



## Chapter-4 Spreadsheet Using MS-Excel

**Q.no. 1 write any five advantages using electronic spreadsheet in place of manual spreadsheet?**

**Answer:**

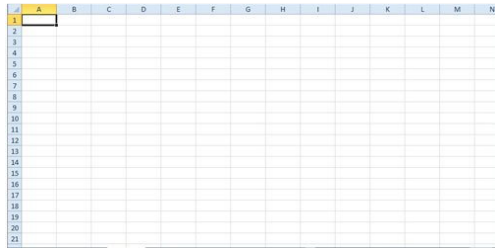
- (i) Unlike manual spreadsheets, electronic spreadsheets have sophisticated analysis tools as well as graphical presentations of data.
- (ii) Unlike manual spreadsheets, electronic spreadsheets have superior editing and formatting tools as well as various styles and layouts.
- (iii) They have inbuilt recalculation functions that adjust values automatically when changes are made in the spreadsheets, which is nonexistent in manual spreadsheets.
- (iv) The quality of the work is very high because such work is neat and legible compared to paper, pencil and eraser work.
- (v) It takes the advantages of computer system such as accuracy, high speed and versatility.
- (vi) Electronic spreadsheet has a large sheet for data manipulation. For instance, in Ms Excel 2003, there are 255 columns and 65536 rows in a single sheet. Ms Excel 2010 has 16384 columns and 1048576 rows.
- (vii) Takes advantage of large secondary storage devices in a computer to store voluminous data.

**Q.no. 2 define workbook and worksheet what is difference between them?**

**Answer :**

### **Understanding a Worksheet**

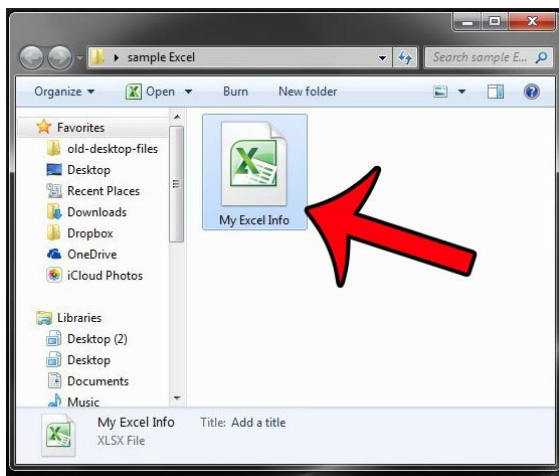
The worksheet in a Microsoft Excel 2010 file is a single spreadsheet consisting of rows and columns. When you first launch Excel and are presented with a view similar to the one below, then the majority of the screen is taken up by the default worksheet.



The name of your first worksheet is Sheet1, if your Excel program is still using the default settings. Your worksheet typically contains a series of rows that are identified with numbers at the left side of the window, and columns that are identified with letters at the top of the window. This is the default setup in Excel 2010, and is the most commonly used structure in the program.

### **Understanding a Workbook**

A workbook in Microsoft Excel 2010 is the entire Excel file (typically identified with a file type of .xls or .xlsx). If you see an Excel file in your My Documents folder, then that file is a workbook.



A new Excel file will have a default name of Book1, although that can later be changed when you first save the file. Your workbook can consist of multiple worksheets (a new file in a default Excel installation will have three worksheets), as well as information about the file itself, including macros, author names, and more. But even if there is only one worksheet in your Excel workbook, then that entity would still be called a workbook, simply because it has the capacity to hold more worksheets.

### **Difference between a Worksheet and a Workbook in Excel**

Perhaps the easiest way to understand the difference between a worksheet and a workbook is to think of it in terms of pages in a book.

1. The workbook is the entire book, while the worksheet is a single page within that book.
2. A workbook can contain, at minimum, one worksheet, and up to a very large number of worksheets that is only limited by the available memory on your computer.
3. Worksheets can be added, deleted or renamed within the workbook.
4. You can also rename a workbook without affecting the name of any of the worksheets.
5. You can toggle between worksheets within your workbook by clicking the sheet tabs at the bottom of the window.

