SPREADSHEETs
Microsoft Excel

- It is an electronic spreadsheet, with capability of tabulating data, simplifying numeric calculations and presenting numeric data graphically.
- Ms Excel also provides database management facilities whereby it has the capability to develop a database, add records, edit records, and delete records.
- It also provides facility to do statistical analysis of data.

Spreadsheet

- It is a layout of rows and columns which is used to organize data that is predominantly numeric in tabular manner.
- A spreadsheet provides you with worksheet. A worksheet is a tool that is used for maintaining predominantly numeric data in tabular form and further provides facilities to do calculations and generating charts.

Applications of Spreadsheet Programs

- Preparing payrolls - Calculating employees salaries i.e. gloss pay, allowances, deductions and the net pay.
- Presenting students performance - to store students information e.g. marks, calculating total marks, average marks and grading.
- Creating and maintaining personal budget- tabulating monthly expenses and calculating total monthly expenses.
- Calculating mortage payments- to calculate the monthly repayment amount on a mortage loan.
- Comparing student performance in form of charts.
- Calculating profit and loss of businesses.
- Preparing income tax statements among others

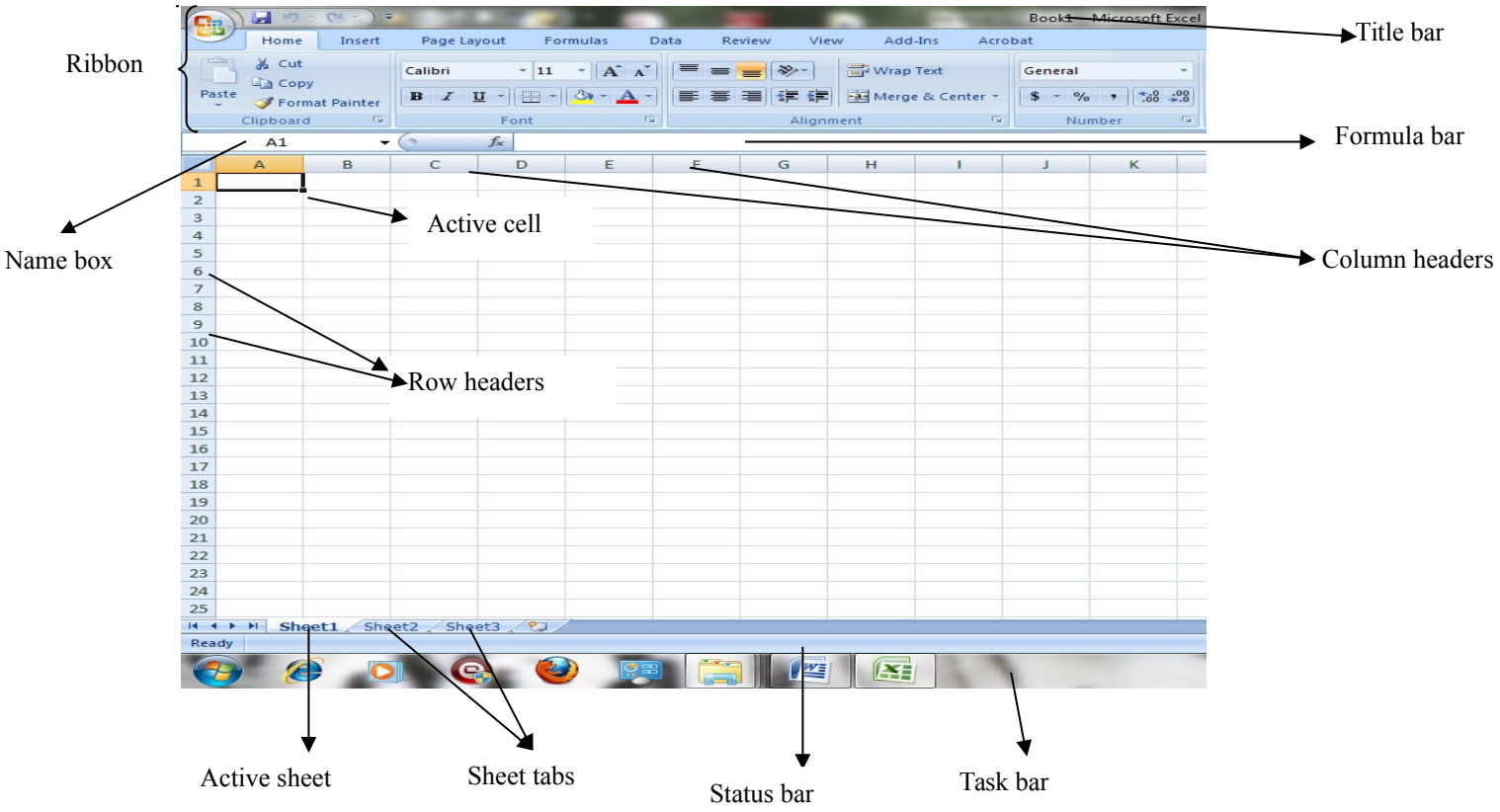
Other examples of spreadsheet programs

- Ms Excel
- Lotus 1-2-3
- Symphony
- Quarto pro
- Multiplan
- Visicalc
- Supercal

Methods of loading/starting Ms Excel in windows

- Use of All programs
- Use of run
- Use windows explorer.
- Use of a desktop shortcut.
- Use an existing file

Microsoft Excel Window



(a) Title bar

This bar shows the name of the work book which is open (i.e one you are working on)

(b)Formula bar

It indicates what is being entered in a cell. It is also where editing of content of a cell can be done.

(c)Name box

Contains the cell address of the active cell

(d)Tabs

Contains the logical groups used to perform various operations e.g.Home,Insert,Page layout,Formulas etc

(e) Rows

They run across the screen horizontally and are named using numbers 1,2,3.The numbers are referred to as **row headers**

(f) Columns

They run down vertically and are named using letters of alphabet i.e. A, B, C, etc. These letters are referred as **column headers**

(g) Cell

It is an intersection between a row and a column. They are named using columns and row co-ordinates. For example, where column A and row 1 meet they make cell **A1.**

(h) Working Area

It is made of many cells arranged both vertically and horizontally.

(i) Sheet tabs

It shows the worksheet or chartsheet which is active - i.e. the sheet which is being worked on. We have sheet 1, sheet 2 , sheet 3 etc.

(j) Active cell

It is the cell on the worksheet which is selected by the cell pointer and it is the cell which is ready to be entered data.

Workbooks And Worksheets

Workbook

- In Ms Excel, a workbook is the file, in which you work and store your data. Because each workbook can contain many sheets, you can organize various kinds of related information in a single file.

Worksheet

- The primary document you use in Microsoft Excel to store and work with data. A worksheet consists of cells organized into columns and rows and is always part of a workbook. Also called a **spreadsheet.**

- Use worksheets to list and analyze data. You can enter and edit data on several worksheets simultaneously and perform calculations based on data from multiple worksheets. When you create a chart, you can place the chart on the worksheet with its related data or on a separate chart sheet.
- The names of the sheets appear on tabs at the bottom of the workbook window. To move from sheet to sheet, click the sheet tabs. The name of the **active sheet** is bold.

Active sheet

- Is the sheet that you're working on in a workbook. The name on the tab of the active sheet is bold.

CREATING MS EXCEL DOCUMENT

Entering Data in worksheet

- Position the mouse pointer at the cell to enter the data and click the left button.
- Type the data using the keyboard.
- Press enter key on the keyboard.

Editing Data (correcting mistakes).

- Double click the cell that contains the data you want to edit.
- Use the left or right arrow key to move the cursor to the location to make correction.
- Make the necessary change then press enter.

Navigating with a worksheet.

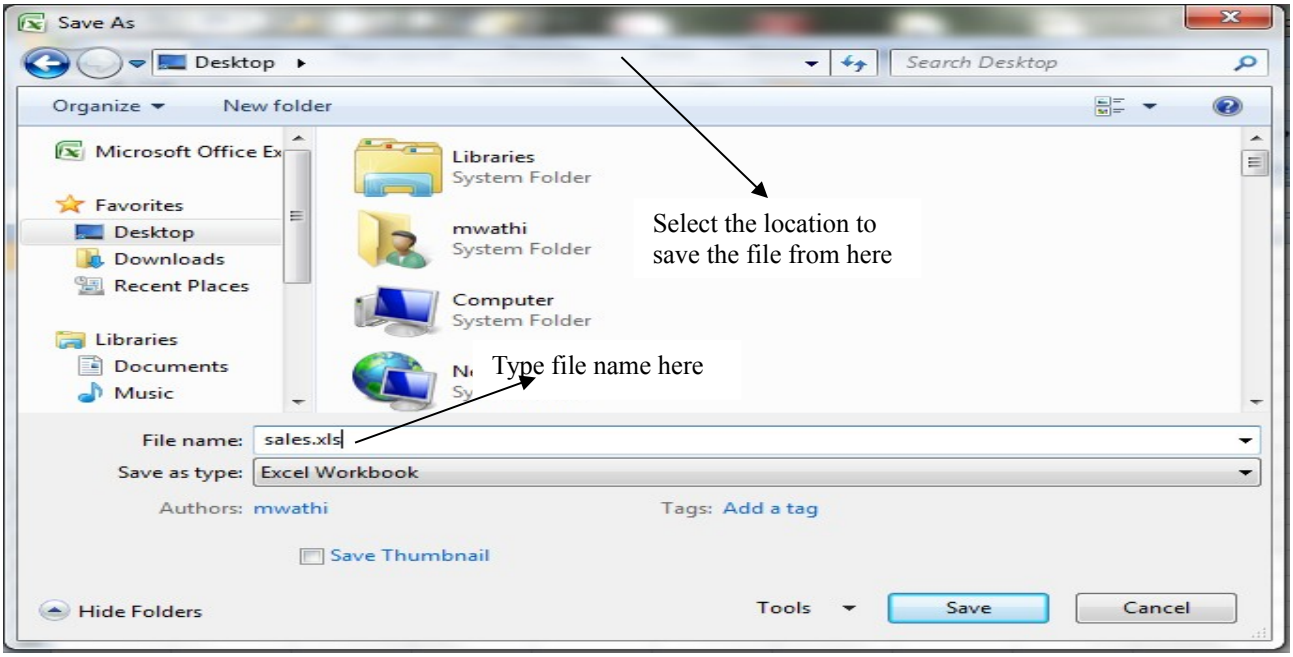
- You can use mouse to move within a worksheet. Click the cell where you want to move.
- Alternatively you can use the arrow keys on the keyboard. Use them to move left, right, up or down depending on the key you press.

Saving a new worksheet

After entering data on worksheet, you need to save it for future use.
To save a new worksheet;

- From the file menu select **Save As** or click save button on toolbar.
- On the save as dialog box that appears, default file name Book1 will be displayed as the file name.
- Select the location where to save the file.

- Type the file name then click save button.



Saving changes on the worksheet

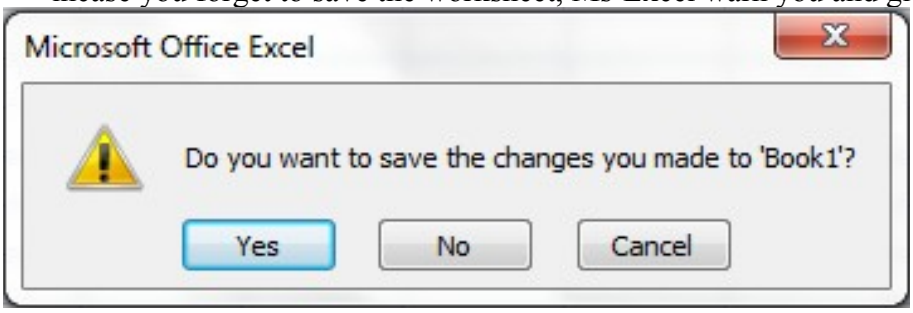
After making any change on the worksheet, it is important to effect the changes to the already saved one.

To save any change;

- Click save button on the toolbar or
- Select save from the file menu.

Closing the worksheet

- First ensure everything is saved before closing the worksheet.
- Click on the file menu then Select close option or click on close button(X) at the right corner of the screen incase you forget to save the worksheet, Ms-Excel warn you and gives you the last chance to save.



- You can choose;
  Yes: to save the details incase you had not saved.
  No: to close the file and the changes ignored.
  Cancel: to ignore closing the file and taken back to the worksheet.

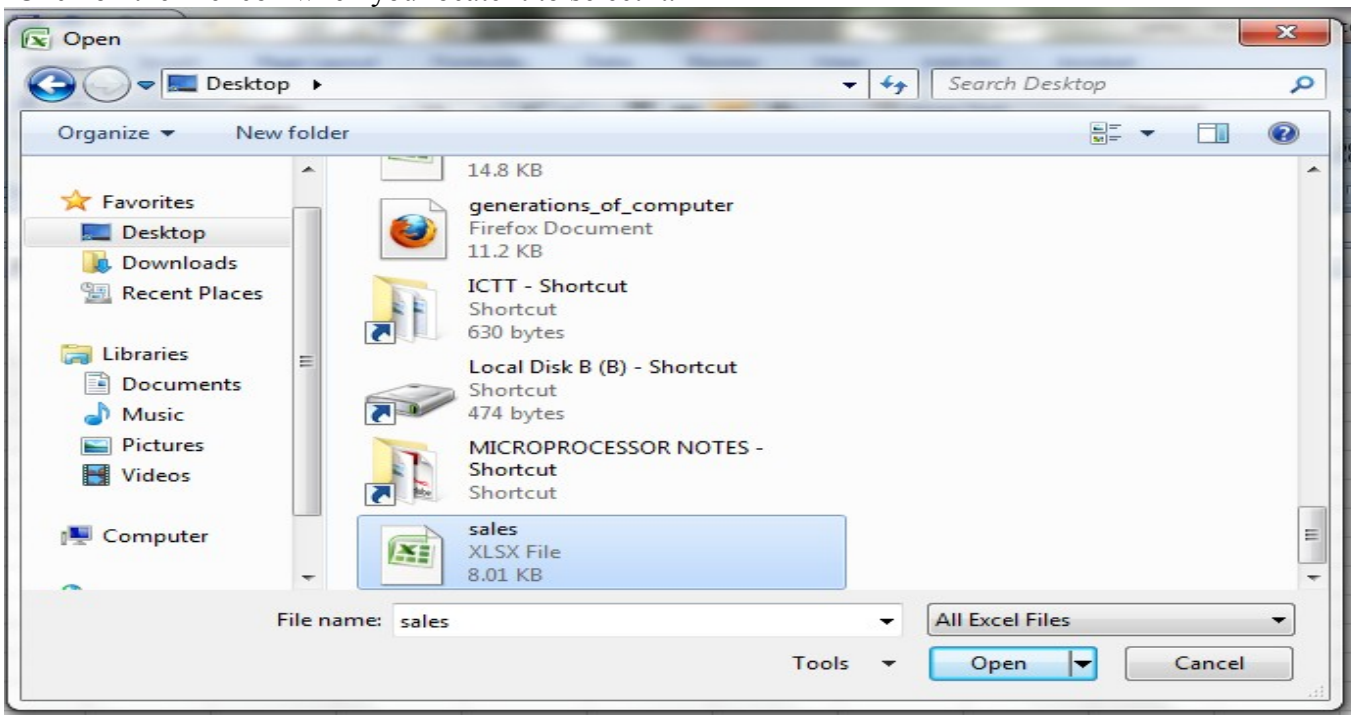
Exiting Excel

- When you have finished working with Ms Excel you exit to close the program.
- Ways of exiting Ms Excel:
  i) Choose exit from the file menu or
  ii) Click closing button on the top right corner of the screen or
  iii) Press Alt + F4 simultaneously.
- After selecting either of the options, Ms Excel is closed and taken to the desktop.

