

Certificate Course
in
COMPUTER ON OFFICE AUTOMATION

Windows, Linux
&
Office Applications

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This book has been prepared on the basis of the revised syllabus provided by the Directorate of Technical Education for **Computer on Office Automation**. We have made a sincere effort in preparing this book so as to enable the students understand the briefly given concepts of **Windows 7, Linux 3.0, Microsoft Office 2007, Open Office 3.2**. To help the students have better knowledge in Theory as well as Practical part questions have been provided in both the Sections.

We sincerely thank the authors of the Old Syllabus book of Computer on Office Automation from which we have modified and added new content for the new syllabus by our own ideas. We hope this book will be very helpful for the New Syllabus of Computer on Office Automation Course.

Author.

CERTIFICATE COURSE IN COMPUTER ON OFFICE AUTOMATION

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UNIT – 1

Basics of Computers

Introduction to Computer

Definition

Computer is an electronic device that can receive a set of instructions or program or any other information. It stores and processes the data, and produces the output. It works under the direction of a detailed stored program of instruction.

History of Computer

Name of Device / Machine invented	Year of invention	Name of the Inventor	Specialty
Abacus	5000 years ago	Ancient Babylonians	First manual device for adding numbers
Slide Rule	1620	William Oughtred	A device used by engineers to perform arithmetic operations upto 1970's
Arithmetic Engine	1642	Blaise Pascal	First mechanical device to do arithmetic operations made with gears, wheels and dials
Difference Engine	1822	Charles Babbage	A machine which calculated successive difference of expressions and evaluated expressions like X^2+5X+3
Analytical Engine	1833	Charles Babbage	The arrangement of units in this machine (store, mill control, input, output) is much similar to the arrangement of units in modern computers. But this machine had failed to work.
Tabulating Machine	1880	Herman Hollerith	Designed to process census data of US Government. It has read the data stored on punched cards.
Electronic Computer ENIAC (Electronic Numeric Integrator And Calculator)	1946	Prof. J.P. Eckert, Prof. J.W. Mauchly, University of Pennsylvania	It is designed by large number of Vacuum Tubes. The speed of calculation was 300 times faster than previous machines. But it was unreliable

Contributions of Pascal, Charles Babbage, Lady Ada Lovelace and John Von Neumann



Blaise Pascal

He was a French Mathematician. He invented the arithmetic engine, which is a basis for calculators. He used gear wheels and suitable dialing system to operate the gear wheels in his calculators.



Abacus



Arithmetic Engine



Difference Engine



ENIAC Computer

Charles Babbage

Charles Babbage, Father of Computer Science, invented the Difference Engine and Analytical Engine. He introduced the concept of Block Diagram which we are using now.



Lady Ada Lovelace

She was a Mathematician. She was the first lady who told that computers can be programmed so, she is called as the **First Programmer**. A programming language ADA is widely used in Americans defense Computers.



John Von Neumann

He was a Hungarian Mathematician. He introduced the concept of stored program. The instructions given to the computer are first stored in memory they are then extracted from memory and executed one by one.



Generations of Computer

Generation	Components Used	Period
First Generation	Vacuum Tubes	1946 – 55
Second Generation	Transistors	1956 – 65
Third Generation	Integrated Circuits	1966 – 75
Fourth Generation	Very Large Scale Integrated Circuits	1976 – 85
Fifth Generation	Very Large Scale Integrated Circuits	1986 – till date



Vacuum Tubes



Transistors



Integrated Chips



Processor

Applications of Computer

A computer has high speed of calculation, diligence, accuracy, reliability or versatility which made it an integrated part in all activities. The speed of the computer varies based on the various field of work like, Education, Hospitals, Telecommunication, Defense, Satellite & Research, Military, Business, Banking, Insurance, Government and Private Organisations.

Advantages of Computer

The Modern world is more dependent on Computer because of the following reasons:

1. saves the time by quick performance;
2. reduces the intellectual strain;
3. avoids Mistakes;
4. gets the output in a neat printed form;
5. stores data easily;
6. for easy communication.

Terms related to Computer

BIOS (Basic Input and Output System): Responsible for handling particulars of input / output operations.

ASCII (American Standard Code for Information Interchange): A standard coding system for computers.

Binary: A selection, choice or condition involving two possibilities. The Computer functions on binary basis (0, 1)

BIT (Binary digIT): It is the smallest unit of data in a computer. It stands for either 0 or 1.

Boot: The initial loading of an Operating System / Programs into a computer.

Buffer: A device or storage area where data are temporarily stored.

Backup: Alternate facilities of programs, data files, etc. used in case the original one is destroyed, lost, or failed to operate.

CRT (Cathode Ray Tube): An electronic tube with a TV like screen upon which information may be displayed.

LCD (Liquid Crystal Display): It is a flat panel electronic video display that uses the light modulating properties of liquid crystals.

LED (Light Emitting Diode): It is same as LCD but which uses an array of light-emitting diodes as pixels for a video display.

Data: A collection of fact in raw form that become information after proper processing.

Characteristics of Computers

Speed

Computer is an Electronic Machine, so we can compare its speed with the speed of electrons. The time required to execute a basic operation (like addition, subtraction, etc.) is known as the speed. Small computers take a few microseconds (10^{-6} seconds) to execute a basic operation. Large computers take only a few nanoseconds (10^{-9} seconds) for the same.

Storage

We store data, instructions and computer programs in memory. Instructions in a program are executed one by one at a very great speed. The results are also stored in memory. The data instructions and programs stored in memory can be got back any time we want. Computers also support storing of data and instructions in secondary memories like floppy or hard disks.

Versatility

Computer is a versatile tool. It means that we can use the computers for business, scientific or any other applications. A computer does a lot of wonderful works with its basic capabilities (like arithmetic, logical comparisons, move data). Hence, we call it a versatile tool.

Diligence

Computers can work for long hours without getting tired. If a computer has to do 10 million calculations, it will do all of them with the same speed and accuracy.

Automation

The ability of the computers to automatically do the given work (without human help) is called automation.

Accuracy

Computers are 100% accurate. They do not make mistakes. If the result is wrong then it will be only because of the programmer or user.

Hardware and Software

Hardware refers to the physical parts of the computer. Hardware are the parts of computer itself, including the Central Processing Unit (CPU), Memory, Keyboard, Monitor, Case and Drives (Floppy, Hard disk, CD, DVD, optical, tape, etc.). Other extra parts, called peripheral components or devices; include printers, modems, scanners, digital cameras and card (sound, color, and video) etc.

Software refers to the computer programs. These programs are used to run and control the hardware. Programs are also called Software. These programming instructions cause the computer to perform arithmetic and logical operations or comparisons. Example: All user programs and programs supplied by software agencies.

Relationship between Hardware and software

To use a computer, we must have both hardware and software. Software is to hardware as what fuel is to a motor car. Hardware without software is powerless. Software without hardware is useless.

Block diagram of a digital computer**Input Unit**

The purpose of the input unit is to get data and instructions from the user and transmit them into computer memory. *Examples:* Keyboard, Mouse, Scanner, Joystick

Central Processing Unit (CPU)

The CPU is the heart of a computer. It consists of Memory unit, Arithmetic and Logic Unit and Control Unit.

Memory Unit

This unit stores the data and instructions. The intermediate and final results of a program are also stored in memory. A program can be executed (run) only when it is brought to main memory.

Arithmetic Logic Unit (ALU)

It does all arithmetic (addition, subtraction, multiplication, division) and logical operations (comparison of data). It also stores the results of intermediate calculations.

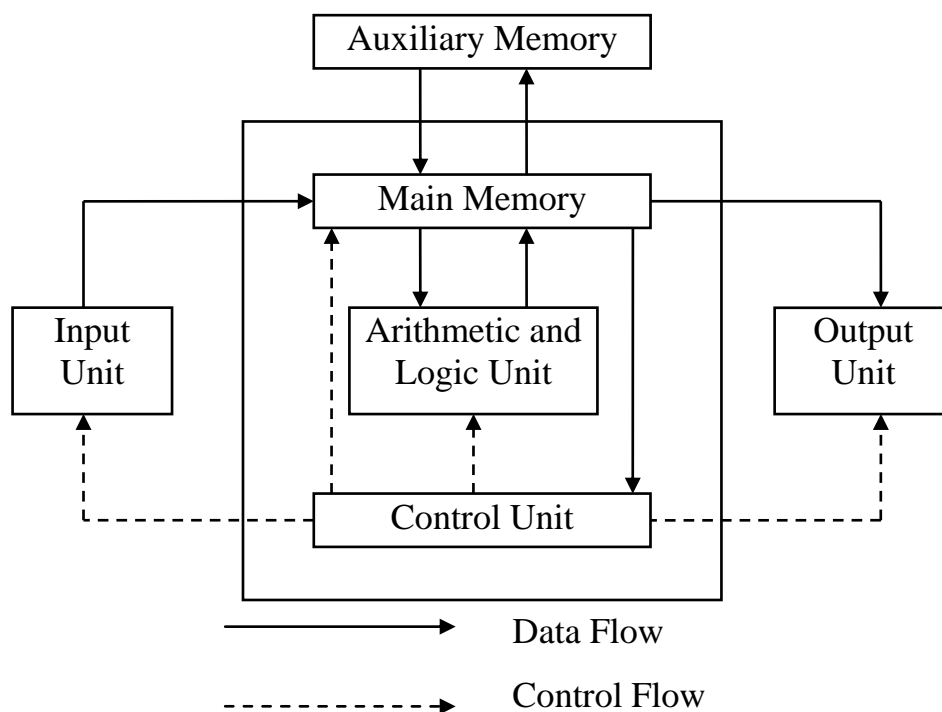


Fig. Block diagram of a Digital Computer

Control Unit (CU)

It is the supervisor of all the other units. The main functions are

1. Give commands to transfer data from the input device to the memory and from memory to the ALU.
2. Transfer the results from memory to the output device.
3. Store the program in memory. Take instructions one by one from memory, understand and give commands to other units.

Output Unit

The purpose of the output unit is to get the output results from the memory, and give it to the user in human readable form.

Examples: Monitor, Printers, Plotters, VDU (Visual Display Unit)

Working Principles of Computer

Computer Types

Computers are classified on the basis of working and size.

Classification of computers based on the basis of working

Analog Computer

A computer that operates by measuring continuously varying quantities like voltage and current is called Analog Computer.

Examples: Thermometer, Slide rule, Dial gauge

Digital Computers

A computer that operates by counting is called a Digital Computer.

Examples: Digital Watches, Personal Computers.

Hybrid Computers

They are a combination of both analog and digital computers.

Examples: Computers used for process controls.

1. Computers used for control of space vehicles.
2. Fighter aircrafts.

Difference between Analog and Digital Computers

Sl. No.	Analog Computers	Digital Computers
1.	Operates by measuring continuously varying quantities like voltage and current	Operates by counting
2.	Less accuracy	More accuracy
3.	Limited Applications	Vast applications
4.	Limited memory	Vast memory
5.	Gives results in graphical form	Gives results in discrete form
6.	Cannot process alpha-numeric information	Can process alpha-numeric information

Classification of Computers on the basis of Size**Micro Computer (PC – Personal Computer)**

It is a single user computer system having moderately powerful, small, inexpensive microprocessor designed for an individual user. Businesses use personal computers for word processing, accounting, and desktop publishing and for running spreadsheet and database management applications. At home, the most popular use for personal computers is playing games and surfing internet.

Workstation

It is also a single user computer system which is similar to personal computer but have more powerful microprocessor. This is used for engineering applications (CAD / CAM), Desktop Publishing, Software Development and other such types of applications which require a moderate amount computing power and relatively high quality graphics capabilities.

Mini Computer

Minicomputer is a multiuser computer system which is capable of supporting upto 250 users simultaneously.

Mainframe Computer

Mainframe is very large in size and is an expensive computer capable of supporting hundreds or even thousands of users simultaneously. Mainframe executes many programs concurrently and supports many simultaneous execution of program.

Super Computer

Super Computer is an extremely fast computer which can execute hundreds of millions of instructions per second. This is one of the fastest computers currently available. Supercomputers are very expensive and are employed for specialized applications that require immense amount of mathematical calculations. Example: Weather Forecasting, Scientific Research, Electronic Design and analysis of Geological data.

Desktop Computer

A desktop computer is same as a personal computer but the computer is located on a desk / table due to its size and power requirements. This is used for Desktop Publishing works, Official and Commercial works, etc.

Laptop Computer

Laptop computers have an L-shape design and the screen can be lowered and closed to allow easy transportation of the machine. The primary feature that attracts users to laptops over desktops is their portability. Laptop computers provide users the ability to run the machine using an internal battery or an outside power adaptor.

Palmtop Computer

A computer which is small enough to hold in one hand and operate with other is called as “handtop” or “palmtop” which has small keyboards or specialized keypads tailored to specific industries. Example: Tablet.

