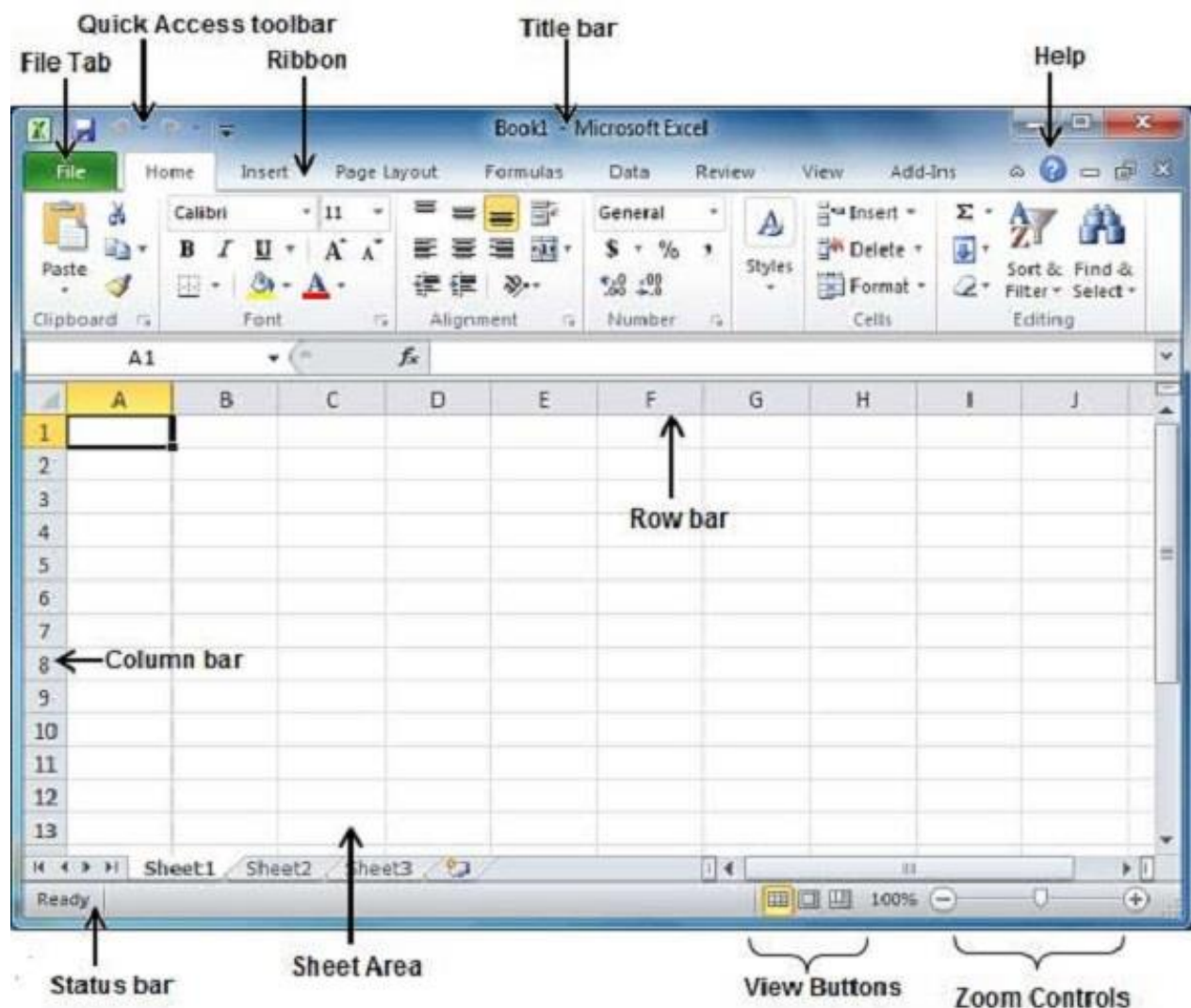# (MODULE 2)

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Microsoft Excel is a commercial spreadsheet application, written and distributed by Microsoft for Microsoft Windows and Mac OS X. Microsoft Excel is a spreadsheet tool capable of performing calculations, analyzing data and integrating information from different programs.

By default, documents saved in Excel 2010 are saved with the .xlsx extension whereas the file extension of the prior Excel versions are .xls.

The following basic window appears when you start the excel application. Let us now understand the various important parts of this window.

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File Tab

The File tab replaces the Office button from Excel 2007. You can click it to check the **Backstage view,** where you come when you need to open or save files, create new sheets, print a sheet, and do other file-related operations.

Quick Access Toolbar

You will find this toolbar just above the **File tab** and its purpose is to provide a convenient resting place for the Excel's most frequently used commands. You can customize this toolbar based on your comfort.

Ribbon
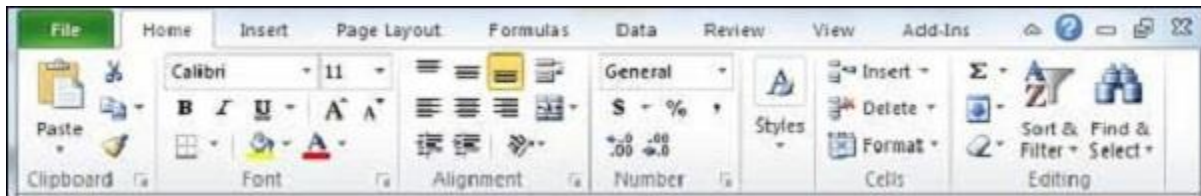
Ribbon contains commands organized in three components −

- **Tabs** − They appear across the top of the Ribbon and contain groups of related commands. Home, Insert, Page Layout are the examples of ribbon tabs.

- **Groups** − They organize related commands; each group name appears below the group on the Ribbon. For example, group of commands related to fonts or group of commands related to alignment etc.

- **Commands** − Commands appear within each group as mentioned above.

Title Bar

This lies in the middle and at the top of the window. Title bar shows the program and the sheet titles.

Entering values in excel sheet is a child's play and this chapter shows how to enter values in an excel sheet. A new sheet is displayed by default when you open an excel sheet as shown in the below screen shot.

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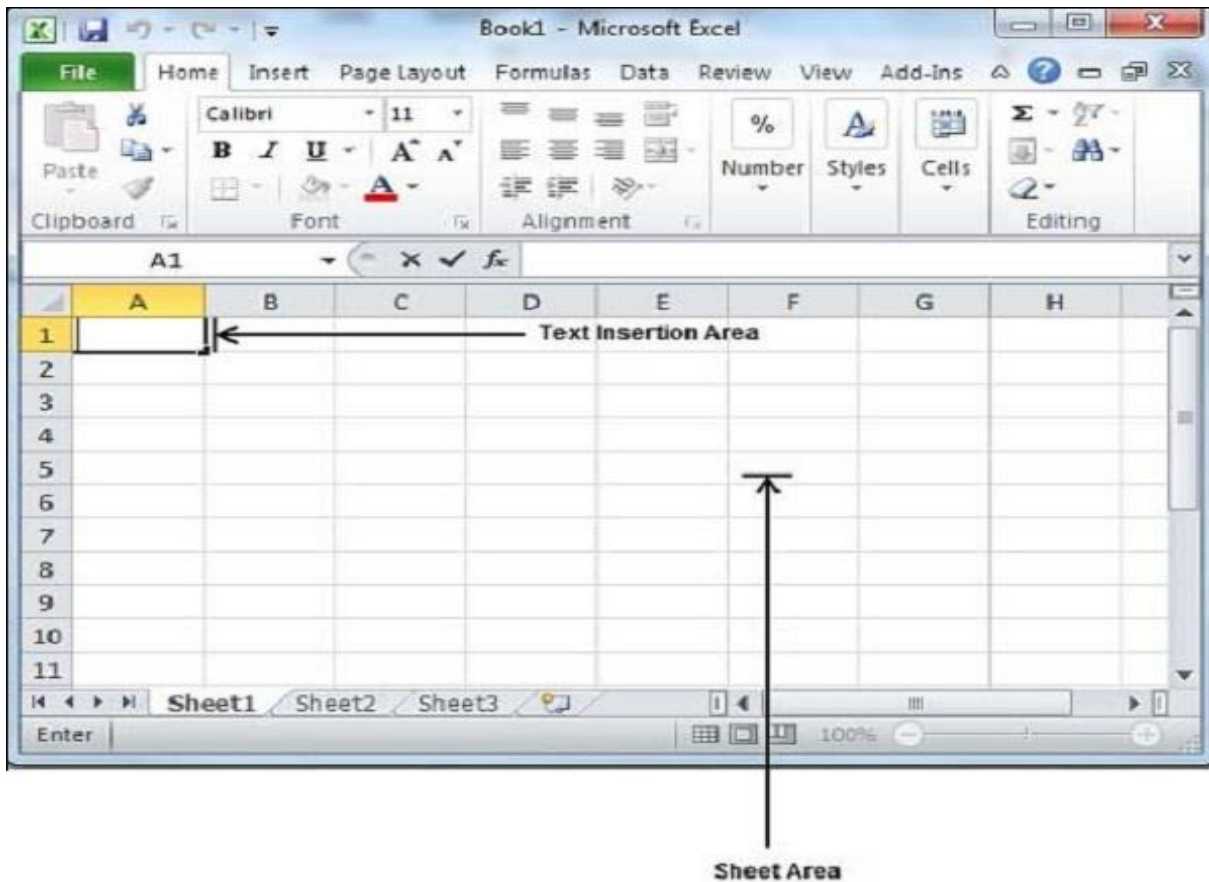
Sheet area is the place where you type your text. The flashing vertical bar is called the insertion point and it represents the location where text will appear when you type. When you click on a box then the box is highlighted. When you double click the box, the flashing vertical bar appears and you can start entering your data.