Opening an Existing Ms Excel File

- To opening an existing Ms Excel file, use either of these options**.**

(a)-Open the program i.e Ms Excel
-From the Office button, select open.
-On the open dialog box, select the location where the file is found e.g. drive C, My Documents, or desktop.
-Use the scroll bar to locate the file.
-Click on the file icon when you locate it to select it.



-Click on open button to open the file.
Fig. Opening file known as Sales

(b) -Select where the file located direct e.g. drive C.
-On opening where the file is located, double click the file to open it.

Adjusting Column Width

It is important to adjust column width especially when entering a longer name on the cell. If the entry of the cell is too wide to fit into the cell, Ms Excel splits the contents of that cell to the next cell which is overwritten by any entry you make in that cell.
Incase of values, Ms Excel displays them in harsh(####). It now becomes vital to adjust the cell width.

Way of adjusting the column width

(a) – Click on the column to adjust.
- From the format menu, select column-width.
- On the **Column Width** dialog box, enter the required width.

- Click OK button**.**

(b) –Position the mouse pointer at the right boundary of the column header so that the shape changes to a cross.
- Double click the boundary. This will adjust the column width automatically so that the widest data entry in the column just fits. This technique is called **Best fit** method.
-If the size is not enough when the mouse is on cross shape, drag the column border while holding down the left mouse button until you have the desired column width.

Aligning Text:

Ms Excel treats every entry entered in the worksheet as either **Label** or **Value**.

Label

- It is any entry that is alphanumeric i.e. A entry that is either made up of letters of the alphabet or a mixture of both letters of alphabet and numerical data that cannot be manipulated mathmatically.
- Also numeric data with spaces, slashes between them are regarded as a label in Ms excel entry.
- NB: Ms Excel aligns label automatically to the **left**

Examples of Labels:

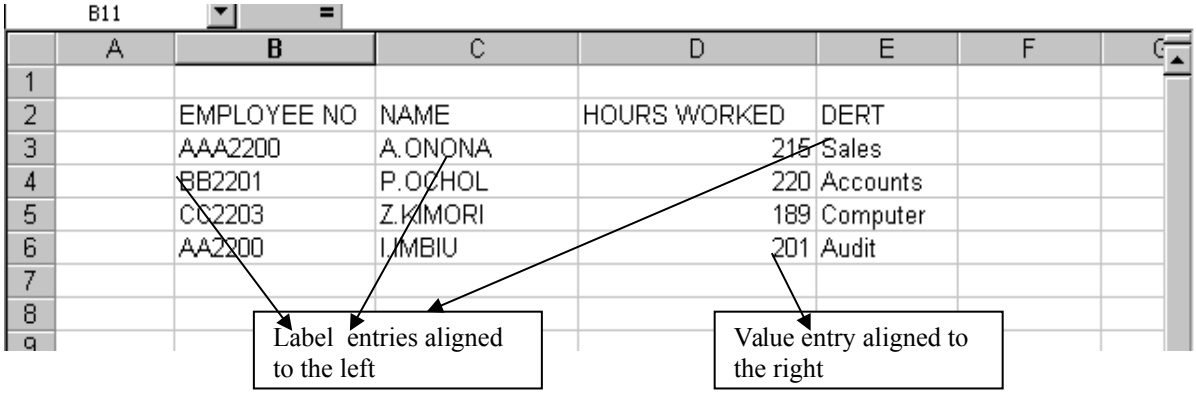
- 124AA, 343-43, CC456, ABASF, 343 890, 786/908.

Value

- It is any entry that is Numeric.
- All numeric entries are aligned automatically on the Right in the cell.

Examples of Values

- 8900, 102, -564, 78.890, -767, $890, 566%, Kshs 7845.



NB : However the default alignment of the entries can be changed to others.

For example you can change value alignment from right to center or left and the vice versa.

Inserting /Deleting Column(s) and Row(s)

- After creating a worksheet, a situation may arise which requires to add more information in between the existing rows and columns. Therefore a new column or row needs to be inserted depending on what is needed.

Inserting a Column

- Click/Highlight on the column on the right of where to insert the column; then right click on the highlighted column and click on insert sheet columns;.
- Click/Highlight on the column on the right of where to insert the column ;From **Home tab** click on **insert** then select insert sheet columns. A new column is inserted.

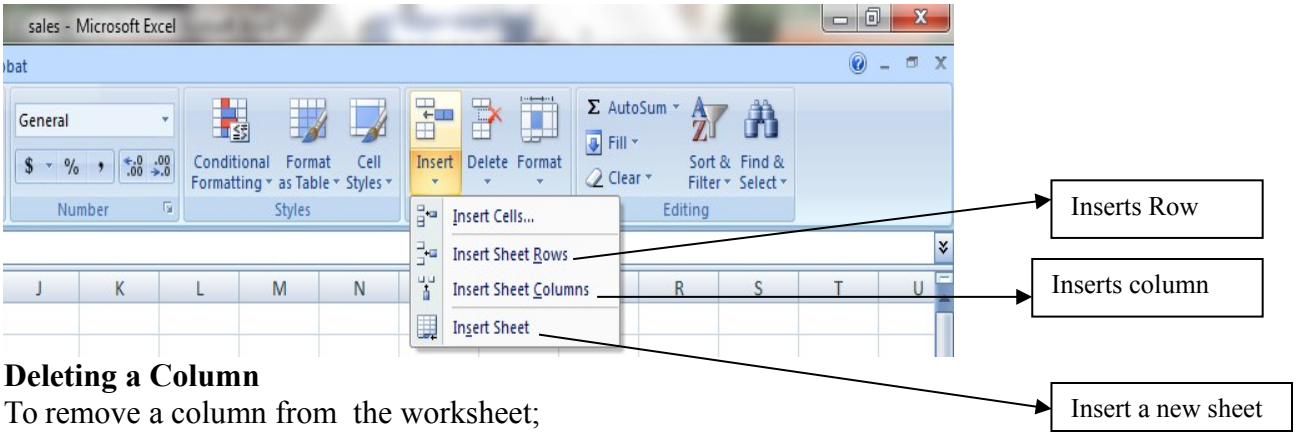
Inserting more than one column at once.

- The number of columns to insert at once depends on the number of columns highlighted(selected).
- To insert many columns at once, select the number of columns to insert the repeat the procedures for inserting a single column.

Inserting a Rows

- Click on the row to be pushed down to pave way for the new row.
- From Home tab, select insert then click insert sheet rows and a new row is inserted.

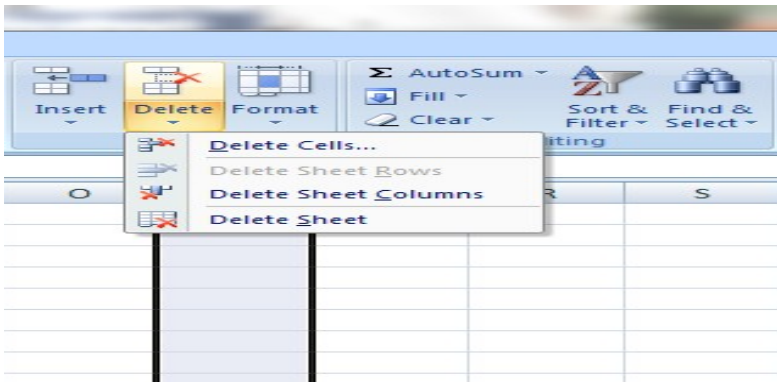
NB To insert many rows at once, select the number of columns and where to insert then from Insert menu, click rows and new rows will be inserted.



Deleting a Column

To remove a column from the worksheet;

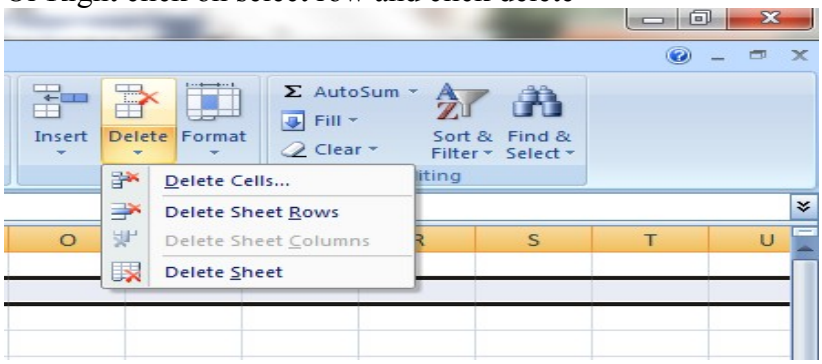
- Click on the column to delete.
- From ribbon, select delete tab
- select **delete sheet columns** option.
  Or Right click on select column and click delete



Deleting a Row

- Select the row to delete.
- From the ribbon, select delete
- Click delete rows

Or Right click on select row and click delete



Copying a Data in worksheet.

To avoid retyping information on the worksheet you can duplicate it by copying.

Steps

- Highlight the section of the worksheet to copy.
- From the Home Tab select copy.
- Click on the first cell on where to place the copied data/text.
- Then click Paste and the data is copied .

Moving Data on worksheet

You can move data from one part of the worksheet to another.

To move the data;

- Highlight the cells range to move.
- From Home Tab , select cut.
- Click on the first cell of where to place the data.
- Then click paste and the data will be placed on the new location of the worksheet.

ENHANCING THE APPEARANCE OF WORKSHEET

This involves formatting of cells contents. It includes applying different :

- Number formats
- Font colours, sizes, styles, underlining.
- Text alignments
- Background colours and patterns
- Text orientations
- Cells borders

Formatting Numbers

This involves applying the desired date format(short, long, medium),currency type($,kshs,pounds), time format(e.g.1:30, 1:30:50.,22:30hrs),applying percentages, fractions, setting decimal places(e.g. 56%,678.2, 785.34,)

(a)formatting date

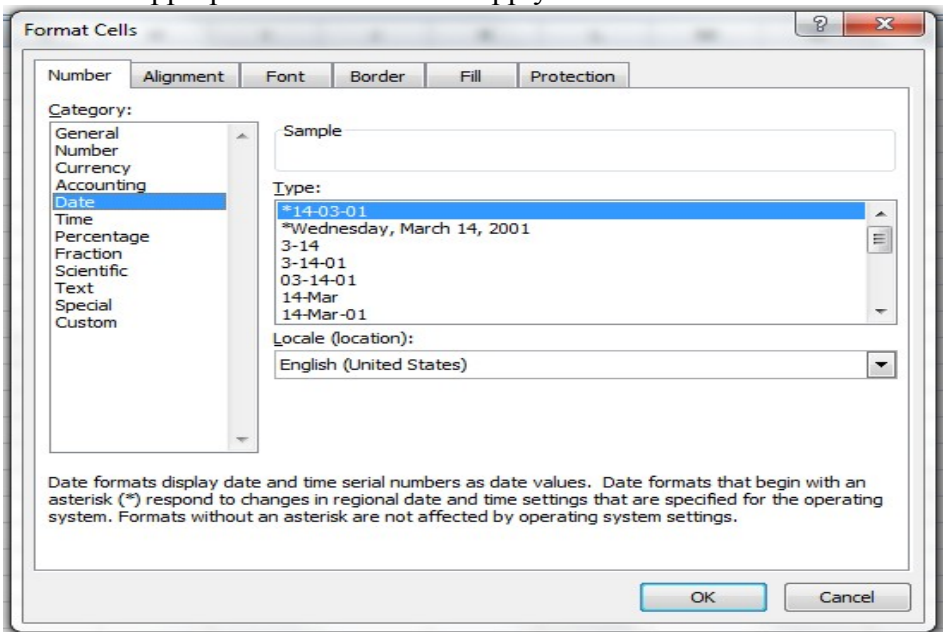
Highlight the column for the date.

Select cells from Home Tab-Right click and select Format cells.

Click on number tab.

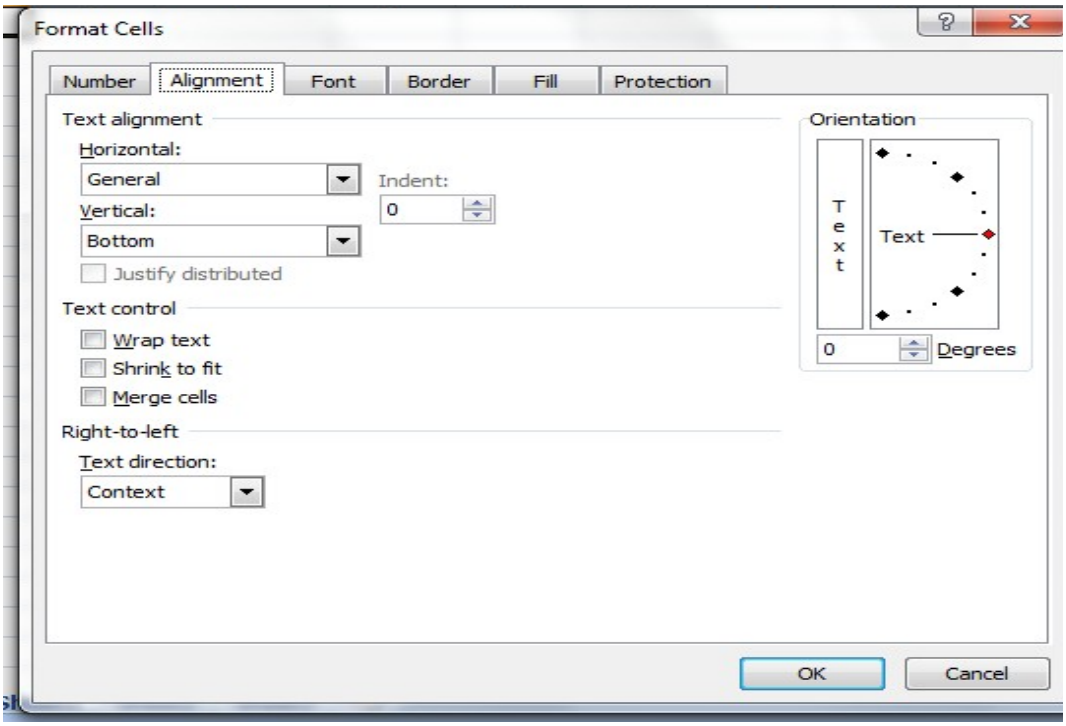
Select the date from the given items.