Basic ideas of Personal Computers**Personal Computers (PC)**

PC means Personal Computers. The I/O devices connected to a PC are normally a keyboard, Visual Display Unit, Mouse and a Printer. PCs are used in banks, offices, homes, business and other organizations.

PC-XT

PC-XT means Personal Computer – Extended Technology

1. The Processor is 8088.
2. Floppy Disk Drive – 1 No.
3. RAM size is 640 KB.
4. Hard Disk Drive – 1 No.

PC-XTs are used in banks, offices, homes, business and other organizations.

PC-AT

PC-AT means Personal Computer – Advanced Technology

1. The Processors are: 80286, 80386, 80486, Pentium-I, Pentium-II, Pentium-III, Pentium-IV, Dual Core, Core2Duo, i3, i5, i7, etc.
2. RAM size varies from 16 MB to 8GB depending upon the processor.
3. It supports both Floppy and Hard Disk Drive.
4. Speed is higher than that of PC-XT.

Most of the computers used in homes, banks, offices, industries, business and other organizations today are PC-ATs only.

MEMORY**Units of Measurements of Memory****Bit**

Bit means **B**inary **d**igit. It is either the digit 0 (OFF state) or the digit 1 (ON state). Data and instructions are stored in memory as a combination of 0's and 1's.

Byte

A byte is a group of 8 bits.

Example

- 1) 1000 1001 is a byte.
- 2) 0011 0011 is a byte.

Word

A word is a group of bytes. Small computers use a word length of 8, 16, 32 or 48 bits. High speed computers use a word length of 64 bits or more.

1 character	=	2 bit
4 bits	=	Nipple
8 bits	=	1 byte
1024 bytes	=	1 Kilobyte (KB)
1024 Kilobytes	=	1 Megabyte (MB)
1024 Megabytes	=	1 Gigabyte (GB)
1024 Gigabytes	=	1 Terabyte (TB)
1024 Terabytes	=	1 Petabyte (PB)

Memory Types**Primary Memory/Main Memory**

The memory unit of a computer is called primary memory or main memory. Data, instructions and programs are stored in this memory in binary form. Information stored in this memory can be erased and rewritten. Information stored in main memory is directly processed by the computer at a very great speed. It is a volatile memory. The memory capacity is limited.

RAM

RAM means Random Access Memory. It is also known as read and write memory. Information stored in this memory can be erased and rewritten. It is a volatile memory i.e., Information stored in this memory is lost when the power goes off.

ROM

ROM means Read Only Memory. It is a non-volatile memory i.e., Information stored in the memory is not lost when the power goes off. Writing into ROM is done only once (at the time of manufacturing). We cannot write information in this memory.

PROM

PROM means Programmable Read Only Memory. ROM is programmed by the manufacturer. But, PROM can be programmed by any user using "PROM Programmer" device. After PROM is programmed, we can only read information.

EPROM

EPROM means Erasable Programmable Read Only Memory. Unlike ROM and PROM information stored in this memory can be erased and rewritten. Erasing is done by exposing to ultra violet light for about 20 minutes. After EPROM is programmed, we can only read information.

EEPROM

EEPROM means Electrically Erasable Programmable Read Only Memory. Information stored in this memory can be erased electrically and rewritten. After EEPROM is programmed, we can only read information.

DDR

Double data rate synchronous dynamic random-access memory is a class of memory integrated circuits used in computers. DDR SDRAM, also called DDR1 SDRAM, has been superseded by DDR2 SDRAM, DDR3 SDRAM and DDR4 SDRAM.

Secondary Memory

The primary memory of a computer is limited and also volatile. So, we need secondary memories like floppy disk or hard disk. We can store large amount of information in secondary memory. Information stored in this memory is permanent. They can be got back any time.

Differences between Primary and Secondary memory

SI.No	Primary Memory	Secondary Memory
1.	Limited Memory	Vast/Large memory
2.	Volatile (Information are lost when the power goes off)	Non-volatile (Information are not lost when the power goes off)
3.	Made from semi-conductor memories	Made from magnetic materials
4.	Cost is high	Cost is low

Hard Disks

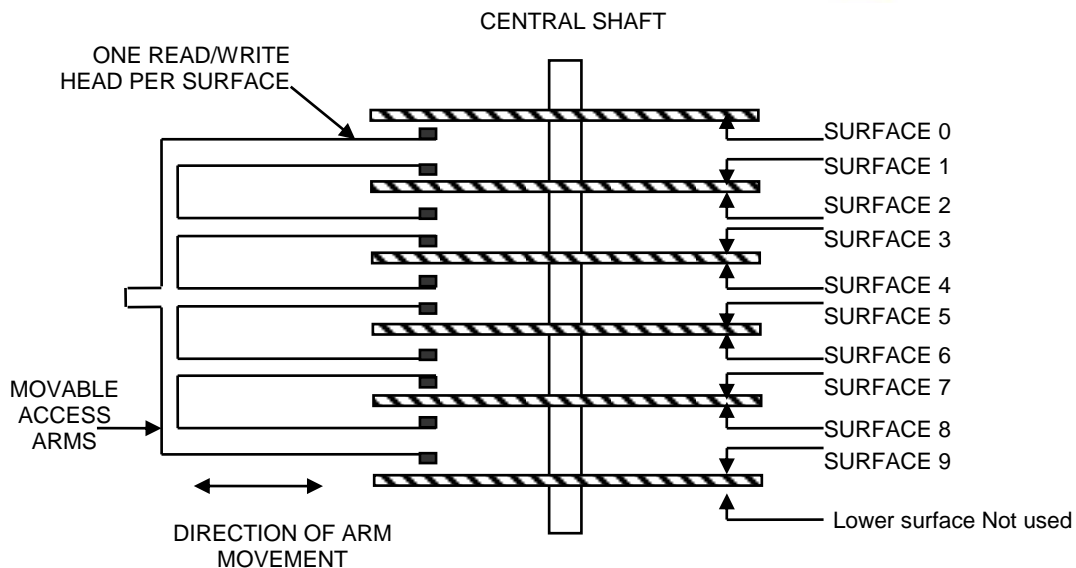
A hard disk is a fixed disk completely sealed in an air-tight, dust free container. A hard disk consists of a number of disks packed together and mounted on a common shaft. Disks are coated on both sides with magnetic material. A disk pack having 6 plates will have 10 recording surfaces. (The top surface of the top disk and bottom surface of the bottom disk are not used. There are movable read/ write heads for each surface).

Reading/Writing Operation

The common shaft is rotated at the speed of 4,000 to 15,000 revolutions (or more) per minute. The read/write heads are positioned over a particular track on all surfaces. A set of corresponding tracks in all the sides form a cylinder. When an information is stored, the cylinder number, the surface number are noted.

Typical hard disk storage capacities

1.2 GB	2.1 GB
4 GB	8 GB
10 GB	13 GB
17 GB	20 GB
40 GB	80 GB
160 GB	250 GB
500 GB	1 TB

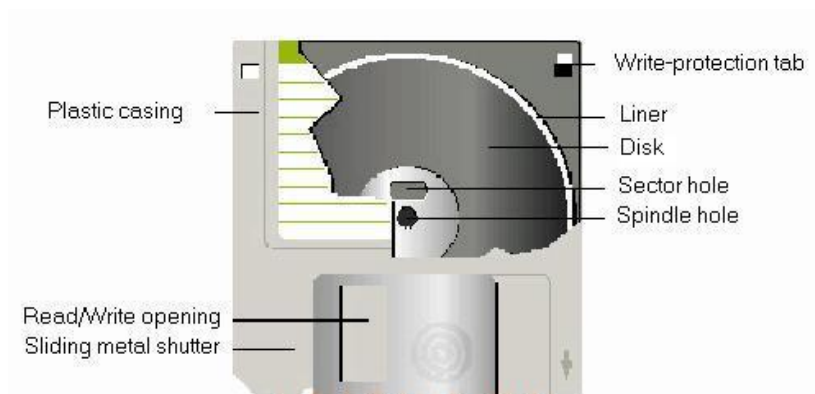


Advantages of Hard disks

1. We can store large amount of information.
2. Access speed is high.
3. Storage is permanent.
4. Cost is low.

Floppy Disk

Floppy disks are flexible plastic diskettes coated with magnetic oxides. A floppy disk is kept inside a jacket (cover). The cover protects the floppy from any dust particles. A floppy is divided into a number of concentric circles called tracks. Each track is divided into equal number of sectors.

**Reading from/Writing into a floppy**

This is done through the read-write slot. The floppy is inserted into a disk drive. The drive rotates the floppy at a very great speed (200 to 300 revolutions per second). During rotation, information is stored in tracks as magnetic spots. A read/write head in contact with the floppy senses the information and sends it to the computer as pulses.

Index-hole

It tells the beginning address of the first sector of a track.

Write- protect notch

When it is covered, we cannot write information on a floppy.

Advantages of Floppy disks

1. We can store large amount of information.
2. Information can be got back any time.
3. Portable (we can take a floppy from one place to another place).

CD-ROM

CD-ROM means Compact Disk Read Only Memory. The disk is compact so that we can store as much of information as can be stored in 450 Micro floppies. The storage capacity of a CD-ROM is 700 MB. The thickness of the disk is 1.2 mm and diameter is 120 mm. Today, games and software programs are supplied in CDs only. We can also use CDs for audio-recording.

**Organization**

The disk is made up of a resin such as polycarbonate. It is coated with a material like aluminum.

Information is written into a CD-ROM by using a high power laser beam. The laser beam is used to burn tiny holes called bits on a spinning disk. The tiny pit represents “1” and the surface without a pit “0” is known as land.

Information is read from a CD-ROM using a low power laser beam. The reflected light from pits and lands (which will be different) is sensed by a “photo diode” for converting into electrical signals.

DVD (Digital Video Disk)

DVD is a type of compact disc that can store large amounts of data, especially high-resolution audio visual material. Its storage capacity is 4.7GB.

Blu-ray disc

Blu-ray disc is a digital optical disc data storage format. Blu-ray discs have an advantage over DVDs of storing high definition video resolution. The Blu-ray discs are named so because of their underlying technology, which uses a blue-violet laser to read and write data. Blu-ray discs have a wide range of formats which include the following

BD-ROM: Read only format of Blu-ray.

BD-R : Recordable format of Blu-ray.

BD-RE : Rewritable format of Blu-ray.

Recording capability of a DVD or CD on a Blu-ray disc is dependent on the manufacturer’s choice. A DVD player cannot read a Blu-ray disc, since it uses red laser to read the information from the disc, rather than a blue laser.

Pen Drive

A pen drive or a USB flash drive is a portable data-storage device which replaced the floppy drives. And now it is the most popular data-storage devices among consumers. This can be easily carried from place to place by students, professionals, etc. Its storage capacities vary from 2GB to 32GB and using this we can store large documents, photos, music files and video clips.

Zip disk

Zip drive is a medium-capacity floppy disk drive developed by Lomega Corporation. At first zip disks had capacities of MB, but later versions were increased to first 250MB and then to 750MB. This portable disk drive is primarily used for backing up and archiving personal computer files.

**CENTRAL PROCESSING UNIT (CPU)****Components of CPU**

Of all the devices, CPU is an important device that is responsible for the computer to perform various tasks. It is to be mentioned that CPU is not a single device rather the following components, when assembled perfectly, build up CPU:

Motherboard, Hard disk, RAM, ROM, Processor, SMPS, Connecting Wire, Graphics Card, Sound Card, Network Card and Modem.

Input & Output Devices**Input Devices**

Input Devices are used to get data, instruction and programs from the user and store them in computer memory in binary form.

Keyboard

It is an input device. It gets data, instruction from the user and stores them in computer memory. When a key is pressed, it generates an ASCII code (American Standard Code for Information Interchange). This code is transmitted into the computer.



It looks like a typewriter. It has alphabet keys, numeric keys, special character keys, function keys and control keys. It usually has 101 keys. Using keyboard, we can enter data and instructions quickly into the computer.

Mouse

It is an input device. It has two or three buttons. It usually rolls on a bearing. When it is moved across a flat surface, the cursor on the VDU moves. It is easier for non-typists.

When the mouse is moved, the small ball kept under the mouse is rolled. The movement of the ball is converted into electrical signals and sent to the computer. Mouse is very important for Windows and other GUI (Graphical User Interface) applications. Nowadays optical mouse is used.



Mouse

Scanner

Scanners allow us to transfer pictures and photographs to our computer. A scanner 'scans' the image from the top to the bottom, one line at a time, and transfers it to the computer as a series of bits or a bitmap.

**Digital Camera**

A digital camera records and it stores photos in digital form. The images are stored on a memory chip or disk that can be transferred to our computer. Many current models are also able to capture sound or video, in addition to still images.

**Joystick**

Joystick is an Input device which is used as a navigation control while playing games.



Joystick

Pen drive

Pen drive is a portable storage device which is available at various sizes.



Pendrive

Output Devices

Output Devices are used to get the output from the computer memory and give them to the user in human readable form.