So, just keep your mouse cursor at the text insertion point and start typing whatever text you would like to type. We have typed only two words "Hello Excel" as shown below. The text appears to the left of the insertion point as you type.

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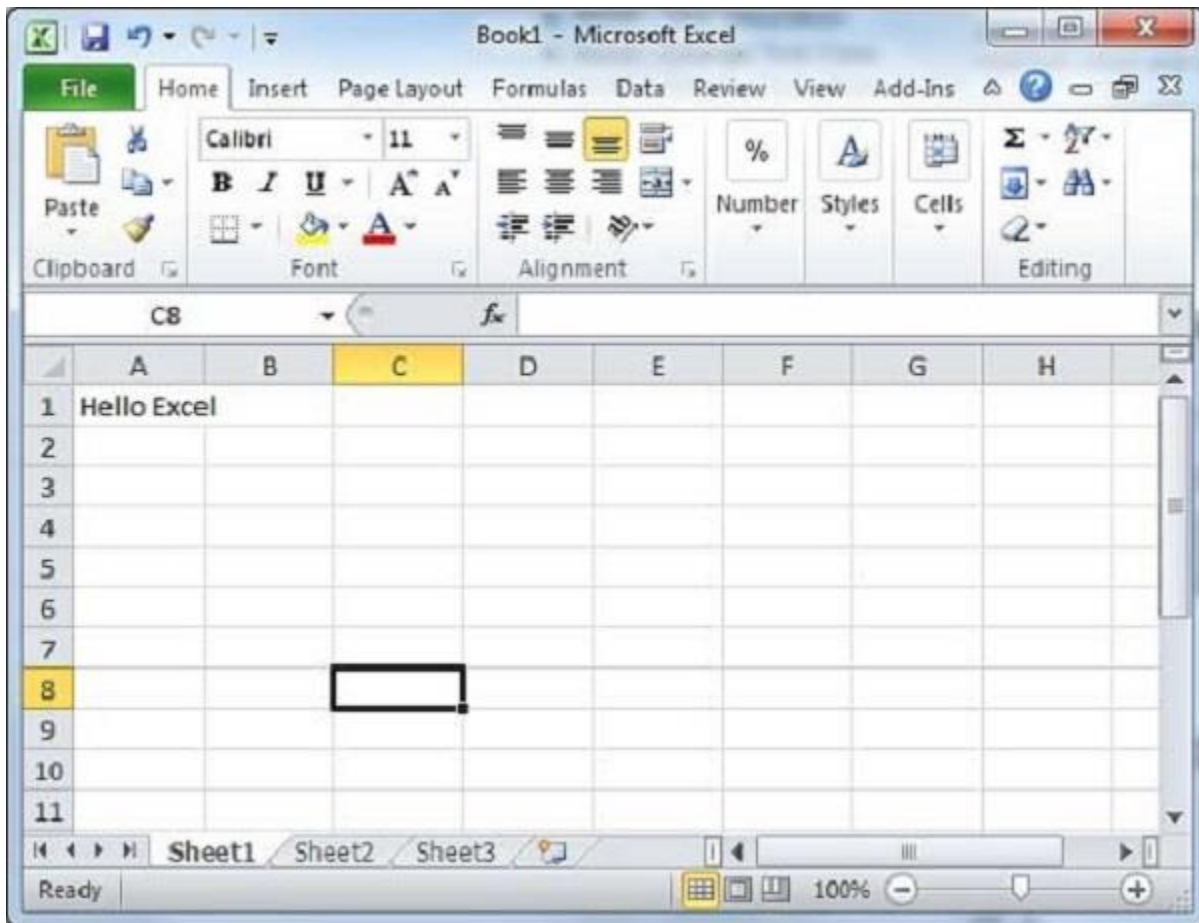
There are following three important points, which would help you while typing −

- Press Tab to go to next column.

- Press Enter to go to next row.

- Press Alt + Enter to enter a new line in the same column.

Saving New Sheet

Once you are done with typing in your new excel sheet, it is time to save your sheet/workbook to avoid losing work you have done on an Excel sheet. Following are the steps to save an edited excel sheet −

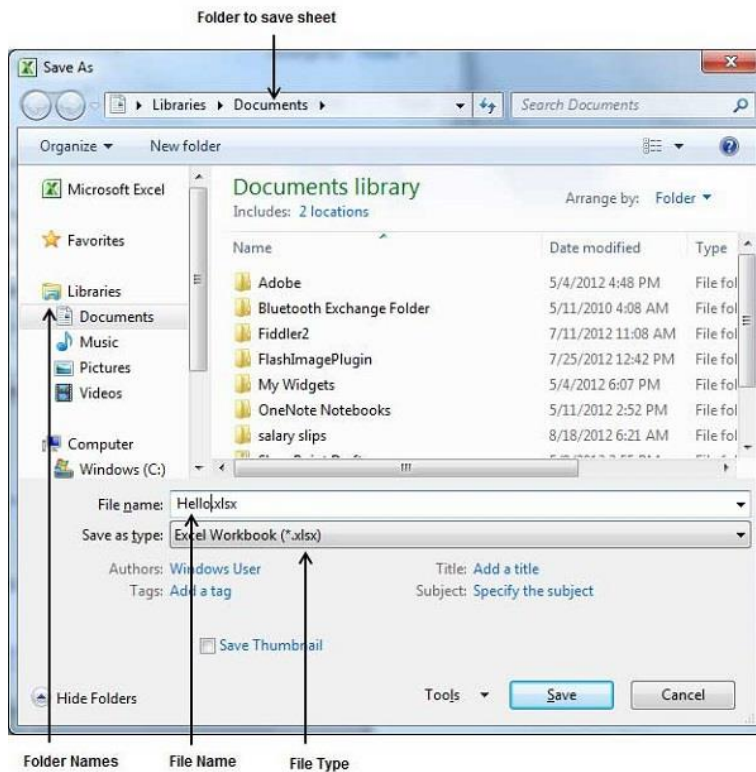**Step 1** − Click the **File tab** and select **Save As** option.