Select the appropriate date format to apply.

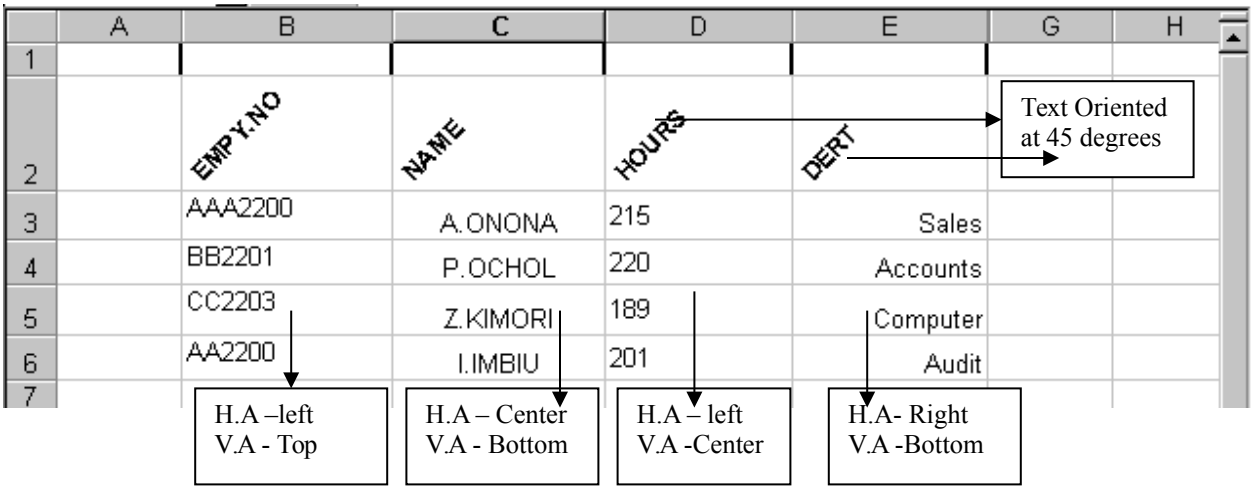


Click OK button
NB: Repeat the above procedure to apply format for other items on Number category – time, currency, fraction , percentages etc.

Applying different text alignment
There are two major text alignments – Vertical and Horizontal.
On vertical alignments we have : top, center ,justified, bottom placement.
On horizontal alignment we have: left, right, center, justified.
NB: you can also use text orientation by applying specific degree to the text e.g. 90 degrees 45 degrees orientation.



Steps for changing text alignment.
Select (highlight) the text to change the alignment.
From format select cells.
Alignment category,select the desired vertical(either-center, left or right) and also select required vertical alignment (top, center or bottom)
On orientation section adjust to required degrees (45,80, or 90)
Click OK button.



NB : H.A- Horizontal Alignment
V.A –Vertical Alignment.

FORMATING FONTS:

This includes the process of applying different font attributes such as font face, font style, font sizes, font colour, and underline type.

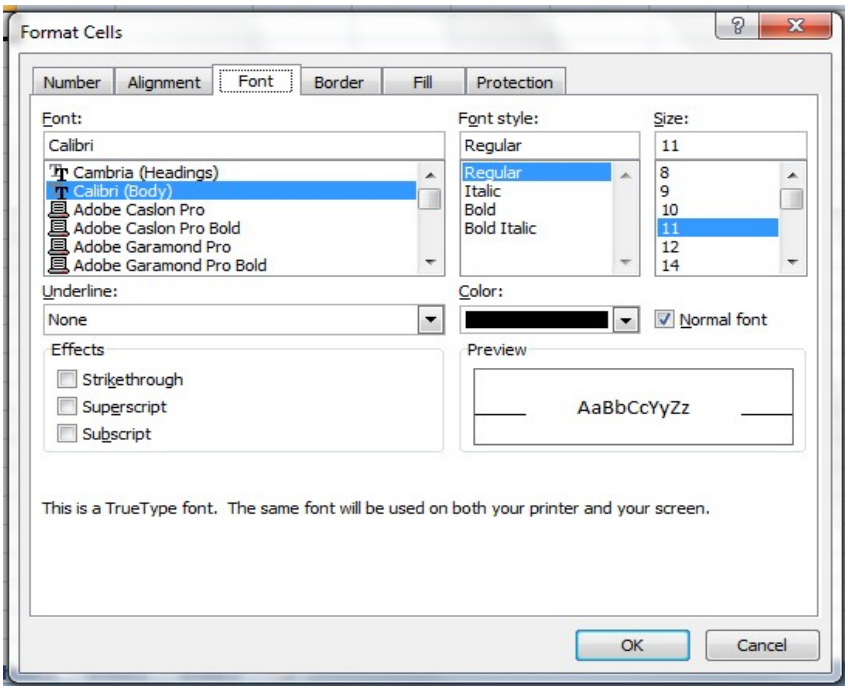
STEPS.

- Highlight the text to format.
- From the Home Tab-Font Group or Right click and select format cells.
- Click on the font tabs.
- On the font category select on the appropriate font type e.g times New Roman, Tahoma, Cambria etc.
- On font style, select the appropriate eg Bold, Italics etc
- On font size select or type the desired size.
- On the underline category select the desired type if any.
- On colour select the desired type of colour to apply.

NB: You can use shortcut on tool bar to apply these font attributes.

		customers Records		
	customer	**product**	**date**	**cost**
	Monica	*clothes*	*5/8/01*	*6000*
	Boston	*radio*	*8/9/00*	*10000*
	Grace	*furniture*	*2/1/99*	*15800*
	Olao	*door*	*6/3/00*	*5000*

A table with different font formats

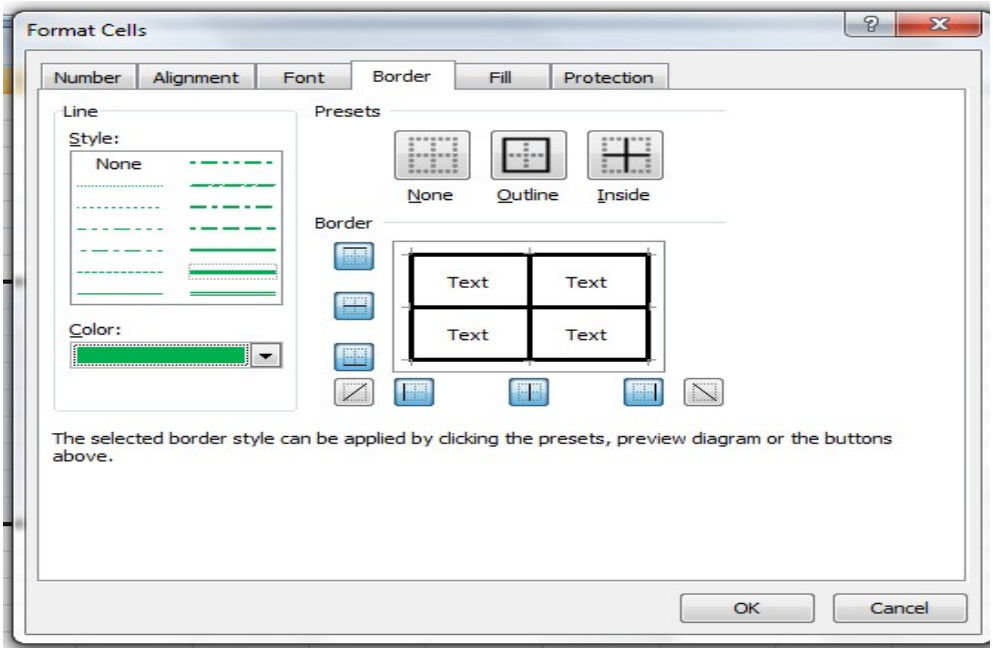


Applying Borders to worksheet

A worksheet can be enhanced by applying borders. This is important especially when a worksheet is to be printed because the gridlines will not appear on hard copy.

Steps:

- Highlight the range to apply the borders.
- Right click and select format cells or from font group select borders .
- On Format cells window, select Borders option.
- Select the border colour, border type, and part to apply(outline, inside, or both by click the button).
- After setting all the border specifications, click OK button

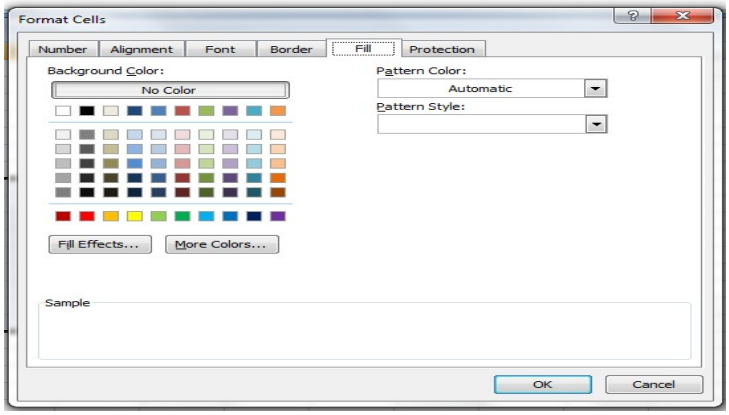


Applying Pattern on worksheet

- Includes enhancing the worksheet with background colour or patterns.
- When selecting pattern or colour to the worksheet, it is important to select a combination that does not interfere with the appearance of the worksheet content.

Steps

- Highlight the cell range to apply the pattern/colour
- Right click and select Format cells.
- On Format cells window, select Patterns option.
- On cell shading, select the colour then pattern to apply.
- Click OK.



CHAPTER 4
FORMULAS AND FUNCTIONS

Ms Excel enables you to work with formulas. It tells you how you want a particular value to be Computed.

Considerations to make before doing a calculation

- Mentally figure out what to calculate.
- Note the values in the worksheet that are required for the calculation.
- Identify the cell addresses of the values required for calculation. E.g. B3, C7 etc.
- Type the formula in the cell where you want the calculated value starting with equals signs(=) .Ms Excel uses this sign to differentiate between a label or text and a formula.
- Press Enter key.

Ms Excel immediately calculates and shows the results in the cell, while the formula is displayed on the formula bar.

Examples; =B4/B5 but not B4/B5
=C3+C5+D3 but not C3+C5+D3

Formulas are user defined mathematical operations

Examples of Excel Formulas:

Operator	Description	Example 1	Example 2	Example 3
+	Addition	C3=A2+A4	B1=B3+56	C4=67+50
-	Subtraction	D5=E4-E2	B6=B1-40	F2=89-45

*	Multiplication	A4=G1*D3	B2=E1*56	D4=34*23
/	Division	D1=A2/B3	C2=B3/15	B2=60/17
^	Exponential	C2=(B1+B4)^2	B3=A3^2	C2=(56+34)^3

Functions:

Functions are inbuilt mathematical operations/formulas that replace complex lengthy calculations using formulas. For example instead typing long formula =(B1+B2+B3+B4+B5), you simply type =SUM(B1:B5) on destination cell.

NB: functions apply when you are calculating formula of a range i.e. when you are including all the cells between a specific range e.g. From B1 to B5.

Examples of Functions

Function	Use	Example
Sum	Calculating totals	=Sum(A1:A7)
Product	Calculating product of a number	=Product(B2:C8)
Average	Calculating average (mean) of a range.	=Average(C4:C9)
Maximum	Calculating highest value in a range	=Max(D3:F5)
Minimum	Calculating lowest value in a range	=Min(B1:B6)
Round	Rounds off numbers to a specified decimal places	=Round(D4,1)

Example of application of the formulas and functions

	A	B	C	D	E	F	G	H	I	J
1	Staff	Hours	pay per	Amount	Allowance	Gross	Tax (6%)	Net pay	Round	
2	Name	Worked	Hour	Payable	Given	Pay			off(0 D.p)	
3	Okello	12	340	4080	300	4380	262.8	4117.2	4117	
4	Akinyo	8	250	2000	120	2120	127.2	1992.8	1993	
5	Jennifer	10	400	4000	500	4500	270	4230	4230	
6	Nickson	34	145	4930	340	5270	316.2	4953.8	4954	
7	Paul	6	450	2700	500	3200	192	3008	3008	
8										
9	**Totals**	**70**	**1585**	**17710**	**1760**	**19470**	**1168.2**	**18301.8**	**18302**	
10	**Average**	**14**	**317**	**3542**	**352**	**3894**	**233.64**	**3660.36**	**3660**	
11	**Maximum**	**34**	**450**	**4930**	**500**	**5270**	**316.2**	**4953.8**	**4954**	
12	**Minimum**	**6**	**145**	**2000**	**120**	**2120**	**127.2**	**1992.8**	**1993**	
13										
14										
15										
16										

Function for:-

a) Totals Hours worked =Sum(B3:B7)
b) Average Hours worked =Average(B3:B7)
c) Maximum hours worked = Max(B3:B7)
d) Minimum hours worked = Min(B3:B7)
e) Amount payable =B3*C3
f) Gross pay =D3+E3
g) Tax =6%*F3

h) Net pay =F3-G3
i) Round off the net pay to 0 d.p. =Round(I3,0)

NB:The above calculation is for the first staff member i.e. Okello.
To calculate the payments for the other staff members, are supposed to copy the formula used to calculate the payments for Okello. This avoids the repetition work of calculating payments for each staff member.

Below are the steps for copying a formula into the subsequent cells:

- Click the cell with the formula.
- Move the mouse pointer to the bottom left corner of the cell with formula until it changes to plus sign (+).
- While holding the left button drag the cell down to cover all the cell range to copy the formula.
- Release the mouse but when you reach the last cell and formula is automatically copied the other cells.

This type of copying is referred as **Relative addressing.** This is because Ms Excel adjusts the reference of the formula to the subsequent cells. i.e. if the formula is copied to the next cell it given reference to that new cell.

E.g. formula copied from D3(C3*B3) to D4 will be (C4*B4).

Absolute Reference(addressing).
This is a type of copying a formula whereby the contents of a cell remain fixed even when it is copied down. In this case if a formula refers to a particular cell and you would like to copy the subsequent entries refers to the same particular cell. This is what is referred as **absolute referencing.**
To fix the a cell in formula, you use dollar sign ($).
Enter the first formula as usual only that;

- Before the column reference insert the dollar sign.
- Before the row reference insert the dollar sign.

