

# Microsoft Excel

**Microsoft Excel** is a spreadsheet program used to record and analyse numerical and statistical data.

Microsoft Excel provides multiple features to perform various operations like calculations, pivot tables, charts, macro programming, etc.

## Understanding the worksheet

**A worksheet (or spreadsheet) is a collection of rows and columns.**

When a row and a column meet, they form a **cell**. Cells are used to record data. Each cell is uniquely identified using a cell address.

**A workbook is a collection of worksheets.**

By default, a workbook has three sheets in Excel. You can delete or add more sheets to suit your requirements. By default, the sheets are named Sheet1, Sheet2 and so on and so forth. You can rename the sheet names to more meaningful names i.e. Daily Expenses, Monthly Budget, etc.

## Formulas in Excel

**FORMULAS IN EXCEL** is an expression that operates on values in a range of cell addresses and operators.

For example,

=A1+A2+A3, which finds the sum of the range of values from cell A1 to cell A3.

**HERE,**

- "=" tells Excel that this is a formula, and it should evaluate it.
- "A1""A2" \* A3" makes reference to cell addresses
- "+" is the addition arithmetic operator

## Function in Excel

**FUNCTION IN EXCEL** is a *predefined formula* that is used for specific values in a particular order.

Function is used for quick tasks like finding the sum, count, average, maximum value, and minimum values for a range of cells.

**Functions increase user productivity when working with excel.**

Eg:

You would have to use the following formula.

```
= E4 + E5 + E6 + E7 + E8
```

With a function, you would write the above formula as

```
=SUM (E4:E8)
```

## Common functions

Let's look at some of the most commonly used functions in ms excel formulas. We will start with statistical functions.

S.No	FUNCTION	CATEGORY	DESCRIPTION	USAGE
01	<b>SUM</b>	Math & Trig	Adds all the values in a range of cells	=SUM(E4:E8)
02	<b>MIN</b>	Statistical	Finds the minimum value in a range of cells	=MIN(E4:E8)
03	<b>MAX</b>	Statistical	Finds the maximum value in a range of cells	=MAX(E4:E8)
04	<b>AVERAGE</b>	Statistical	Calculates the average value in a range of cells	=AVERAGE(E4:E8)
05	<b>COUNT</b>	Statistical	Counts the number of cells in a range of cells	=COUNT(E4:E8)
06	<b>LEN</b>	Text	Returns the number of characters in a string text	=LEN(B7)

## Numeric Functions

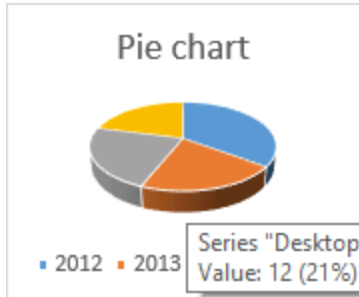
As the name suggests, these functions operate on numeric data. The following table shows some of the common numeric functions.

S.No	FUNCTION	CATEGORY	DESCRIPTION	USAGE
1	ISNUMBER	Information	Returns True if the supplied value is numeric and False if it is not numeric	=ISNUMBER(A
2	ROUND	Math & Trig	Rounds off a decimal value to the specified number of decimal points	=ROUND(3.14
3	MEDIAN	Statistical	Returns the number in the middle of the set of given numbers	=MEDIAN(3,4
4	PI	Math & Trig	Returns the value of Math Function PI( $\pi$ )	=PI()
5	POWER	Math & Trig	Returns the result of a number raised to a power. <b>POWER( number, power )</b>	=POWER(2,4)

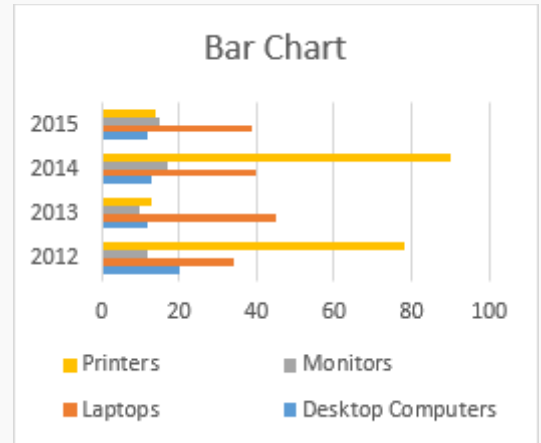
## Chart in Excel

**A chart is a visual representative of data in both columns and rows.** Charts are usually used to analyse trends and patterns in data sets.