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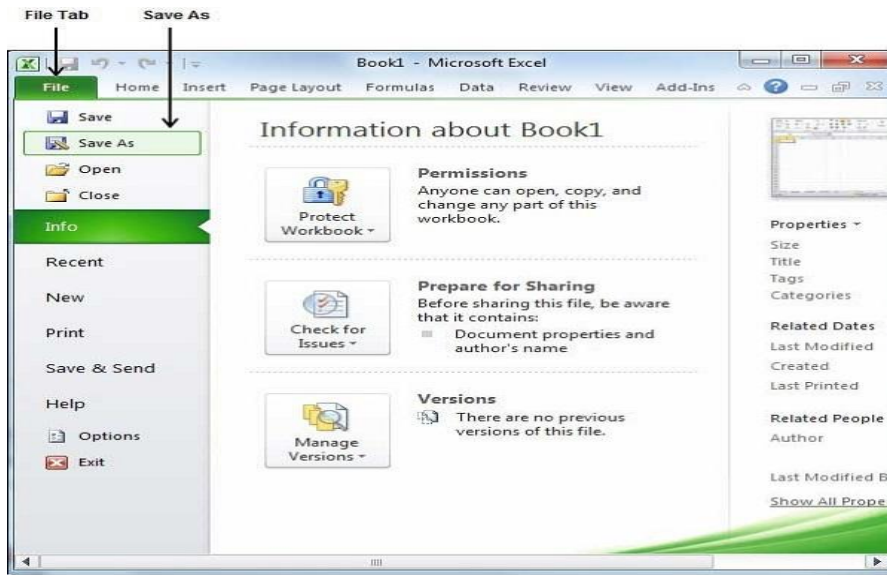
Step 2 − Select a folder where you would like to save the sheet, Enter file name, which you want to give to your sheet and Select a Save as type, by default it is **.xlsx** format.

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Step 3 − Finally, click on **Save** button and your sheet will be saved with the entered name in the selected folder.

Saving New Changes

There may be a situation when you open an existing sheet and edit it partially or completely, or even you would like to save the changes in between editing of the sheet. If you want to save this sheet with the same name, then you can use either of the following simple options −

- Just press **Ctrl + S** keys to save the changes.

- Optionally, you can click on the floppy icon available at the top left corner and just above the **File tab**. This option will also save the changes.

- You can also use third method to save the changes, which is the **Save** option available just above the **Save As** option as shown in the above screen capture.

If your sheet is new and it was never saved so far, then with either of the three options, word would display you a dialogue box to let you select a folder, and enter sheet name as explained in case of saving new sheet.

You can assign any of the fonts that is installed for your printer to cells in a worksheet.

Setting Font from Home

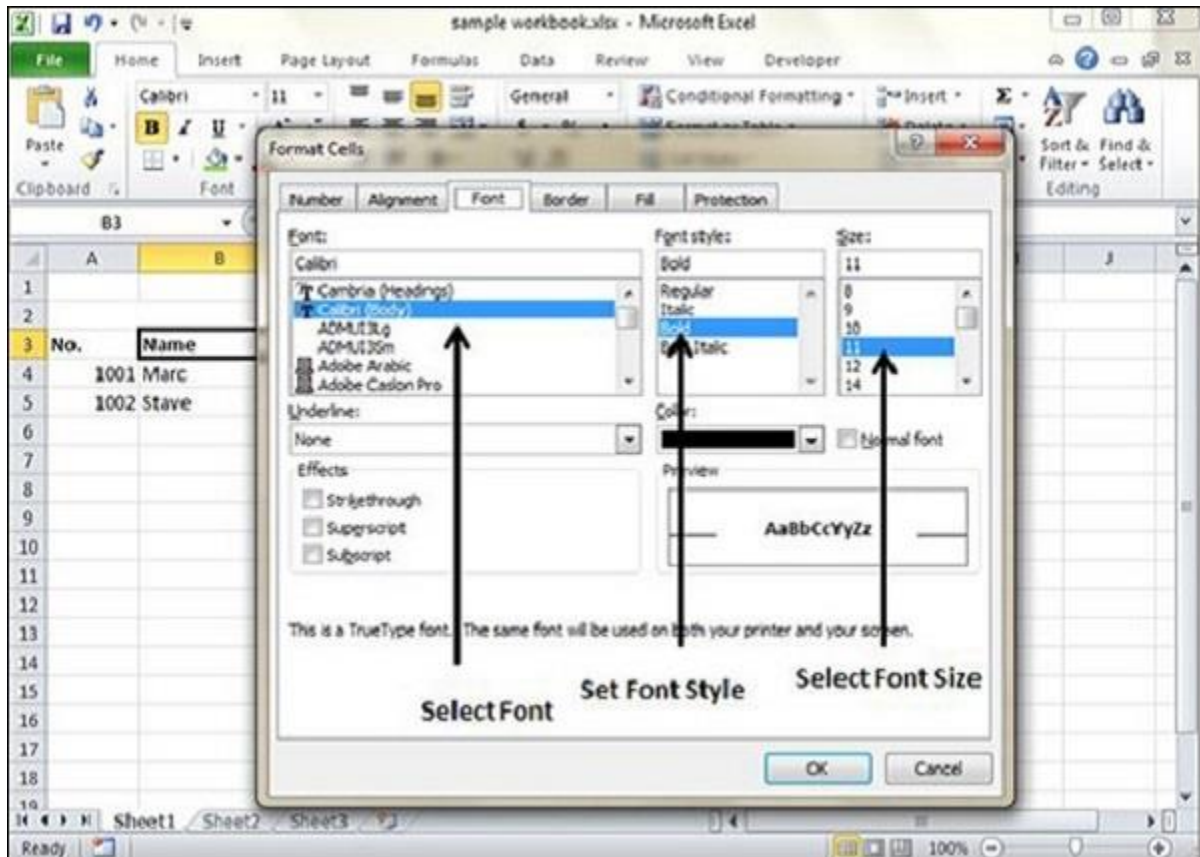You can set the font of the selected text from **Home » Font group » select the font**.
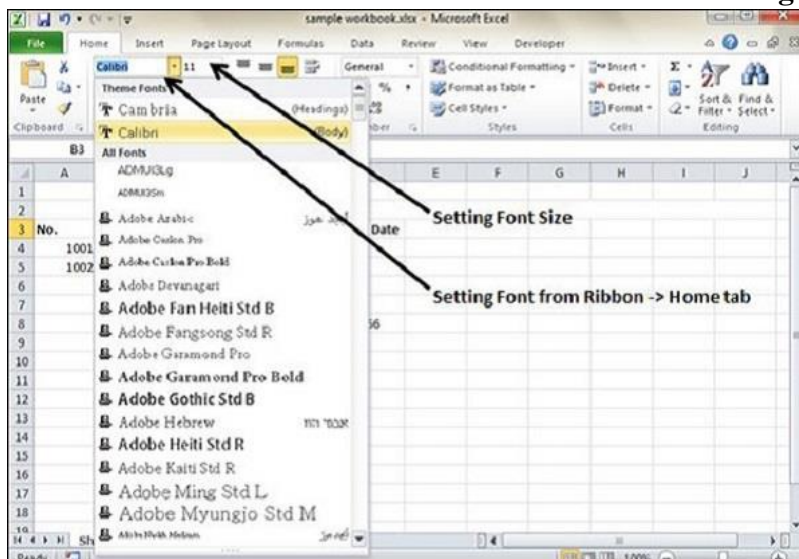
Setting Font From Format Cell Dialogue

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- Right click on cell » Format cells » Font Tab

- Press Control + 1 or Shift + Control + F

Formulas in MS Excel

Formulas are the Bread and butter of worksheet. Without formula, worksheet will be just simple tabular representation of data. A formula consists of special code, which is entered into a cell. It performs some calculations and returns a result, which is displayed in the cell.

Formulas use a variety of operators and worksheet functions to work with values and text. The values and text used in formulas can be located in other cells, which makes changing data easy and gives worksheets their dynamic nature. For example, you can quickly change the data in a worksheet and formulas works.

Elements of Formulas

A formula can consist of any of these elements −

- **Mathematical operators, such as +(for addition) and *(for multiplication)**

Example −

- o =A1+A2 Adds the values in cells A1 and A2.

- **Values or text**

  Example −

  - o =200*0.5 Multiplies 200 times 0.15. This formula uses only values, and it always returns the same result as 100.

- **Cell references (including named cells and ranges)**

  Example −

  - o =A1=C12 Compares cell A1 with cell C12. If the cells are identical, the formula returns TRUE; otherwise, it returns FALSE.

- **Worksheet functions (such as SUMor AVERAGE)**

  Example −

  - o =SUM(A1:A12) Adds the values in the range A1:A12.