The same formula after the absolute referencing will be appearing on the subsequent cells when the formula is copied.
Example:
If the original formula for the first cell was Cell E4= $A$10*B4 then the subsequent Cells will be;
Cell E5 =$A$10*B5
Cell E6 =$A$10*B6
Cell E7 =$A$10*B7
Cell E8 =$A$10*B8
Cell E9 =$A$10*B9

NB: Content of cell A10 is the constant value which is being multiplied to all the content of the cell refernces;B4, B5, B6, B7, B8 and B9.

Use of IF function

- Returns one value if a condition you specify evaluates to TRUE and another value if it evaluates to FALSE.
- Use IF to conduct conditional tests on values and formulas.
- It is mostly used to apply remarks.

Remarks

- Up to seven **IF** functions can be nested as value_if_true and value_if_false arguments to construct more elaborate tests. See the following last example.

- When the value_if_true and value_if_false arguments are evaluated, IF returns the value returned by those statements.
- If any of the arguments to IF are arrays, every element of the array is evaluated when the IF statement is carried out. If some of the value_if_true and value_if_false arguments are action-taking functions, all of the actions are taken.

Examples

- In the following example, if the value in cell A10 is 100, then logical_test is TRUE, and the total value for the range B5:B15 is calculated. Otherwise, logical_test is FALSE, and empty text ("") is returned that blanks the cell that contains the IF function.

- IF(A10=100,SUM(B5:B15),"")

- Suppose an expense worksheet contains in B2:B4 the following data for "Actual Expenses" for January, February, and March: 1500, 500, 500. C2:C4 contains the following data for "Predicted Expenses" for the same periods: 900, 900, 925.

- You can write a formula to check whether you are over budget for a particular month, generating text for a message with the following formulas:

- IF(B2>C2,"Over Budget","OK") equals "Over Budget"

- IF(B3>C3,"Over Budget","OK") equals "OK"

- Suppose you want to assign letter grades to numbers referenced by the name AverageScore. See the following table.

If AverageScore is	**Then return**
Greater than 89	A
From 80 to 89	B
From 70 to 79	C
From 60 to 69	D
Less than 60	F

Assuming the cell reference was for the first entry was B2 then, You can use the following nested IF function:
=IF(B2>89,"A",IF(B2>79,"B",IF(B2>69,"C",IF(B2>59,"D","F"))))

In the preceding example, the second IF statement is also the value_if_false argument to the first IF statement. Similarly, the third IF statement is the value_if_false argument to the second IF statement. For example, if the first logical_test (B2>89) is TRUE, "A" is returned. If the first logical_test is FALSE, the second IF statement is evaluated, and so on.

CHAPTER 5

WORKING WITH CHARTS

Definition of Chart

- It is a graphical representation of worksheet data. Chart converts data from the columns and rows on the worksheet into a visual format that can be read at a glance.
- Charts are linked to the worksheet data they are created from and are updated when you change the worksheet data.

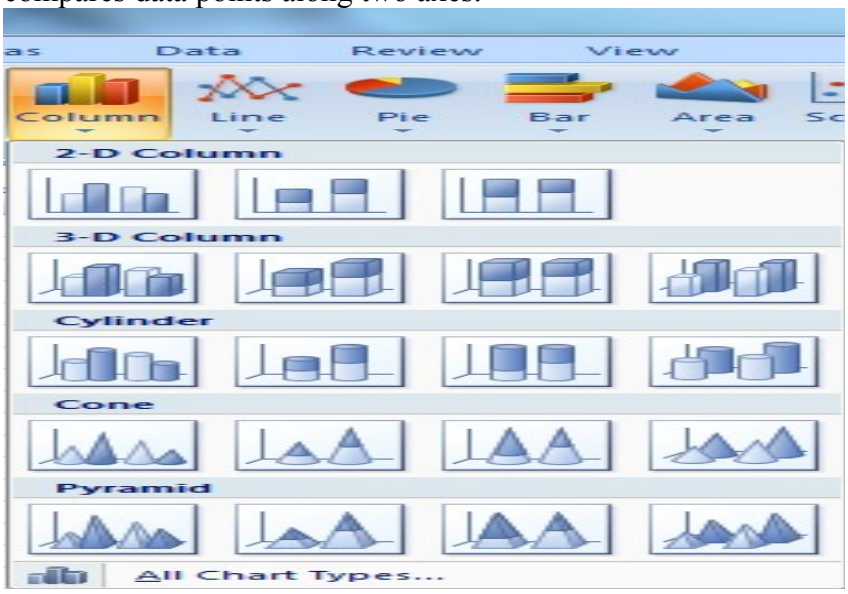
Types of Charts

- Ms Excel supports different types of charts. The type of the chart to be created is determined by the kind of the data to be plotted.

Examples of Ms Excel Charts

a) Column Chart

- It is the best chart for comparison. You can compare two items against each other e.g. comparing the performance of students on a certain subject, or comparing income from different departments in a company.
- column chart shows data changes over a period of time or illustrates comparisons among items. Categories are organized horizontally, values vertically, to emphasize variation over time. Stacked column charts show the relationship of individual items to the whole. The 3-D perspective column chart compares data points along two axes.

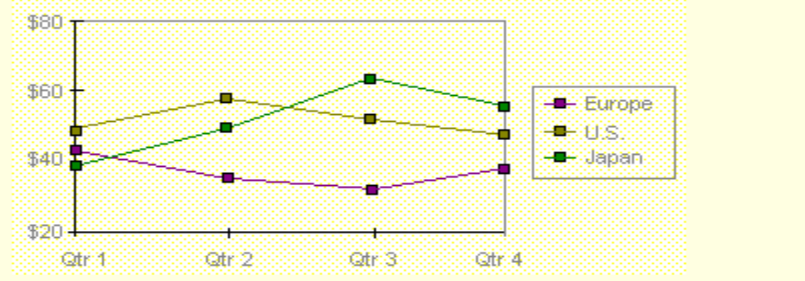


(b) Bar Chart

A bar chart illustrates comparisons among individual items. Categories are organized vertically, values horizontally, to focus on comparing values and to place less emphasis on time.

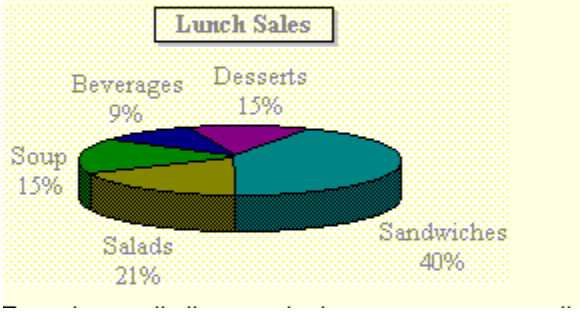
(c) Line Chart

- It is the most appropriate type of chart for showing a trend in data over equal intervals. e.g. distribution of rainfall over a given period of time. It shows whether it is increasing or decreasing across that period of time.



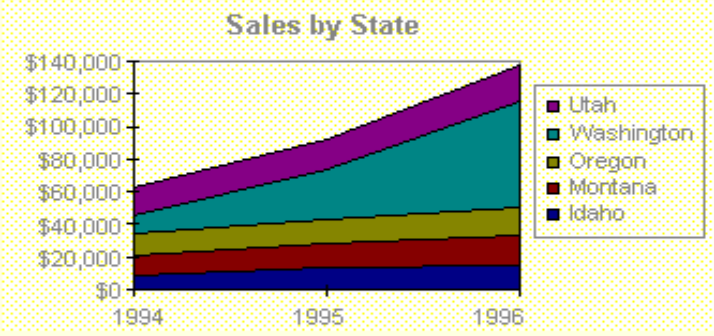
(d) Pie Chart

A pie chart shows the proportional size of items that make up a data series to the sum of the items. It always shows only one data series and is useful when you want to emphasize a significant element.

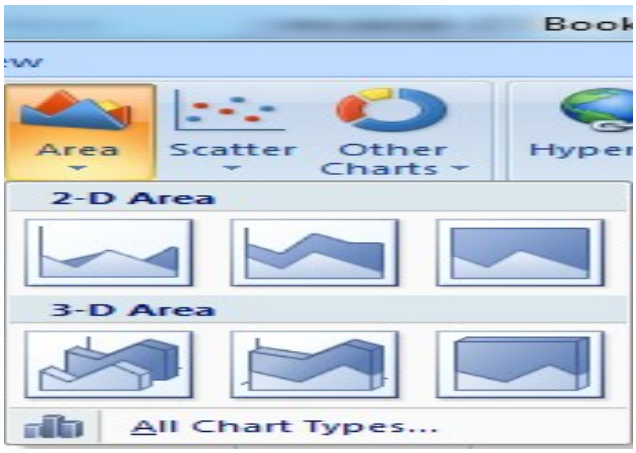


(d) Area Chart

An area chart emphasizes the magnitude of change over time. By displaying the sum of the plotted values, an area chart also shows the relationship of parts to a whole.

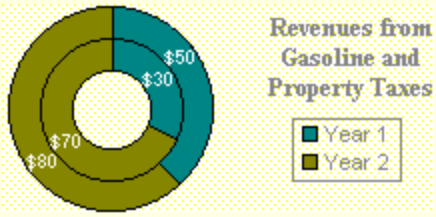


In this example, an area chart emphasizes increased sales in Washingto and illustrates the contribution of each state to total sales.



(e)Doughnut Chart

Like a pie chart, a doughnut chart shows the relationship of parts to a whole, but it can contain more than one data series. Each ring of the doughnut chart represents a data series.



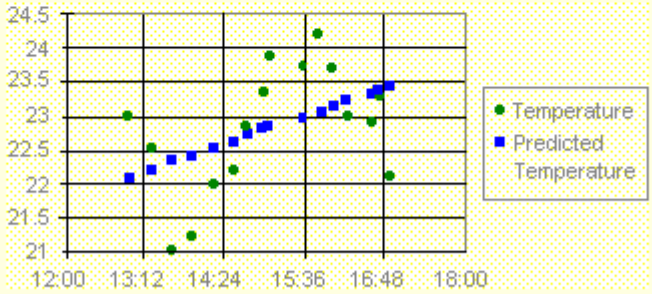
(f) XY(Scatter)

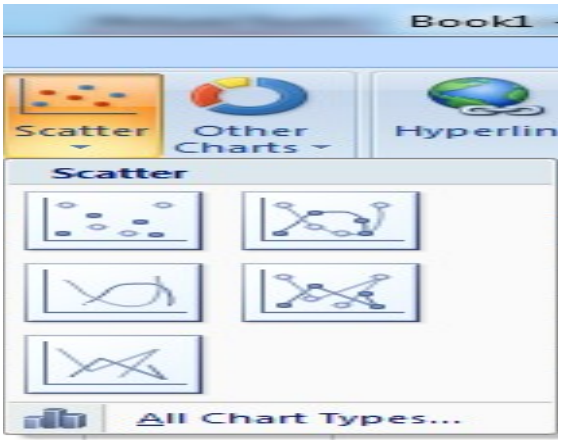
An xy (scatter) chart either shows the relationships among the numeric values in several data series or plots two groups of numbers as one series of xy coordinates. It shows uneven intervals — or clusters — of data and is commonly used for scientific data.

When you arrange your data, place x values in one row or column, and then enter corresponding y values in the adjacent rows or columns.

Time	Temp.	Predicted Temp.
13:01	23.0	22.1
13:25	22.5	22.2
13:45	21.0	22.3

X values Y values





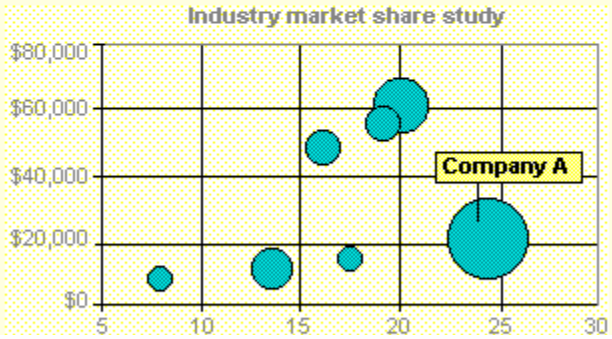
(h) Bubble Chart

A bubble chart is a type of xy (scatter) chart. The size of the data marker indicates the value of a third variable.

To arrange your data, place the x values in one row or column, and enter corresponding y values and bubble sizes in the adjacent rows or columns.

No. of products	Sales	Market share %
14	$11,200	13
20	$60,000	23
18	$14,400	5

X values | Y values | Bubble sizes



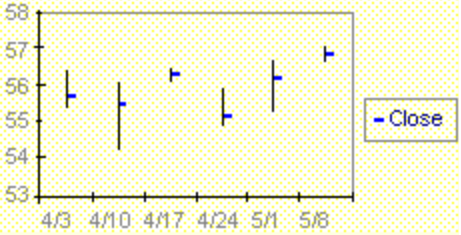
(i) Stock Chart

The high-low-close chart is often used to illustrate stock prices. This chart can also be used for scientific data, for example, to indicate temperature changes. You must organize your data in the correct order to create this and other stock charts.

Arrange your data in this order...

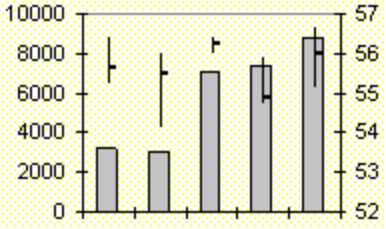
Date	High	Low	Close
4/3	56 3/8	55 1/4	55 5/8
4/10	56	54 1/8	55 1/2
4/17	56 3/8	56	56 1/4

... to create a high-low-close chart.



A stock chart that measures volume has two value axes: one for the columns that measure volume, the other for the stock prices. You can include volume in a high-low-close or open-high-low-close chart.

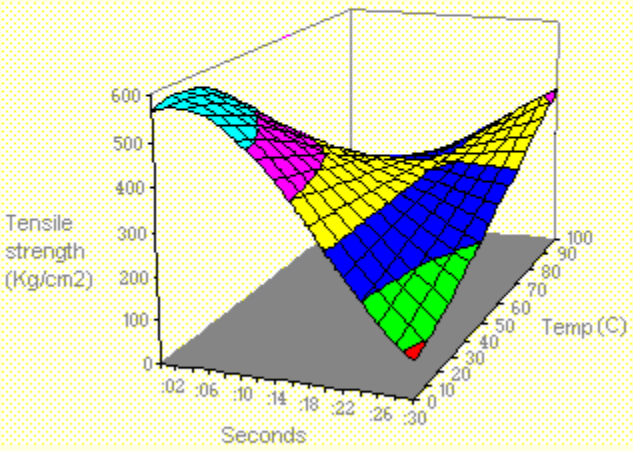
This volume-high-low-close chart measures the columns for volume along one value (y) axis ...



... and the stock prices along the other.

(g) Surface Chart:

A surface chart is useful when you want to find optimum combinations between two sets of data. As in a topographic map, colors and patterns indicate areas that are in the same range of values.



