MICROSOFT EXCEL

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spreadsheet

A type of application program which manipulates numerical and string data in rows and columns of cells.
The value in a cell can be calculated from a formula which can involve other cells.
A value is recalculated automatically whenever a value on which it depends changes.
Different cells may be displayed with different formats.

SPREADSHEET

- Spreadsheet is a large sheet of paper with rows and columns and is used to record business transactions.
- An electronic spreadsheet organises information into software defined rows and columns.
- The data can then be added up by a formula to give a total or sum.

ADVANTAGES OF ELECTRONIC SPREADSHEET

- 1. Very much useful in business.
- 2. Can be used for accounting, sales, inventory control and financial analysis.
- 3. Also used for many other non business problems.
- 4. In addition to routine jobs, they are also used for financial analysis and forecasting.
- 5. Long term strategy to be used by a business concern can easily be determined with the help of spreadsheets.
- 6. They are useful to provide guidance to the investors to select and invest in most profitable securities.

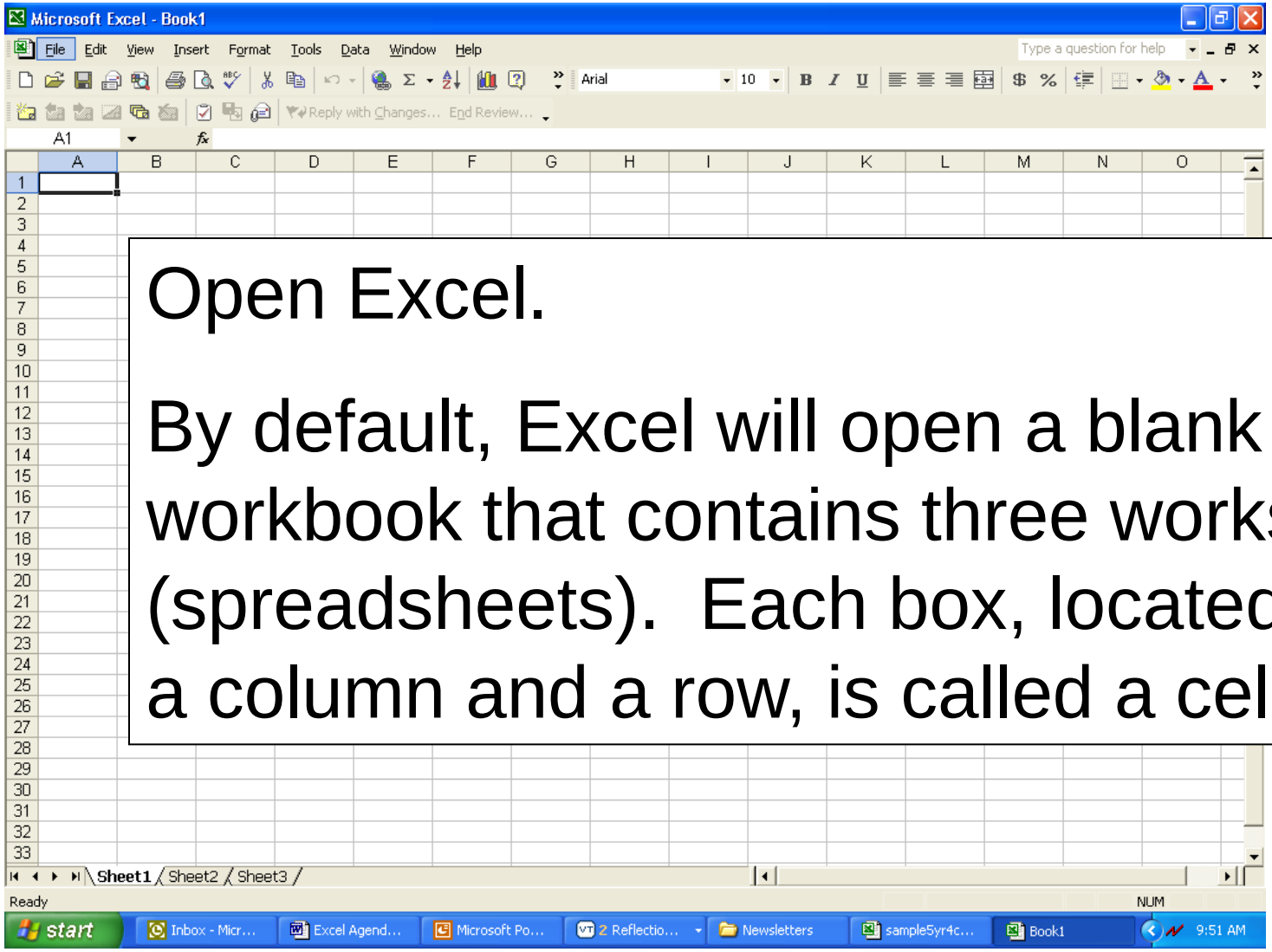
Workbook

1. A booklet containing problems and exercises that a student may work directly on the pages.
2. A manual containing operating instructions, as for an appliance or machine.
3. A book in which a record is kept of work proposed or accomplished.

Worksheet

1. A sheet of paper with multiple columns; used by an accountant to assemble figures for financial statements.
2. A piece of paper recording work planned or done on a project.

The Basics



Open Excel.

By default, Excel will open a blank workbook that contains three worksheets (spreadsheets). Each box, located in both a column and a row, is called a cell.