Creating Formula

For creating a formula you need to type in the Formula Bar. Formula begins with '=' sign. When building formulas manually, you can either type in the cell addresses or you can point to them in the worksheet. Using the **Pointing method** to supply the cell addresses for formulas is often easier and more powerful method of formula building. When you are using built-in functions, you click the cell or drag through the cell range that you want to use when defining the function's arguments in the Function Arguments dialog box. See the below screen shot.

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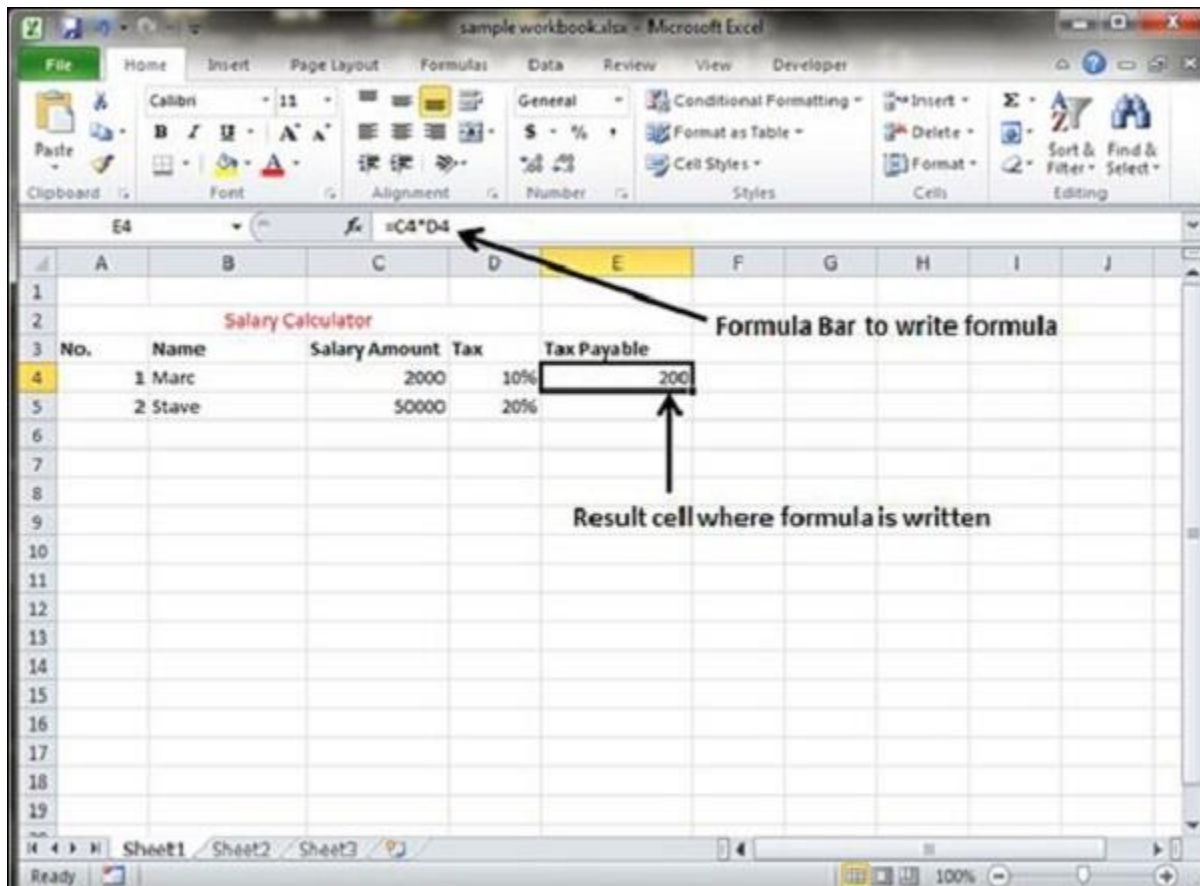
As soon as you complete a formula entry, Excel calculates the result, which is then displayed inside the cell within the worksheet (the contents of the formula, however, continue to be visible on the Formula bar anytime the cell is active). If you make an error in the formula that prevents Excel from being able to calculate the formula at all, Excel displays an Alert dialog box suggesting how to fix the problem.

Functions in Formula

Many formulas you create use available worksheet functions. These functions enable you to greatly enhance the power of your formulas and perform calculations that are difficult if you use only the operators. For example, you can use the LOG or SIN function to calculate the Logarithm or Sin ratio. You can't do this complicated calculation by using the mathematical operators alone.

Using Functions

When you type = sign and then type any alphabet you will see the searched functions as below.

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Typing M will show number of functions starting with M
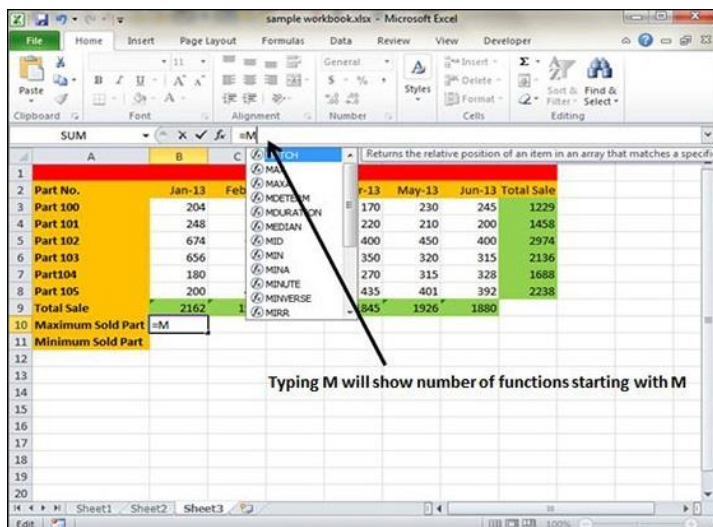
Suppose you need to determine the largest value in a range. A formula can't tell you the answer without using a function. We will use formula that uses the MAX function to return the largest value in the range B3:B8 as **=MAX(A1:D100)**.

Max function is used in Formula Bar
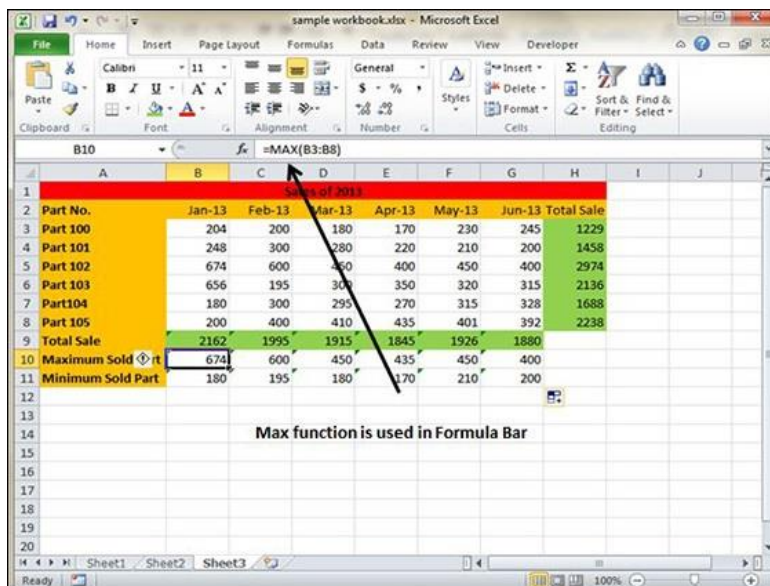
Another example of functions. Suppose you want to find if the cell of month is greater than 1900 then we can give Bonus to Sales representative. The we can achieve it with writing formula with IF functions as **=IF(B9>1900,"Yes","No")**

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Convert Data Into a Table in Excel

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This page will show you how to convert Excel data into a table.

Creating a Table within Excel

1. Open the Excel spreadsheet.
2. Use your mouse to select the cells that contain the information for the table.
3. Click the "Insert" tab > Locate the "Tables" group.
4. Click "Table". A "Create Table" dialog box will open.
5. If you have column headings, check the box "My table has headers".
6. Verify that the range is correct > Click [OK].
7. Resize your columns to make the headings visible.

Changing the Table Style

1. Click on a cell in the table to activate the "Table Tools" tab.
2. Click the "Design" tab > Locate the "Table Styles" group.
3. Choose a style/color option that appeals to you. (Hover over the various table styles to see a live preview.)