This chart shows the various combinations of temperature and time that result in the same measure of tensile strength.

(h) Chart Terminologies

a) Data marker;

Each column in the chart is a visual representation of a value from a worksheet.

b) Data series

Data series corresponds to the column or row of related values on a worksheet. Data series from on column have the same colour or patterns. E.g a column for cost in a worksheet can be regarded as a data series.

(c) Axis

It is a reference line for the chart. Ms Excel plots a column along vertical and horizontal axes.

i) Y- Axis (Value Axis) :-It is the vertical axis of a chart along which numeric data or values are plotted. E.g. Cost, % marks etc.

ii) X- Axis (Category Axis) :- It is the horizontal axis along which categories are plotted. E.g. Name of customer, student name, month etc.

(d) Legend

This is acts like a key to the graph. It shows the range which have been used to plot the chart. This is very important especially when the chart has more than one range.

In other words, legend is a box that identifies the patterns or colors assigned to the data series or categories in a chart.

You can choose the placement of the legend . The default placement is right of the chart. Other placements are top, left, bottom and corner.

(e) Data Label

It is a label that provides additional information about a data marker, which represents a single data point or value that originates from a worksheet cell. Data labels can be applied to a single data marker, an entire data series, or all data markers in a chart. Depending on the chart type, data labels can show values, names of data series or categories, percentages, or a combination of these.
By default the is no data label.

(g) Data Table

It is a grid in a chart that contains the numeric data used to create the chart. Each row in the data table represents a data series. The data table usually is attached to the category axis of the chart and replaces the tick-mark labels on the category axis.
By default there is no data table

(h) Plot Area

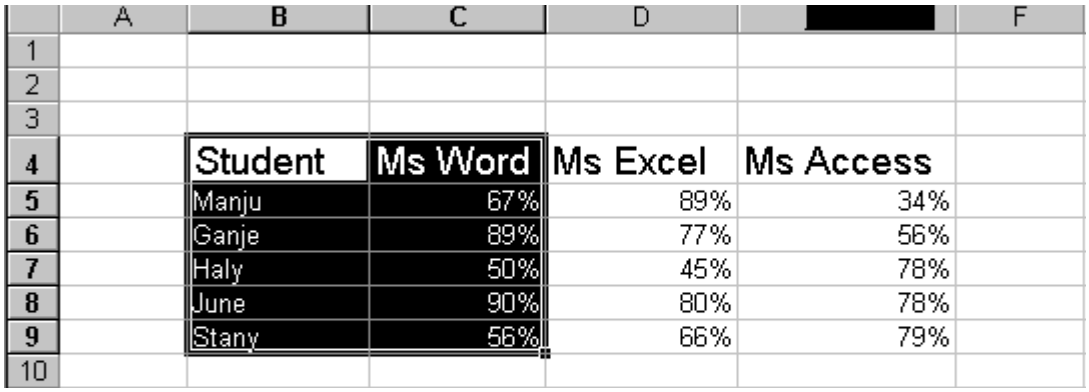
This is the area where data series are plotted/displayed on the chart.

(i) Chart Area

This is the whole area which is covered by the chart. All details of the chart are shown within the chart area. E.g. chart title, legends, data series etc.

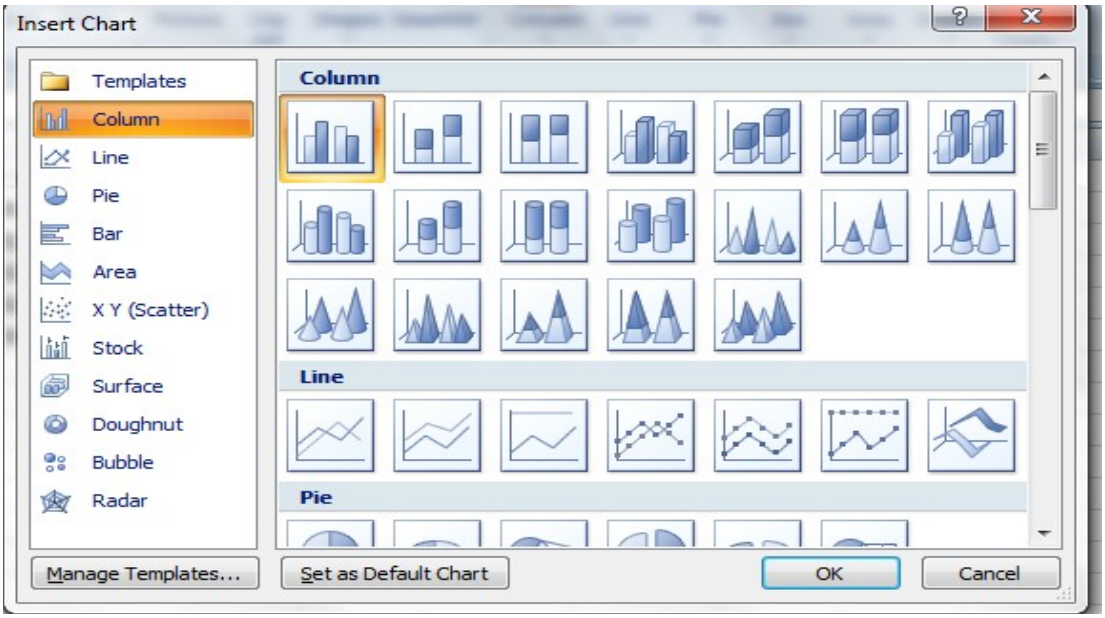
Creating a Chart

- First identify the data you want to chart.
- Highlight the range of the data to chart out.



	A	B	C	D		F
1						
2						
3						
4		Student	Ms Word	Ms Excel	Ms Access	
5		Manju	67%	89%	34%	
6		Ganje	89%	77%	56%	
7		Haly	50%	45%	78%	
8		June	90%	80%	78%	
9		Stany	56%	66%	79%	
10						

- From insert menu select Chart or click ChartWizard button on the tool bar.



- This presents you with Chart Wizard step 1 of 4. On this step select the Chart type to use and also the chart sub-type Mostly the chart type is determined by the data you highlighted.
- Click on **Press and hold to view the sample** button to see a preview of the chart you are creating.
- Click on Next button to move to step 2 of 4.
- On step 2 of 4, a sample of chart is displayed. Here you are also shown the data range you are creating chart from. Also you are shown whether the series is in columns or rows.
- If the appearance of the chart is not as you wanted, click cancel to go back to the worksheet otherwise click Next button to move to step 3 of 4.
- On step 3 of 4 specify all the options that you would like your chart to have. These includes;
  -**Titles**:- Give the Name of the Chart Title, Name of X-axis and Name of Y-axis.
  -**Axes** - Specify whether you want your chart to have either X-axis or Y-axis or not.
  -Gridlines - Specify whether to have either or both major and minor gridlines on either of the axis. To include them tick on the check box provided appropriately.

  -Legend - Click on the check box to apply or deselect the checkbox to remove the legend. If the legend is required, specify the placement - either top, bottom, left, right or corner of the chart by clicking on the relevant checkbox.
  -Data labels - Specify whether to show values, labels or none on the chart.
  -**Data Table** - If you want a data table on the chart, select it on the checkbox.
- After specifying all the options you want click on Next button to move to step 4 of 4.
- On this step (step 4 of 4) specify the location of the chart i.e the worksheet to place the chart. Chart can be place either;
  a) ***As new sheet*** - Here the chart Wizard creates a new sheet with default name chart 1 where it automatically places the chart.
  b) ***As an object in sheet 1*** - This is the default option. On this option, the Chart Wizard chooses the location of the chart to be the current worksheet. However you can choose another worksheet by clicking on the arrow at the end of option *As an object on this sheet.*

❖ Click Finish button after selecting the chart location and the chart is inserted.

Creating a Chart from Non-Adjacent selections

To create a chart from non-adjacent selections;

- Select the first group of cells that contain the data you want to include.
- While holding down CTRL, select any additional cell groups you want to include.
  NB:T he non-adjacent selections must form a rectangle.
- Click Chart Wizard .
- Follow the instructions in the Chart Wizard to continue generating the chart.

Enhancing Appearance of a Chart.

Importance;

- Adding new features after creating the chart.
- To add general appearance or readability of the chart for easy interpretation.
- This involves; -formatting size of a chart, tittles, axes, legend etc

Also it includes applying patterns and borders to the chart area, plot area, data sereis, etc

Resizing the chart; i.e changing size of chart.

- Click anywhere inside the chart to highlight..
- Point at any of the handles on the borders (known as sizing handles) until the mouse pointer changes to a two sized arrow.
- Drag outwards to make the chart bigger or inward to make the chart smaller.

a) Formatting Chart Tittle

- Highlight the chart title by clicking on it.
- From format menu click selected chart tittle.
- On format chart tittle, select the desired font type, font style and font size also select the colour of the font and underline type.
- Click ok.

NB: Repeat the same for chart axes, and legend.

b) Formatting data series

- Highlight the data series by clicking any of them and the rest will be selected.
- From format -select data series.
- Click on parttern tab.
- Click on the colour desired.
- Click on the pattern required.
- Select the borders style required.
- Click OK button.

Changing Chart Type.

By default the Excel creates a column chart, however you can change to any different type of chart. To change chart type;

- Click anywhere on the chart area or right-click to get quick menu.
- Click on chart type
- Select the chart sub-type you want then click OK.

Inserting a New Range to a Chart

A need can arise for introducing a new range after creating the chart. This can be for the purpose of comparison of different items. Ms Excel gives the facilities for inserting a new range.

Procedure

- Highlight the range to add on the chart.
- Point anywhere on the border of the highlighted range until the pointer changes to arrow shape
- Drag the range toward the chart until it enters into the chart area. When it enters on the chart area, the pointer changes to a small plus sign (+) attached to it.
- Release the mouse button and the new range is added to the existing chart.

Deleting a Data series from the Chart

To delete a date series from the chart;

- Click on the data series do to delete.
- Press delete Key on the keyboard.

Printing A chart

This is important when a hard copy of the chart is required. A chart can be printed alone or together with the worksheet. To print the chart alone;

- Click anywhere on the chart area to highlight.
- From the file menu select print.
- On "Print what" option, select "Selected Chart".
- Click OK.

WORKING WITH EXCEL DATABASE

Sorting

This is a process of arranging worksheet data in a range in a particular order or criteria using a sort order.
Sort order arranges data based on value or data type. Data can be sorted alphabetically, numerically, or by date. Sort orders use an ascending (1 to 9, A to Z) or descending (9 to 1, Z to A) order.
Importance

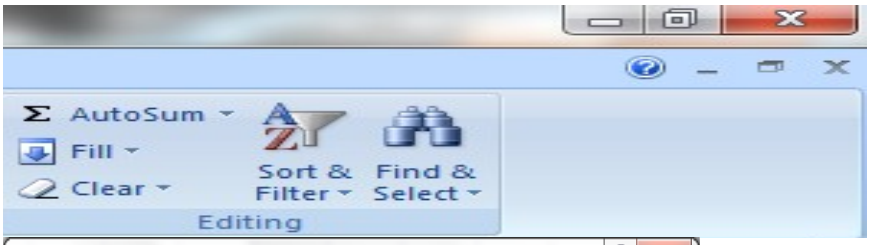
- It helps quickly locate the highest or lowest value in a in a list.
- It helps rearrange data in order of priority e.g. from the best to the poorest.

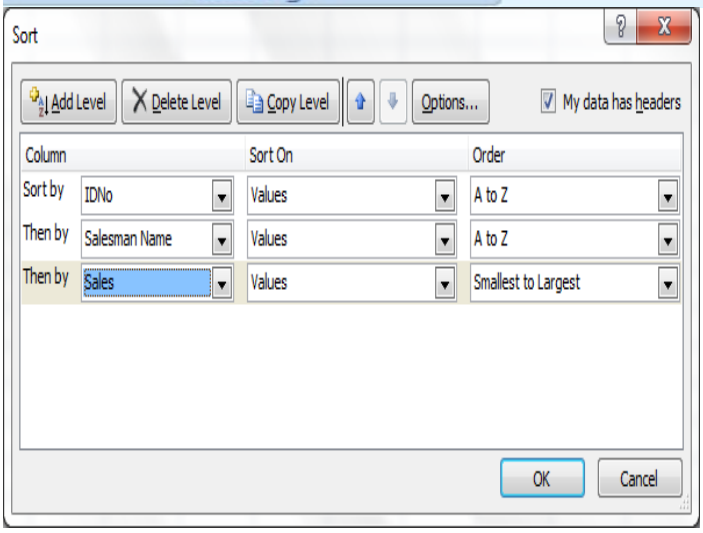
Procedure of sorting

- Click a cell in the list you want to sort.
- On the Data Tab/Home Tab, click Sort.
- In the Sort by and Then by boxes, click the columns you want to sort.
- If you need to sort by more than three columns, sort by the least important columns first. For example, if your list contains employee information and you need to organize it by Department, Title, Last Name, and First Name, sort the list twice. First, click First Name in the Sort by box and sort the list. Second, click Department in the Sort by box, click Title in the first Then by box, and click Last Name in the second Then by box, and sort the list.
- Select any other sort options you want, and then click OK.

- Repeat steps 2 through 4 if needed, using the next most important columns.

NB: Where more than two sort orders are applied, the first criteria is given priority first then the second one.





Filtering

It enables one to locate a record in a large database(sieving a large volume of data using a criteria). This avoids moving around the whole database to find only one record.
There are two types of filtering.