FILE TAB

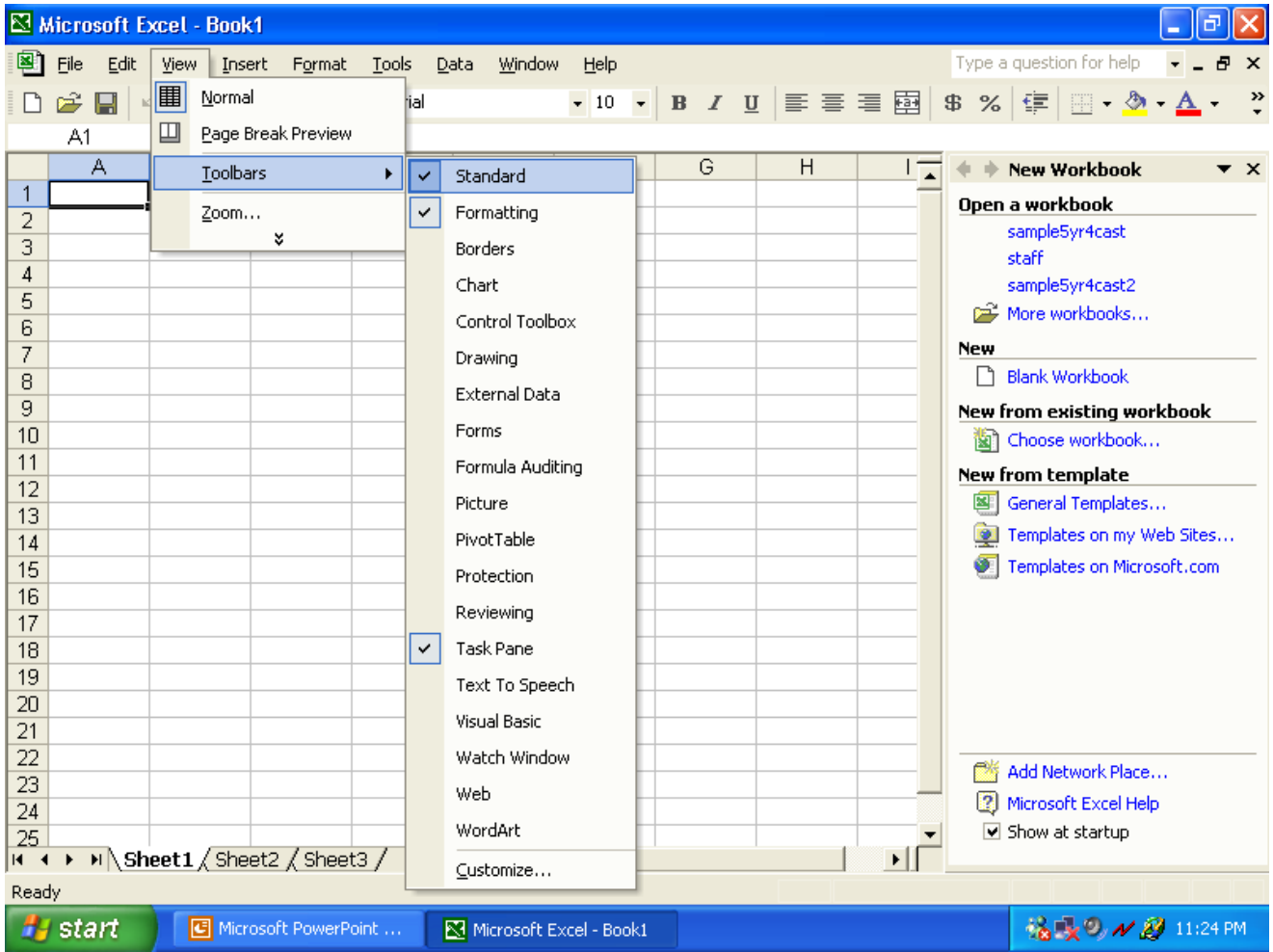
- The file tab replaces the Office button from Excel 2007.
- We can click it to check Backstage view, which is the place to come when we want to open or save files, create new spreadsheets, print a sheet and to do other file related operations.

The Title Bar is located at the very top of the screen. On the Title bar, Microsoft Excel displays the name of the workbook you are currently using. At the top of your screen, you should see "Microsoft Excel - Book1" or a similar name.