Sort and Filter the Data

Your list is now an Excel Table, and is automatically formatted with a default Table Style, which you can change. The heading cells have drop down arrows that you can use to sort or filter the data.

NOTE: In Excel 2013 and later, you can use Excel Table Slicers to quickly filter the table data.

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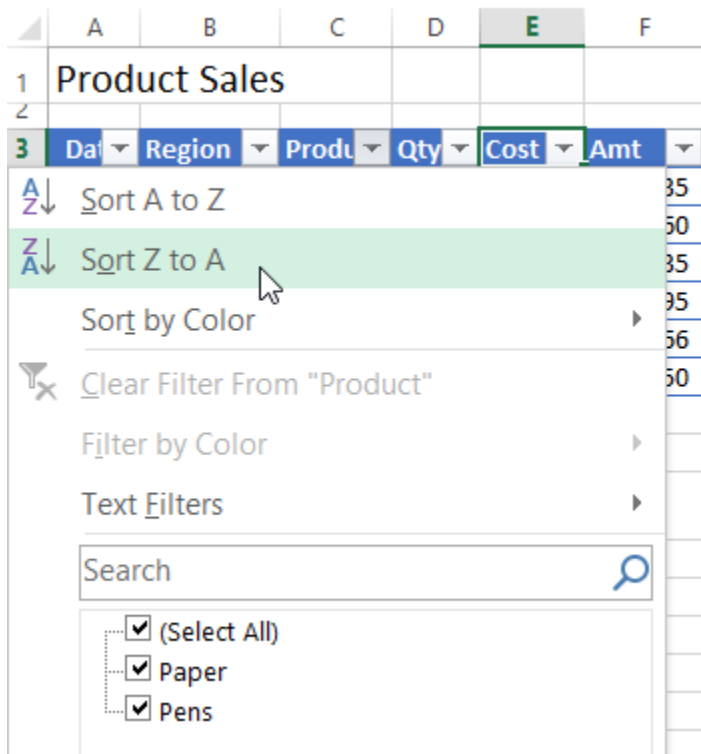
Rename an Excel Table

When it is created, an Excel table is given a default name, such as Table 3. You should change the name to something meaningful, so it will be easier to work with the table later.

To change the table name:

1. Select any cell in the table
2. On the Ribbon, under the Table Tools tab, click the Design tab.
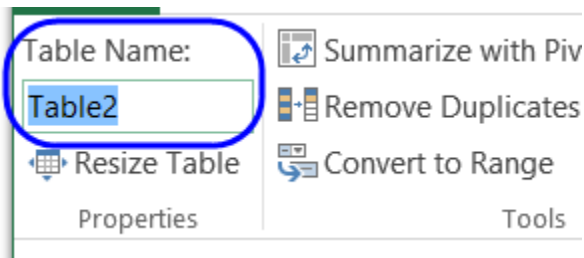

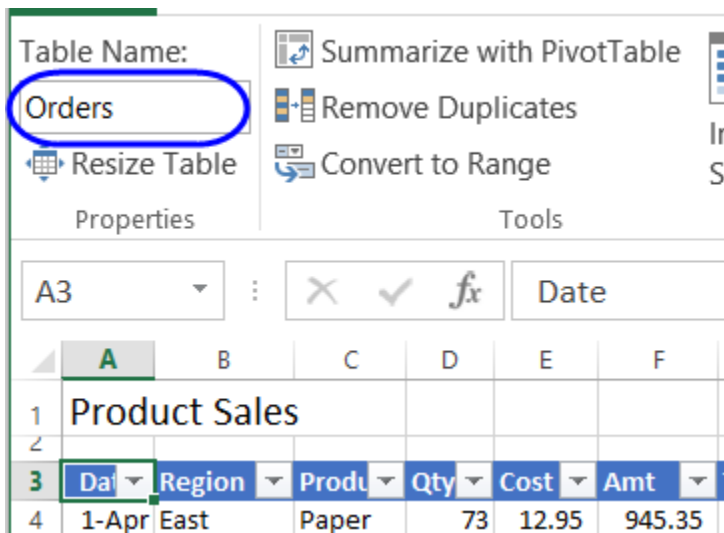3. At the far left of the Ribbon, click in the Table name box, to select the existing name

4. Then, type a new name, such as Orders, and press the Enter key

Show Totals in a Table

After you create an Excel table, it's easy to show the total for a column, or for multiple columns, using a built-in Table feature.

To show a total:

1. Select any cell in the table
2. On the Ribbon, under the Table Tools tab, click the Design tab
3. In the Table Style Options group, add a check mark for Total Row

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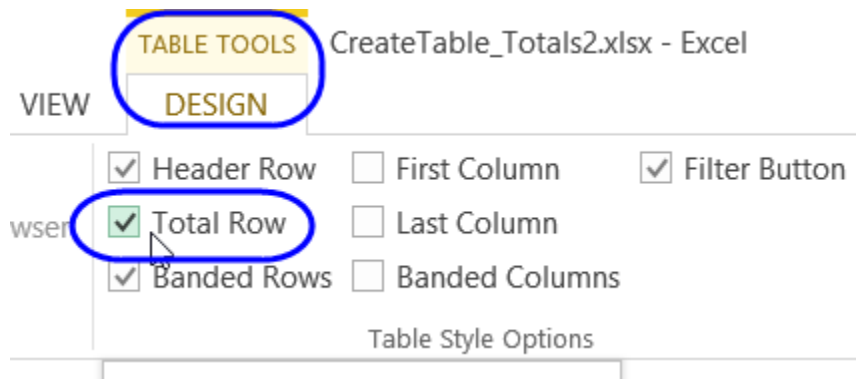
4. A Total row will be added at the bottom of the table, and one or more column of numbers might show a total.

Create a chart

1. Select the data for which you want to create a chart.
2. Click **INSERT** > **Recommended Charts**.
3. On the **Recommended Charts** tab, scroll through the list of charts that Excel recommends for your data, and click any chart to see how your data will look.

   If you don't see a chart you like, click **All Charts** to see all the available chart types.

4. When you find the chart you like, click it > **OK**.
5. Use the **Chart Elements**, **Chart Styles**, and **Chart Filters** buttons, next to the upper-right corner of the chart to add chart elements like axis titles or data labels, customize the look of your chart, or change the data that is shown in the chart.
6. To access additional design and formatting features, click anywhere in the chart to add the **CHART TOOLS** to the ribbon, and then click the options you want on the **DESIGN** and **FORMAT** tabs.

Create a Chart

To create a line chart, execute the following steps.
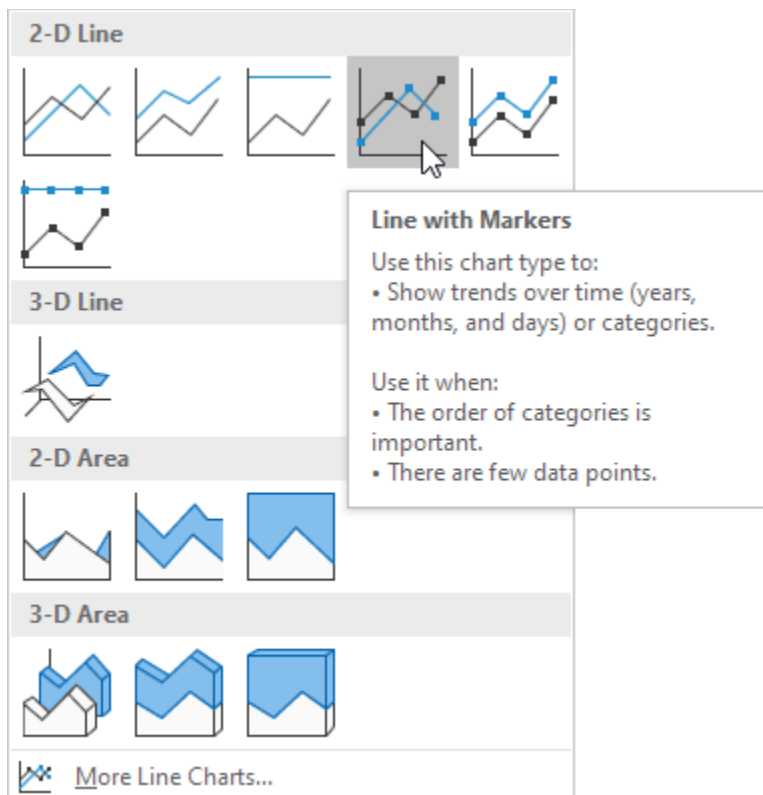
1. Select the range A1:D7.