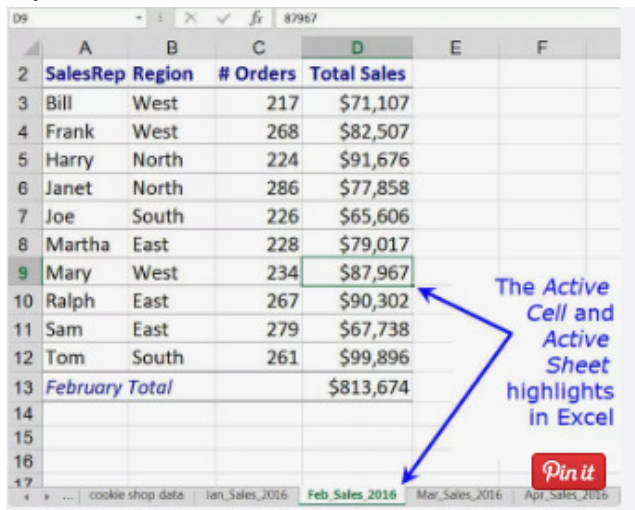
### Q.no 3 Explain active worksheet.

#### Answer:

In spreadsheet programs such as Excel or Google Spreadsheets, the active cell is identified by a colored border or outline surrounding the cell.

1. The active cell is always in the active sheet.
2. The active sheet or *current sheet* is the worksheet containing the active cell. Like the active cell, the active sheet is considered to have focus when it comes to performing actions that affect one or more cells — such as formatting — and the changes occur to the active sheet by default.
3. The active cell and sheet can easily be changed. In the case of the active cell, either clicking another cell with the mouse pointer or pressing the arrow keys on the keyboard will both result in a new active cell being selected.

Change the active sheet by clicking a different sheet tab with the mouse pointer or by using a keyboard shortcut.



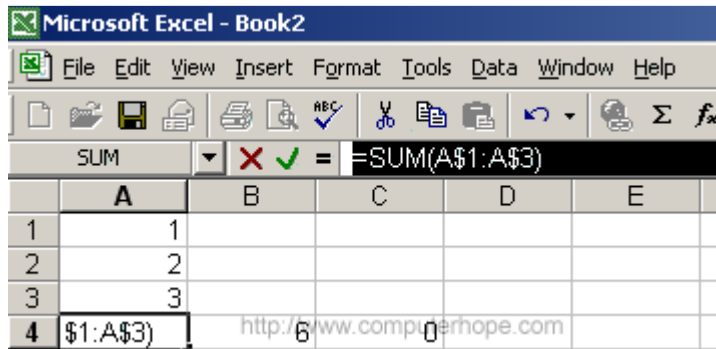
SalesRep	Region	# Orders	Total Sales
Bill	West	217	\$71,107
Frank	West	268	\$82,507
Harry	North	224	\$91,676
Janet	North	286	\$77,858
Joe	South	226	\$65,606
Martha	East	228	\$79,017
Mary	West	234	\$87,967
Ralph	East	267	\$90,302
Sam	East	279	\$67,738
Tom	South	261	\$99,896
February Total			\$813,674

### Q.no 4 what are formulas and how are they created?

#### Answer:

A formula is an expression telling the computer what mathematical operation to perform upon a specific value. When referring to computer software, formulas are most often used in spreadsheet programs, such as Microsoft Excel. Using formulas in spreadsheets can allow you to quickly make calculations and get totals of multiple cells, rows, or columns in a spreadsheet.

In the picture below is an example of a Microsoft Excel formula =SUM(A\$1:A\$3), which adds the total of cells A1, A2, and A3. In this formula, SUM is the function of the formula.



### How to make a simple Excel formula by using constants and operators

In Microsoft Excel formulas, constants are numbers, dates or text values that you enter directly in a formula. To create a simple Excel formula using constant, just do the following:

1. Select a cell where you want to output the result.
2. Type the equal symbol (=), and then type the equation you want to calculate.
3. Press the Enter key to complete your formula.

Here is an example of a simple subtraction formula in Excel: =100-50

### How to write formulas in Excel using cell references

Instead of entering values directly in your Excel formula, you can refer to the cells, containing those values.