Monitor

Monitor is an output device which provides visual display of data. This helps to correct wrong entries. It also shows the results of programs. In olden times we used monitors with Cathode Ray Tube (CRT). But now we are using LCD (Liquid Crystal Display) and LED (Light Emitting Diode) Monitors.



Though, CRT monitors were used initially around 1950s, power consumption by CRT monitors was relatively higher, than by the monitors that we are using today. Considering this, various developments were made on monitors, which led to the birth of LCD & LED monitors, both of which consume less power than CRT monitors & LED being the least consuming.

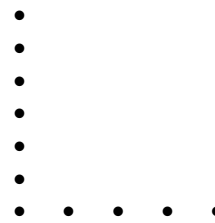
Printers

Printer is an output device which is mainly used to take text or images in the paper. Various types of printers are available they are: Dot Matrix Printer, Laser Printer and Inkjet Printer.

Dot Matrix Printer

It prints characters as a 7 X 5 matrix. That is, each character is printed in 7 rows and 5 columns. For example, "L" is printed as

The dots are produced by wires fixed to a print-head. The wires are operated by a solenoid [a coil producing magnetic field when current is passed through] operated by signals from CPU. When operated, they protrude [come out of the head], strike the ribbon against the paper producing dots and go back in to the head.



Advantages

1. Cost is low.
2. Easy to operate
3. Prints 30 to 300 characters per second

Laser Printers

They are high speed non-impact printers. The printing quality is high. The printing speed is from 10 to 20 pages per minute. Because of the quality and speed, today we use them in place of the offset printing machines.

A static charge is applied to a photoreceptive drum which is made up of selenium. A photoreceptive surface is one that is conductive when the light hits it.



Laser Printer

Next, a laser beam exposes the area not to be printed. The areas to be printed will be charged. A dry toner is applied on the drum surface. The toner sticks to the charged areas of the drum. The image of the drum is then transferred electro statically to the paper. Finally, the image is fused with heat, pressure or both.

Advantages

1. Printing quality is high
2. Printing speed is high
3. A replacement for offset machine

Ink-Jet Printers

Characters and images are formed from dots. The dots are produced by tiny droplets of ink on the paper. Actually, this printer contains an ink tank from which ink can be pumped through a nibble. The droplets are then guided to proper position on the paper by electrically charged deflection plates. The printing quality is good because a character is formed by dozens of ink dots. If a droplet is not needed for a particular character, it is recycled back to the ink tank.



Advantages

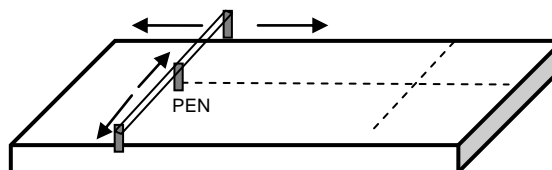
1. Cost is low when compared to laser printers.
2. Printing quality is high.
3. Less noise.

X-Y Plotters/Flat-bed Plotters

It is an output device. It is used to plot drawings. It basically consists of fixed flat surface and a pen carriage which can move in either X or Y direction. The paper is fixed on the flat surface and the pen fixed on the carriage is moved on the paper to draw figures. The pen can also be moved up or down. Drawing a line is done by specifying two points in a fixed X-Y coordinate system and issuing a command to draw a line between them. The position to which the pen should move is specified by digital signal. Hence, this plotter is also called a digital plotter. The resolution of the coordinate system ranges from 1024x 1024 points to 4096x4096 points. Three to eight colour pens are normally provided.

Advantages

1. Cost is low.
2. Colour drawing is possible.
3. Can plot Civil Engineering and Machine drawings.
4. Used in Computer Aided Design.

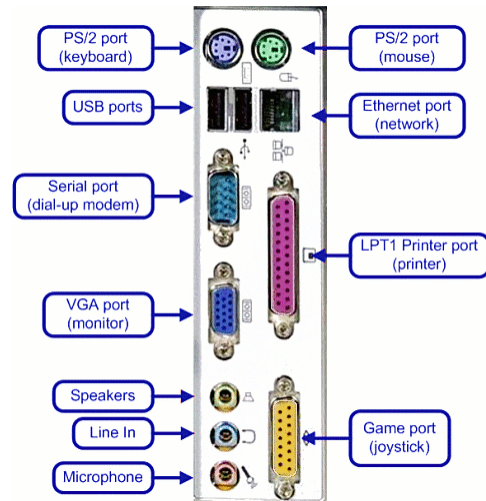


Connecting Port

A port is a physical docking point using which an external device can be connected to the computer. External devices are connected to a computer using cables and ports. Ports are slots on the motherboard into which a cable of external device is plugged in. Examples of external devices attached via ports are mouse, keyboard, monitor, microphone, speakers etc.

Types of Ports

There are various types of ports like Serial Port, Parallel Port, PS/2 Port, Universal Serial Bus Port (USB Port), VGA Port, etc. Ports are shown in the figure.



Data Communications

Data communications refers to the transmission of this digital data between two or more computers and a computer network or data network is a telecommunications network that allows computers to exchange data.

Types of Computer Networks

Local Area Network

The connection between two or more computers within an organization is called LAN. By this connection one can exchange the data between a single or group of computers. LAN can be either wireless or wired.

Wide Area Network

A wide area network (WAN) is a telecommunications network or computer network that extends over a large geographical distance. Wide area networks often are established with leased telecommunication circuits.

QUESTIONS AND ANSWERS**I. Fill in the blanks**

1. Arithmetic Engine was invented by **Blaise Pascal**.
2. **Charles Babbage** is called father of computer.
3. The world first programmer is **Lady Ada Love Lace**.
4. Expansion of ASCII is **American Standard Code for Information Interchange**.
5. Components used in Second Generation were **Transistor**.
6. A byte consists of **8 (eight)** bits.
7. Expansion of RAM is **Random Access Memory**.
8. OCR stands for **Optical Character Reader**.
9. VDU means **Visual Display Unit**.
10. Pentium i5 refers **Processor of a Computer**.
11. EEPROM means **Electrically Erasable Programmable Read Only Memory**.
12. SMPS is the abbreviation of **Switch Mode Power Supply**.
13. **Modem** is a device used for Internet Connection.
14. **Graphics Card** is a device used to enhance the clarity of the display.
15. **Sound Card** is a device, which connects the audio components for multimedia applications.

II. Match the following

- | | | |
|----------------------|---------------------------------------|-------|
| 1. ROM | a. First Generation | (j) |
| 2. Vacuum Tube | b. Secondary Memory | (a) |
| 3. Hard Disk | c. Local Area Network | (b) |
| 4. Binary Digit | d. one of characteristics of computer | (f) |
| 5. Memory | e. Liquid Crystal Display | (d) |
| 6. Analytical Engine | f. 1 and 0 | (h) |
| 7. Printer | g. Input Unit | (i) |
| 8. LCD | h. Charles Babbage | (e) |
| 9. Joystick | i. Output Device | (g) |
| 10. LAN | j. Read Only Memory | (c) |

III. Choose the best answer

1. IC means
a) **Integrated Circuit** b) Industrial Circuit
c) Integrated Components d) Institute Circle
2. The storage capacity of Compact Disc (CD) is
a) 1.44 mb **b) 700 mb** c) 600 mb d) 4.7 GB
3. The period of the Third Generation computer is
a) 1946-1955 b) 1956-1965 **c) 1966-1975** d) 1976-1985
4. Which of the following is a digital device?
a) Thermometer b) Slide Rule c) Dial gauge **d) PC**
5. _____ Unit is present in the CPU.
a) Input unit b) Output Unit **c) Control Unit** d) ALU
6. Which of the following is Read and Write Memory?
a) ROM **b) RAM** c) EPROM d) EEPROM

IV. Say True or False

1. LED is the abbreviation of Liquid Emitting Display. **(F)**
2. Digital Camera is an Output Unit. **(F)**
3. Primary memory is a volatile memory. **(T)**
4. Word in the computer consists of 13 bits. **(F)**
5. It is possible that computers can do mistake by its own. **(F)**
6. The plotter is used in the CAD applications. **(T)**
7. Von Newman designed the architecture of today's computer. **(F)**
8. Today, we are using super computers in homes. **(F)**
9. Peripheral devices are not part of Central Processing Unit. **(T)**
10. Peripheral devices are not part of Central Processing Unit. **(T)**

V. Write answer in two or three lines

1. Write the components used in the various generations of the computer.
2. Draw the block diagram of the computer.
3. What are the differences between analog and digital computer?
4. What are the various units of measurements of memory?
5. What is Primary Memory?
6. Write the advantages of Hard Disk.
7. What are the types of printers?
8. What are the types of ports?
9. What are the components of CPU?
10. Give examples for Storage Devices.

VI. Write answer in brief

1. What are the characteristics of the computer? Explain.
2. Explain and draw the block diagram of a digital computer.
3. Explain the various memory types.
4. Differentiate Primary and Secondary Memory.
5. Write about Input and Output Devices.
6. Explain about the types of Computer Networks.
7. Differentiate PC-XT and PC-AT.

UNIT – 2

Operating Systems

**Microsoft Windows
&
Linux**

WINDOWS

OPERATING SYSTEM

An Operating System (OS) is important software of a computer system which controls all the activities of the computer. It is stored in the hard disk. It is a communicating bridge between Hardware and Software. Hardware components are those components which can be touched physically, like the Central Processing Unit (CPU), Memory, Keyboard, Hard Disk, Printer and so on. The Software are set of instructions also referred as programs, to the hardware to perform certain operations to bring out specific results like play a game, prepare a letter, send electronic mail, etc.

Examples: DOS, UNIX, LINUX, SOLARIS, MACINTOSH, WINDOWS-NT, WINDOWS XP, WINDOWS 7, WINDOWS 8.

Functions of Operating System

There are many functions performed by the Operating System but the main function is, to provide an interface between the user and hardware. The Operating System also controls the file management by creation of files, creation of directories and reading & writing the data from Files to Directories and also Copy the contents of the Files and/or the Directories from one place to another place.

Types of Operating System

Single User, Single Task

As per the name of this type, the computer can do only one task at a time. Palm OS for palm handheld computers is an example for Single-user, Single-task operating system.

Example: Bus ticket, time tracking, etc.

Single User, Multitasking

This is the type of operating system which most of the people use on their Laptop and Desktop computers today. Microsoft Windows, Macintosh are examples of operating system that will let a single user have multi programs in operation at the same time.

Multi-user

Multi-user is a term that defines an operating system or application software that allows concurrent access by multiple users of a computer. A multi-user operating system allows many different users to take advantage of the computer's resources simultaneously. The operating system must make sure that the requirements of the various users are balanced, and that each

of the programs they are using has sufficient and separate resources so that a problem with one user doesn't affect the entire community of users. Examples: UNIX, Linux, MVS, VM.

Real time processing

A Real-Time Operating System (RTOS) is an operating system that guarantees a certain capability within a specified time constraint.

Examples: Manufacture of steel, Manufacture of Chemicals and Robot based process.

WINDOWS OPERATING SYSTEM

Windows is a series of systems developed by Microsoft. Each version of Windows includes a Graphical User Interface, with a desktop that allows users to view files, folders and other applications in windows. Windows has been the most widely used operating system for personal computers. It provides Plug and Play facility.

Versions of Windows

Windows 3.0, Windows 3.1, Windows 95, Windows 98, Windows ME, Windows XP, Windows Vista, Windows 7 and now Windows 8.

Booting

Booting is a startup sequence that starts the operating system of a computer when it is turned on.

Desktop

The GUI screen is the desktop. Windows objects like icons, windows and dialog boxes appear on the desktop. These objects help the users to do their tasks easily and quickly.

Graphical User Interface (GUI)

In Graphical User Interface, commands are available in graphical formats. Users can select their choice by mouse with the following actions.

Mouse actions	Purpose
Click	To select an item.
Double click	To run an application
Right click	To view the properties of a selected item.
Drag	To move an item from one location to another. This can be done by pressing the left mouse button, holding it and moving it to the destination and then releasing the button.

Cursors / Pointers

The insertion point or Cursor is usually represented by a blinking vertical line. User can reposition the insertion point by pressing arrow keys or by moving the I-beam pointer.

Icons

An icon is a small graphical representation of a program or file that, when clicked will be run or opened. Icons are used with Graphical User Interface (GUI) operating systems. Microsoft Windows helps to identify a type of file or program associated with the icon. By default there are some icons present in the desktop. They are: MyComputer, MyDocuments, My Network Places, Recycle Bin and Internet Explorer, etc. Some other icons will be added based on the software which we have installed later.

My Computer

The resources in the system, both hardware and software, can be accessed through My Computer. My Computer window displays the Drive Icons (Hard disk drives, Removable Storage Drives, etc.), Control Panel icon, etc. By using the drive icons users can view, copy, move or delete the files or folders from the drives. Also that user can change or view the settings of various components, either hardware or software, using the Control Panel.

My Documents

My Documents is a folder in Windows Operating System to store documents, graphics, or other files. Most of the application program such as Microsoft Word, Microsoft Excel, WordPad or Paint, automatically saves the file in My Documents, unless the user specifies the place to store.