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	A	B	C	D	E
1	Month	Bears	Dolphins	Whales	
2	Jan	8	150	80	
3	Feb	54	77	54	
4	Mar	93	32	100	
5	Apr	116	11	76	
6	May	137	6	93	
7	Jun	184	1	72	
8					

2. On the Insert tab, in the Charts group, click the Line symbol.
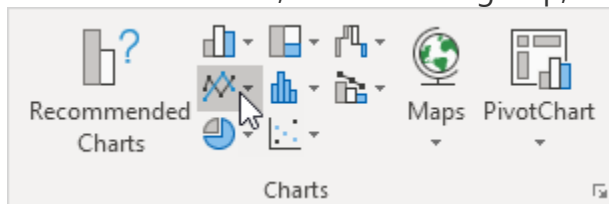
3. Click Line with Markers.

Line with Markers

Use this chart type to:
• Show trends over time (years, months, and days) or categories.

Use it when:
• The order of categories is important.
• There are few data points.

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Result:
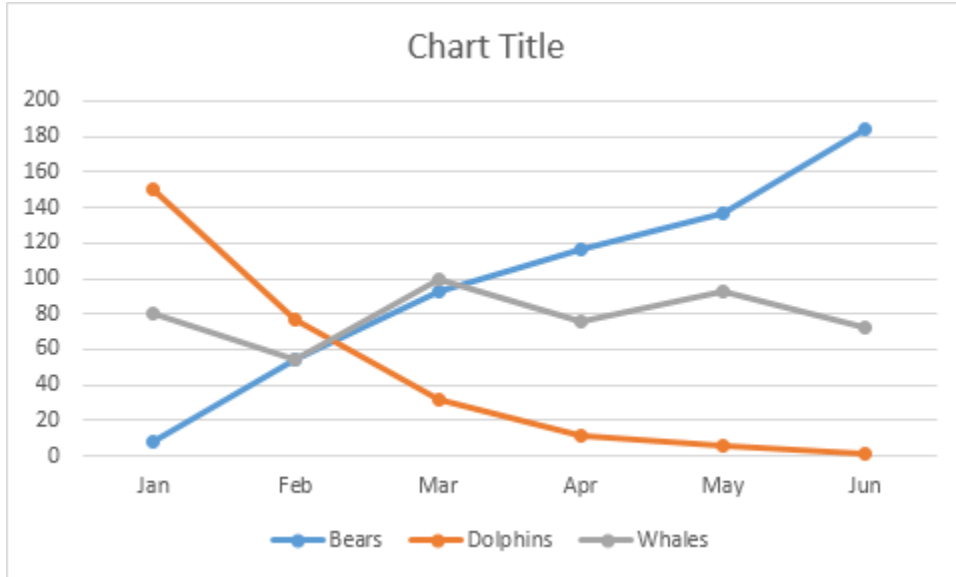
Note: enter a title by clicking on Chart Title. For example, Wildlife Population.

Change Chart Type

You can easily change to a different type of chart at any time.

1. Select the chart.

2. On the Design tab, in the Type group, click Change Chart Type.
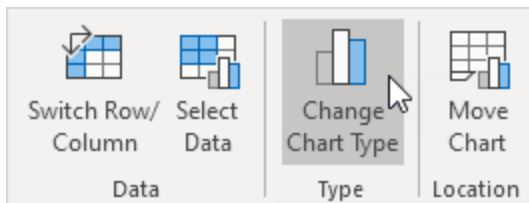
3. On the left side, click Column.

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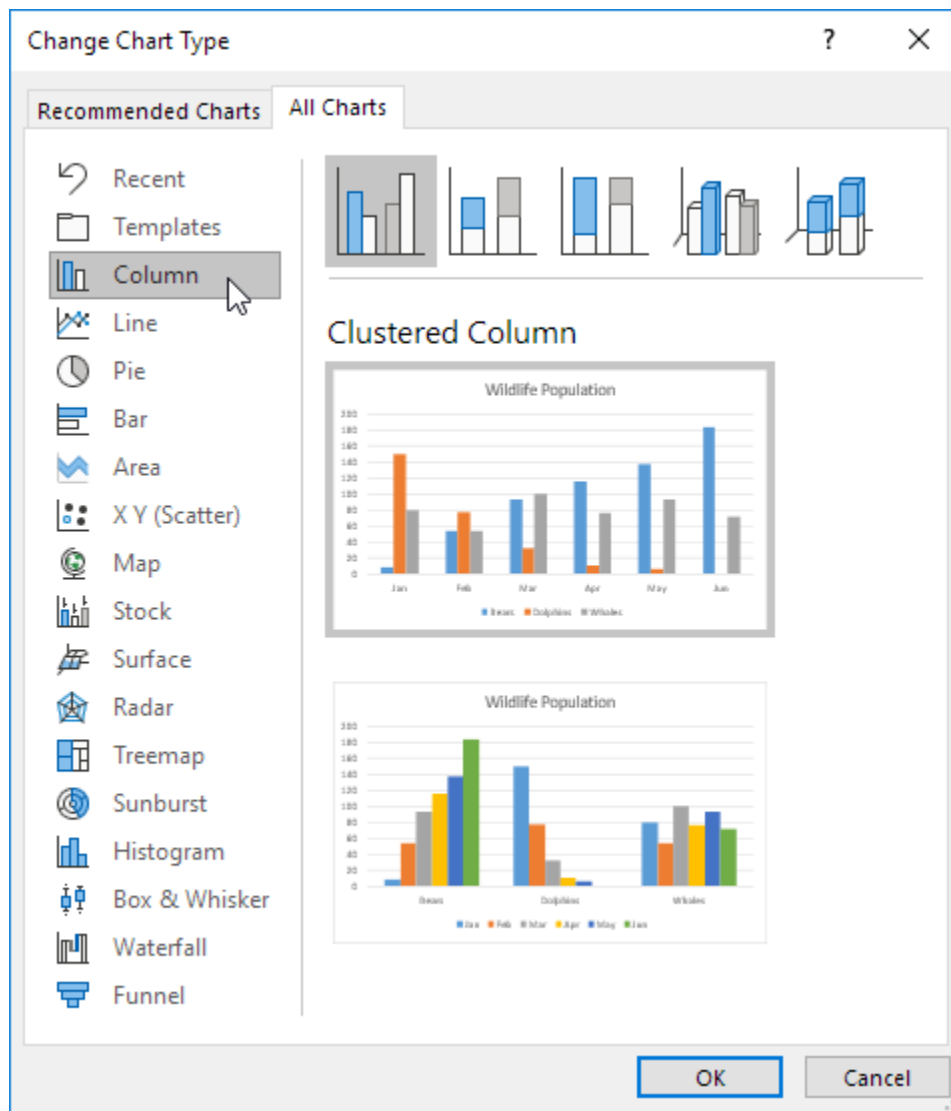
4. Click OK.

Result:

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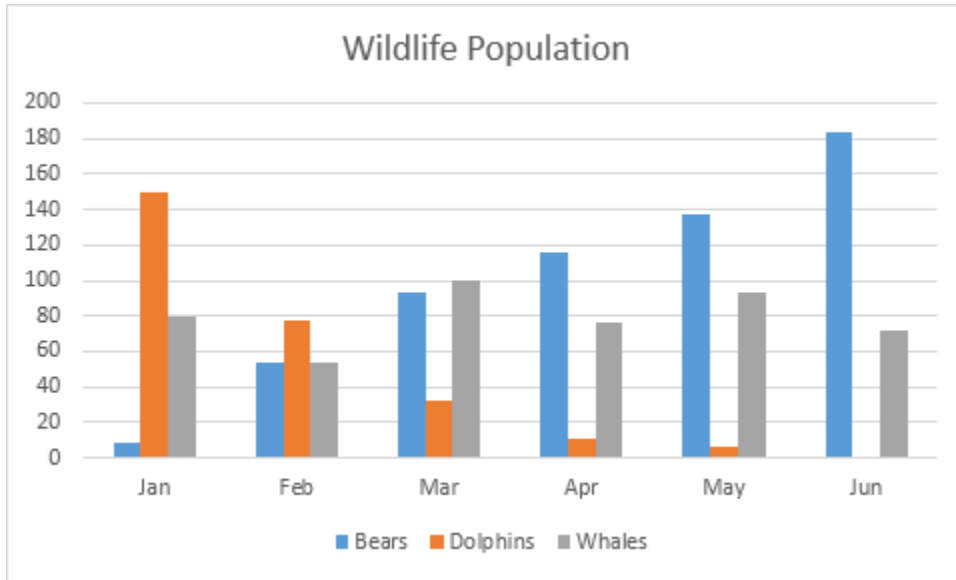
Switch Row/Column

If you want to display the animals (instead of the months) on the horizontal axis, execute the following steps.

