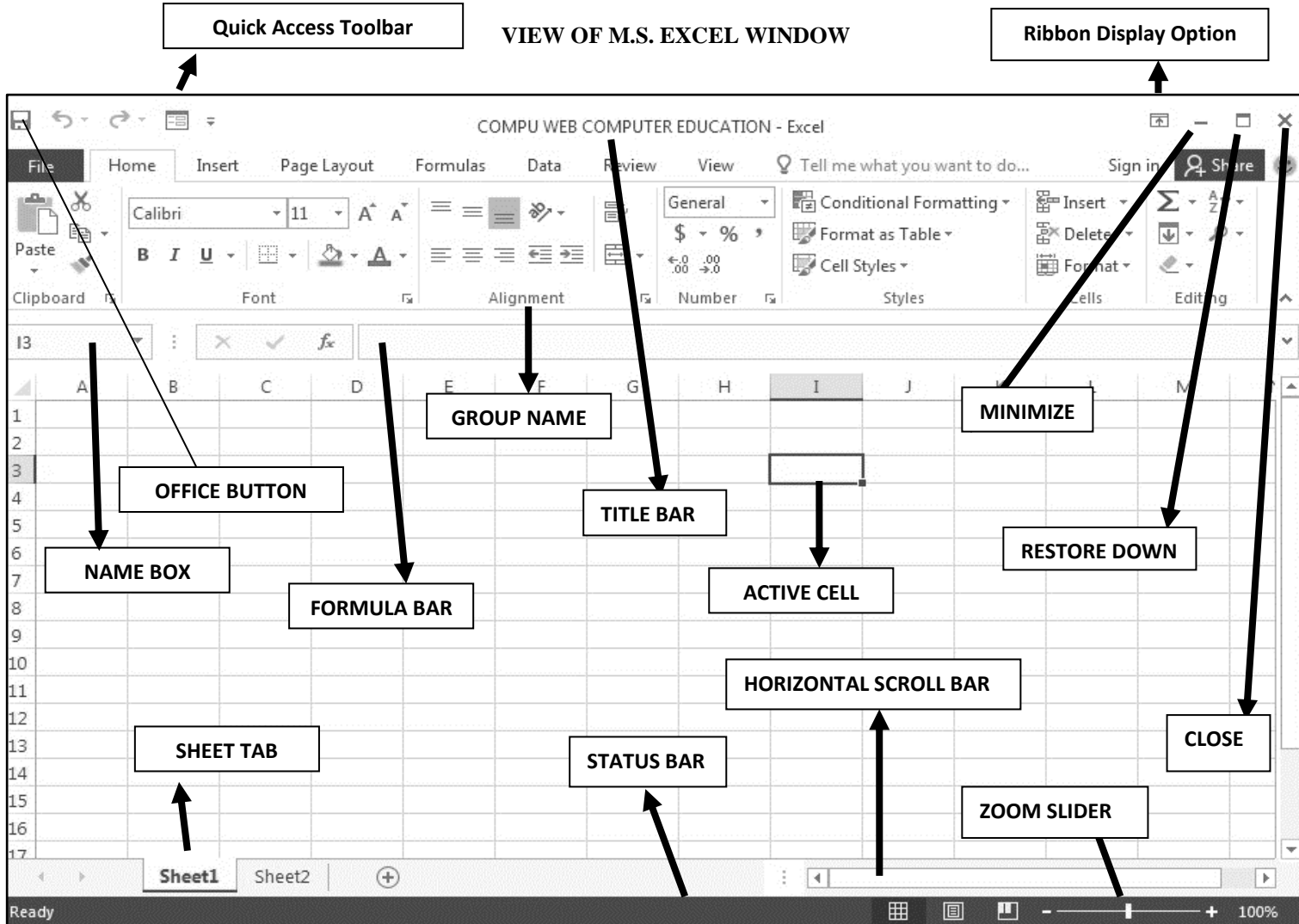


M.S. EXCEL

What is a Spreadsheet Program ; Microsoft excel is an example of a spreadsheet program that will maintain records for you relating to finances, products, activities events and services. It allows you to enter, organize, compare and print data including graphs. Spreadsheet are saved in document called workbooks and each workbook is comprised of individual worksheets or sheet Excel will also allow you to print detailed reports, chart and graph.