Microsoft Network

My Network Places or Network is an icon found in the desktop or in My Computer that allows the user to access or view the system(s) which are connected in the network of user's system.

Recycle Bin

Whenever the user deletes a file in the computer, it does not physically delete immediately from the disk. All the deleted files are temporarily stored in Recycle bin. User can retrieve the deleted files from the Recycle bin later if needed. If any file is deleted in recycle bin, the deleted file can't be got back.

Quick Launch Toolbar

The Quick Launch toolbar is a section of taskbar near the Start menu where user can add shortcuts to programs. The Quick Launch toolbar always stays visible, even when user has a window open, for easy access to user shortcuts.

System Tray

System Tray is a section of taskbar near the Clock that contains small icons for easy access to system functions like printer, volume control, network, etc. User can access and get the details by single, double or right clicking on the icons.

Start Menu

Start menu is found at the left corner of the Taskbar. This is the main user interface area in Microsoft Windows. This start menu locates the installed programs, Control panel, recently accessed files, Printers, etc. User can search a file / folder / installed program using search option found in start menu. Restart, Shutdown, Logoff options are also found in start menu.

Taskbar

It appears at the bottom of the screen from left to right end. The icons or tabs on the taskbar represent programs that are currently open. It will also display the current date and time icons, settings for sound card, mouse and memory resident programs. It is also used to switch between open programs. It contains start button, which is the starting point to the Windows operating system.

The start button appears in the lower-left corner of the screen in the task bar. When it is clicked, the start menu will appear. Each option in the start menu contains submenus which will be displayed when the corresponding option is selected.

Windows Explorer

Windows is a listed File Manager which contains the hierarchy in window and folders and files in another window. Copying, moving, renaming, deleting files between folders and drives shall be done. It shall be launched in two different ways, either by right clicking on the start button and clicking *Open Windows Explorer* or by clicking *Windows Explorer* found in *Accessories of Start Menu's Programs*.

Control Panel

The Control Panel is a section of Microsoft Windows that enables a user to change various computer hardware and software features like settings for the mouse, display, sound, network, and keyboard.

Installing Font

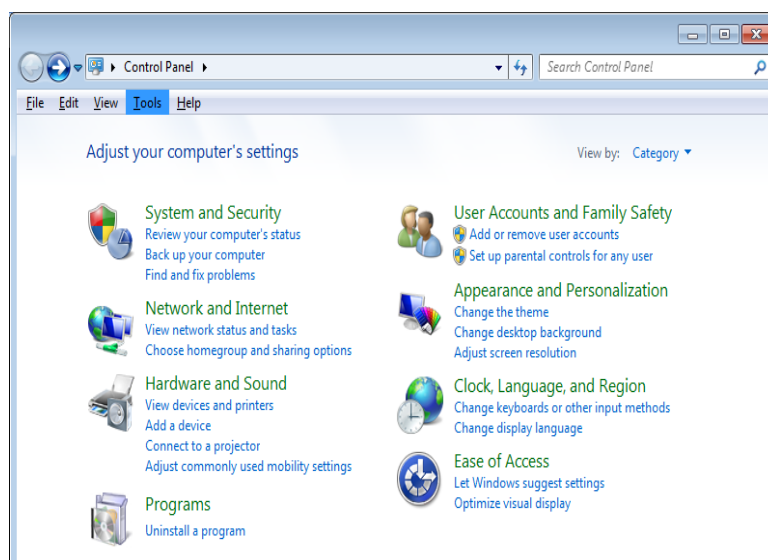
A new font can be installed in two ways. One is to install a font and another method is just to copy and paste the font.

(i) Installing method

1. Go to **Control panel** found in the *Start* and click it.
2. **Control panel** window appears.
3. Now click on the *Fonts Icon* which is in the Appearance and Personalization option.
(After you click, list of the fonts that are already installed in the computer will be shown.)
4. Click on *Install Font* to install a new font.

(ii) Copy & Paste method

1. Do the first three steps as it is in installing method.
2. Copy the necessary font to be installed in the computer and Paste it in the *Font* folder in the *Control Panel*.



Installation of a Printer

1. Go to **Devices and Printers** found in the *Start* and click it.
2. After **Devices and Printers** window appears, click *Add a Printer*.
(A printer can be installed to a computer in two ways. One is to install through a network and the other is to install the printer locally to a computer alone.)
3. Click *Add a local printer*, if the printer is to be installed only in the currently used computer or else click *Add a network, wireless or Bluetooth printer*, if the printer is to be installed through a network.

(i) Adding a printer locally

1. Click Add a local printer
2. Now enter the appropriate port.
3. A list of pre-installed printers will be shown. If the required printer is already present, select it and click *Next*.

(ii) Adding a printer through network

- i) Click *Add a network, wireless or Bluetooth printer.*
- ii) Now the network will be scanned and printers in the network will be listed out.
- iii) Select the required printer.

Backup

Backup is a process of preserving the copy of files installed, to restore them when problem occurs in the computer.

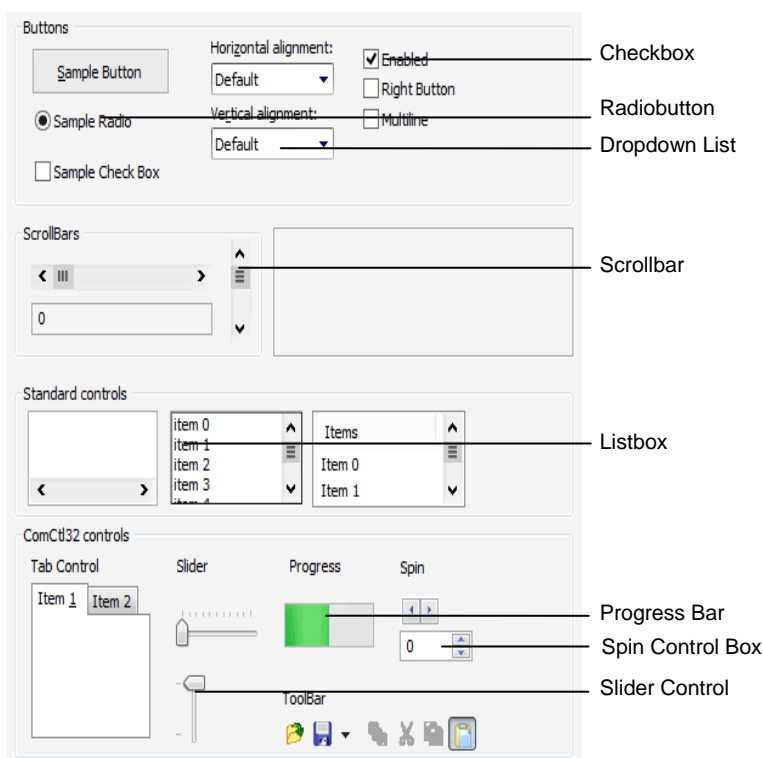
Restore

Bringing back the backed up files for use under a problematic circumstance is called Restoring. The point of backing up files is to restore them when required.

BOXES AND BUTTONS

Dialog Boxes

A dialog box is a temporary window, designed to retrieve user input. An application uses dialog boxes to prompt the user for additional information. A dialog box usually contains one or more controls, using this user can enter text, choose options, or direct the action. The dialog box is designed with different controls like List Box, Spin Control Box, Slide, Dropdown list, Radio Button, Check box, Text box, etc.



Spin Control Box

A control which is the combination of textbox with up and down arrow is called Spin Control Box. User can increase or decrease the value in the textbox using the up and down arrows respectively.

List Box

List box is a windows control, which helps the user to display a list of items in a box from which user can select any one option.

Slider

A slider control is a Graphical control element with minimum and maximum value. Using the arrow in the slider control user may change the range of values.

Drop-down List

Dropdown list control enables users to select an item from a predefined list. It differs from the List Box control in that the list of items remains hidden until users click the drop-down button. In addition, the Drop-Down List control differs from the List Box control because it does not support multi-selection mode.

Radio Button

Radio Button control is a small circle that has the given text displayed next to it and which is typically to its right.

Checkbox

The Check Box control is a commonly used graphical control, which has a specific type of two states button that can be either checked or unchecked.

Textbox

Text box control allows the user to enter text, by default; it takes a single line of text.

PARTS OF WINDOWS

Title bar: The title bar is at the top of the window, and it shows the name of the currently active document.

Menu bar: It contains menus. Each menu contains a list of commands.

Scroll bar: It has arrow buttons to move through a document left or right, up or down.

Status Bar: Status Bar is a horizontal bar at the bottom of the window, showing information about a document being edited or a program running.

Minimize button: Reduces the window to an icon and arranges it on the desktop.

Maximize button: It enlarges the active window to fit the screen.

Close Button: The close button is at the right corner of the title bar. Once the button is pressed, the window is closed immediately.

Restore button: It is same as maximize button. When this button is clicked, it restores the window to its previous size.

Moving a Window

To move a window, click on the title bar and drag to the place where the user needs.

Windows – Menus

There are various menus used in Windows Operating System. Some of them are Start Menu, Help Menu and Preview Menu;

Logoff & Shutdown

Log off	Closes all user files and programs and logs the user off from Windows without turning off the computer.
Shutdown	Shutting down the computer basically means that Windows closes all running programs and completely turns off the machine.

Keyboard Accelerators

Keyboard short keys or hotkeys

Alt + Up	– Maximize the current Window
Alt + Down	– Restore down or minimize current Windows
Alt + Left	– Dock the current Window to the left half of the screen
Alt + Right	– Dock the current Window to the right half of the screen
Alt + Home	– Minimize all windows, except the current Window
Alt + Space	– Makes all Windows transparent to see through to the desktop
Alt + Pause or Break	– Open System Properties
Alt + D	– Show/Hide desktop
Alt + E	– Windows Explorer is launched
Alt + F	– Search
Alt + L	– Lock Computer
Alt + M	– Minimize all Windows
Alt + P	– used to connect laptop with projector
Win + R	– Run Command is launched.
Win + S	– OneNote Screen Clipping Tool
++Win + =	– Magnifier
Win + + or –	– Enables the magnifier and zooms in/out

Win + Shift + M	– Undo all Window minimization
Ctrl + Right	– Move the cursor to the beginning of the next word
Ctrl + Left	– Move the cursor to the beginning of the previous word
Ctrl + Up	– Move the cursor to the beginning of the previous paragraph
Ctrl + Down	– Move the cursor to the beginning of the next paragraph
Ctrl + Shift + arrow key	– Select a block of text
Ctrl + Shift + Esc	– Open Task Manager directly
Ctrl + Shift + N	– Create new folder

Windows Explorer

Alt + Left	– Go back
Alt + Right	– Go forward
Alt + Up	– Go up a directory
Alt + Enter	– Open the Properties Window of the current selection
Alt + Space bar	– Open the shortcut menu for the active Window
Alt + F4	– Close the active Window
Alt + Tab	– Switch to previous active Window
Alt + Esc	– Cycle through all open Windows
Alt + D	– Move focus to address bar
Alt + P	– Show/hide the preview panel
Ctrl + N	– Open a new Window
Ctrl + Mouse wheel	– Change the view type (extra-large, small, list view, detail, etc.)

Logging In / Out

Win + Right + Enter	– Shutdown
Win + Right + Right + R	– Restart
Win + Right + Right + S	– Sleep
Win + Right + Right + W	– Switch users

ACCESSORIES

Microsoft Paint

It is an application that gets installed along with windows. Microsoft paint is exclusively used for paintings or drawings. To use Microsoft Paint, press start button, then go to accessories and then select Paint.

Calculator

Calculator is used to perform simple calculations such as addition, subtraction, multiplication, and division. Calculator also offers the advanced capabilities of a programming, scientific, and statistical calculator.

Working with Notepad / WordPad

Notepad is a generic text editor included with all versions of Windows that allows user to open and read plaintext files. If the file contains special formatting or is not a plaintext file, it will not be able to be read in Notepad.

WordPad is also a text editing program available in Windows. But it allows the user to format the text, insert the picture and objects.

Opening Notepad / WordPad

Users who are using Microsoft Windows can run Microsoft Notepad / WordPad by following the steps below.

In all Windows versions

1. Click Start
2. Click Programs and then Accessories
3. Click the *Notepad / WordPad* icon.

In Windows 7 or later

1. Click Start
2. Windows Start Screen type Notepad/Wordpad and press Enter.

Opening a File using Notepad / WordPad

- Click Open button on the Word toolbar or Select the File menu, then Open or press Ctrl+o. The Open dialog box appears.
- Click the Look In drop-down arrow to select the drive on which the file is located. The folders on the drive appear.
- Double-click the folder that contains the file. The files in that folder are listed.
- To open the file, click the file then click Open button. The file appears in its corresponding window.

Saving a file

Saving the content is one of the most important aspects of working with any software application so as to preserve them.