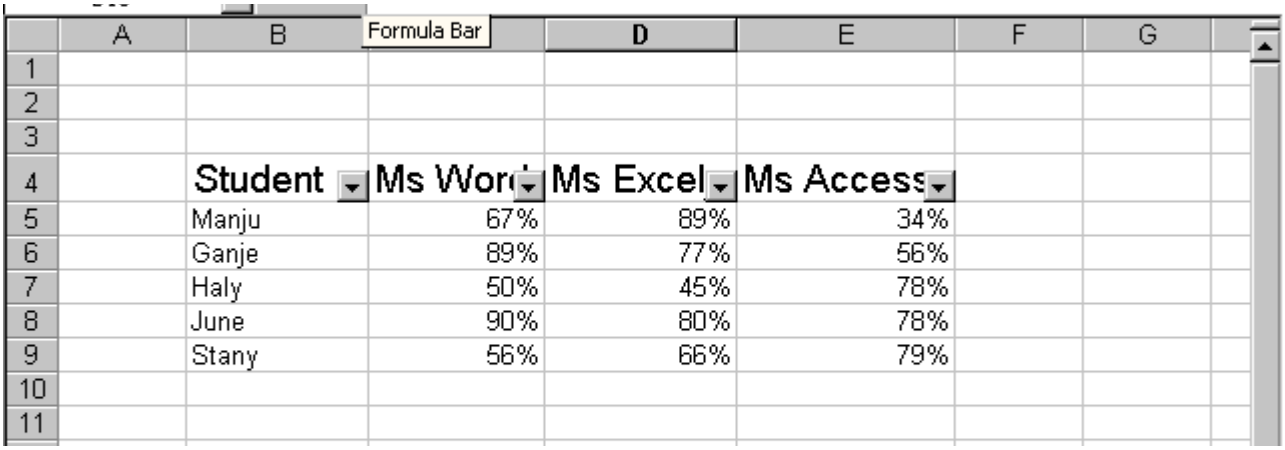
a) Autofilter
b) Advanced filter

Use of AutoFilter

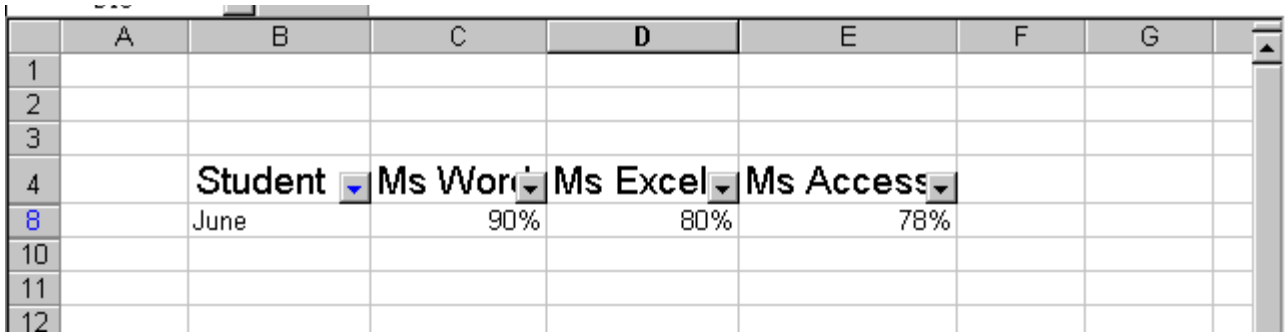
Procedure

- Click anywhere on the database.
- Form the Data menu, select filter, then AutoFilter. AutoFilter Arrows appears.
- Select the appropriate filter arrows depending on the column that you want to filter. For instance if you if you want to filter the student names, use the filter arrow pointing down adjacent the name Student .
- Choose the name you want. You will be shown only the details of the record you selected.

NB: To display all the records again, select the option ***Show All*** on that specific column.



Before Autofiltering



After Autofiltering

Combining criteria

Sometimes you can use more than one filter criteria i.e. filter data using than one column header.

Procedure

- Click on the database.
- Form the Data menu, select the filter the AutoFilter.
- Select the first filter criteria.
- When the first filter criteria is still on, move to the next criteria to apply.
- NB You can filter the required records and copy them to another location or another sheet before showing all the records.

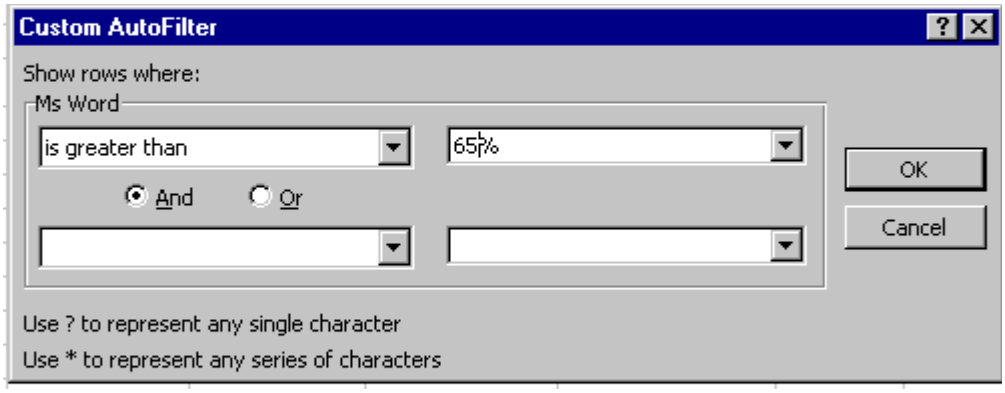
To copy the filtered Records;

- While the filter is still on, highlight the records.
- Select copy from the Edit menu.
- Click on the first cell of the location to place the filtered records
- From the Edit menu, select Paste.

After copying the filtered records you can show all the records.

Customizing AutoFilter

- You can expand the AutoFilter criteria to get more filtering condition to apply on the column you are filtering.
- To do this;
  i) Select **custom** option on the column you are filtering.
  ii) Select the criteria to use. E.g. equals to, greater than. etc.
  ii) Click OK to apply the criteria.



AutoFilter to show only those records of students who scored more than 65% in Ms Word.

Removing filters from a list

- To remove a filter from one column in a list, click the arrow next to the column, and then click All.
- To remove filters applied to all columns in the list, on the Data menu point to Filter, and then click Show All.
- To remove the filter arrows from a list, on the Data menu point to Filter, and then click AutoFilter.

Use of Advanced Filter

Advanced filter criteria can include multiple conditions applied in a single column, multiple criteria applied to multiple columns, and conditions created as the result of a formula.

Three or more conditions in a single column

- If you have three or more conditions for a single column, type the criteria directly below each other in separate rows. For example, the following criteria range displays the rows that contain either "Davolio," "Buchanan," or "Suyama" in the Salesperson column.

Criteria from two or more columns

- To find data that meets one condition in two or more columns, enter all the criteria in the same row of the criteria range. For example, the following criteria range displays all rows that contain "Produce" in the Type column, "Davolio" in the Salesperson column, and sales values greater than $1,000.

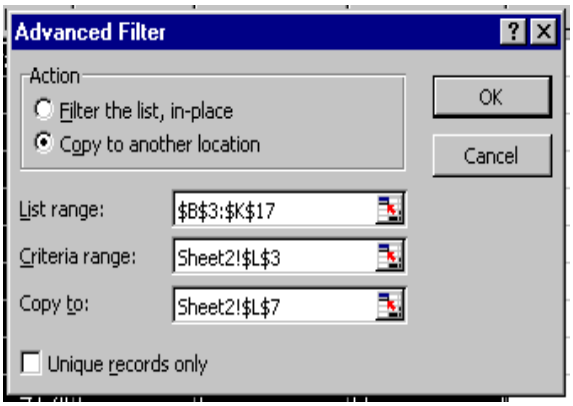
Filter a list by using advanced criteria

Your worksheet should have at least three blank rows that can be used as a criteria range above the list. The list must have column labels.

- Copy the column labels from the list for the columns that contain the values you want to filter.
- Paste the column labels in the first blank row of the criteria range.
- In the rows below the criteria labels, type the criteria you want to match. Make sure there is at least one blank row between the criteria values and the list.
- Click a cell in the list.
- On the Data menu, point to Filter, and then click Advanced Filter.
- To filter the list by hiding rows that don't match your criteria, click Filter the list, in-place.

- To filter the list by copying rows that match your criteria to another area of the worksheet, click Copy to another location, click in the Copy to box, and then click the upper-left corner of the paste area.
- In the Criteria range box, enter the reference for the criteria range, including the criteria labels.
- To move the Advanced Filter dialog box out of the way temporarily while you select the criteria range, click Collapse Dialog .
- After specifying all that you want click OK button to apply the advanced filter criteria.

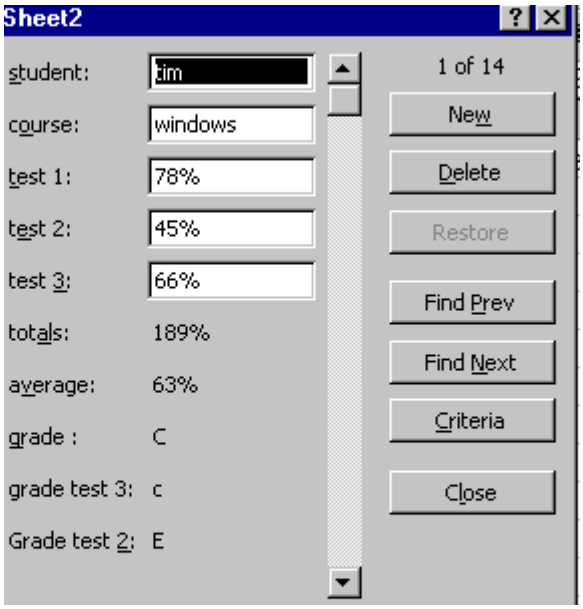
See the figure below.



Use of Data Forms

A data form is a convenient way to enter or display one complete row of information, or record, in a list at a time. Before you can use a data form to add a record to a new list, the list must have labels at the top of each column in the list. Microsoft Excel uses these labels to create fields on the form.
Forms in Ms Excel are used to when dealing with a big worksheet data. A form transforms the worksheet data into a more convenient way to work on
Forms can be used to:

- Add more records to the worksheet.
- Edit worksheet data.
- Locate a record in a worksheet i.e. find a record in a worksheet.
- Delete a record from the worksheet.



Converting worksheet data into form;

- Click inside the worksheet data.
- From the data menu, select **Form…** and the form appears.(See above)

Adding a record to a list by using a data form

- Click a cell in the list you want to add the record to.
- On the Data menu, click Form.
- Click New.
- Type the information for the new record.

To move to the next field, press TAB. To move to the previous field, press SHIFT+TAB.

- When you finish typing data, press ENTER to add the record.

When you finish adding records, click Close to add the new record and close the data form.

Notes

1. Fields that contain formulas display the results of the formula as a label. The label cannot be changed in the data form.
2. If you add a record that contains a formula, the formula is not calculated until you press ENTER or click Close to add the record.
3. While you are adding a record, you can undo changes if you click Restore before you press ENTER or click Close to add the record.
4. Microsoft Excel adds the record when you move to another record or close the data form.

Editing a record in a list by using a data form

- Click a cell in the list you to want to change.
- On the Data menu, click Form.
- Find the record you want to change.
- Change the information in the record.
- To move to the next field, press TAB. To move to the previous field, press SHIFT+TAB.
- When you finish changing data, press ENTER to update the record and move to the next record.
- When you finish changing records, click Close to update the displayed record and close the data form.

Deleting a record in a list by using a data form

- Click a cell in the list.
- On the Data menu, click Form.
- Find the record you want to delete.
- Click Delete.

NB: When you delete a record by using a data form, you cannot undo the deletion. The record is permanently deleted.

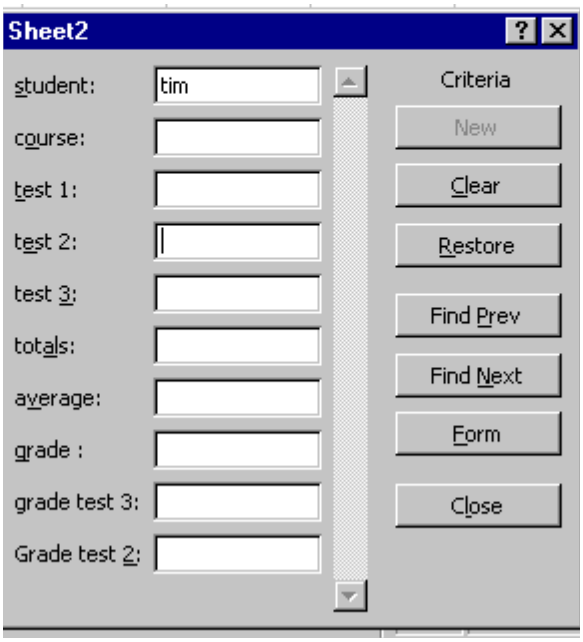
Finding a record in a list by using a data form

- To move through records one at a time, use the scroll bar arrows in the dialog box. To move through 10 records at a time, click the scroll bar between the arrows.
- To move to the next record in the list, click Find Next. To move to the previous record in the list, click Find Prev.

To set search conditions, or comparison criteria;

- click Criteria.
- Enter the criteria into the data form.
- To find records that match the criteria, click Find Next or Find Prev.

- To return to the data form without searching for records based on the criteria you specified, click Form. For



more information about types of comparison criteria, click .

CHAPTER 7

WORKING MACROS

Macro

Definition

A macro is a series of commands and functions that are stored in a Visual Basic module and can be run whenever you need to perform the task. It is used to do those tasks that you perform repeatedly in Microsoft Excel, whereby can automate the task with a macro.

Advantages of use of Macro

- It saves time in that you make just one document then you run to get the others when necessary.
- It ensures the originality of the document is maintained.

Application of Macros

Macro can be used to produce standard documents like:

- Student Admission form.
- Receipt Copies.
- Certificates.
- Any other Standard document whereby the structure is the same only ones particulars will be entered.

You record a macro just as you record music with a tape recorder. You then run the macro to repeat, or "play back," the commands.

NB: Before you record or write a macro, plan the steps and commands you want the macro to perform. If you make a mistake when you record the macro, corrections you make will also be recorded. Each time you record a macro, the macro is stored in a new module attached to a workbook.

With the Visual Basic Editor, you can edit macros, copy macros from one module to another, copy macros between different workbooks, rename the modules that store the macros, or rename the macros.

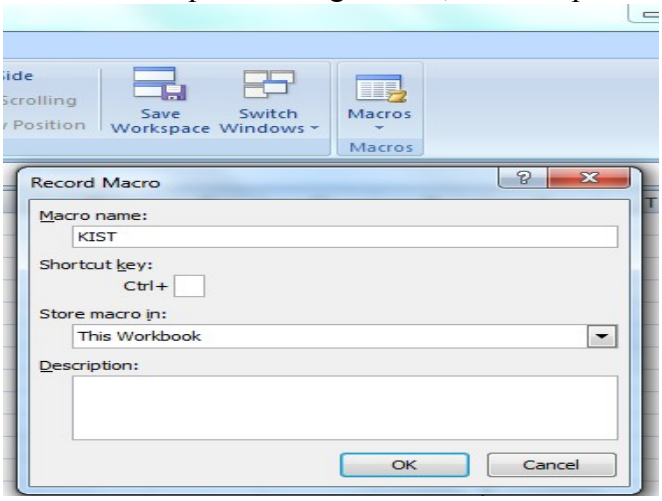
Recording a New a Macro

- On the View menu, point to Macro, and then click Record Macro.
- In the Macro name box, enter a name for the macro.
  The first character of the macro name must be a letter.
- To run the macro by pressing a keyboard shortcut key, enter a letter in the Shortcut key box. You can use CTRL+ letter (for lowercase letters) or CTRL+SHIFT+ letter (for uppercase letters), where letter is any letter key on the keyboard. The shortcut key letter you use cannot be a number or special character. The shortcut key will override any default Microsoft Excel shortcut keys while the workbook that contains the macro is open.
- In the Store macro in box, click the location where you want to store the macro.
- If you want a macro to be available whenever you use Microsoft Excel, store the macro in the Personal Macro Workbook in the XLStart folder.
  To include a description of the macro, type the description in the Description box.