What are the parts of an Excel document?

Title bar – This display the name of the program and the spreadsheet file name

Help – The Excel help icon provides quick access to various topics

The Office button provides, save, save as, print, etc.) It also provides you with a list of your most recent document, Excel Option and an exit button.

The Quick Access toolbar – also contains button to activate common tasks of functions such as save, undo and redo

The Ribbon in Excel 2007 replaces the menu and toolbars that were originally found in excel 2003.

A cell is the most basic part of an Excel document. A cell is created at the intersection of a row and a column. The cell that is currently open and ready for editing is called the active cell. You will find a darker border around the active cell.

The cell reference identifies the exact location of the correct active cell

The formula bar displays the contents of the active cell including any formulas. As you enter or edit data, the changes will appear in the formula bar

Column (vertical) are labeled along their column heading A thru Z, AA thru AZ, up to column XFD. There are 16384 columns.

Rows (horizontal) are labeled by their row headings from 1 to 1048576

The name box displays the active cell reference. Below, the name box display A1.

The pointer indicates the current location of your mouse pointer. While hovering over a work sheet, the pointer will become across however, while moving over other areas, it will become an arrow.

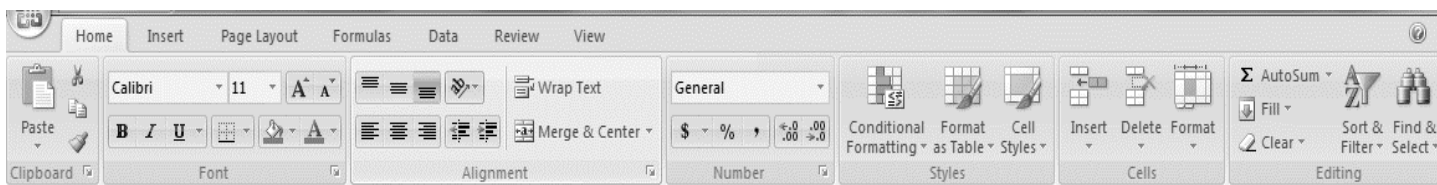
Each worksheet in the workbook is comprised of **sheet tabs** which displays the sheet's name. Click on the appropriate tab to access the sheet you need. The tab of the active or selected sheet will not only appear on top of the other tabs, but will be in bold letters. If you want to quickly scroll between worksheets in a work book, use the tab scrolling button.

The Ribbon contain buttons, boxes, and menus that allow you to provide quick access to common commands and performs those tasks more quickly

What are ranges ? A range is a series of two or more cells. If they are contiguous, they are called an adjacent range.

If they are non-contiguous. They are called a non-adjacent range.

HOME TAB



Clipboard Group The first group is the clipboard and it has commonly used command like cut, copy, and paste. Using these commands, you can remove text from one area of your Microsoft Excel sheet to another. When you see the cut option, it removes the source text. However, when you use copy option, it leaves the source text place. Using the paste command, you can then insert the clipboard text into the new location.

Font group. Here you can control the font properties of your text. You can use drop down lists to change the font type and font size. You can do action like bold, italic and underline text.

Alignment group Here you can control the vertical & horizontal alignment. You can also use the Alignment Group to control some indentation. By using the merge & center command, you can merge the selected cells into one cell & center the content in that merged cell. Wrap Text is beneficial when you have some long text in an excel sheet, however you would like to keep all the contents in one cell.

Number Group Here we have the option to change actual formatting for our data. We can apply the different types of number formatting.