- Click *Save* on the File menu or press Ctrl+s. While saving the document for the first time, the Save as dialog box will appear.
- Type a filename into the *File Name* box.
- Double-click any folder in the Save In box to open the folder.
- After you have specified a name and a location for the new file, click *Save* button to save the file.

To save changes to a document that has been saved under a filename, just click the *Save* button from the file Menu or press Ctrl+s.

Formatting

In *Notepad*, font, font size, style and script can be changed for whole document only, not a part of text in the file.

In *WordPad*, it is possible to format only a selected content. User can click and drag to select the text and adjust the settings for Font, Font Style, or Size at the formatting area in the Home Tab. User can apply strikethrough or underline effects and also can use various other tools, such as the alignment buttons or the Bullets button.

The following tasks can be done only in WordPad.

Insert an object

User can insert an object by choosing *Insert Object* from the *Insert Group* in the Home Tab. Select the *Create New* option, click an object type, and then click *OK* in the *Object* dialog box. User can modify the inserted object however they want (moving it, resizing it, and so on).

Replacing text with WordPad

The *Replace* command allows you to search for information in a document and replace it with text and formatting you specify. To replace a text, follow these steps.

1. Click *Replace* link in the Home Tab, the *Find and Replace* dialog box opens.
2. Type the text you want to find in the *Find What* text box.
3. Type the text you want to replace in the *Replace With* text box.
4. Click the *Find Next* button to move to the next matching instance in your document.
5. Click *Replace* button to replace the found text with the replacement text.
6. Repeat steps 4 & 5 as desired.
7. Click the *Replace All* button to automatically replace all instances of matching text with replacement text.
8. When finished, click the *Cancel* button.

Press the keyboard shortcut key Ctrl + h to open the *Replace* window. The *Replace* feature in *WordPad* is limited; if you need more than just replacing words consider a different editor.

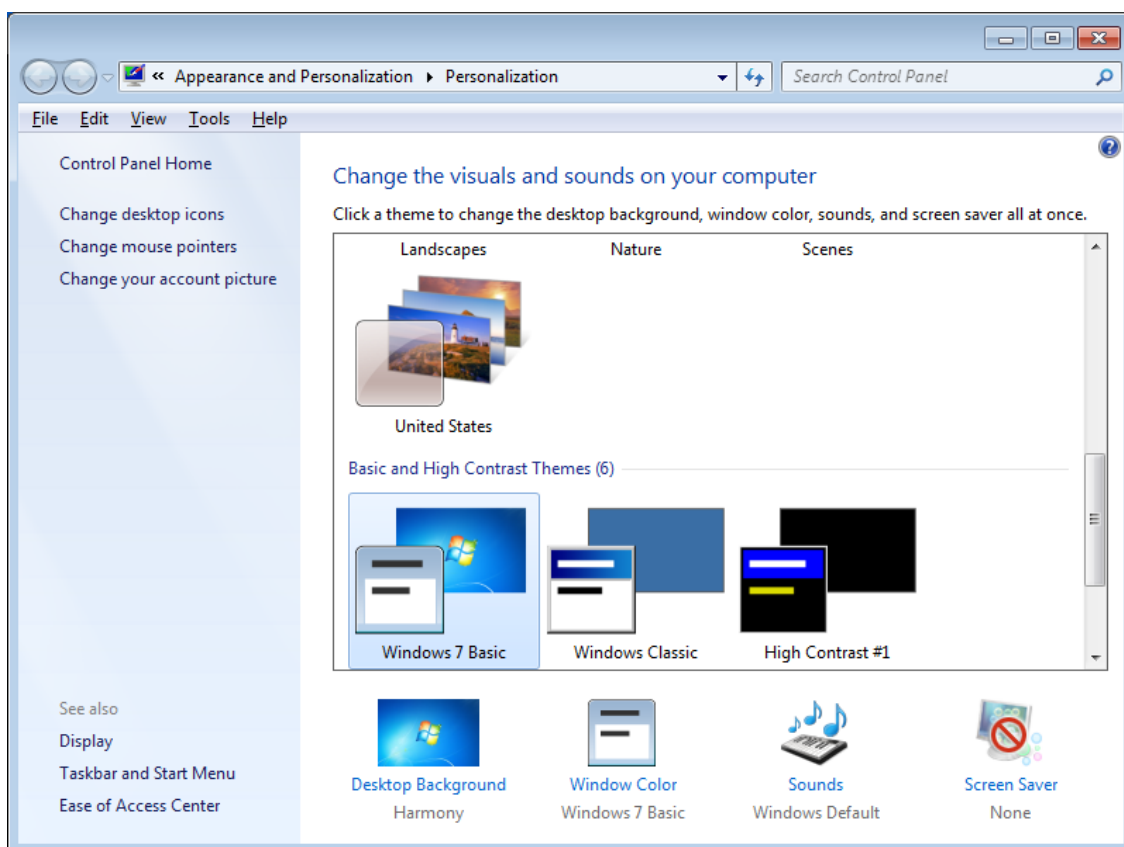
Print documents

To get the hardcopy of the wordpad document, Click the WordPad menu button, click Print, and then select the options. User can look the document before print by using the print preview option in the print. After that, user can close the print preview by clicking Close print preview.

PERSONALIZING WINDOWS

Windows 7 makes it easy to customize the look and feel of the Desktop view. Personalization pane allows user to customize the theme, background image and color of the Desktop. Any changes which makes to the appearance of the Desktop will not affect the Start screen.

To access the Personalization pane, right-click anywhere on the Desktop, and then select Personalize from the drop-down menu. The Personalization pane will appear as shown below.



WRITING ON THE CD / DVD

Writing into the CD can be done either by Windows or by Nero Software. Both the methods are given below.

Steps to write CD / DVD using Windows

1. Place an empty disc into your CD/DVD writable drive.
2. In the Blank CD/DVD-R Disc notification that pops up at the bottom of the screen, select Open with CD/DVD Creator. ...
3. In the Disc Name field, type a name for the disc.
4. Drag or copy the desired files into the window.
5. Click Write to Disc.

Steps to write CD / DVD using Nero Software

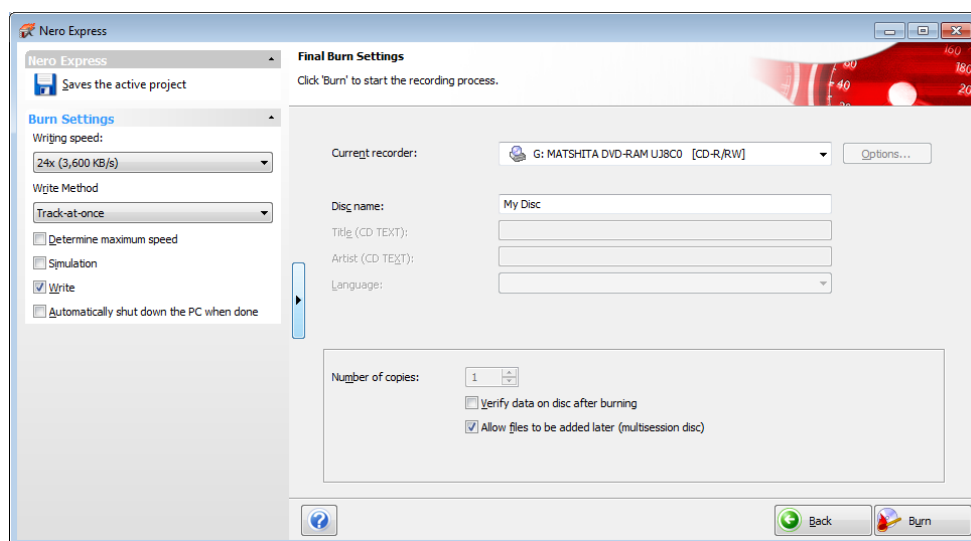
Nero is an application specially designed for writing the data into CD or DVD. Using this Software, Data, Audio, and Video files can be added to CDs and DVDs. Some other features found in this software are,

- Copy content from one disk to another;
- Copying audio CD tracks in a choice of audio formats;
- Erasing rewritable discs;
- Converting audio files to other audio file formats;
- Creating discs from ISO images;
- Creating bootable CDs



Step to write any file in data CD format is given below:

1. Click Programs, Nero, Nero OEM, NeroExpress.
2. This will bring up the Nero Express main window. Click Data, Data Disc.
3. This brings up the Nero Express *Disc Content* window. To add data to be written to CD, click Add or drag and drop data into the Disc Content window.
4. This brings up the *Select Files and Folders* window. Highlight those files and folders you wish to add, and click Add.
5. Click *Finished* button once all the Files and Folders have been selected.
6. This will bring back the "Disc Content" window. This window will show how much space write operation will use. Click Next to move on to the next step.
7. Click Next to continue the burn process after having made the adjustments.



8. This brings up the *Final Burn Settings* window. Some choices have to be made here
 - Select the Recording device.
 - Provide the Disc you are about to create with a name.
 - Set the Write Speed.
 - Decide if the CD will be Multisession enable this feature to allow all data that will be written to this CD, now and later, to be seen. If it's not enabled, only the data last written to the CD will be seen when mounted.
 - Choosing *Verify data on disc after burning* verifies data was written to CD correctly. Always enable this aspect for critical data that you cannot afford to loose.
 - Click More after selections have been made for additional advanced configuration capabilities. Or click Burn to begin the Write operation to the CD.

9. Selecting "Burn", will go to the final step. Selecting "More" option, will bring a drop down window for more added control of the write method used.
- *Write Method:* If you have the option for "Allow files to be added later" enabled, as shown earlier in this document, will be pre-set to Track-At-Once mode and you will not be able to select any other option.
 - *Finalize Disc:* Selecting this feature will close the disc to any future writing.
 - *Determine maximum speed:* The speed test determines how quickly the compiled files can be accessed.
 - *Simulation:* The simulation runs all the steps involved in burning a disc apart from activating the laser, so that you can assume that if the simulation is successful, the burning process will also be successful. And avoid the possibility of wasting media if it were to fail.
 - *Write:* This checkbox enables the actual physical burning process.

ANTIVIRUS SOFTWARE

Antivirus software is a program that is designed to find and neutralize malware and viruses. These programs are able to scan your computer's hard drive and identify files that are malicious or suspicious. The antivirus software can attempt to delete, quarantine, or trigger an alert when it detects files that are harmful. Additionally, many antivirus software suites also have settings that can prevent your computer from downloading or executing harmful files in the first place.

Some of the Antivirus Software

- Avast
- Kaspersky
- Avira
- AVG
- 360 Internet Security
- Norton

Prevention and cure:

The following points have to be considered for preventing virus:

1. Restriction of floppy disk and USB device usage
2. Checking the files before copying into the system.
3. Using original legal software
4. Attachment files received in the email should be scanned for virus affection.
5. The antivirus programs should be updated and scheduled regularly.

List of Files and their extensions

Extension	Applications
.doc	Upto Microsoft Word 2000 XP
.docx	Microsoft Word 2007 and above
.ppt	Upto Microsoft PowerPoint 2000 XP
.pptx	Microsoft PowerPoint 2007 and above
.xls	Upto Microsoft Excel 2000 XP
.xlsx	Microsoft Excel 2007 and above
.mdb	Upto Microsoft Access 2000 XP
.accdb	Microsoft Access 2007 and above
.odt	Open Office Writer
.ods	Open Office Spreadsheet
.odp	Open Office Impress
.odb	Open Office Base
.psd	Adobe Photoshop
.cdr	Corel Draw
.pdf	Portable Document File
.tiff	} Image (Picture) Files
.bmp	
.pcx	
.gif	
.png	
.jpeg	
.mp3	} Audio Files
.wav	
.mp4	} Video Files
.mov	
.avi	
.rar	} Compressed File
.zip	
.7Z	

LINUX

INTRODUCTION

Linux is an UNIX based operating system. It was created by a student, Linus Torvalds in 1991. It is an Open Source Software ie. it belongs to nobody, free to download and use. Any changes to it are open for all to adopt, and as a result it has developed into a very powerful OS that is rapidly gaining in popularity worldwide, particularly among those seeking an alternative to Windows.

Features of Linux

Linux is a comprehensive OS with a number of features and capabilities. Several reasons were identified for the popularity and success of the LINUX Operating System is written in "C" Language, which makes it easy to read, understand, update and port to other machines.

- Linux is a Multi-User Operating System which allows multiple users to use the system simultaneously.
- Since it has no owner user can debug the source without license.
- It is also a Multitasking Operating System which means an Operating which is capable of handling large number of processes at the same time.
- Linux is a highly portable.
- Job control facility in Linux helps the user to move processes between the foreground and background, suspend (pause) them and display their status like job, job number, job table etc.
- Linux Shell is a very powerful and dynamic LINUX utility. It is the primary interface to the OS (kernel). It can be used to write scripts to solve simple and complex problems.
- Being a Multiuser OS, Linux offers protection to the user's data from other users
- Using Linux OS, user can communicate and transfer the files across same and different Operating Systems.
- Linux supports a wide range of hardware types, including PCs, Macs, mainframes, supercomputers and robots.

Components of Linux

The Linux Operating system has three main components.