For example, if you want to subtract a value in cell B2 from the value in cell A2, you write the following subtraction formula: =A2-B2

C2	:	=A2-B2	
	A	B	C
1	Revenue	Expenses	Net income
2	\$1,000	\$300	\$700

When making such a formula, you can type the cell references directly in the formula, or click the cell and Excel will insert a corresponding cell reference in your formula. To add range reference, select the range of cells in the sheet.

A2	:	=A2	
	A	B	C
1	Revenue	Expenses	Net income
2	\$1,000	\$300	\$700

To add a cell reference to the formula, click the cell.

Note: By default, Excel adds relative cell references. To switch to another reference type, press the F4 key.

A big advantage of using cell references in Excel formulas is that whenever you change a value in the referred cell, the formula recalculates automatically without you having to manually update all the calculations and formulas on your spreadsheet.

## Q.no 5 Define pivot table and explain its usage.

### Answer:

A pivot table is a summary of your data, packaged in a chart that lets you report on and explore trends based on your information. Pivot tables are particularly useful if you have long rows or columns that hold values you need to track the sums of and easily compare to one another.

### How to Create a Pivot Table

1. Enter your data into a range of rows and columns.
2. Sort your data by a specific attribute.
3. Highlight your cells to create your pivot table.
4. Drag and drop a field into the "Row Labels" area.
5. Drag and drop a field into the "Values" area.
6. Fine-tune your calculations.

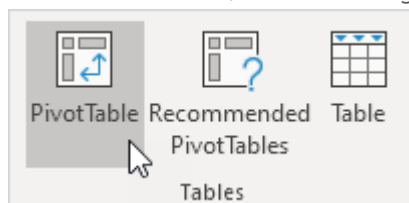
### Example

	A	B	C	D	E	F	G
1	Order ID	Product	Category	Amount	Date	Country	
2	1	Carrots	Vegetables	\$4,270	1/6/2016	United States	
3	2	Broccoli	Vegetables	\$8,239	1/7/2016	United Kingdom	
4	3	Banana	Fruit	\$617	1/8/2016	United States	
5	4	Banana	Fruit	\$8,384	1/10/2016	Canada	
6	5	Beans	Vegetables	\$2,626	1/10/2016	Germany	
7	6	Orange	Fruit	\$3,610	1/11/2016	United States	
8	7	Broccoli	Vegetables	\$9,062	1/11/2016	Australia	
9	8	Banana	Fruit	\$6,906	1/16/2016	New Zealand	
10	9	Apple	Fruit	\$2,417	1/16/2016	France	
11	10	Apple	Fruit	\$7,431	1/16/2016	Canada	

### Insert a Pivot Table

To insert a pivot table, execute the following steps.

1. Click any single cell inside the data set.
2. On the Insert tab, in the Tables group, click PivotTable.



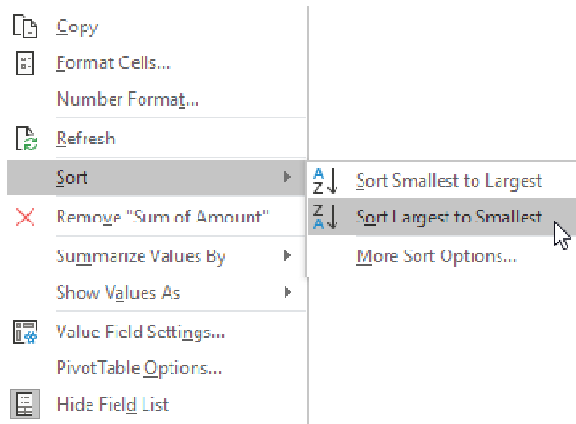
The following dialog box appears. Excel automatically selects the data for you. The default location for a new pivot table is New Worksheet.

3. Click OK.

### Sort

To get Banana at the top of the list, sort the pivot table.