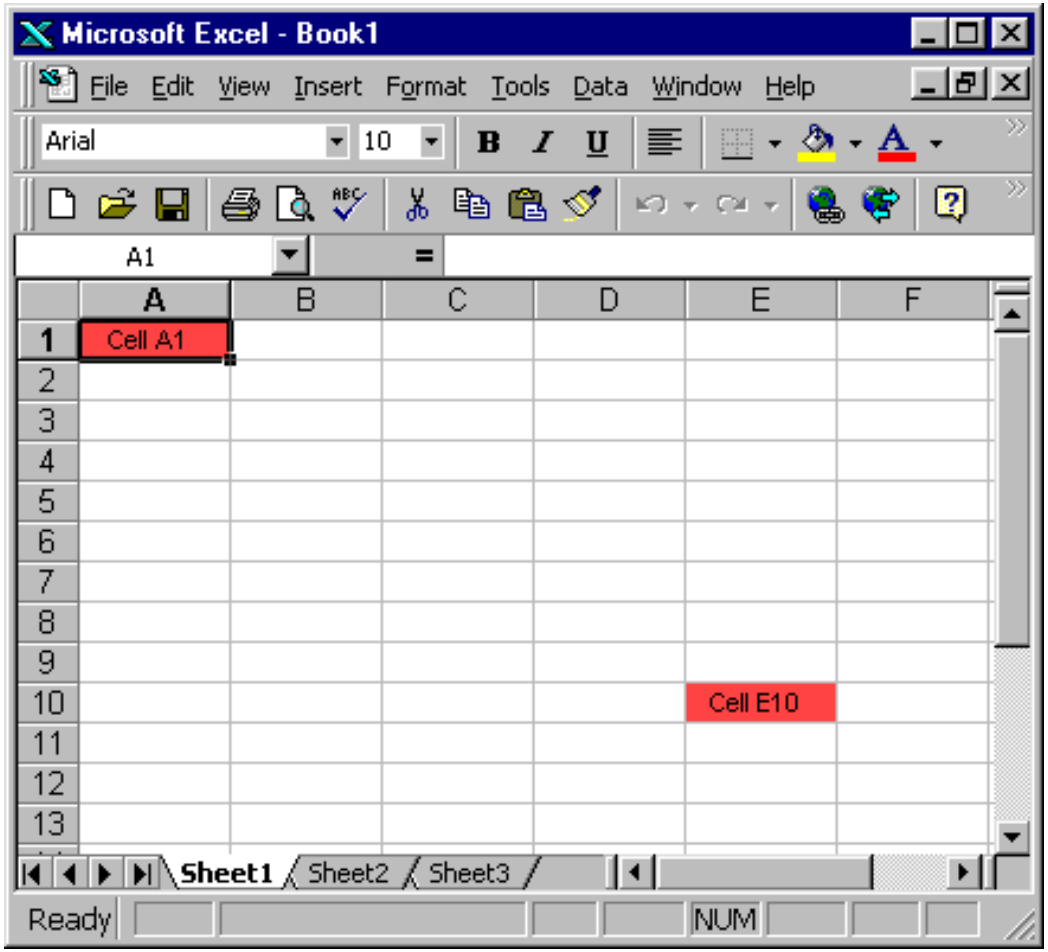
The Menu Bar is directly below the Title bar and displays the menu. The menu begins with the word File and continues with the following: Edit, View, Insert, Format, Tools, Data, Window, and Help. You use the menu to give instructions to the software. Point with your mouse to a menu option and click the left mouse button. A drop-down menu will appear. You can now use the left and right arrow keys on your keyboard to move left and right across the Menu bar options. You can use the up and down arrow keys to move up and down the drop-down menu. To select an option, highlight the item on the drop-down menu and press Enter.

Toolbars


100%
Arial
10


Microsoft Excel - Book1
File Edit View Insert Format Tools Data Window Help
Type a question for help
Normal
Page Break Preview
Toolbars
Zoom...
Standard
Formatting
Borders
Chart
Control Toolbox
Drawing
External Data
Forms
Formula Auditing
Picture
PivotTable
Protection
Reviewing
Task Pane
Text To Speech
Visual Basic
Watch Window
Web
WordArt
Customize...
New Workbook
Open a workbook
sample5yr4cast
staff
sample5yr4cast2
More workbooks...
New
Blank Workbook
New from existing workbook
Choose workbook...
New from template
General Templates...
Templates on my Web Sites...
Templates on Microsoft.com
Add Network Place...
Microsoft Excel Help
Show at startup
Sheet1 Sheet2 Sheet3
Ready
start
Microsoft PowerPoint ...
Microsoft Excel - Book1
11:24 PM

Microsoft Excel consists of worksheets. Each worksheet contains columns and rows. The columns are lettered A to IV; the rows are numbered 1 to 65536. **The combination of column and row coordinates make up a cell address**. For example, the cell located in the upper left corner of the worksheet is cell A1, meaning column A, row 1. Cell E10 is located under column E on row 10. You enter your data into the cells on the worksheet.



QUICK ACCESS TOOLBAR

- It is located above the ribbon and is useful to access the commands that are frequently used.
- By default it shows Save, Undo and Repeat commands and we can add other commands also.

THE RIBBON

- It is used to issue commands .
- It is located near the top of the Excel window, below the Quick Access Toolbar.
- Ribbon contains commands organized in three components.
- A) Tabs
- B) Groups
- C) Commands

COMPONENTS IN RIBBON

- Tabs: They appear across the top of the Ribbon and contain groups of related commands. Home, Insert, Page Layout are examples of ribbon tabs.
- Groups: They organise related commands, each group name appears below the group on the Ribbon. Eg: Group of commands related to fonts, alignments etc.
- Commands: Commands appear within each group as mentioned above.