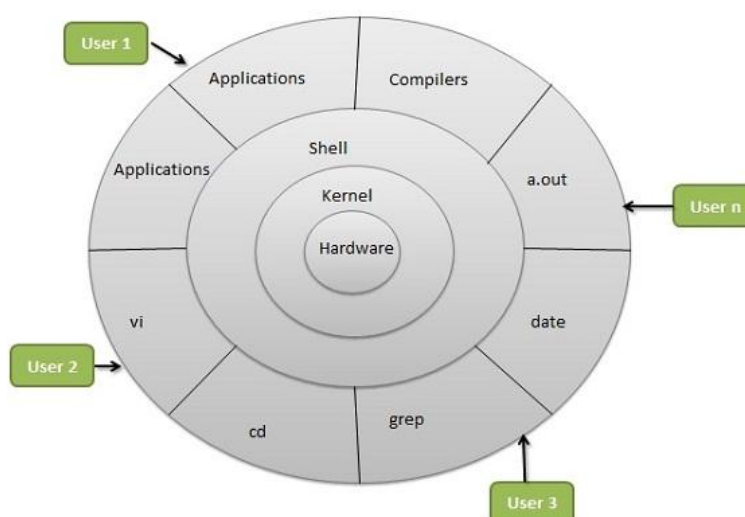
Kernel

A kernel is the core component of an operating system. Using inter-process communication and system calls, it acts as a bridge between applications and the data processing performed at the hardware level.

When an operating system is loaded into memory, the kernel loads first and remains in memory until the operating system is shut down again. The kernel is responsible for low-level tasks such as disk management, task management and memory management.

System Libraries

"The System Libraries" describe a typical set of functions through which applications can interrelate through the kernel. And which apply much of the operating system functionality that does not require the full rights or privileges of kernel code.



System Utility

The system utilities are the programs that execute individual, particular and specialized managing tasks. Some of the system utilities may be invoked just once to initialize and configure some features of the system.

Linux Process and Thread Management

Process management is the process by which operating systems manage processes, threads, enable processes to share information, protect process resources and allocate system resources to processes that request them in a safe manner.

Thread Management

A thread is a flow of execution through the process code, with its own program counter, system registers and stack. A thread is also called a light weight process. Each thread belongs to exactly one process and no thread can exist outside a process. Each thread represents a separate flow of control. Threads have been successfully used in implementing network servers and web server.

They also provide a suitable foundation for parallel execution of applications on shared memory multiprocessors. If one thread is blocked and waiting second thread in the same process can run.

Threads are implemented on the basis of user level and kernel level.

File Management System

A central part of the desktop environment is a file manager application, enabling user to create, access, and manage all files on the system. Traditional file management in Linux would have been done via the command line, requiring some deeper knowledge of several commands to list, create, delete, or edit files and their properties. A file manager provides a graphical and more intuitive way to handle these tasks.

Linux does not use drive letters. In Linux, all files and directories are located in a tree-like structure. The topmost directory is referred to as the file system root or just */*. All other directories can be accessed from here.

/home/<username>

/home holds the private data of every user who has an account on the system. The files located here can only be modified by their owner or the system administrator.

/media

/media generally holds any type of drive except the hard drive of the system. CD, DVD, USB flash drive or digital camera appears under */media*.

/windows

If users have both MS Windows and Linux installed on the system, then the windows data can be seen in this directory.

Files and Directories

A file is a collection of related information like data, programs, text, etc. At the end of the file name, an extension is included with the period followed three more alpha numeric characters. These files are organized in directories. A directory contains a group of related files. Directories can have subdirectories along with other files. In Linux the directories are also maintained as files.

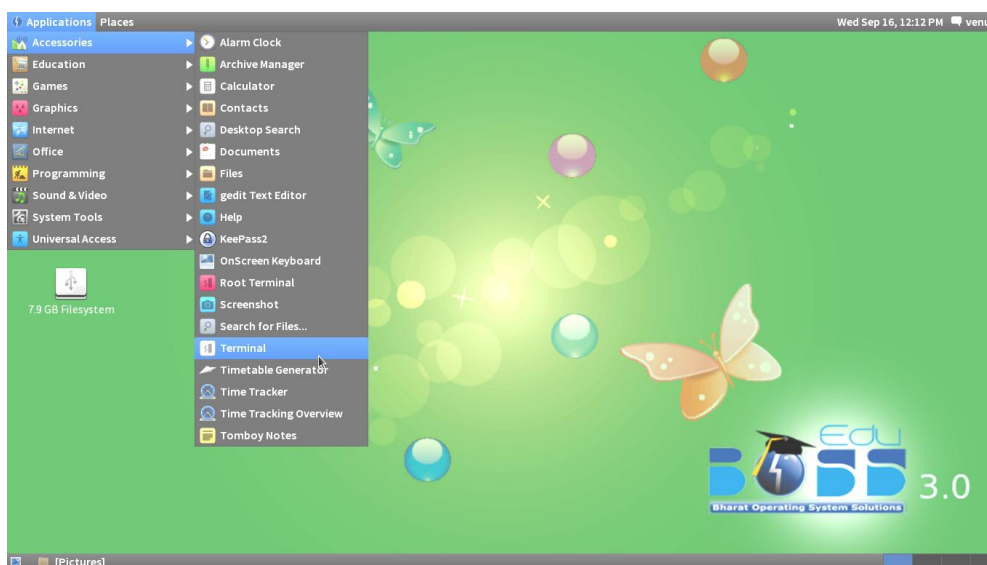
Linux Commands

User can interact with the computer by the help of the shell commands provided by the Linux which are similar to the DOS Commands.

Steps to start Terminal

In the Applications Menu, choose Accessories, Select Terminal. The application opens a terminal window with a group of default settings. The terminal window displays a command prompt where you can type UNIX commands. User can create a new profile and apply the profile to the Terminal.

Like DOS commands user needs to press Enter Key (↵) after typing the command. User can type the options to the command by suffixing the ' - ' (space and -) after the command.



Example

Is -l

Some commands can be complex and take some more time to execute, at that time user can interrupt and stop the command using the Key Ctrl+C.

User can enter more than one commands on the same line by separating them with a semicolon.

Example: `pwd ; date`

Linux is case sensitive (differentiating upper and lower case letters). So user needs to type the commands carefully.

date

Linux maintains a calendar clock such that the current date and time is always available.

```
Syntax      : date
Output      : Mon Sep 14 07:03:09 IST 2015
```

pwd (Print Working Directory)

This pwd command in Linux is used to print the name of current working directory.

```
Command    : pwd
Output     : /venus/sys14
```

mkdir

This command is used to make directory in various methods as user needs.

Syntax	Example	Description
mkdir <dir>	mkdir India	creates a new directory
mkdir <dir1> <dir2> <dir3>	mkdir PM President	creates more than one directory in same location with one command
mkdir -p <dir1>/<dir2>/<dir3>	mkdir -p India/President/Kalam	creates multiple levels of subdirectories with one command

rmdir

rmdir command is used to remove the single or multiple directories from the working directory.

Syntax	Example	Description
rmdir <dir>	rmdir	Deletes the directory
rmdir <dir1> <dir2> <dir3>	rmdir PM President	Deletes more than one directory in same location with one command
rmdir <dir1>/<dir2>/<dir3>	rmdir India/President/Kalam	Deletes multiple levels of subdirectories with one command

cd

The cd command is one of the commands users use the most at the command line in Linux. It allows the user to change their working directory as per user needs.

Syntax	Example	Output	Description
cd /	user1@sys14[India]\$ cd /	user1@sys14[/]\$	Change the working directory to root
cd ~	user1@sys14[India]\$ cd ~	user1@sys14[~]\$	Change the working directory to user home
cd <dir>	user1@sys14[~]\$ cd India	user1@sys14[India]\$	Change the working directory to user specified directory [Confirm the directory is in that location]
cd /<dir1>/<dir2>	user1@sys14[/]\$ cd /home/user1/India	user1@sys14[India]\$	
cd ..	user1@sys14[India]\$ cd ..	user1@sys14[~]\$	Change working directory to parent directory
cd -	user1@sys14[India]\$ cd -	/home/user1 user1@sys14[~]\$	Change directory to previous working directory

ls

User can display the list of files in the working directory using ls command. It is used to list the details in the order of file permissions, owner, group, size of the files (in bytes), modification date and time, file name.

Syntax	Example	Output	Explanation
ls	user1@sys14[India]\$ ls	PM President	It lists the files of the working directory
ls <i>directory1</i> /<i>directory2</i>	user1@sys14[~]\$ ls India/PM	Nehru Rajendraprasad	List the files of two different directories in long format

who

who command prints the list of users currently logged in, their terminal, the time they have been logged in, and the name of the host from which they have logged in. Syntax is:

who [options] [file]

Command	Output	Description
user1@sys14[~]\$ who	user1 tty8 2015-09-15 08:49 (:0) user1 tty8 2015-09-15 08:49 (:0)	Prints details about users who are currently logged in.
user1@sys14[~]\$ who -b	system boot 2015-09-15 08:40	Prints time of last system boot.
user1@sys14[~]\$ who -d	2015-09-15 08:40 220 id=si term=0 exit =0 2015-09-15 08:40 2221 id=l2 term=0 exit =0	Print dead processes.
user1@sys14[~]\$ who -H	NAME LINE TIME COMMENT user1 tty8 2015-09-15 08:49 (:0) user1 tty8 2015-09-15 08:49 (:0.0)	Print column headings above the output.
user1@sys14[~]\$ who -m	user1 pts/0 2015-09-15 08:53 (:0.0)	Shows username with logged in time

who am i / whoami

The Linux command whoami prints the user name associated with the currently logged in user ID.

Syntax	Example	Output	Explanation
who am i	user1@sys14[~]\$ who am i	user1 pts/0 2015-09-15 08:53 (:0.0)	Shows username with logged in details
whoami	user1@sys14[~]\$ whoami	user1	Shows the username only

cat

cat is one of the most commonly-used commands in Linux. It can be used to create a text file, displays file contents, appending data into the existing file, copy files into a new document, append the contents of a text file to the end of another text file.

Syntax	Example	Explanation
cat > filename	user1@sys14[India]\$ cat > sample.txt Welcome to Everybody ^C	Creates a new and get ready to get content, to stop typing press Ctrl+C
cat file1 > file2	user1@sys14[India]\$ cat Sample1.txt > Sample.txt	Here the contents of file2 replaced with file1.
cat file1 >> file2	user1@sys14[India]\$ cat Sample1.txt >> Sample.txt	appends the contents of the file1 at the end of the file2

cp

To copy the files and the directories from source to destination **cp** command is used. This command has the following Syntax:

cp [option] source destination

Example:

```
user1@sys14[India]$ cp Sample.txt President/Sample2.txt
```

Option	Description
-f	force copy by removing the destination file if needed
-i	interactive - ask before overwrite
-l	link files instead of copy
-L	follow symbolic links
-n	no file overwrite
-u	update - copy when source is newer than destination

mv

This command is used to rename and move one or more files from source to destination.

mv [option] source destination

Example:

```
user1@sys14[India]$ mv Sample.txt President/
```

option	Description
-b	Backup the files
-f	force copy by removing the destination file if needed
-i	interactive - ask before overwrite
-n	no file overwrite

More

more is a filter for paging through text one screen at a time. It filters by number of lines, particular text in the files,

more [-num lines] [+pattern] [+linenum] [file ...]

Example: user1@sys14[India]\$ more -3 Sample1.txt

tail

This command shows the last part of files by default it prints the last 10 lines of each FILE. But users can the display content by means of number of lines or by bytes with the help of options.

tail [options]... [file]...

Example:

```
user1@sys14[India]$ tail -n3 Sample1.txt    (shows last 3 lines only)
```

```
user1@sys14[India]$ tail -c30 Sample1.txt  (shows last 30 bytes data only)
```

Options	Description
-c, K	Output the last <i>K</i> bytes
-n, K	Output the last <i>K</i> lines

cmp

This command compares two files byte by byte. If a **FILE** is specified as '-' or not specified, data is read from standard input **cmp**'s exit status is **0** if inputs are the same, **1** if different, or **2** if the program encounters a problem.

Syntax : **cmp file1 file2**

Example : user1@sys14[India]\$ cmp Sample1.txt Sample.txt

Output : Sample1.txt Sample.txt differ: byte 1, line 1

diff

The diff command compares the contents of the two files from-file and to-file.