1. Select the chart.

2. On the Design tab, in the Data group, click Switch Row/Column.
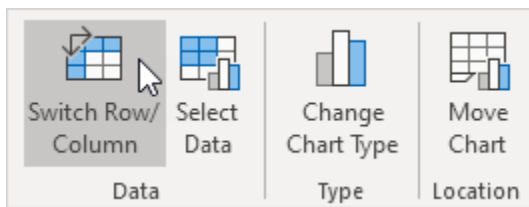
Result:
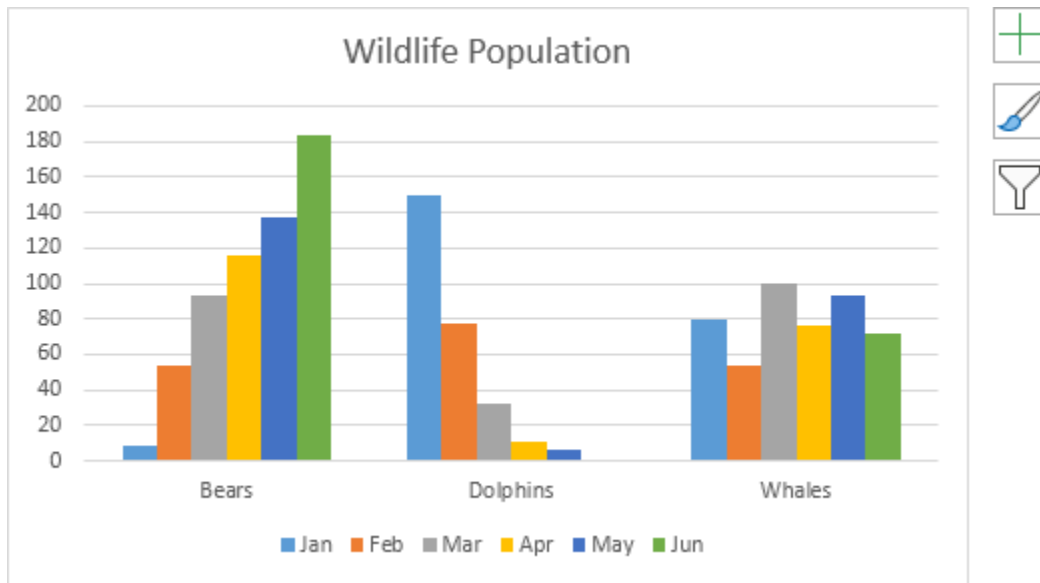
Legend Position

To move the legend to the right side of the chart, execute the following steps.

1. Select the chart.

2. Click the + button on the right side of the chart, click the arrow next to Legend and click Right.
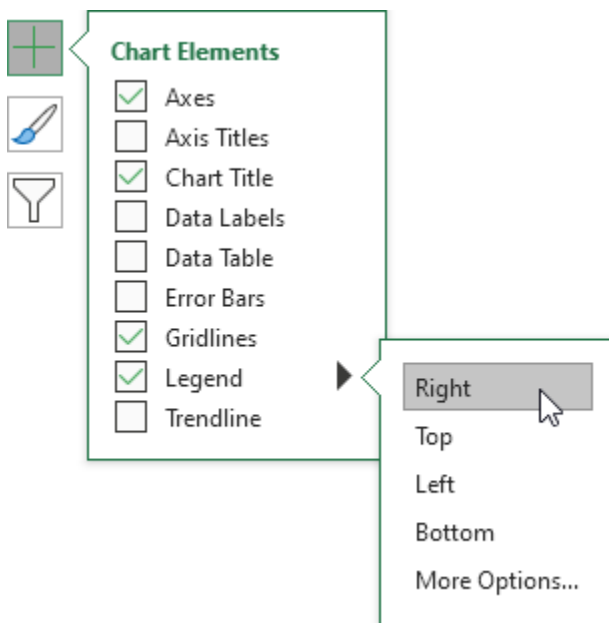
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Result:
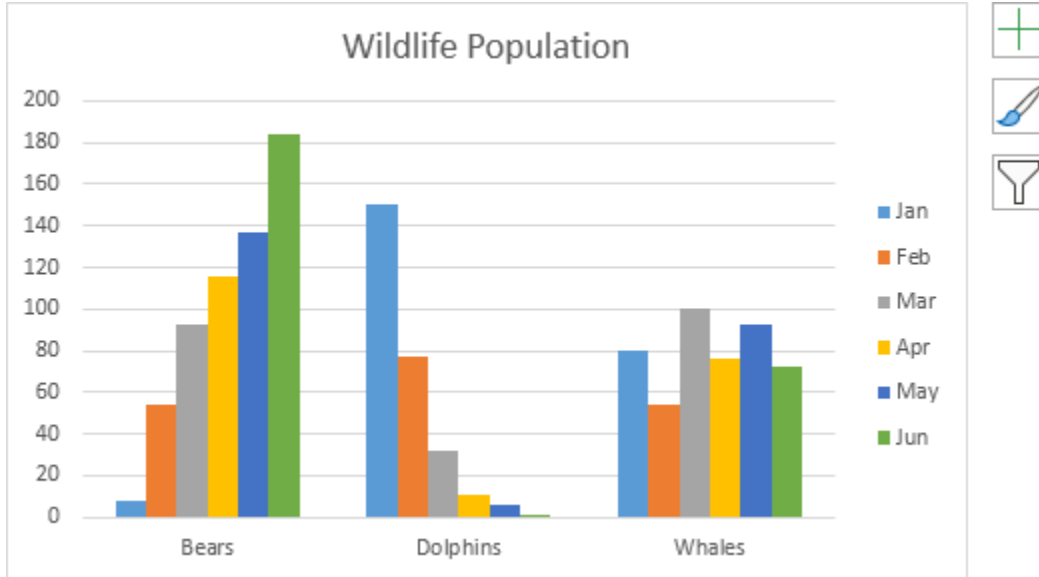
Data Labels

You can use data labels to focus your readers' attention on a single data series or data point.