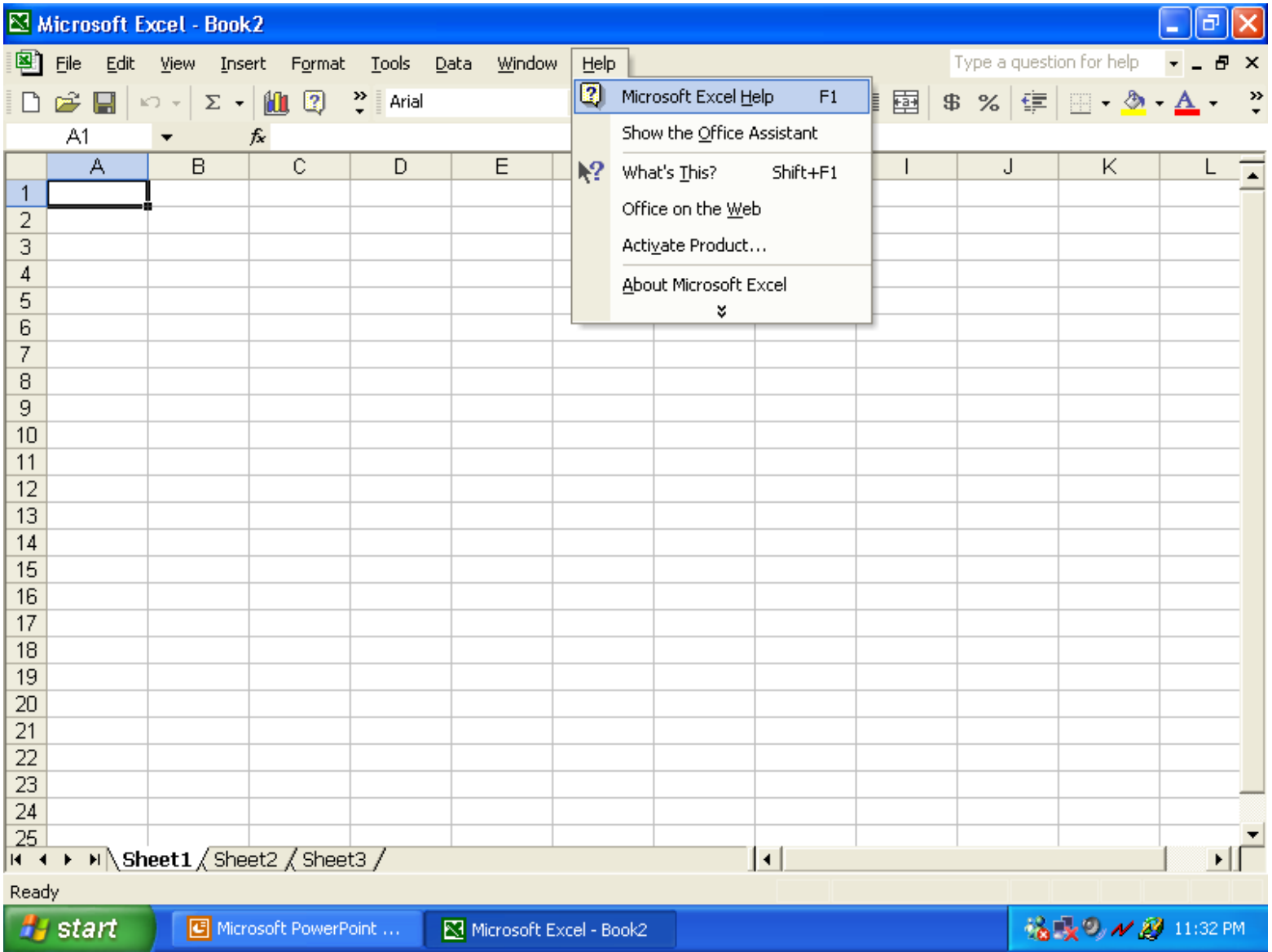
TITLE BAR

- This lies in the middle and at the top of the window.
- It shows the program and the sheet titles.

HELP

- This icon helps to provide nice tutorial on various subjects related to excel.

Excel Help


Microsoft Excel - Book2
File Edit View Insert Format Tools Data Window Help
Type a question for help
Arial
A1
Microsoft Excel Help F1
Show the Office Assistant
What's This? Shift+F1
Office on the Web
Activate Product...
About Microsoft Excel
Sheet1 Sheet2 Sheet3
Ready
start
Microsoft PowerPoint ...
Microsoft Excel - Book2
11:32 PM

ZOOM CONTROL

- It helps to in for a closer look at your text.
- The zoom control consists of a slider that can slide left or right to zoom and + button helps to increase he zoom factor.

VIEW BUTTONS

- The group of three buttons located to the left of the Zoom control, near the bottom of the screen, lets you switch among excel's various sheet views.
- 1. Normal Layout view: This displays page in normal view.
- 2. Page Layout view: This displays pages exactly as they will appear when printed. This gives a full screen look of the document.
- 3. Page Break view: This shows a preview of where pages will break when printed.

SHEET AREA

- The area where you enter data.
- The flashing vertical bar is called the insertion point and it represents the location where text will appear when you type.

ROW BAR

- Rows are numbered from 1 onwards and keeps on increasing as you keep on entering data.
- Maximum limit is 1,048,576 rows.

COLUMN BAR

- Columns are numbered from A onwards and keeps on increasing as you enter data.
- After Z, it will start AA,AB and so on. Maximum limit is 16,384 columns.

STATUS BAR

- This displays sheet information as well as the insertion point location.
- From left to right, this bar contains the total number of pages and words in the document, language etc.

CUSTOMISE THE RIBBON

- We can customise the ribbon by creating our own tabs.
- 1. Right click the ribbon., then select customise the ribbon. A dialog box will appear.
- 2. Click a new tab.
- 3. Make sure the new group is selected.
- 4. Select a command from list on left , then click ADD.
- 5. Click OK.

MINIMISE AND MAXIMISE THE RIBBON

- 1. Click the arrow in the upper-right corner of the ribbon to minimise it.
- 2. To maximise the ribbon, click the arrow again.

Backstage view

- It is introduced in Excel 2010 and acts as a central place for managing worksheets.
- It helps in creating new sheets, saving and opening sheets, printing and sharing sheets and so on.
- To access it, just click File tab located in upper left corner of the ribbon.

RANGES IN MS EXCEL

- A cell is a single element in a worksheet where we can enter a value, text or formula and is identified by address, with column letter and row number.
- A group of cells is called a range.
- Ranges can have range address by specifying the upper left cell address and its lower right cell address, separated by a colon. Eg: A1:E4.