1. Click any cell inside the Sum of Amount column.
2. Right click and click on Sort, Sort Largest to Smallest.



**Result After sorting is given below**

	A	B	C
1	Country	(All)	
2			
3	Row Labels	Sum of Amount	
4	Banana	340295	
5	Apple	191257	
6	Broccoli	142439	
7	Carrots	136945	
8	Orange	104438	
9	Beans	57281	
10	Mango	57079	
11	<b>Grand Total</b>	<b>1029734</b>	
12			

### Filter

Because we added the Country field to the Filters area, we can filter this pivot table by Country. For example, which products do we export the most to France?

1. Click the filter drop-down and select France.

**Result. Apples are our main export product to France.**

	A	B	C
1	Country	France	
2			
3	Row Labels	Sum of Amount	
4	Apple	80193	
5	Banana	36094	
6	Carrots	9104	
7	Mango	7388	
8	Broccoli	5341	
9	Orange	2256	
10	Beans	680	
11	<b>Grand Total</b>	<b>141056</b>	
12			

Note: you can use the standard filter (triangle next to Row Labels) to only show the amounts of specific products.

## Q.no 6 What is auto sum in Excel?

### Answer:

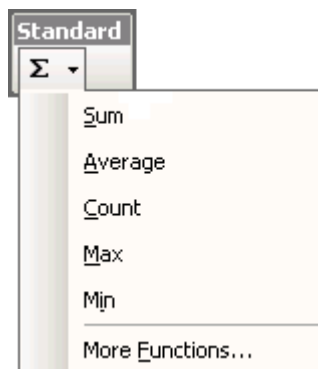
The AutoSum feature makes it very easy to total rows and columns using the SUM worksheet function.

There is a special command button on the standard toolbar that will allow you insert the SUM function very quickly.

This command button is known as the **AutoSum button**.

**Step: 1. Click on Home button**

**2. Click on Auto sum button in Editing Group.**



You can quickly enter the AVERAGE, COUNT, MAX or MIN functions by expanding the drop-down menu.

The "More Functions" button displays the (Insert > Function) dialog box.

You can also use the shortcut key (Alt + =) to quickly sum the adjacent cells.

## Q.no 7 What is Excel Sort & Filter?

### Answer:

The sorting tool allows you to sort by date, number, alphabetic order and more. In the following example, we will explore the usage of sorting and filtering and show some advanced sorting techniques.

Order Number	Product	Salesperson	Price	Date	Customer
333222	ABC	John Smith	\$100.00	2/3/2016	Eastern Company
333221	DEF	Rachel Adams	\$200.00	2/2/2016	Western Company
333223	ABC	John Smith	\$100.00	2/4/2016	Eastern Company
333220	XYZ	Cheryl Myers	\$800.00	2/1/2016	Southern Company
333119	GHI	Rachel Adams	\$300.00	1/31/2016	Northern Company
333224	JKL	Michael Brent	\$400.00	2/5/2016	Northern Company
333118	DEF	Cheryl Myers	\$200.00	1/30/2016	Western Company
333225	MNO	Dylan Rogers	\$500.00	2/6/2016	Eastern Company
333117	PQR	Michael Brent	\$600.00	1/29/2016	Southern Company
333226	STU	Cheryl Myers	\$700.00	2/7/2016	Northern Company
333116	ABC	Rachel Adams	\$100.00	1/28/2016	Western Company
333227	MNO	John Smith	\$500.00	2/3/2016	Eastern Company

As you can see, the order dates, order numbers, prices, etc. are all out of order.

## Sorting Data

Let's say you had the spreadsheet above and wanted to sort by price. This process is fairly simple. You can either highlight the whole column or even click on the first cell in the column to get started. Then you will:

1. Right click to open the menu
2. Go down to the Sort option – when hovering over Sort the sub-menu will appear
3. Click on Largest to Smallest
4. Select Expand the selection
5. Click OK

## Filtering Data

The filter feature applies a drop down menu to each column heading, allowing you to select specific choices to narrow a table. Using the above example, let's say you wanted to filter your table by Company and Salesperson. Specifically, you want to find the number of sales Dylan Rogers made to Eastern Company.