1. Select the chart.

2. Click a green bar to select the Jun data series.

3. Hold down CTRL and use your arrow keys to select the population of Dolphins in June (tiny green bar).

4. Click the + button on the right side of the chart and click the check box next to Data Labels.

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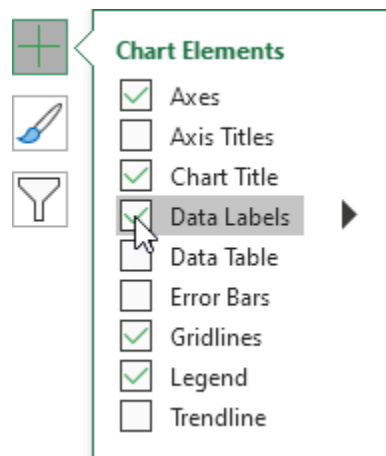
Result:
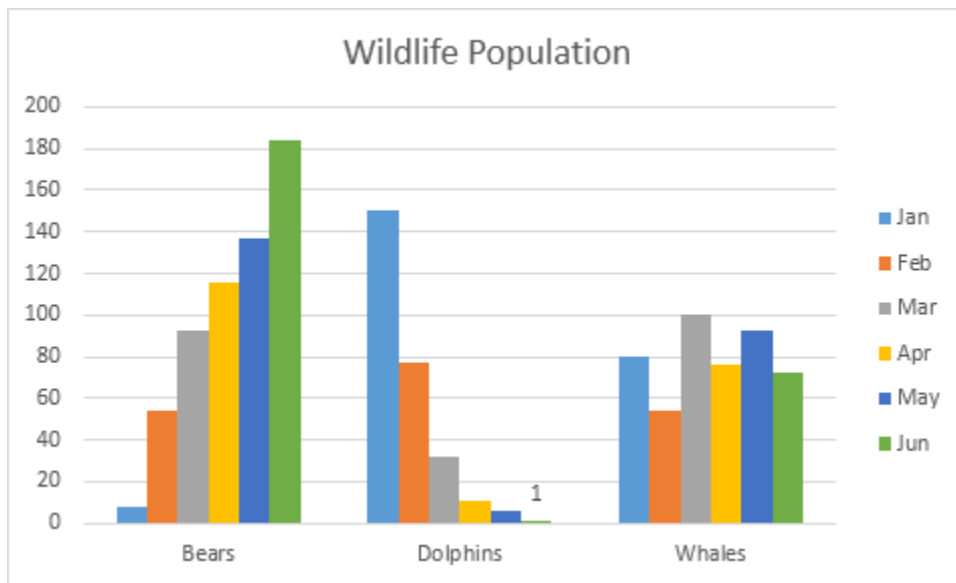
Use text-to-speech commands in Excel

1. Next to the Quick Access Toolbar, click **Customize Quick Access Toolbar**, then click **More Commands..**

EXCEL
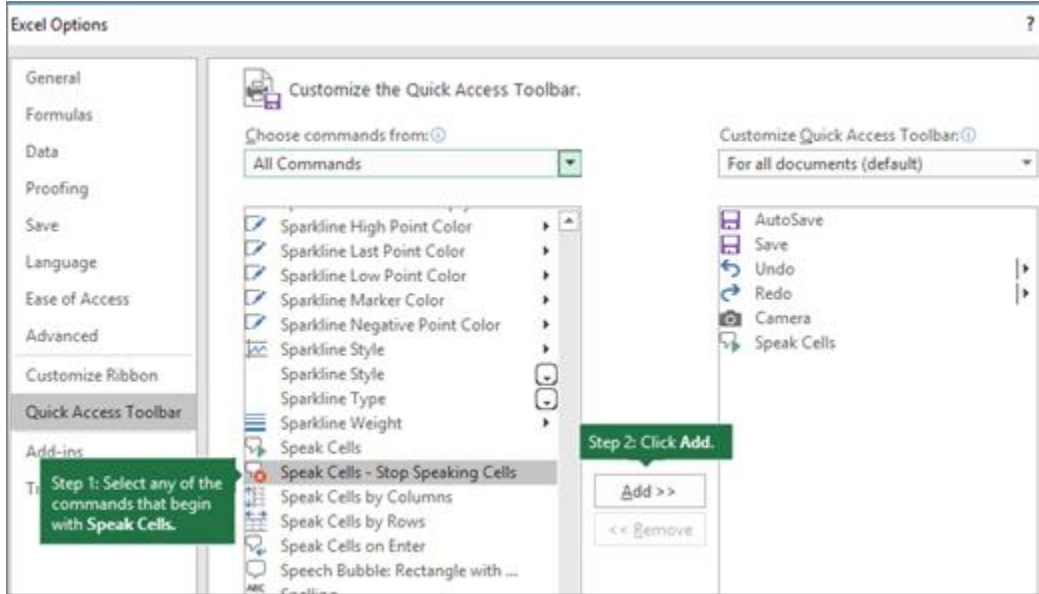
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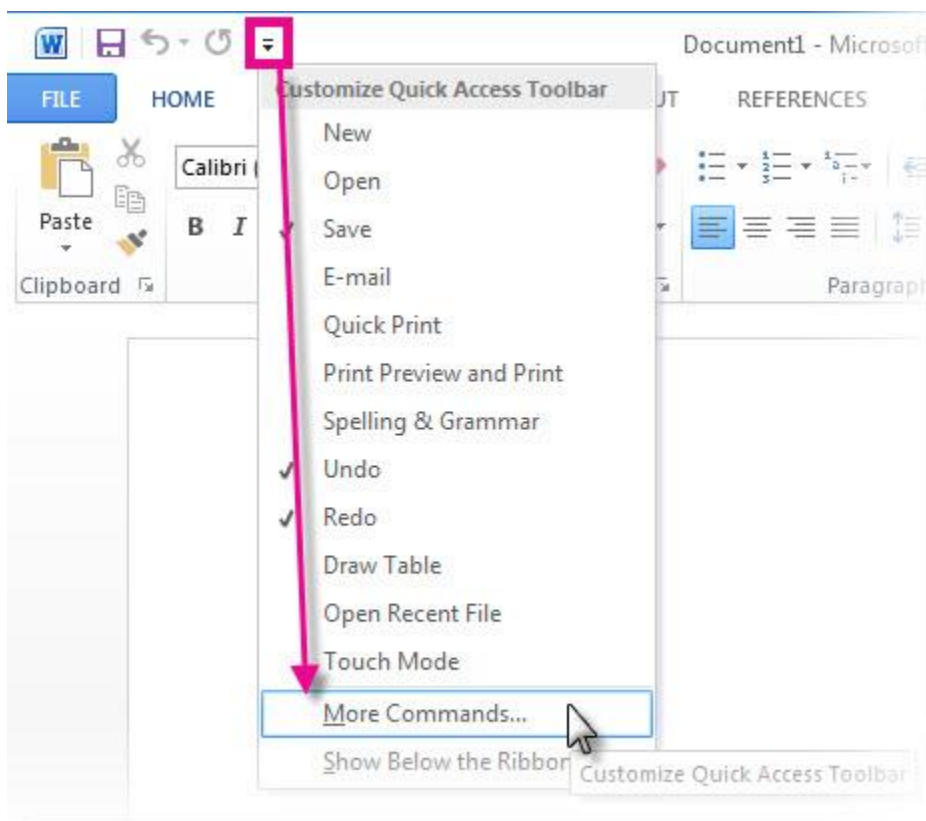
2. In the **Choose commands from** list, select **All Commands**.
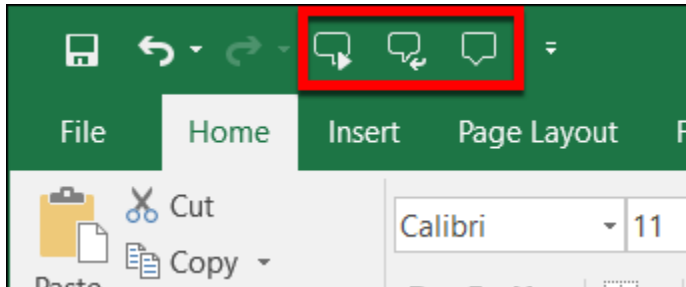3. Scroll down, and for each text-to-speech command that you want to use, click any of the **Speak Cells** command, and then click **Add**.

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4. Click **OK**.
5. When you want to use a text-to-speech command, click it the Quick Access Toolbar.

Note: You can use the text-to-speech commands in Excel 2007 and 2003 by pointing to **Speech** on the **Tools** menu, and then clicking **Show Text to Speech Toolbar**.

Play back worksheet data

Note: You'll need to configure your computer audio to hear speech.

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Play back a group of cells

To hear the speech that corresponds to the text in a group of cells, do the following:

1. Select a group of cells to that you want to hear as audible speech.
2. Choose how the computer will read back your data by clicking **By Rows** or **By Columns** .
3. Click **Speak Cells** .
4. To correct an error, click **Stop Speaking** , and then use your mouse and keyboard to make the necessary changes.
5. Click **Speak Cells** to make the computer continue to read back your selection.

Tip: You can select a specific range of cells for the computer to read back to you. Or, you can click **Speak Cells** without selecting any cells and Excel will automatically expand the selection to include the neighboring cells that contain values.

Play back after every cell entry

1. Click **Speak On Enter** .
2. Enter data in any cell. Press Enter, and the computer will read back the contents of the cell.

Note: If you hide the **Text To Speech** toolbar and you did not turn off **Speak On Enter** , the computer continues to read back each cell entry that you make. Click **Speak On Enter** to turn it off.