SELECTING RANGES

- 1. Press the left mouse button and drag, highlighting the range. Then release mouse button.
- 2. Press the Shift key while you use the navigation key to select the range.
- 3. Press F8 and then move the cell pointer with the navigation keys to highlight the range. Press F8 again to return to normal movement.
- 4. Type the cell or range address into the Name box and Press enter.

SELECTING COMPELETE ROWS AND COLUMNS

- 1. To specify multiple adjacent rows or columns, click a row or column border and drag to highlight additional rows or columns.
- 2. To select multiple non-adjacent rows or columns, press Ctrl while you click the row or column borders that you want.

AUTO FILL

- It is a unique feature of MS Excel.
- It has the ability to fill out some cells with values that belong to a common series.
- First select a cell or the cells that define the series.
- Position our mouse on the lower right corner of the selected cell or cells, and then drag in appropriate direction.

MOVING WITH THE KEY BOARD

- Keystroke Where the insertion point moves
- Right arrow Forward one box
- Left arrow Back one box
- Up arrow Up one box
- Down arrow Down one box
- Page up To previous screen
- Page down To next screen
- Home beginning of the current screen
- End end of the current screen

GO TO COMMAND

Press F5 and it will display the dialog box where you can get options to reach a particular box.

SAVING A WORKBOOK

- 1. Click the File tab and select Save As option.
- 2. Select where you want to save file. Enter file name and select save as type.
- 3. Click save

SAVING NEW CHANGES

- 1. Press Ctrl+ S
- 2. Click floppy icon on left corner.
- 3. Click save option available above save as.

CREATING NEW WORKSHEETS

- 1. Right click the Sheet name and select Insert option.
- 2. We can see the Insert dialog with select Worksheet option. Click ok.
- 3. Now a new blank sheet will come
- Short Cut to create new sheet is clicking Shift+F11 key.

COPY WHOLE SHEET

- 1. Right click on the sheet name at bottom. Move or copy dilaog box will appear and select Worksheet option. Click Ok.
- 2. Select Create a Copy to create a copy of current sheet.
- 3. Press OK.

HIDING AND UNHIDING WORKSHEET

- 1. Right click the Sheet Name and select Hide option. The sheet will disappear
- 2. Right click on any sheet and select Unhide option.

DEELTING WORKSHEET

- To delete a workbook, right click its tab and click Delete.

CLOSE WORKBOOK

- 1. Click the Close button on the top. We will get a confirmation message to save the Workbook.
- 2. Press Save button to save the workbook.

OPEN WORKBOOK

- Click File menu.
- We can see Recent workbook and Recent Places.
- Select appropriate workbook and click Open.

INSERTING DATA

- Just activate the cell by Pressing F5 and entering required cell number.
- Press the text, numeric value or formulas.

MODIFYING CELL CONETENT

- Editing consists of deleting, replacing, altering or adjusting something in them.
- To make a cell in edit mode either double click on the cell or Press F2 and do the required alterations in the cell content.

Delete data

- Select data to be deleted . Right click. Select delete option.

OR

Select data to be deleted. Press Delete button on key board.

MOVE DATA (CUT AND PASTE)

- Select data to be moved. Right click and select CUT .
- Select the first cell where you want to move data. Right click and opt Paste.

OR

- Select data. Click Control+ C to Copy
- And Click Control+ V to paste.

FIND AND REPLACE

- Select Home.
- Click Find and Select on upper right side.
- Click Find or Press Control+ F.
- You will find the Find and Replace dialog box. Type the text you want to find.
- You can replace the text with new text with Replace tab.

SPELL CHECK

- Choose Review
- Select Spelling or press F7.
- If the spell checker finds any words it does not recognise as correct, it displays Spelling dialog with suggested options.

SYMBOLS

- Go to Insert
- Click Symbols.
- Select appropriate symbol.

SPECIAL CHARACTERS

- Go to Insert.
- Press Symbols.
- Select Special Characters
- Chose desired one.

TEXT BOXES

- They are special graphic objects that combine text with a rectangular graphic object.
- Click Insert.
- Click Text Box.
- Choose text box or draw it.

FORMATTING TEXT BOX

- After you added text box, you can format it by changing the font, font size, font style , alignment etc.

UNDO CHANGES

- From Quick Access tool bar click Undo

OR

- Press Control+ Z.

REDO CHANGES

- From Quick Access tool bar click Redo

OR

- Press Control+ Y.

CELL FORMATTING

- Right click on Cell.
- Choose Format cells.
- Do required formatting.

FONTS

- Go to home.
- Select Font Group.
- Select the font.

BOLD, ITALICIZE AND UNDERLINE

- Bold: It makes text highlight by choosing Home>> Front Group >> Click B or Press Control +B .
- Italic: Choose Home>> Font Group >> Click I or press Control + I.
- Underline: Choose Home >> Font Group >> Click U or press Control + U .
- Double underline: Choose Home>> Font Group>>Click arrow near U>> Select Double Underline.

ROTATING CELL

- Click on Orientation in the Home tab.
- Choose available options like Angle Counter Clockwise, Angle Clockwise etc.
- OR

  Right click on cell. Choose Format Cells>> Alignment>> Set the degree for rotation.

CHANGING BACKGROUND COLOUR

- Home Tab >> Font Group >> Background colour.

CHANGING FOREGROUND COLOUR

- Home tab >> Font Group >> Foreground colour

OR

- Right click>> Format cells >> Font Tab >> Colour.

CELL CONTENT ALIGNMENT

- By default, numbers will be shown on right side of the cell and text will be shown on the left side of the cell.
- We can change alignment , by choosing some options.