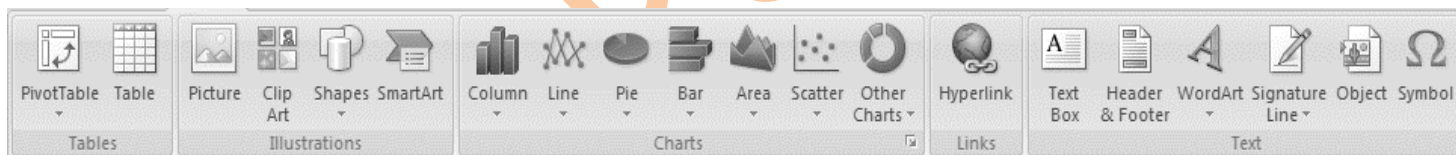
Styles Group In conditional formatting we can apply formatting on cells with conditions. Apply different type of pre defined table style on your data. In cells styles you can apply pre defined cell style on cells.

Cells Group Using the Insert command you can add cells, rows, columns and worksheets. Using the delete command under the cells group, you can delete cells, rows, column, and the sheet.

The last option is format command in the cells group. This option is to adjust row height / column width, unhide/hide column and rows and Auto Fit columns.

Editing Group the first command is auto sum (Σ) is display the sum of selected cells. You can use the Fill command to fill data into worksheet cells. You can also have Excel automatically continue a series of numbers, number and text combinations, dates, or time periods, based on a pattern that you establish. However, to quickly fill in several types of data series, you can select cells and drag the fill handle (fill handle: The small black square in the lower-right corner of the selection. When you point to the fill handle, the pointer changes to a black cross.). Next clear command is used to delete the data, formatting of data & comment. The sort command is used to arrange data in an ascending or descending order easily. Find & select is used to find, select & replace the specific text & formatting.

INSERT TAB



Tables Group :

Pivot Table - Summarize data using a Pivot Table. Pivot Table makes it easy to arrange and summarize complicated data and drill down on details.

Table - Create a table to manage and analyze related data. Tables make it easy to sort, filter, and format data within a sheet. You can also use the keyboard shortcut **Ctrl + T** to create a table.

Illustrations **Picture** - Insert a picture from a file. **Clip Art** - Insert Clip Art into the document, including movies, sounds, or stock photography to illustrate a specific concept. **Shapes** - Insert ready-made shapes, such as rectangles and circles, arrows, lines, flow chart symbols, and callouts. **SmartArt** - Insert a Smart Art graphic to visually communicate information. Smart Art graphics range from graphical lists and process diagrams to more complex graphics, such as Venn diagrams and organization charts.

Charts **Column** - Insert a column chart. Column charts are used to compare values across categories. If chart data is selected, or the cursor is in or adjacent to the data, pressing **F11** automatically creates a column chart. **Line** - Insert a line chart. Line charts are used to display trends over time. **Pie** - Insert a pie chart. Pie charts display the contribution of each value to a total. Use a pie chart when values can be added together or when you have only one data series and all values are positive. **Bar** - Insert a bar chart. Bar charts are the best chart type for comparing multiple values. **Area** - Insert an area chart. Area charts emphasize differences between several sets of data over a period of time. **Scatter** - Insert a Scatter chart, also known as an X Y chart. This type of chart compares pairs of values. Use a Scatter chart when the values being charted are not in X-axis order or when they represent separate measurements. **Other Charts** - Insert a stock, surface, doughnut, bubble, or radar chart. **Diagonal Arrow** - Click on the arrow in the bottom right corner of Charts to see the Insert Chart dialog box to see all of the available charts.