Syntax : **diff [options] from-file to-file**

Example : user1@sys14[India]\$ diff Sample1.txt Sample.txt

Output : 1c1
< Welcome to Everybod

< Welcome to Everybody

Options	Description
-a	Treat all files as text and compare line-by-line
-b	Ignore changes in amount of white space.
-B	Ignore changes that just insert or delete blank lines.
--brief	Report only whether the files differ, not the details of the differences.
-c	Use the context output format.

wc

wc, or "word count," prints a count of newlines, words, and bytes for each input file and total if more than one file is specified. The syntax is:

Syntax : **wc [option] [file]**
Example : user1@sys14[India]\$ **wc Sample1.txt**
Output : 2 3 21 Sample1.txt (shows by lines, words, characters)

Option	Description
-c	print the byte counts.
-m	print the character counts.
-l	print the newline counts.
-L	print the length of the longest line.
-w	print the word counts.

sort

sort is a useful command which rearrange the lines in a text file so that they are sorted, numerically & alphabetically. It has three modes of operations, Sort (the default), Merge (-m → Merge the given files by sorting them as a group), and Check (-c → Check whether the given files are already sorted)

sort [filename]

adduser

The command to create new username in Linux is : **sudo adduser username**

Syntax : **sudo adduser [username]**

```

Terminal
File Edit View Search Terminal Help
venus@sys14[~]$sudo adduser mani
[sudo] password for venus:
Adding user `mani' ...
Adding new group `mani' (1006) ...
Adding new user `mani' (1006) with group `mani' ...
Creating home directory `/home/mani' ...
Copying files from `/etc/skel' ...
Enter new UNIX password:
Retype new UNIX password:
passwd: password updated successfully
Changing the user information for mani
Enter the new value, or press ENTER for the default
  Full Name []: mani
  Room Number []: 1
  Work Phone []:
  Home Phone []:
  Other []:
Is the information correct? [Y/n] y

```

chgrp

The command to change the user group in Linux is:

Syntax : **sudo chgrp username /home/username**

Example : **sudo chgrp mani /home/maha**

passwd

This command is used to modify the password of the user.

passwd [options...] [username]

Example: passwd -S user1

```
User1 P 09/15/2015 0 99999 7 -1
```

Option	Description
-d	Delete the password for the named account (root)
-l	Lock the named account (root)
-u	Unlock the named account (root)
-S	Password status on named account (root)

chmod

chmod (change mode) is used to change the permissions of files or directories. There are three basic modes to files and directories: readable, writable, and executable. Additionally, each of these modes can be applied to the user, a group, or everybody. The syntax is:

chmod [options] [permissions] filename

options	Explanation
1	"d" if a directory, "-" if a file
2	"r" if file is readable to user, "-" if not
3	"w" if file is writable to user, "-" if not
4	"x" if file is executable to user, "-" if not
5-7	same as 2-4, with reference to group

Example:

```
chmod 666 file.txt
```

```
chmod u=rwx,g=rx,o=r file.txt
```

ps

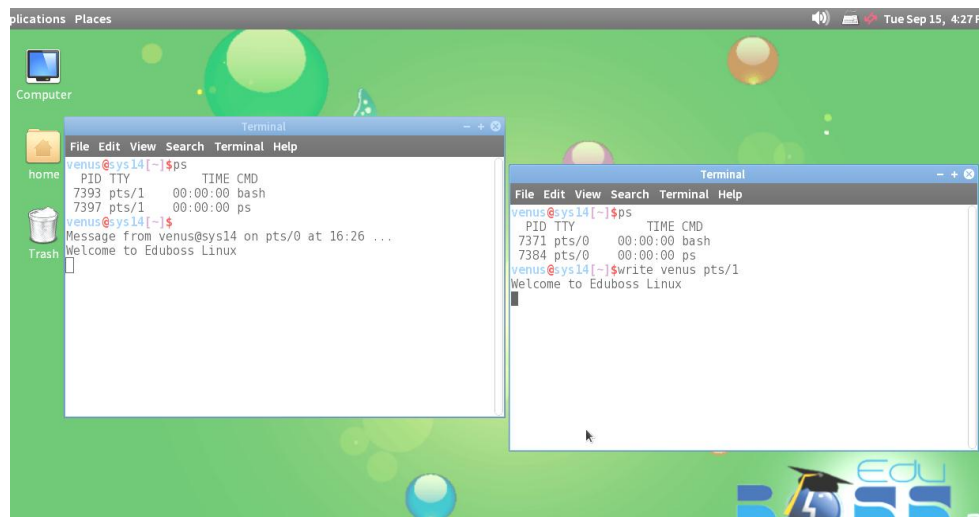
ps command lists the currently running jobs.

Syntax : **ps**

Output :

```

PID    TTY      TIME    CMD
6525   pts/0    00:00:00  bash
6718   pts/0    00:00:00  Ps
```

The above picture shows the list of jobs which currently running. But the PID varies.

kill

kill command is used to terminate the processes without log out or reboot the system. A process, also referred to as a task, is an executing instance of a program. Each process is automatically assigned a unique process identification number (PID) created for use by the system to reference the process. The syntax for kill is

Syntax: kill [signal or option] PID(s)

Example: kill 6525

write

The write utility allows the user to communicate with other users, by copying lines from user1 to others.

Syntax: write [user] [terminal]

Example: write user1 pts/0

wall

wall commands writes a message to other users in the network. This displays the contents of file or, by default, its standard input, on the terminals of all currently logged in users. The command will cut any lines that are over 79 characters to new lines. Only the super-user can write on the terminals of users who have chosen to deny messages or are using a program which automatically denies messages.

wall [-n] [-t TIMEOUT] [file]

Example : wall Sample.txt

merge

merge incorporates all changes that lead from *file2* to *file3* into *file1*. The result ordinarily goes into *file1*. **merge** is useful for combining separate changes to an original. Suppose *file2* is the original, and both *file1* and *file3* are modifications of *file2*. Then merge command combines both changes, it warns if conflict occurs.

merge [options] *file1 file2 file3*

Options	Description
A	This merges all changes leading from <i>file2</i> to <i>file3</i> into <i>file1</i>
-E, -e	These options specify conflict styles that generate less information than -A .
-p	Send results to standard output instead of overwriting <i>file1</i> .
-q	Quiet mode. Do not warn about conflicts.

Example: merge Sample1.txt Sample2.txt

mail

This mail command is used to send or receive mail.

mail [option] [address]

-a	Append given header to the message being sent.
-e	Return true if mail exists.
-E	Execute <i>COMMAND</i> .
-f	Operate on given mailbox <i>URL</i> . The default mailbox is ~/mbox .
-F	Save messages according to sender.
-H	Write a header summary and exit.
-i	Ignore interrupts.
-p or r	Print all mail to standard output.
-s	Send a message with a Subject of <i>SUBJ</i> .
-t	Precede message by a list of addresses.
-u	Operate on <i>USER</i> 's mailbox.

Example : mail - s "Hi! " sampleaccount@gmail.com
 cc:
 Hi,
 How r u?
 Bye

Note: To complete the mail press Ctrl+D

news

The news command allows a user to read news items published by the system administrator.

Syntax: **news** [option] [address]

Pipes (|) and Filter (grep)

Pipes are probably one of the most important features that are available in the Linux shell. Pipes are used to separate more commands, connect two programs. In some cases user make the output of a particular command to act as the input for another command using pipes.

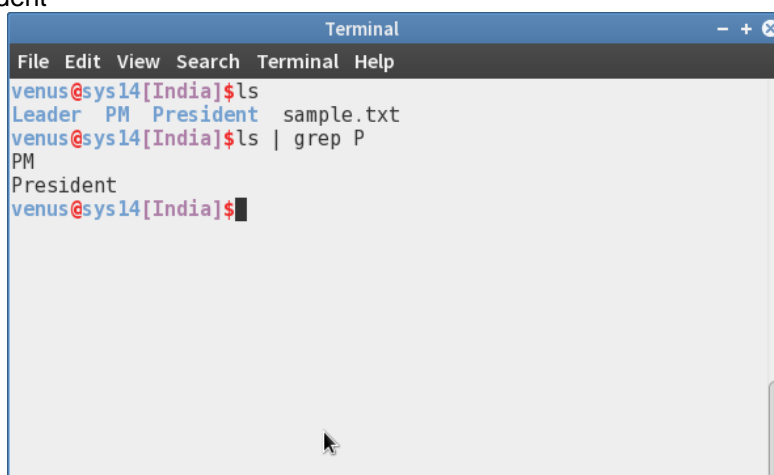
The grep program searches a file or files for lines that have a certain pattern.

Example : user1@sys14[India]\$ ls | grep P

This lists the files and directories those have the text 'P'

Output : PM

President



```

Terminal
File Edit View Search Terminal Help
venus@sys14[India]$ ls
Leader PM President sample.txt
venus@sys14[India]$ ls | grep P
PM
President
venus@sys14[India]$

```

The grep Command

\$grep patternfile(s)

A regular expression is either some plain text (a word, for example) and/or special characters used for pattern matching.

The simplest use of grep is to look for a pattern consisting of a single word. It can be used in a pipe so that only those lines of the input files containing a given string are sent to the standard output. If you don't give grep a filename to read, it reads its standard input; that's the way all filter programs work.

There are various options which you can use along with grep command –

Option	Description
-v	Print all lines that do not match pattern.
-n	Print the matched line and its line number.
-l	Print only the names of files with matching lines (letter "l")
-c	Print only the count of matching lines.
-i	Match either upper- or lowercase.

QUESTIONS AND ANSWERS**I. Fill in the blanks**

1. Microsoft Windows is an **Operating System**.
2. **Minimize button** reduces the windows to an icon and arranges it on the taskbar.
3. Press and release of the primary mouse button is called **Click**.
4. **Drag** is moving an item across the screen with the mouse.
5. **Date modified** sorts the contents of a folder by date
6. **Ctrl+p** pastes the copied content.
7. **Operating System** is the first program to run on a computer when the computer boots up.
8. An easy method to start WordPad is to use the Search box on the **Start menu**.
9. Terminal is found in the **Accessories** of Applications.
10. Linux is a Multi User Operating System.
11. In Linux, to display the date and time **date** command is used.
12. Currently logged in users are shown by **who** command.
13. Command to create an empty file in Linux is **touch**.
14. **More** command is filter for paging through text one screen at a time.
15. **Sort** Command is used to arrange the data in a file.
16. **chmod** is a Linux command, used to change the permissions of files or directories.
17. To compare two files **cmp** and **diff** commands are used.
18. The command used to append the contents of one file to another is **cat**.
19. Currently running jobs can be lists using the **ps** command.
20. The process can be terminated without logout is done by **kill** command.

III. Choose the best answer

1. Which is not an application software
a. **Linux** b. Microsoft Word c. Photoshop d. Tally
2. Recycle Bin is used to
a. Store the data temporarily **b. Store the deleted files**
c. Save the hard disk space d. Store the unwanted files
3. What is the function of Windows Explorer?
a. Save file b. Copy file c. Delete file **d. All of the above**
4. The process of creating copies of installed files is called
a. Backup b. Restore c. Format d. Scandisk
5. What command is used to remove files?
a. dm **b. rm** c. delete d. erase

6. What command is used to count the total number of lines, words, and characters contained in a file?
a. countw b. wcount **c. wc** d. countp
7. Which of the following is a program group?
a. Ms-Word b. Paint c. Calculator **d. Accessories**
8. Which is the core of the Linux Operating System?
a. Kernel b. Shell c. Commands d. Script
9. What command is used to remove the directory?
a. rmdir b. wcount c. wc d. countp
10. The command to add user in Linux is _____.
a. useradd **b. adduser** c. linuxconf d. all the above
11. What Linus Torvalds Created?
a. Fedora b. Slackware c. Debian **d. Linux**
12. Which of the following command can you execute to count the number of lines in a file?
a. lc **b. wc -l** c. cl d. count
13. Which command changes a file's group owner
a. cgrp **b. chgrp** c. change d. group
14. What does GNU stands for
a. GNU's not Unix b. Greek Needed Unix
c. General Unix d. General Noble Unix
15. What command is used to list contents of directories?
a. tar b. dir c. lp **d. ls**
16. Where should you click to change the desktop background?
a. Programs and features **b. Personalization**
c. Windows update d. User account
17. How should you click to change the screen resolution?
a. go to Backup and restore b. Device manager
c. go to Color management **d. Right click on the desktop**

III. Write answer in two or three lines

1. Define OS.
2. What are the functions of Operating System?
3. What is an icon?
4. What are the components of Linux?
5. What is Recycle Bin?
6. Define Backup.
7. What is Kernel?
8. How do you make a directory in Linux?
9. Differentiate who and who am i in Linux.
10. Explain about the cat command in Linux.

IV. Write answer in brief

1. List and explain the types of Operating System.
2. Explain some of the applications in Accessories of Windows.
3. Write the steps to install a font in Windows 7.
4. What are the controls used in Windows and explain any three of them?
5. What are the parts of Windows?
6. What are the features of Linux?
7. What are the components of Linux?
8. Write any six Linux commands.
9. Explain the differences between *cmp* and *diff* command in Linux.
10. What is the use of *kill* and *merge* command?

UNIT – 3

Office Applications - I

**Microsoft Word
&
Open Office Writer**

MICROSOFT WORD

Introduction

The name Microsoft Office is self explanatory. As you may have heard, 2007 Office is a major change from previous Office Versions. It is really a crucial application in the field of business where we can edit the texts to our necessity. Many commands can be used just by a single click. If you are new to Microsoft Office you will find 2007 very intuitive. When you click on something like an image, text or spreadsheet area, special Ribbons, customized to your selection, will appear to assist you.