HORIZONTAL ALIGNEMENT

- We can set horizontal alignment to the Left, Centre, Right etc.
- Left : Aligns the cell contents to the left side of the cell.
- Center : Centres the cell contents in the cell.
- Right: Aligns the cell contents to the right side of the cell.

VERTICAL ALIGNMENT

- You can set Vertical alignment to top, Middle, bottom etc.
- Top: Aligns the cell content to the top of the cell.
- Center: Centres the cell contents vertically in the cell.
- Bottom: Aligns the cell contents to the bottom of the cell.

MERGE CELLS

- Ms Excel enables to merge two or more cells.
- When we merge cells, we cannot combine the contents of cells.
- We are actually combining a group of cells into a single cell that occupies the same space.
- To merge cells, select the cells that you want to merge and then click the Merge & Center button.

MERGE CELLS

- Choose Alignment tab of the Format Cells dialog box to merge cells.
- The Home>> Alignment group>> Merge & Centre control contains a drop-down list with these additional options:
- 1. Merge Across- when a multi-row range is selected, this command creates multiple merged cells- one for each row.
- 2. Merge cells- Merges the selected cells without applying the Center attribute.
- 3. Unmerge cells- Unmerges the selected cells.

WRAP TEXT AND SHRINK TO FIT

- If you have text too wide to fit the column width but don’t want that text to spill over into adjacent cells, you can either Wrap Text option or the Shrink to Fit option to accommodate that text.

BORDERS AND SHADES

- We can press the down arrow next to the Border button, a menu appears.
- By making proper selection from the menu, we can place a border on the top, bottom, left or right side of the selected cells; on all sides; or around the outside border.
- We can also have a thick outside border or a border with a single-line top and a double-line bottom.

APPLY BORDERS

- To apply border select the range of cells Right Click >> Format Cells >> Border Tab >> Select the Border style.
- Then you can apply border by Home Tab >> Font Group >> Apply borders.

APPLYING SHADING

- Home tab >> Font Group >> Select the colour.

FORMATTING CELLS

- In MS Excel you can apply formatting to the cell or range of cells by Right Click >> Format cells >> Select the tab.
- Various tabs are available. Choose the tab as per our need.

MARGINS

Choose Page Layout >> page Setup >> margins drop-down list , you can select Normal, Wide, Narrow or the custom setting.

PAGE ORIENTATION

- It refers to how output is printed on page. If you change the orientation, the onscreen page break adjust automatically to accommodate new paper orientation.
- Types of page orientation
- Portrait
- Landscape
- Changing Page Orientation
- Page Layout >> Page Setup >> Orientation >> Portrait or Landscape.

HEADER AND FOOTER

- A header is information that appears at the top of the page and footer is that appears on the bottom of the page.
- To insert it
- Choose Page Setup dialog box>> Header or Footer tab.

PAGE BREAKS

- If you don’t want a row to print on a page by itself or you don’t want a table header row to be the last line on a page.
- Inserting Page Breaks
- To insert horizontal page break for ex , if you want row 14 to be the first row of a new page, select cell A14. Then choose
- Page Layout>> Page Setup Group >> Breaks >> Insert page Break.

REMOVING PAGE BREAKS

Move the cell pointer to the first row beneath of the manual page break and then choose

Page Layout >> Page Setup >> Breaks >> Remove Page Break.

FREEZING PANES

- In the case of long worksgeet with row or column headings, these headings will not be visible when we scroll down or to the right.
- Freezing panes keeps the headings visible while scrolling through the work sheet.

USING FREEZE PANES

- Select the First row or First column or row below which you want to freeze or Column right to the area which you want to freeze.
- Choose View Tab>> Freeze Panes.
- Select suitable option
- Freeze panes : To freeze area of cells
- Freeze top row : To freeze first row of the worksheet
- Freeze First Column : To freeze first column of the worksheet.

UNFREEZE PANES

- Choose View tab >> Unfreeze panes .

SORTING

- We can sort data by text A to Z or Z to A, numbers (smallest to largest or largerst to smallest) and dates and times (oldest to news and newest to oldest) in one or more columns.
- 1. Sorting in ascending order – A to Z.
- 2. Sorting in descending order – Z to A.
- 3. Custom sort- includes sorting by the cell background colour or the font colour of the data.

FILTERING

- Display only the rows that met certain conditions.
- Click the column or columns the data to be filtered.
- On the Home tab, click Sort& Filter.
- Click Filter button.
- Click the Arrow at the bottom of the first cell.
- Click the Text Filter.
- Click the words you want to filter.
- &
- To clear the filter click the Sort & Filter button.
- Click Clear.

FORMULAS IN EXCEL

- Formulas are mathematical equations.
- The use and implementation of a function always starts with an equal sign “=” followed by the name of function.

Use AutoSum to sum numbers

- If you need to sum a column or row of numbers, let Excel do the math for you. Select a cell next to the numbers you want to sum, click AutoSum on the**Home** tab, press Enter, and you're done.
- When you click **AutoSum**, Excel automatically enters a formula (that uses the SUM function) to sum the numbers.

FORMATTING NUMBERS

- We can format the numbers entered in cells.
- We can add commands to separate thousands, specify the of number decimal places, place a dollar sign in front of the number, or display the number as present etc.

FUNCTIONS

- The prewritten formulas in MS Excel are called functions.
- They differ from regular formulas in that we supply the value but not the operators, such as, +, -, * or /.
- The equal sign begins the function.
- The values inside the parantheses are called arguments.
- Parantheses enclose the arguments.
- A comma separates the arguments.

SUM FUNCTION

- It is used to add the contents of various cells.
- The syntax is SUM(first value, second value etc).