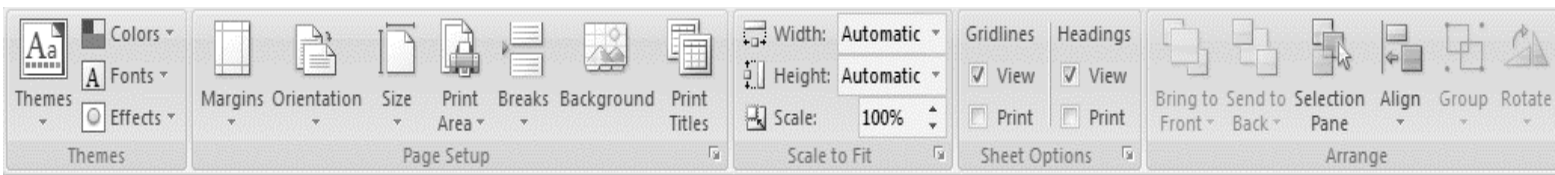
Hyperlink - Create a link to a Web page, a picture, an e-mail address or a program. You can also use the keyboard shortcut **Ctrl + K** to create a hyperlink.

Text **Text Box** - Insert a text box that can be positioned anywhere on the page. **Header & Footer** - Edit the Header or Footer of the document. The information in the Header or Footer will appear at the top or bottom of each printed page.

WordArt - Insert decorative text in your document.

Symbol - Insert characters that are not on your keyboard, such as copyright symbols, trademark symbols, paragraph marks, and Unicode characters

PAGE LAYOUT TAB



Themes Group: Themes provide a unique and professional look to your workbooks. They can do this by using an assortment of font styles, color schemes and graphical effect.

Page Setup group: The Page Layout shows us the worksheet in its Printed form. We can now see the margins on all sides, the header block and all the column headings that will be included in the first page.

The first Page Setup option is margins, which lets you control the white space in your document. We would like to switch margins in the worksheet from Normal to narrow so we can see more of custom data when we will print this file. Go ahead and click on Margins command and then select Narrow from the drop down menu.

The next command is orientation. This will let you toggle between portrait and landscape views for printing purposes.

Currently we are using Portrait view. Lets us switch it to Landscape view by clicking on Orientation drop down and then choosing Landscape. The size command is used to set the paper size.

The print area is used to print the specific part of the sheet.

The next command is Background; you add a background image to your Excel workbook. This could be beneficial if you are trying to insert possible the company logo with your data. When you click on this command, it will give you new dialog box where you can select the picture and then click ok we will precede onto the next feature.

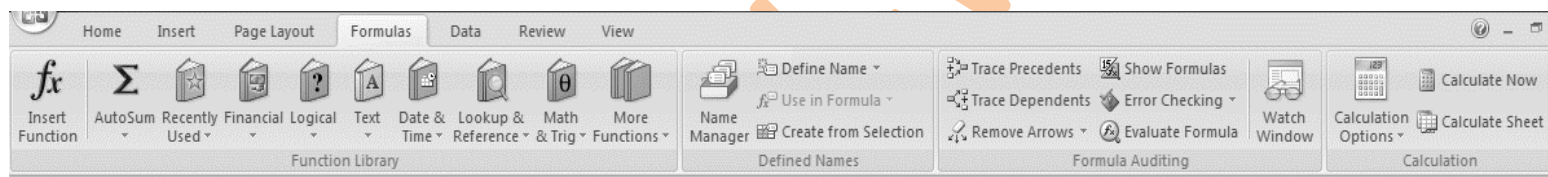
The print Titles command is quit essential when you are trying to print a lot of information that spans multiple pages.

Scale to fit Group : It is used to scaling the page when printing is required.

Sheet Options : It is used to print & hide/Unhide the gridlines & row/column heading of sheet.

Arrange Group: This is primary used with pictures or images. It is used to arrange position, group or ungroup , rotate the picture.

FORMULAS TAB



Defined Name : Here we can give a name to a cell or range of cell, it can make your excel workbook more personalized. You are refer this name in the formula. Suppose we are give a name to "SUM" a range of A1 to A12. Then if we want to total A1 to A12 cells, we write the formula =sum(sum)

Name Manager : Used to edit & delete the define name.