- Click OK.

If you select cells while running a macro, the macro will select the same cells regardless of which cell is first selected because it records absolute cell references. If you want a macro to select cells regardless of the position of the active cell when you run the macro, set the macro recorder to record relative cell references. On the Stop Recording toolbar, click Relative Reference . Microsoft Excel will continue to record macros with relative references until you quit Microsoft Excel or until you click Relative Reference again.

- Carry out the actions you want to record.
- On the Stop Recording toolbar, click Stop Recording when you are through.



Running a macro in Microsoft Excel

You run a macro to produce copies of the actions you recorded. To run it;

- Open the workbook that contains the macro.
- On the View menu, point to Macro, and then click Macros.
- In the Macro name box, enter the name of the macro you want to run.

- Click Run.

Note To interrupt a macro before it completes its actions, press ESC.

Editing a macro

This involves making changes on the macro you have already recorded.
Steps

- On the View menu, point to Macro, and then click Macros.
- In the Macro name box, enter the name of the macro.
- Click Edit.
- Make the changes then click OK

CHAPTER 8
ORGANIZING WORKSHEET WORK FOR PRINTING

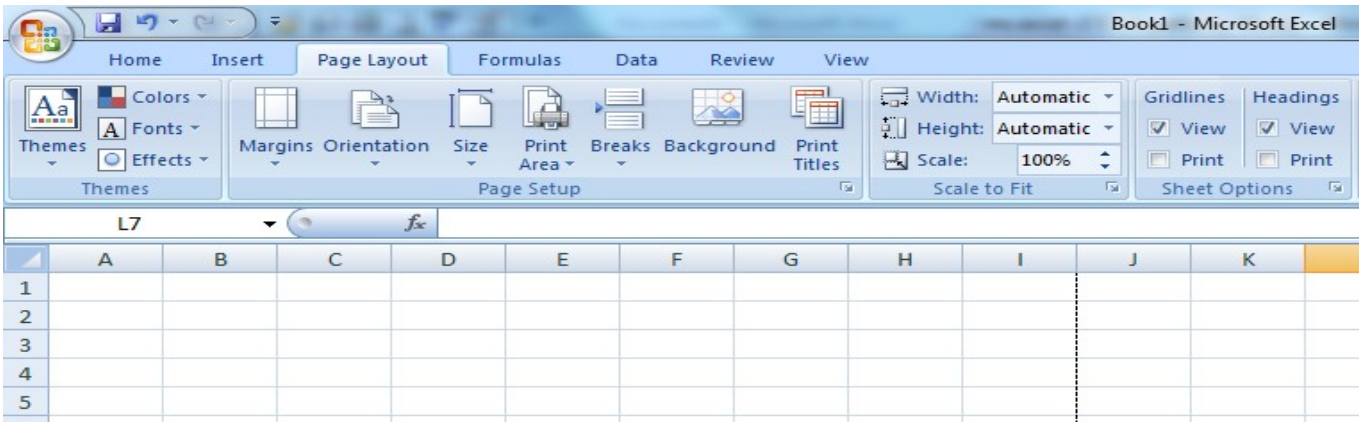
Page Setup

- This includes adjusting margins, setting page orientation, Paper size, for quality output after printing.
- Page setup ensures that no part of the worksheet data is outside the printable areas. Also it ensures that only the required size of margins is left on all sides of the worksheet.

Setting Margins

- To set page margins for one sheet, click the page layout tab.
- To set page margins for more than one sheet, select the sheets.
- Select the margins from the samples provided or click on custom marginsvfor Top, Bottom, Left, and Right boxes, enter the margin size you want.
- These settings should be larger than the minimum margins required by your printer.

NB: To see how the page margins will affect the printed document, click Print Preview before the document is printed. To adjust the margins in print preview, click Margins, and then drag the handles.



Changing Page Orientation

There are two type of page orientation in Ms Excel. These are:

- Portrait – Height is large than width.
- Landscape – Width is large than the height.

To change orientation;

- Click on orientation option and choose the orientation (either portrait or landscape).

Page Breaks

- These are automatic vertical and horizontal lines inserted in worksheet whereby the page to be printed is larger than one page. They divides a worksheet into multiple pages for printing if the worksheet is too large to fit onto one page.
- These page breaks are based on the paper size, margin settings, and scaling options you set. You can change which rows are printed on the page by inserting horizontal page breaks; you can insert vertical page breaks to change which columns are printed on the page. In page break preview, you can move page breaks by dragging them to a different location on the worksheet.

Inserting a horizontal page break

- Click the heading for the row below the row where you want to insert the page break.
- On the Insert menu, click Page Break.

Inserting a vertical page break

- Click the heading for the column to the right of the column where you want to insert the page break.
- On the Insert menu, click Page Break.

Moving a page break

You can move a page break only in page break preview. Moving an automatic page break will change it to a manual page break.

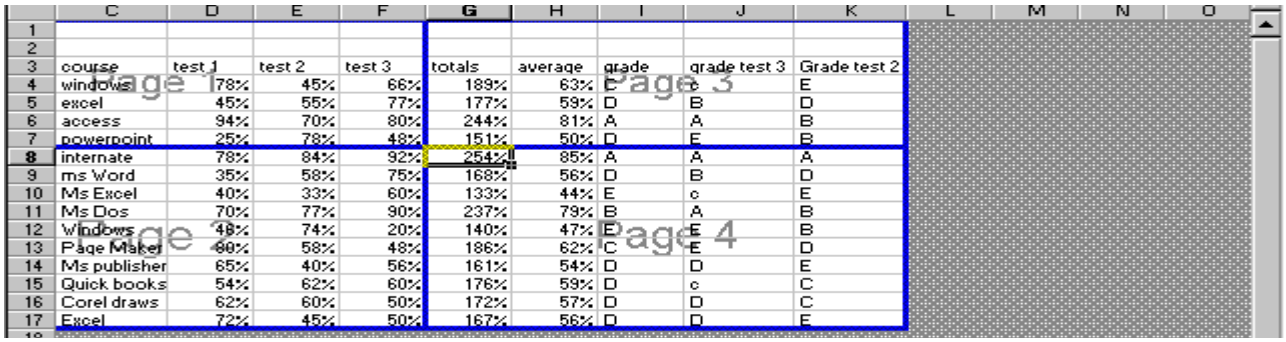
To move a page break;

- On the View menu, click Page Break Preview.
- Drag the page break to its new location.

Removing page break

- On the View menu, click Page Break Preview.

- To remove a manual horizontal or vertical page break, right-click a cell below the horizontal page break or a cell to the right of the vertical page break, and then click Remove Page Break on the shortcut menu.
- To remove all manual page breaks, right-click any cell on the worksheet, and then click Reset All Page Breaks on the shortcut menu.



	course	test 1	test 2	test 3	totals	average	grade	grade test 3	Grade test 2
4	windows	78%	45%	66%	189%	63%	C	c	E
5	excel	45%	55%	77%	177%	59%	D	B	D
6	access	94%	70%	80%	244%	81%	A	A	B
7	powerpoint	25%	78%	48%	151%	50%	D	E	B
8	internate	78%	84%	92%	254%	85%	A	A	A
9	ms Word	35%	58%	75%	168%	56%	D	B	D
10	Ms Excel	40%	33%	60%	133%	44%	E	c	E
11	Ms Dos	70%	77%	90%	237%	79%	B	A	B
12	Windows	48%	74%	20%	140%	47%	E	E	B
13	Page Maker	80%	58%	48%	186%	62%	C	E	D
14	Ms publisher	65%	40%	56%	161%	54%	D	D	E
15	Quick books	54%	62%	60%	176%	59%	D	c	C
16	Corel draws	62%	60%	50%	172%	57%	D	D	C
17	Excel	72%	45%	50%	167%	56%	D	D	E

Figure of Page break Preview

Zoom

- Click Zoom to switch between a full-page view of a sheet and a magnified view. The Zoom feature does not affect printing size. You can also switch between a full-page view and a magnified view of a sheet by clicking any area of the sheet.

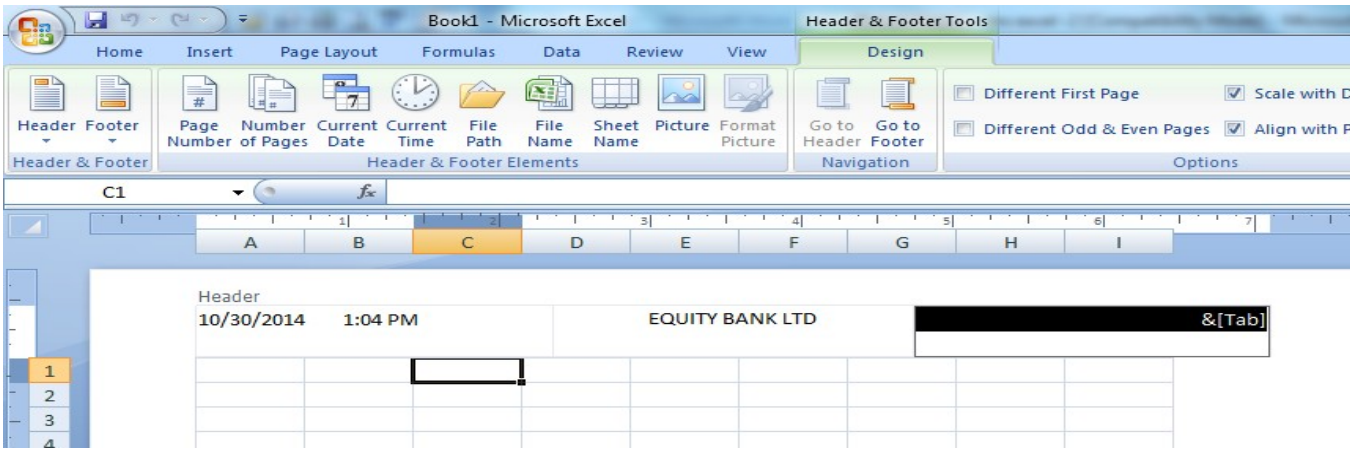
Headers and Footers

A header is a line of text that that will appear on the top of each page.
Footer is a line of text that appear on the bottom of each page. Header/footer can include any text such as date, time, page number remarks etc.

Defining header and footer

- From insert menu select headers and footer or From file menu select Page set up then Header/Footer option.
- To define your own header click **Header and footer tools** button.
- Choose the position of the header then type the text. It can be on left, centre or right
- You can click on the relevant buttons on the top of the text box to add page numbers,date time etc.
- To format the text typed click on A button to apply font size, font face etc.

.



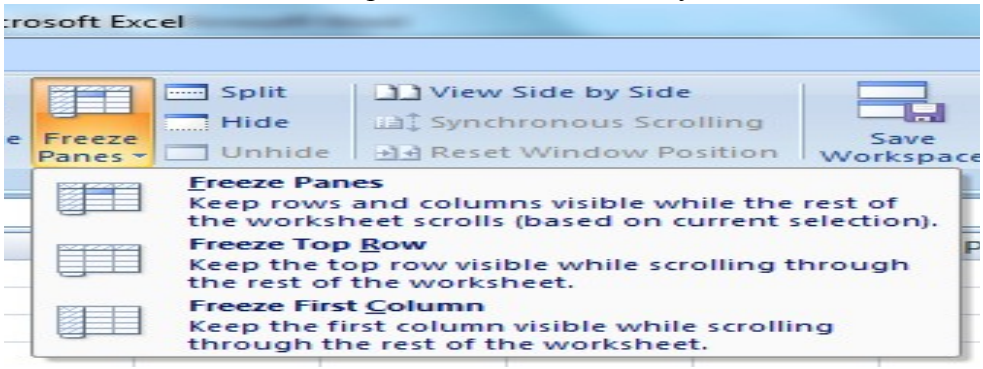
NB: To define the Footer click on Footer and repeat the same procedure as above.

Freezing Titles

- The freezing of titles is applicable whereby the worksheet data grows larger such that you will be forced to scroll horizontally and vertically in order to see the extreme parts of the worksheet data. Under this situation it is important to freeze the titles so as to view them at the same time with what is on extreme end.
- It is required to freeze columns along left of the worksheet or rows along the top of the worksheet or both in so that when you scroll to a distant cell in the worksheet, the row or the column titles are still visible.

To freeze the panes/Titles;

- Highlight the row or column or row next to the one to freeze. For instance a worksheet where titles are in Row 1 highlight Row 2 or Column C highlight column D.
- From View tab click Freeze panes. This automatically freezes the column or rows.



NB: To unfreeze the pane click on the View tab, then Unfreeze pane.

Printing A Worksheet

Print Preview window

- Before you print a worksheet, click Print Preview to see how the sheet will look when you print it. The status bar at the bottom of the screen shows the current page number and the total number of pages in the selected sheet.

- To preview a specific range of pages, click Print preview from the office button..
- The way pages appear in the preview window depends upon the available fonts, the resolution of the printer, and the available colors.

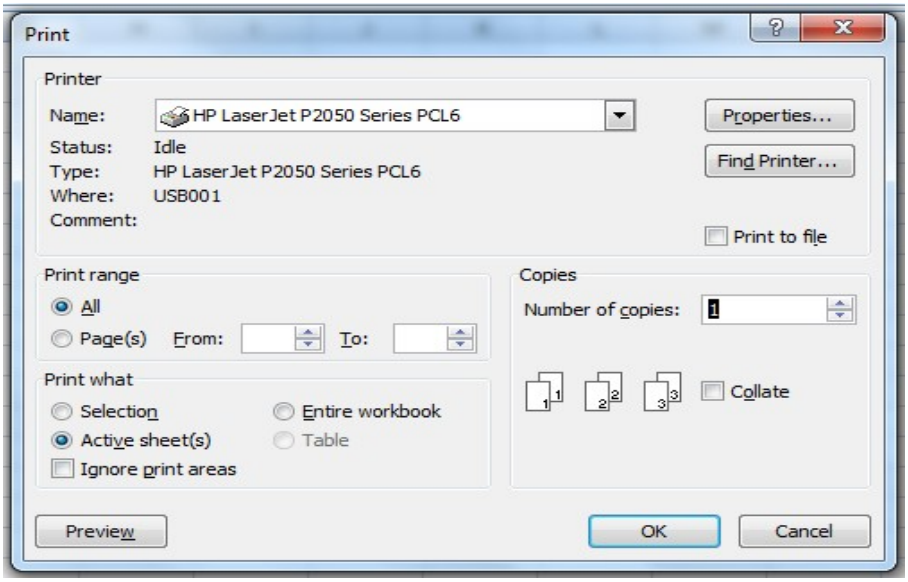
- If a worksheet contains an embedded chart, print preview displays both the worksheet and the chart. You can move or resize the chart in normal view or page break preview. If you select an embedded chart before you click Print Preview, Microsoft Excel displays only the embedded chart.