PRODUCT FUNCTION

- It calculates the product (multiplication) of a supplied set of numerical values.
- The syntaz function is PRODUCT(number 1, [number 2], ……..)

SQRT FUNCTION

- It calculates the positive square root of the number.
- The syntax function is: SQRT(number).

ROMAN

- The excel roman function converts an Arabic number to Roman.
- The format of the function is (number,[form])
- Number- The number that is to be converted to a Roman numeral must be an integer between 0 and 1999.
- Form- An optional argument that specifies the form of the Roman numeral returned.

ROUND

- The Excel Round function rounds a supplied number up or down, to a specified number of decimal places.
- The syntax of the function is : ROUND(NUMBER,num_digits)

AVERAGE

- The AVERAGE function displays the average or mean value of selected cells.
- The syntax form is AVERAGE(number1, number2, ……)

MEDIAN

- It is used to calculate the median of given numbers.
- It is the number in the middle of a set of numbers, that is, half the numbers have values that are greater than the median, and half the values are lower than the median.

AVEDEV function

- **Description**
- Returns the average of the absolute deviations of data points from their mean. AVEDEV is a measure of the variability in a data set.
- **Syntax**
- AVEDEV(number1, [number2], ...)

CORREL function

- **Description**
- Returns the correlation coefficient of the Array1 and Array2 cell ranges. Use the correlation coefficient to determine the relationship between two properties. For example, you can examine the relationship between a location's average temperature and the use of air conditioners.
- **Syntax**
- CORREL(array1, array2)
- The CORREL function syntax has the following arguments:
- **Array1** Required. A cell range of values.
- **Array2** Required. A second cell range of values.

MODE

- A **statistical** term that refers to the most frequently occurring number found in a set of numbers.
- The **mode** is found by collecting and organizing the data in order to count the frequency of each result.

MODE

- **MODE function**
- Returns the most frequently occurring, or repetitive, value in an array or range of data.
- **Syntax**
- MODE(number1,[number2],...)

MODE

- The Excel MODE function returns the statistical mode (the most frequently occurring value) of a list of supplied numbers. The format of the function is:
- MODE(number1, [number2], ...)
- where the number arguments are a set of one or more numeric values, or arrays of numeric values, for which you want to calculate the mode.

MODE.SNGL function

- The Excel MODE.SNGL function returns the statistical mode (the most frequently occurring value) within a list of supplied numbers. If there are 2 or more most frequently occurring values in the supplied data, the function returns the lowest of these values.
- The format of the Mode.Sngl function is

  MODE.SNGL(number1, [number2], ...)
- where the number arguments are up to 255 numeric values, or arrays of numeric values, for which you want to calculate the mode.

MODE.SNGL & MODE.MULT Functions

- The MODE.SNGL and the MODE.MULT functions both find the statistical mode (the most commonly occurring value (or values) of a supplied set of numbers).
- The difference between the functions occurs when the supplied data set has more than one mode. The Mode.Sngl function returns the lowest of these values, whereas the Mode.Mult function returns an array of all of the modes.

FORECAST

- The Excel Forecast function predicts a future point on a linear trend line fitted to supplied set of x and y values.
- The syntax function is
- FORECAST(x, known_y's,known_x's)
- Where x- a numeric value for which you want to forecast a new y-value.
- Known_y's – an array of known y-values.
- Known_x's- an array of known x-values.
- The length of the known _x's arrays should be the same as known y's and the variance of the known_x's must not be zero.

FINANCIAL FUNCTIONS

- These functions have been provided to perform many of the commonly used financial calculations, such as the calculation of yield, interest rates, investment valuations, internal rate of return, payment and assets depreciation.

FUTURE VALUE FUNCTION

- The Excel FV function calculates the Future Value of an investment with periodic constant payments and a constant interest rate.
- The syntax of the function is:
- FV(rate, nper, [pmt], [pv], [type])
- Rate- the interest rate per period
- nper- the number of periods for the lifetime of the annuity.
- [pmt]- an optional argument that specifies the payment per period . If [pmt] argument is omitted, the [pv] argument must be supplied.
- [pv]- an optional argument that specifies the present value of annuity, ie, the amount that a series of future payments is worth now.
- [type]- an optional argument that defines whether the payment is made at the start or end of the period.

PV FUNCTION

- PV calculates the present value of investment.
- The present value is the total amount that a series of future payments is worth now.
- The syntax form is PV(rate,nper,pmt,fv,type)
- Where pmt- an optional argument that specifies the payment per period.

NET PRESENT VALUE

- The difference between the present value of the future cash flows from an investment and the amount of investment. Present value of the expected cash flows is computed by discounting them at the required rate of return.

- A zero net present value means the project repays original investment plus the required rate of return. A positive net present value means a better return, and a negative net present value means a worse return, than the return from zero net present value.

NET PRESENT VALUE

- First, enter the anticipated discount rate into cell A1. Next, input all cash flows sequentially into adjacent cells, entering any outflow values as negative numbers. For example, a project with a single initial investment that is expected to generate returns over the course of three years will have four entries in cells A2 through A5. Excel assumes all flows occur at the end of each period. Therefore, if the initial investment occurs at project inception rather than at the end of the first period, then this figure will need to be added to the NPV function separately and not included in the function itself.
- If the initial investment occurs at the end of the first period, as the program assumes, enter the formula "=NPV(A1,A2,A3,A4,A5)" into cell A6 to render the NPV for this project.