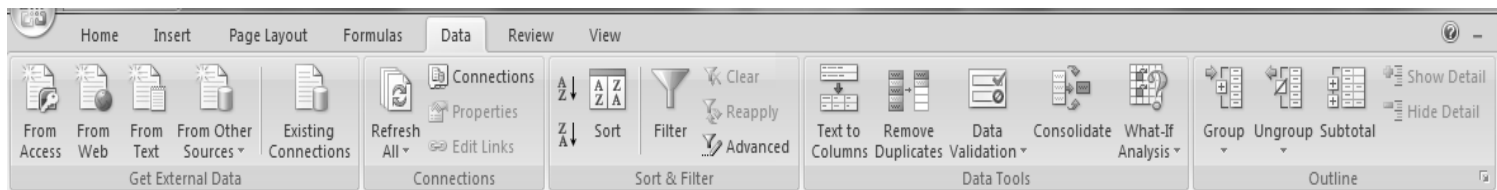
Formula Auditing : Sometimes when your will worksheet gets really crowded under Excel Formulas Tab, it helps to have some sort of navigation for all your formulas and function our grad book is fairly simple so this is not example for this. But let's say we wanted to know where total source and average coming from are? We could select cell B15 and click on Trace Precedents. This will highlight all the cell that are begin used to compute the Average which is the value in cell B15

This is what it look like on my computer display

In a similar fusion we can also find dependent in my Excel workbook. For example I am curios to find out if any cells are using the value from cell E5. I click on that cell and then select Trace Dependent on excel formulas tab. This will highlight cell K5and E15as highlight below. What this means is that the cells K5 and E15 (Total and Average) deepened on E5 for its computation

If you want to remove all the precedents and dependent from your Excel workbook you can simply use Remove Arrow under the Formula Auditing group . this will clear all the arrow from your worksheet .

DATA TAB



Sort & Filter Group:

Sort A to Z - Sort the selection so that the lowest values are at the top of the column.

Sort Z to A - Sort the selection so that the highest values are at the top of the column.

Sort - Launch the Sort to sort data based on several criteria at once.

Filter - Enable filtering of the selected cells. Once filtering is turned on, click on the arrow in the column header to choose a filter for the column. The keyboard shortcut to filter is Ctrl + Shift + L

Clear - Clear the filter and sort data for the current range of data.

Reapply - Reapply the filter and sort in the current range. New or modified data in the column won't be filtered or sorted until you click Reapply. The keyboard shortcut to reapply is Ctrl + Alt + L

Advanced - Specify complex criteria to limit which records are included in the result set of a query

Data Tools and Outline: The next two group of command **Data Tools** and **Outline** discuss some advanced topics so we will go over important items only. Let us take a look at Text to columns command under the Data Tools Using this command you can separate the combined data into separate column. This can be useful if somehow the data was imported in an incorrect format. I have included similar customer information shown right below in. Notice that all this data got jumbled up and needs to be broken down by column. Using the text column command in Excel 2007 we were able to split the data their respective field. We have skipped some of these steps here as they are very much similar in nature to when we did the text file import In order to remove duplicate, first we need to select the column. When you click on the Remove Duplicate command under Data Tools, you will get the Remove Duplicate dialog box as visible right here. Since in our case, we only have one column, Category Lookup, we are going to go ahead and select all and then click O.k.

Data Validation : It is used to stop to enter the invalid data from user. You can apply condition on text, number & date.

Consolidate : You can consolidate data from each separate worksheet into master worksheet. The worksheet can be in the same workbook as the master worksheet or in other workbook. When you consolidate data, you are assembling data so that you can more easily update & aggregate it on a regular basis.

Scenarios : A Scenarios is a set of values that excel saves & can substitute automatically in cells on a worksheet. You can create & save different groups of values on a worksheet and then switch to any of these new scenarios to view different results.