To do this using the filter you would:

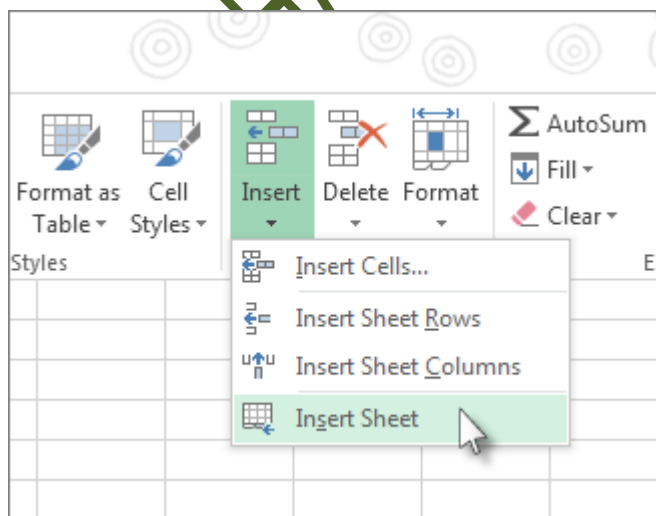
1. Go to the Data tab on Excel ribbon
2. Select the Filter tool
3. Select Eastern Company from the dropdown menu
4. Select Dylan Rogers from the Salesperson dropdown menu

## Q.no 8 how will you insert and remove sheets from workbooks in excel?

**Answer:**


### Insert a worksheet

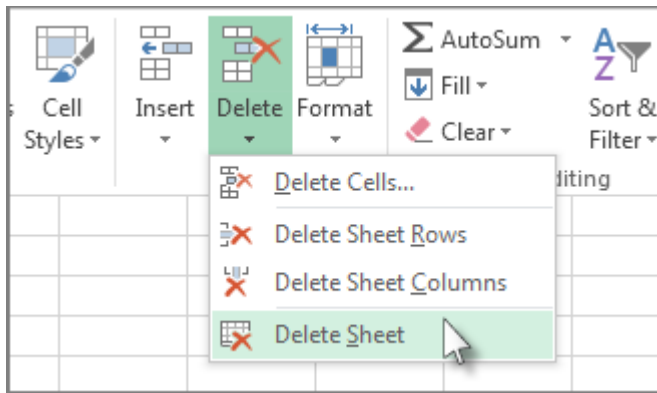
- Select the  plus icon at the bottom of the screen.
- Or, select Home > Insert > Insert Sheet.





## Delete a worksheet

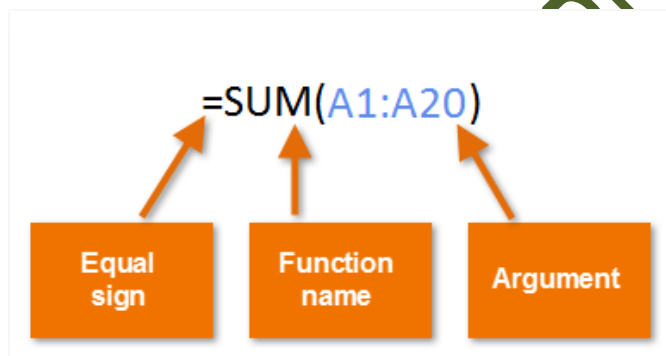
- Right-click the Sheet tab and select  Delete.
- Or, select the sheet, and then select Home > Delete > Delete Sheet.



## Q.no 9 defines any 5 functions of spreadsheet program.

### Answer:

A **function** is a **predefined formula** that performs calculations using specific values in a particular order. All spreadsheet programs include common functions that can be used for quickly finding the **sum**, **average**, **count**, **maximum value**, and **minimum value** for a range of cells.



## Using functions

There are a variety of functions. Here are some of the most common functions you'll use:

1. **SUM:** This function **adds** all the values of the cells in the argument.
2. **AVERAGE:** This function determines the **average** of the values included in the argument. It calculates the sum of the cells and then divides that value by the number of cells in the argument.
3. **COUNT:** This function **counts** the number of cells with numerical data in the argument. This function is useful for quickly counting items in a cell range.
4. **MAX:** This function determines the **highest cell value** included in the argument.
5. **MIN:** This function determines the **lowest cell value** included in the argument.

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