ✕

The following features cannot be saved in macro-free workbooks:

ℹ

   • VB project

To save a file with these features, click No, and then choose a macro-enabled file type in the File Type list.

To continue saving as a macro-free workbook, click Yes.

[Yes]   [No]   [Help]
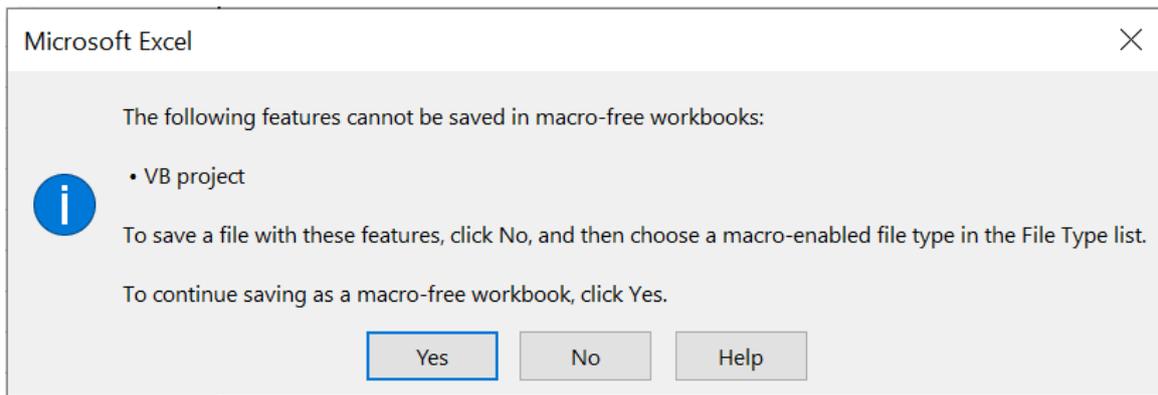
This is because the practice workbook is currently saved with the **.xlsx** file extension which does not support macro features.

To save properly, change it to the **.xlsm** file extension for macro-enable workbooks.

Keep this in mind when saving your work.

Congratulations! 🤩

You are now familiar with Excel macros.

Try to record your own macros and **start saving time** ⏲ on your work!