Goal Seek : Goal seek is used to get a particular result when you are not too sure of the starting values. For example, If the answer is 56, and the first number is 8, what is the second number? Is it 8 multiplied by 7, or 8 multiplied by 6? You can use Goal seek to find out.

Data table : It allows you to take one or two variable in formula & replace them with as many different values as you want, and then views the results in a table. This option is especially powerful because it shows multiple results at the same time, unlike Scenario or goal seek.

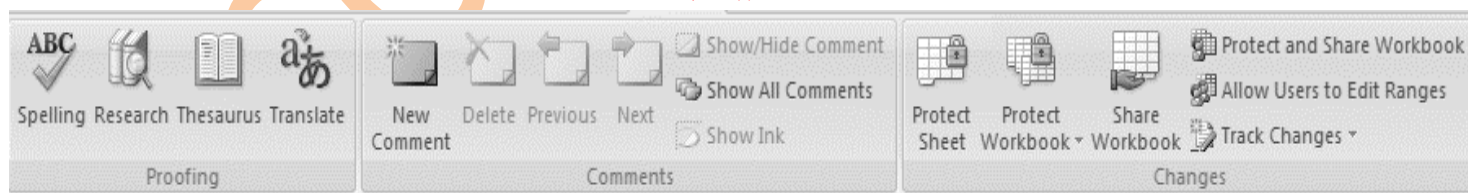
Outline Group :The excel 2007 outline section of the data tab is designed to group and summarize data up to 8 levels. Use an outline to quickly display summary rows or columns or reveal detailed data for each group created.

Highlight the rows or columns you would like to group by clicking on the first cell and dragging to highlight the group of cells. Once the cells are selected click the down arrow of the Group button in the Outline section of the Data tab. Select Group. Notice once you have done this a number with a line to a minus symbol will appear to the left of the row labels. By clicking on the minus button it will hide the cells you selected to group. The minus button will change to a plus sign to expand the hidden cells.

When you have created a group the Show Details and Hide Details buttons will no longer be grayed out. Click these buttons to show and hide the grouped cells. Click on the top cell you grouped, then click the Ungroup button down arrow and select Ungroup. This will ungroup the cells just like the button describes. If you have multiple sets of cells grouped click the down arrow of the Ungroup button and select clear outline to delete all groupings. This will just ungroup the cells not delete them.

The last button in this section is Subtotal. If you have grouped cells and click the subtotal button it will bring up the Subtotal window. In this window you have a drop down menu at the top titled At each change in: Clicking this down arrow will give you a list of each group you have created. Select one from the list. Click the down arrow in the Use function selection box. Scroll through the list of functions and select the one you would like performed on the grouped cells. Place a check mark next to any subtotals you would like to include in the calculations. The check boxes below the Add subtotal section can be checked or checked to change the calculations made to the groups and how they are displayed. Click OK when you are finished making your selections and the subtotal calculations will be entered for any selected grouped cells.

REVIEW TAB



Proofing Group :The first group that we will look at is proofing. This has command for checking spelling and grammar, using research and thesaurus and ability to translate from one language to another

Research command which can be beneficial to look up information using online reference source.

Using Thesaurus will suggest word with similar meanings which can be used as alternates.