Printing

This is process of getting a hard copy of the worksheet work. This is done by use of printer.

Steps

- Office button, select print .
- Print window appears.
- On this window, specify,
  -Print page (either All pages, or specific pages)
  -Print what (selection from a worksheet, Entire workbook, or Active sheet [s]).
  -Number of copies (how many copies to be printed per page).
- Click OK to print.



Renaming Worksheet

- Click sheet tab to be renamed.
- Double click on the sheet name or right click on the sheet name and click rename
- Type the new name.
- Press enter.

Inserting a new worksheet

- Click on where you want the worksheet.
- From insert menu select worksheet.
- A new worksheet is inserted.

Hiding a worksheet

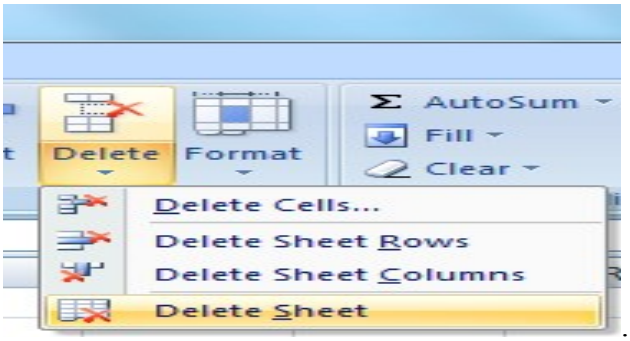
- Right Click on sheet tab to hide.
- Then select hide.

Unhiding a worksheet

- Right click on the sheet tab to unhide.
- Select unhide

Deleting a worksheet

- Select the worksheet and select delete sheet.



Using Help in excel

You can get help about the topics we have covered from the help menu.

- To access the topics you can use: **Contents, Index** or **Find option** on Help menu.

Searching for help using contents

- From the form that appears select contents tab. It displays a list of all topics.
- Select the topic you want then display.
- Read the details and follow instructions.
- You can print the topic for future reference.

CHAPTER 9

PRACTICE QUESTIONS AND EXAMINATION SAMPLE PAPERS

MS EXCEL FINAL EXAMINATION 2002 SAMPLE 1

INSTRUCTIONS

i. Answer all the questions
ii. Answer section 1 on the answer sheet provided.
iii. Marks will be awarded on basis of logical answers and clarity.

iv. Time: 2hrs 30min

SECTION 1: THEORY

Question 1: 11 mks

(a) Define the following terms; 4mks
   i. Spreadsheet
   ii. Ms excel
(b) Give three examples of spreadsheet application programs. 3mks
(c) Discuss four areas where spreadsheet programs are applied. 4mks

Question 2: 10mks

Differentiate between the following terms;

(i) Workbook and worksheet
(ii) Cell and active cell
(iii) Row header and column header
(iv) Header and footer

Sorting and filtering

Question 3; 15mks

(a) Give five methods of loading Ms excel in windows.
(b) Name and discuss various parts of Ms Excel window.

Question 4: 10mks

(a) Any entry entered in Ms excel worksheet is treated as either a Label or Value. Differentiate between the two terms.
(b) What is the default alignment of labels.
(c) What is the default alignment of value.
(d) Give three examples of each category.
(e) Give three types of alignment in Ms excel

Question 5; 16mks

(a) Define a chart.
(b) Give examples of charts.
(c) Give three examples of using charts in Ms excel
(d) Give an important consideration to make before choosing a chart to use.
(e) Explain the meaning of the following chart terms.

i. Plot area
ii. Chart area
iii. Data series
iv. Table data
v. Axis
vi. Gridlines
vii. Legend

Question 6; 8mks

(a) Define a macro.
(b) Discuss the three advantages of using macros in Excel.
(c) Give three areas in Excel you can apply macros.

SECTION B: PRACTICAL

Create the workheet shown below and answer all the questions that follows. *(3mks)*

Student	**Adm.Date**	**Course**	**marks**	**Grade**	**Remarks**
Mike	5/4/01	Computers	60%		
Gaterude	5/5/98	Sales	78%		
Wilfred	6/9/99	H/Management	88%		
jackline	8/12/99	Computers	45%		
Lilian	4/7/00	Sales	90%		
Alex	2/8/00	H/Management	55%		
Jane	3/6/01	Computes	52%		
Avarage					
Total marks					
Totals for computer only					
Totals for Ladies only					
Totals for males only					

a) From the above worksheet calculate; *(8mks)*

i. Average mark

ii. Total marks

iii. Total for only those students who are doing Computer courses.

iv. Totals for only those students who are ladies.

(b) Compute the grade obtained by each student given; *(5mks)*

70% and above –A
60%-69% -B
50% 59% -C
49% and below -D

(c) Computer the Remark for each student given; *(5mks)*

A -Excellent
B -Good
C -Fair
D -Poor

d) Insert a new column between Course and Marks for Codes. Using the relevant formula, apply codes as follows;

Computers -CO
Sales -SA
H/Management -HM

e) Format the worksheet data as follows; *(10mks)*

i. Title –Bold ,size 20, font face-Comic San MS, color-Red

ii. Sub Titles – Bold , size 15, font face- Impact, color – blue

iii. All other records – Italics, Centred across the cell, font face – Tahoma, color – Magenta.

Create a column chart as a ***New Sheet*** to compare student names against the marks.
On the chart show the following; *(12mks)*

(i) Chart title

(ii) Both axis
(iii) Major gridlines on Y-axis
(iv) Values
(v) Data table

(f) Using Advanced filter option, retrieve only those students who obtained 65% and above on their relevant courses. Copy them below the main table. *(6mks)*

(g) Sort the worksheet data according to students marks starting with the student who scored the highest mark. *(3mks)*

(h) Insert headers and footers on our worksheet as follows; *(6mks)*
Header – Student Progress Record
Footer - Institute of Professionals

(i) Print all your work. *(3mks)*

(j) Save your work on My Documents folder. Us your fist name as the file name. *(3mks)*

CREATIVE EXERCISE 1

Sweet Bread ltd. is a small bakery, which has opened recently in the heart of Kagumi town.
They specialize in manufacturing bread and cakes. They normally produce four brands of items as listed below.
They have recorded their January sales units as follows:

White bread	318
Brown Bread	430
Round buns	428
Block cakes	370

They have made a projection that sales will grow by varying percentage every month as shown

White bread	10%
Brown bread	8%
Bound buns	13%
Block cakes	12.5%

Required;
1. Create a worksheet showing the unit sold up t the month of April using the given January figures and growth percentages
2. Calculate the total units sold for each month and also for each products
3. Create a chart (Pie) below the worksheet showing the products and the totals. Give it a suitable title.
4. Create a chart (Column) as a new sheet showing all the products and their sales for the four months. Give it appropriate titles.
5. Format all the figures with the comma sign and decrease all the decimals
6. Enhance the worksheet with the following features;

Title - bold, font size - 14, centered across the columns
Other titles - bold, aligned to the right
Totals - bold
Save your worksheet with the name Mkate tamu in the PMK folder.

CREATIVE EXERCISE 2

Enter the data above using a data form.

NAME	BASIC PAY	DEPARTMENT	AGE	STATUS
Mary Anne	17,000	Research	26	Single
Francis Kihara	28,000	Research	33	Married
Lena Achieng	40,000	Computer	35	Married
Helen Wanjiku	35,000	Finance	23	Single
Mwangi Peter	15,000	Finance	17	Single
Sospeter Ngeno	13,000	Research	27	Divorced
Arnold Maswai	22,000	Computer	26	Married
Gerald Wanjau	15,000	Computer	33	Divorced
Anditi Anna	32,000	Finance	22	Single
Josephine Allot	45,000	Computer	50	Married
Calara Mulwa	18,000	Research	20	Married
Martin Mato	55,000	Computer	70	Divorced
Cyrus Okinyo	25,000	Finance	37	Single
Pius Mwaniki	70,000	Finance	55	Married
Rono Kirwa	20,000	Research	22	Single
Bett Korir	12,000	Computer	23	Single
Caroline Makanga	35,000	Computer	26	Married
Raymond Rashid	23,000	Finance	38	Divorced
David Songo	48,000	Computer	31	Married
Stephen Chege	26,000	Research	35	Married
Alice Ambundo	17,000	Finance	23	Single

1. Use the sorting function to determine
(a) The oldest employee
(b) The oldest employee in the finance department
(c) Which employee earns the most in the research department
(d) All married employees in the company
(e) All employees earning more than Ksh.30,000

2. Use the subtotaling feature to determine
(a) The basic pay salary for computer and finance department
(b) The average age of the finance and research department
(c) Determine the total basic pay for each department and the grand total for people in that category.

3. Use the AutoFilter function to determine
(a) The number of people with a basic salary greater than 32,000
(b) The number of people with a basic salary less than 45,000
(c) The number of people who are either married or single
(d) The number of people with a basic pay greater than or equal 25,000 & less than or equal to 50,000

CREATIVE EXERCISE 3

Create and complete the simple workbook shown below
Save the workbook as SAKINA in you diskette

SAKINA MOTORS INC.
JANUARY AUTOMOBILE SALES RECORD (KSH'000, 000)

VEHICLE	COST PRICE	VAT 2.5%	SELLING PRICE	PROFIT X
TOYOTA	300	X	X	X
NISSAN	321	X	X	X
HONDA	280	X	X	X
HYUNDAI	450	X	X	X

Further instruction

- The VAT is calculated as 2.5% of the cost price
- Selling price is said to be more than the cost price at least by 42%
- Determine the correct formulae for the profits
- Make the heading bigger and BLUE in color
- Add 3 more similar records of your choice – complete with the correct calculations
- Make the column headings bold

SPREADSHEET EXAMINATION SAMPLE 2

PRACTICAL:60 Mks

Attempt all the questions

Q1. Create the worksheet shown below and answer the questions that follows.

Student	Course	Test 1	Test 1	Test 3	Totals	Average	Maximum
Jane	Ms word	56%	78%	90%			
Mike	Ms Access	78%	89%	45%			
John	Windows 95	88%	77%	66%			
Susan	Ms Word	45%	60%	78%			
Olao	Ms Access	69%	88%	56%			
Grace	Windows 95	76%	43%	39%			

Jack	Ms Word	45%	78%	70%			
Totals							
Average							
Minimum							
Totals for females only							

(a) Compute the following for every student;
   i) Total marks
   ii) Average mark
   iii) Maximum mark
(b) Calculate **Totals, Average**, and **Minimum** for Test 1, 2, and 3
(c) Calculate the totals for the female students alone for all the three tests.
(d) Insert a new column for **Test Date** between Course and Test 1. Enter dates of your own choice.
(e) Apply borders to your table with red colour.
(f) Format the content of the table as follows;
   i) Headings : Font face –Tahoma, bold, Size 14, colour = violet
   ii) Other records – font face Comic San MS , size 12, colour = blue
(g) Apply pattern to your table.
(h) Create a column chart as a *New Sheet* to compare the students against their total marks. On the chart include;
   i) Chart Title
   ii) Both Axes – Y and X

Enhance the appearance of your chart.
(i) Using AutoFilter option, retrieve only those students who attained 70% and above in Test 1 and copy them below the main table.
(j) Save your workbook with file name ***Student Exams*** on diskette.

SPREADSHEET EXAMINATION SAMPLE 3

PRACTICAL:100 Mks

Attempt all the questions

Please set up a spreadsheet using the following information. Do NOT put any lines or borders on it yet.

NAMES	WEIGHT PEACHES	WEIGHT PLUMS	WEIGHT ORANGES	TOTAL WEIGHT
24ALLEN	100	50	0	
12DION	34	27	25	
34FAGEN	25	212	0	
16HALL	25	345	0	
35JAMES	167	12	29	

85MAHID	226	0	50	
56NORIMA	128	25	32	
35PARTHA	0	0	0	
29TRADESTRAH	290	0	0	

- Left-align the heading NAMES and the data in that column.
- Put the other colunm headings on 2 rows. Right align these headings and the figures.
- Adjust the column widths to fit the text.
- Please use the **SUM** formula to calculate the TOTAL WEIGHT (kg) of fruit packed by each worker.
- Format all the numbers as integer (0 decimal place).
- Set up the spreadsheet ready for printing in portrait format and save using the filename FRUIT 1.

-I have just receive amendments to the sales figures for last week. Please amend the spreadsheet to show the following:

- Delete the row for PARTHA as he has left.
- MAHID also packed plums- please insert 100 instead of 0 in the appropriate cell.
- Please insert a row (after HALL) for the new member of staff, KINGSTON. His detail are:

NAMES	WEIGHT	WEIGHT	WEIGHT	TOTAL
	PEACHES	PLUMS	ORANGES	WEIGHT
49KINGSTON	120	10	29	

Please enter this data in the appropriate row and copy the formula for TOTAL WEIGHT.

- I would prefer to have the employee names and their payroll numbers separately. Will you please insert 2 columns after the NAMES column and insert the headings EMPLOYEES, PAYROLL NUMBER. Enter the information into the 2 columns (see the example started below).

EMPLOYEES	PAYROLL
	NUMBER
ALLEN	24
DION	12
Etc	

I would like the PAYROLL NUMBER heading and the numbers centered in the column please.

Now delete the NAME column.
Please set up the spreadsheet ready for printing in portrait format and save using the filename FRUIT 2.

I would like you to do a few more changes.

- Add columns to the right of the spreadsheet , right-aligned and format them for currency in $ (0 decimal places).

PENSION	GROSS PAY

- Some workers are in the pension scheme. Their payments per week are:
  Allen $20 Dion $15 Mahid $18 Tradestrah $25

  All other workers pay $0. Put these figures into the table , including those paying $0.

- Calculate the GROSS PAY for each worker by multiplying the TOTAL WEIGHT by 1.2 and then subtracting the PENSION payment (0 decimal places.)
- Add a row at the bottom of the sheet and label it AVERAGE .Calculate the average for the 4 columns containing weights only maintaining the format of the column (0 decimal places)
- Add a tittle WEEKLY PRODUCTION FIGURES in bold capitals and a lager font above the spreadsheet.
- Add shading to the column headings and a boarder and a lines to the full table (include the column headings but not the title in the border.)
- Please set up the spreadsheet ready for printing in landscape format and save the file as FRUIT 3.

Make these more amendments.

- Sorry . I forgot to tell you that the workers have had a pay rise. The rate has been increased to $1.3(per kg). Please amend the formula and recalculate all the data.
- Allen withdrew from the pension scheme and made no contribution this week. Please remove his payment.
- We spelt FAGEN wrongly. It should be FAGAN. Please amend it.
- Change the spreadsheet to display formulae. Adjust the column widths so that he formula e are displayed in full and the sheet fits into one side of A4 landscape format .Set up the spreadsheet ready for printing in landscape format and save the file as FRUIT4.