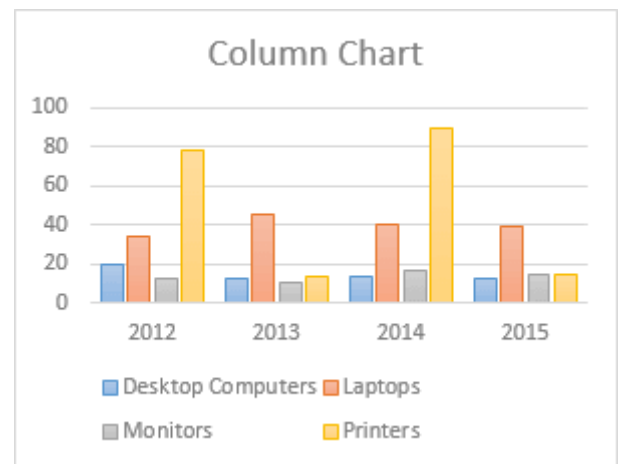
Some of the most commonly used Excel charts

S/N	CHART TYPE	WHEN SHOULD I USE IT?	EXAMPLE
1	Pie Chart	When you want to quantify items and show them as percentages.	

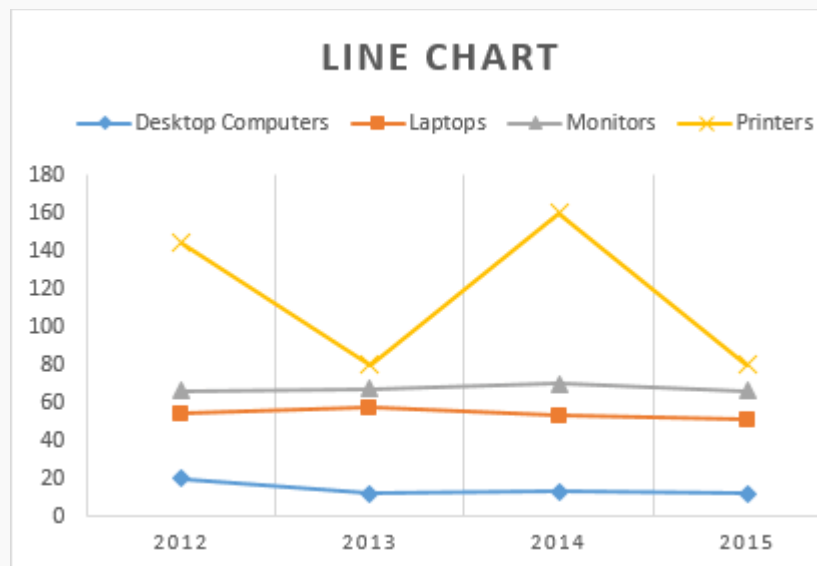
2 Bar Chart  
 When you want to compare values across a few categories. The values run horizontally



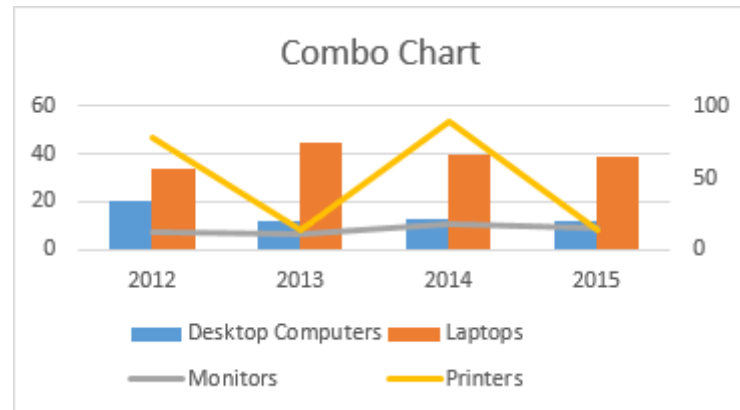
3 Column chart  
 When you want to compare values across a few categories. The values run vertically



4 Line chart  
 When you want to visualize trends over a period of time i.e. months, days, years, etc.



- 5 Combo Chart When you want to highlight different types of information



### **Steps to create chart in MS Excel:**

- *Open Excel*
- *Enter the data*
- *Select the data you want to represent in graph*
- *Click on INSERT tab from the ribbon*
- *Click on the Column chart drop down button*
- *Select the chart type you want*

### **Sorting in Excel**

The Excel **SORT** function **sorts the contents of a range or array in ascending or descending order.**

### **Steps for sorting in Excel**

- Select any cell in the data range.
- On the Data tab, in the Sort & Filter group, click Sort.
- In the Sort dialog box, under Column, in the Sort by box, select the first column that you want to sort.
- Under Sort On, select the type of sort. ...
- Under Order, select how you want to sort.

### **Printing in Excel**

1. Click the worksheet, and then select the range of data that you want to print.
2. Click File, and then click Print.
3. Under Settings, click the arrow next to Print Active Sheets and select the appropriate option.
4. Click Print.