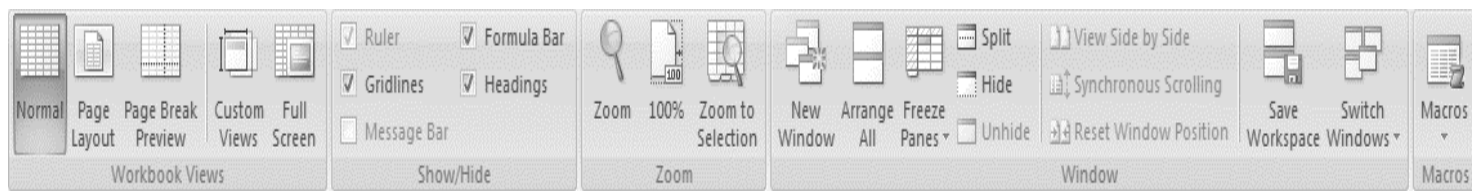
Comment Group: New Comment - Add a comment about the selected cell. The keyboard shortcut to add a comment is Shift + F2 Note: This button is the default view in the Comments section rather than the Edit Comment button displayed at the top of this explanation. Edit Comment - Edit the selected comment. The keyboard shortcut to edit a selected comment is Shift + F2 . Note: This button will not be displayed unless a cell containing a comment has been selected. Delete (comment) - Delete the selected comment. Previous (comment) - Select the previous comment in the worksheet. Next (comment) - Navigate to the next comment in the document. Show/Hide Comment - Show or hide the comment attached to the selected sheet. Show All Comments - Display all comments in the sheet. Show Ink - Show or hide any ink annotations on the sheet.

Changes Protect Sheet - Prevent unwanted changes to the data in a sheet by specifying what information can be changed. For example, you can prevent people from editing locked cells or changing the formatting of the document. You can specify a

password that can be entered to unprotect the sheet and allow these changes. **Protect Workbook** - Prevent unwanted changes to the structure of the workbook, such as moving, deleting, or adding sheets. You can specify a password that can be entered to unprotect the workbook and allow these changes. **Share Workbook** - Allow multiple people to work in a workbook at the same time. The workbook should be saved to a network location where multiple people can open it. Workbooks containing tables cannot be shared.

Protect and Share Workbook - Share the workbook and protect it with a password at the same time. The password will prevent others from turning off change tracking. **Allow Users to Edit Ranges** - Allows specific people to edit ranges of cells in a protected workbook or sheet. Before using this feature, first set security on the sheet by using the **Protect Sheet** command. To use this feature, your computer must be joined to a Microsoft Windows domain. **Track Changes** - Track all changes made to the document, including insertions, deletions, and formatting changes.

VIEW TAB



Workbook Views Group:

Using the workbook View Group of commands you can view your Excel Workbook in different layout

Using the Normal View you are able to view the rows and columns as you work on your spreadsheet

The second view on the workbook Views tab is page layout I find this particular view to be very helpful especially from a printing point of view.

The next one is the page break preview. This is again beneficial if you are trying to print an Excel sheet that spans multiple pages.

Custom View the next option will let you use a personalized view of your spreadsheet. You can even store this view so you can possibly use it on another workbook. The last view is full screen which will let you maximize the Excel sheet on your monitor displayed

Show / Hide Group: The next set of commands falls under Show/Hide group. These options are all listed as check boxes which can be turned on or off.

First of all we are going to uncheck the ruler option. This will go ahead and remove the horizontal and vertical ruler as you can see the effect in the following screen capture. Next try uncheck the Formula the bar option. Notice that it will remove the name box and the formula

Zoom Group : The next group we will look at is the Zoom Group Using these commands you can control the area of your workbook that can be displayed on the computer monitor. The default is 100% which is what we have in the following screen capture also observe that we have switched back to the Normal view from the page Layout for these steps.

When you click on the Zoom command you will get a new dialog box titled zoom. Here you can direct the magnification level. It has a few preset options in addition to a custom choice where you can enter your own magnification level for now go ahead and select 50% then click Ok.

Click on 100% which is the next command in the zoom Group. This will convert the spreadsheet back to its normal magnification level.

Window Group : Sometimes it is necessary to work on the same Excel sheet, however using multiple windows The Window Group under the view tab in Microsoft Excel will let you do just that Let us take a look at these option next Switch back to Normal view at 100% level and then click on New Window command on the ribbon

Now that you have multiple copies of the same document, you are able to see them as the same time Arrange All command can help you with this task

Moving onto the next command Freezing panes which I think is a lifesaver that you are working with a complex spreadsheet Using this great functionality you can freeze particular rows and columns even as you walk around in your workbook

Using the Split command, you can essentially break your spreadsheet into different part this again can be useful when you need to look different areas at the same time

When working with multiple Windows. The view side by side command will let you look at the data in a horizontal The final option we will look at is how to switch windows under the window command. Once again if you have multiple copies of the same worksheet, you can use this command to toggle between windows back and forth

A macro is a recording of each command & action you perform to complete a task. Then, whenever you need to carry out that task in a spreadsheet you just run the macro.