Internal Rate of Return (IRR)

- **Internal rate of return (IRR)** calculates the internal rate of return for a series of cash flows.
- It is the interest received for an investment consisting of payments(negative values) and income (Positive values) that occur at regular periods.
- Internal rate of return is used to evaluate the attractiveness of a project or investment. If the IRR of a new project exceeds a company's required rate of return, that project is desirable. If IRR falls below the required rate of return, the project should be rejected.
- Syntax is IRR(values,guess)

PMT FUNCTION

- The Excel PMT function calculates the constant periodic payment required to pay off (or partially pay off) a loan or investment, with a constant interest rate, over a specified period.
- The syntax of the function is:
- PMT(rate, nper, pv, [fv], [type])
- Rate- interest rate per period
- nper- total amount of payment periods in an annuity
- Pv- present value the total amount that a series of future payments is worth now.
- Fv- future value, or a cash balance we want to attain after the last payment is made. If fv is omitted, it is assumed to be zero.
- Type is the number 0 or 1 and indicates when payments are due.

IPMT function

- The Excel IPMT function calculates the interest payment, during a specific period of a loan or investment that is paid in constant periodic payments, with a constant interest rate.
- The syntax of the function is:
- IPMT(rate, per, nper, pv, [fv], [type])

IPMT function

- **Rate** Required. The interest rate per period.
- **Per** Required. The period for which you want to find the interest and must be in the range 1 to nper.
- **Nper** Required. The total number of payment periods in an annuity.
- **Pv** Required. The present value, or the lump-sum amount that a series of future payments is worth right now.
- **Fv** Optional. The future value, or a cash balance you want to attain after the last payment is made. If fv is omitted, it is assumed to be 0 (the future value of a loan, for example, is 0).
- **Type** Optional. The number 0 or 1 and indicates when payments are due. If type is omitted, it is assumed to be 0.

NPER FUNCTION

- The Excel NPER function calculates the number of periods required to pay off a loan, for a constant periodic payment and a constant interest rate.
- The syntax of the function is:
- NPER(rate, pmt, pv, [fv], [type])
- **Rate** Required. The interest rate per period.
- **Pmt** Required. The payment made each period; it cannot change over the life of the annuity. Typically, pmt contains principal and interest but no other fees or taxes.
- **Pv** Required. The present value, or the lump-sum amount that a series of future payments is worth right now.
- **Fv** Optional. The future value, or a cash balance you want to attain after the last payment is made. If fv is omitted, it is assumed to be 0 (the future value of a loan, for example, is 0).
- **Type** Optional. The number 0 or 1 and indicates when payments are due.

DB FUNCTION

- The Excel DB function calculates the depreciation of an asset, using the Fixed Declining Balance Method, for each period of the asset's lifetime.
- The format of the function is:
- DB(cost, salvage, life, period, [month])
- cost The original cost of the asset.
- salvage The salvage value after the asset has been fully depreciated.
- life The useful life of the asset or the number of periods that you will be depreciating the asset.
- period The period that you wish to calculate the depreciation for. Use the same units as for the *life*.
- number_months Optional. It is the number of months in the first year of depreciation. If this parameter is omitted, the DB function will assume that there are 12 months in the first year.

SLN FUNCTION

- The Excel SLN function calculates the straight line depreciation of an asset for one period.
- **Syntax**
- SLN(cost, salvage, life)
- The SLN function syntax has the following arguments:
- **Cost** Required. The initial cost of the asset.
- **Salvage** Required. The value at the end of the depreciation (sometimes called the salvage value of the asset).
- **Life** Required. The number of periods over which the asset is depreciated (sometimes called the useful life of the asset).

SYD function

- The Excel SYD function calculates the sum-of-years' digits depreciation for a specified period in the lifetime of an asset.
- The format of the function is:
- SYD(cost, salvage, life, per)

- **Cost** Required. The initial cost of the asset.
- **Salvage** Required. The value at the end of the depreciation (sometimes called the salvage value of the asset).
- **Life** Required. The number of periods over which the asset is depreciated (sometimes called the useful life of the asset).
- **Per** Required. The period and must use the same units as life.

How to Record a Macro to Automate Tasks in Excel 2010

- You can use macros in Excel 2010 to save time by automating tasks that you perform frequently.
- A macro is a series of commands grouped together that you can run whenever you need to perform the task.
- When you record a macro, Excel stores information about each step you take as you perform a series of commands. You then run the macro to repeat, or play back, the commands.
- The macro recorder records every action you complete. Therefore, planning your macro before you begin the recording process is very important so you don't record unnecessary steps.

Record a macro

- Follow these steps to record a macro:

1. Choose Record Macro in the Code group of the Developer tab.

- The Record Macro dialog box appears.

2. Type a name for the macro in the Macro Name text box.

- The first character of the macro name must be a letter, and the name cannot contain spaces or cell references. Macro names are not case-sensitive.

3. (Optional) Assign a Shortcut Key.

- If you select a shortcut key already used in Excel, the macro shortcut key overrides the Excel shortcut key while the workbook that contains the macro is open.

Record a macro

4. From the Store Macro In drop-down list, select where you want to store the macro:

- **This Workbook:** Save the macro in the current workbook file.
- **New Workbook:** Create macros that you can run in any new workbooks created during the current Excel session.
- **Personal Macro Workbook:** Choose this option if you want the macro to be available whenever you use Excel, regardless of which worksheet you're using.

Record a macro

5. (Optional) Type a description of the macro in the Description text box.

6. Click OK.

7. Perform the actions you want to record.

- The Record Macro option on the Developer tab changes to Stop Recording.

8.Choose Stop Recording in the Code group of the Developer tab.

- The macro recorder stops recording keystrokes and the macro is complete.