Some Facts About Excel

Examples of Spreadsheet Software : Libre Calc , Lotus 1-2-3 ,Open Office Calc and Google Sheet.

Latest Version : M.S. Excel 2021 **Extension :** Xlsx

Default Row Height	: 15 Points (20 Pixels)	Maximum Row Height	: 409 Points
Default Column Width	: 8.43 Points (64 Pixels)	Maximum Column Width	: 255 Character
Default Font Size	: 11	Maximum Font Size	: 409
Minimum Font Size	: 1	Default Font	: Calibri
Maximum Zoom	: 400%	Minimum Zoom	: 10%

Functions of MS Excel

S.NO	Function	Particular
1	AVERAGE	Finds The Average Cell Value In The Specified Range Of Cells.
2	CONCATENATE	Used To Join Two Or More Words Or Text Strings Together.
3	COUNT	Counts The Number Of Cells That Contains Numbers
4	COUNT BLANK	Counts The Empty Cells Only
5	COUNTA	Counts The Number Of Cells That Contains Number & Text Both, Do Not Count Empty Cells
6	COUNTIF	Counts the number of cells in a range, that meets a given criteria
7	EXACT	Compares Two Strings And Returns TRUE If Both Values Are The Same. Otherwise, It Will Return FALSE.
8	FACT	Returns The Factorial Of A Number
9	FV	Returns The Future Value Of An Investment Based On An Interest Rate And A Constant Payment Schedule
10	HLOOKUP	Searches For Value In The Top Row Of <i>Table_Array</i> And Returns The Value In The Same Column Based On <i>Index_Number</i> .
11	IF	To nest multiple IF functions within one Excel formula. You can nest up to 7 <u>IF functions</u> to create a complex IF THEN ELSE statement.
12	IPMT	Returns The Interest Payment For An Investment Based On An Interest Rate And A Constant Payment Schedule.
13	LCM	Returns The Least Common Multiple Of Integers
14	LOWER	Converts All Letters In The Specified String To Lowercase
15	MAX	Finds The Largest Cell Value In The Specified Range Of Cells.
16	MIN	Finds The Smallest Cell Value In The Specified Range Of Cells.
17	MOD	Returns The Remainder After A Number Is Divided By A Divisor
18	NOW	Returns The Current System Date And Time
19	PMT	Returns The Payment Amount For A Loan Based On An Interest Rate And A Constant Payment Schedule.
20	POWER	Returns The Result Of A Number Raised To A Given Power
21	PPMT	Returns The Payment On The Principal For A Particular Payment Based On An Interest Rate And A Constant Payment Schedule.
22	PRODUCT	To Multiply The Specified Range Of Cells
23	PROPER	Sets The First Character In Each Word To Uppercase And The Rest To Lowercase.

24	RANK	Returns The Rank Of A Number Within A Set Of Numbers
25	ROMAN	Converts A Number To Roman Numeral
26	ROUND	Returns A Number Rounded To A Specified Number Of Digits
27	SQRT	Calculates The Square Root Of A Cell Value.
28	SUM	To Add The Specified Range Of Cells
29	SUMIF	Used To Add Up The Values In <u>Cells</u> In A Selected <u>Range</u> That Meet Certain Criteria
30	UPPER	Converts All Letters In The Specified String To Uppercase
31	VLOOKUP	Searches For Value In The Left-Most Column Of <i>Table_Array</i> And Returns The Value In The Same Row Based On The <i>Index_Number</i> .

COMPU-WEB