Microsoft Office 2007 is a set of applications designed to work together. It typically includes Microsoft Word, Microsoft Excel, Microsoft Access, Microsoft Power Point, Microsoft Outlook, Microsoft Publisher, Microsoft OneNote, Microsoft InfoPath and Microsoft Groove.

Let's go through an introduction to some of the new features of several office applications. First, we will take you through the Microsoft Office Button, the Quick Access Toolbar, Ribbons, Tabs and Groups – to familiarize you with these common features. Then we will show you some of the unique Ribbons, Tabs and Groups of each application.

To open an application we may use any one of the following method.

Method 1:

Double click on the application icon on the Windows Desktop

Method 2:

Click Start Button which is in the left corner of the screen, then click All Programs, move the cursor over Microsoft Office and Select the application you desire.

MICROSOFT WORD

Applications of Word Processing

1. Letter, Resumes & Faxes
2. News & Articles
3. Memos
4. Booklets
5. Thesis Work
6. Mail Merge
7. Brochures
8. Envelopes
9. Web pages, etc.

Basic concepts of Word Processing

After typing the text in the document you also use various commands to format it in the desired manner. You can check the computer screen for errors and correct them. The word processing program can normally help to correct mistakes.

The main concepts of word processing are

1. Choosing the appropriate font to the text.
2. Choosing the style bold, italic or underlined.
3. Select appropriate alignments either left, right, center or justify depending on the necessity.
4. Choose appropriate space in between lines, words and paragraphs.
5. Make spelling and grammar corrections.
6. Preview the designed document before taking printout.
7. Finally print the document.

Starting Word

To start the Word program, follow these steps:

1. From the Windows Desktop, click **Start** then point at **Programs**.
2. Click **Microsoft Office** program group.
3. Click **Microsoft Word 2007**
4. Now the Word application window is opened.

Microsoft Word is an efficient and full-featured word processor that provides you with all the tools you need to produce a tremendous variety of document types - everything from simple documents such as memos and outlines to complex documents such as newsletters and internet - ready HTML pages. You create your Word documents in the Word window which provides you with easy access to all the tools you need to create all your documents.

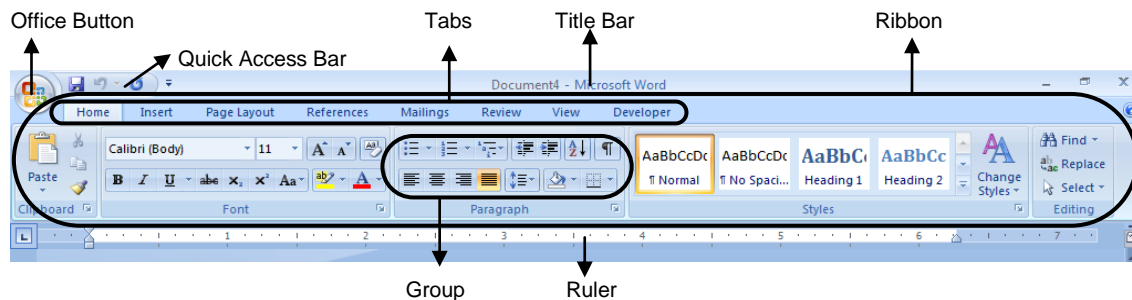
In Microsoft Word every file is called as Document. In Microsoft Word 2007 the documents are saved with the extension **.docx** whereas in older versions it saved as **.doc**.

Ribbon

The Ribbon is designed to help the user to find the commands that need to complete a task. There are three basic components to the Ribbon. It's good to know what each one is called so that user understands how to use it.

The three parts of the Ribbon are tabs, groups, and commands.

1. Tabs. There are seven basic ones across the top. Each represents an activity area.
2. Groups. Each tab has several groups that show related items together.
3. Commands. A command is a button, a box to enter information, or a menu.



By default the Home, Insert, Page Layout, References, Mailings, Review and View Tabs are found in the Ribbon. To reduce confusion, some tabs are shown only when needed. For example, the **Picture Tools Tab** is shown only when a picture is selected.

1. Select the picture.
2. The **Picture Tools** tab appears. Click that tab.
3. Additional groups and commands appear for working with pictures; like the **Picture Styles** group.

When you click away from the picture, the **Picture Tools** tab disappears, and the other groups come back.

Quick Access Bar

The Quick Access Toolbar is the small area to the upper left of the Ribbon. It contains the things that you use over and over every day: *Save*, *Undo*, and *Repeat*. You can add your favorite commands to it so that they are available no matter which tab you are on.

Click *Play* to see an animation showing how to add, and remove, a button to the Quick Access Toolbar.

Mini Toolbar

When you select text and point at it, the Mini toolbar will appear faded. Some formatting commands are so useful that you want to have them available whatever you are doing.

Let's say you want to quickly format some text, but you're working on the *Page Layout* tab. You could click the *Home* tab to see the formatting options, but here's a faster way:

1. Select your text by dragging with your mouse, and then point at the selection.
2. The Mini toolbar will appear in a faded fashion. If you point to the Mini toolbar, it will become solid, and you can see the tool.



Some of the shortcut keys for Microsoft Word are listed below:

Action	Keyboard shortcut
Bold	Ctrl-B
Bookmarks	Ctrl-Shift-F5
Break-column	Ctrl-Shift-Enter
Break-page	Ctrl-Enter
Browse next/previous item	Ctrl-PgDn/PgUp
Capitalize word	Shift+f3
Case-All Caps	Ctrl-Shift-A
Close	Ctrl-F4 / Ctrl + W
Copy	Ctrl + C
Copy formatting	Ctrl-Shift-C
Cut	Ctrl-X
Decrease font size	CTRL+SHIFT+<
Exit application	Alt-F4
Find	Ctrl + F
Font	Ctrl-D
Font Style	Ctrl-Shift-F
Font grow/shrink 1 pt	Ctrl-] or [
Font next/previous size	Ctrl-Shift- >or <
Font Size	Ctrl-Shift-P
Footnote	Ctrl-Alt-F
Create a new blank document	Ctrl + N
Go Back	Ctrl-Alt-Z / Shift-F5
GoTo	Ctrl-G
GoTo Next/Previous Paragraph	Ctrl-Up/Down
GoTo Next/Previous Word	Ctrl-Left/Right
Hanging indent-decrease	Ctrl-Shift-T
Hanging Indent-increase	Ctrl-T
Help	F1
Hyperlink	Ctrl-K
CTRL+SHIFT+>	Increase font size
Indent-decrease	Ctrl-Shift-M
Indent-increase	Ctrl-M
Italics	Ctrl-I
Center Align	Ctrl-E
Justify-Full	Ctrl-J
Left Align	Ctrl-L
Right Align	Ctrl-R

Line-spacing Single	Ctrl-1
Line-spacing 1.5	Ctrl-5
Line-spacing Double	Ctrl-2
Maximize window	Ctrl-F10
Menu Bar	F10
Newline within paragraph	Shift-Enter
Next window	Ctrl-F6
Open a document	Ctrl-O
Page number field	Alt-Shift-P
Paste	Ctrl-V
Print	Ctrl-P
Print Preview	Ctrl-Alt-I
Redo the last action	CTRL+Y
Remove menu item	Ctrl-Alt -
Repeat the last command	Ctrl-Y
Replace	Ctrl-H
Save As	F12
Save	Ctrl-S
Select All	Ctrl-A
Selection extended	F8
Selection reduced	Shift-F8
Small Caps	Ctrl-Shift-K
Spelling and Grammar check	F7
Split a window	Ctrl-Alt-S
Style box	Ctrl-Shift-S
Subscript	Ctrl =
Superscript	Ctrl + =
Symbol Font	Ctrl-Shift-Q
Table-remove border lines	Ctrl-Alt-U
Thesaurus	Shift-F7
To bottom of the Screen	Ctrl-Alt-PgDn
To top of the Screen	Ctrl-Alt-PgUp
underline	CTRL+U
Underline-double	Ctrl-Shift-D
Underline-word	Ctrl-Shift-W
Undo	Ctrl-Z
View-Normal	Ctrl-Alt-N
View-Outline	Ctrl-Alt-O
View-Page	Ctrl-Alt-P

Office Button

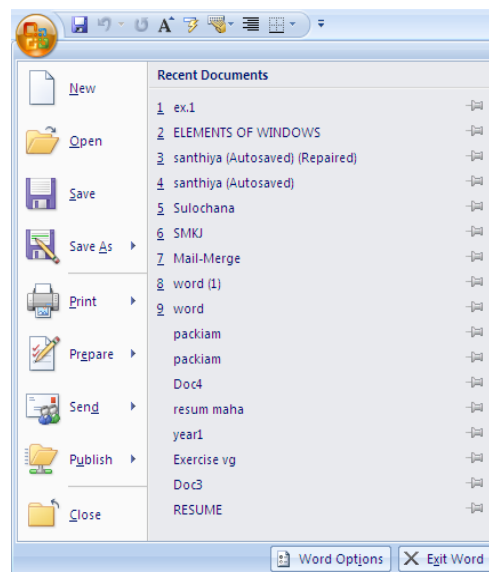
The user interface has been significantly redesigned in the following 2007 Microsoft Office system programs: Word, Excel, PowerPoint, Access, and Outlook. The Microsoft Office Button replaces the File menu and is located in the upper-left corner of these Microsoft Office programs.

When the user clicks the Microsoft Office Button user can see the same basic commands available in earlier releases of Microsoft Office to open, save, and print your file.

Starting a New Document

- Click the *Microsoft Office button*.
- Select *New*. The *New Document dialog box* appears.
- Select Blank document under the *Blank and recent section*.
- Click *Create*.

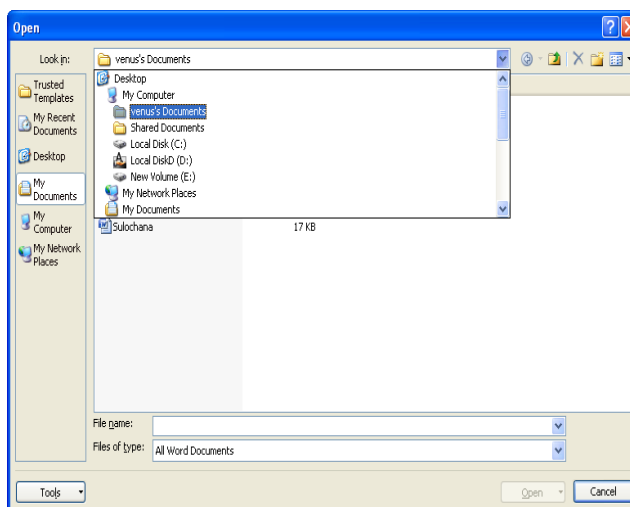
A new blank document appears in the Word window. You can also get a new file by pressing Ctrl+n. To get templates that are installed on your computer or on Office Online, click the Microsoft Office button and select New. Then select the templates from the dialog box that appears.



Opening (Ctrl+o)

Opening an existing document is a straightforward process. You will find that the Open dialog box shares many of the attributes that you saw in the Save-As dialog box. To open an existing Word file, follow these steps:

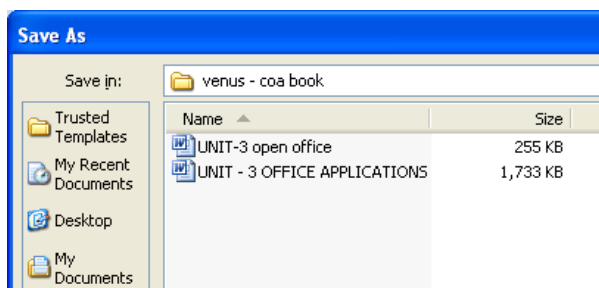
- Click Open button from the Office Button or press Ctrl+o. The Open dialog box appears.
- Click the Look In drop-down arrow to select the drive on which the file is located. The folders on the drive appear.



- Locate the driver and folder where the file is stored already.
- To open the file, click the file then click **Open** button. The file appears in a word document window.

Saving (Ctrl+s)

Saving your work is one of the most important aspects of working with any software application. If don't save your Word documents, you will lose all your hard work when you exit the Word application. To save a document, follow these steps:



- Click **Save** button on the *Office* Button or select the *File* menu then **Save** or press **Ctrl + S**. The first time you save your document, the **Save As** dialog box will appear.
- Type a filename into the *File Name* box. If you wish to save the file in a format other than a Word document, click the **Save as Type** drop-down arrow and select a different file type.
- To save the file to a different location, click the *Save In* drop-down arrow. After you select a particular drive, the folders on that drive will appear.
- Double-click folder in which you want to save in the **Save In** box to open the folder.
- After you have specified a name and a location for your new document, select **Save** button to save the file. You will return to the Word document window.

As you edit and enhance your new document, you will want to save changes that you make. To save changes to a document that has been saved under a filename, just click the **Save** button.

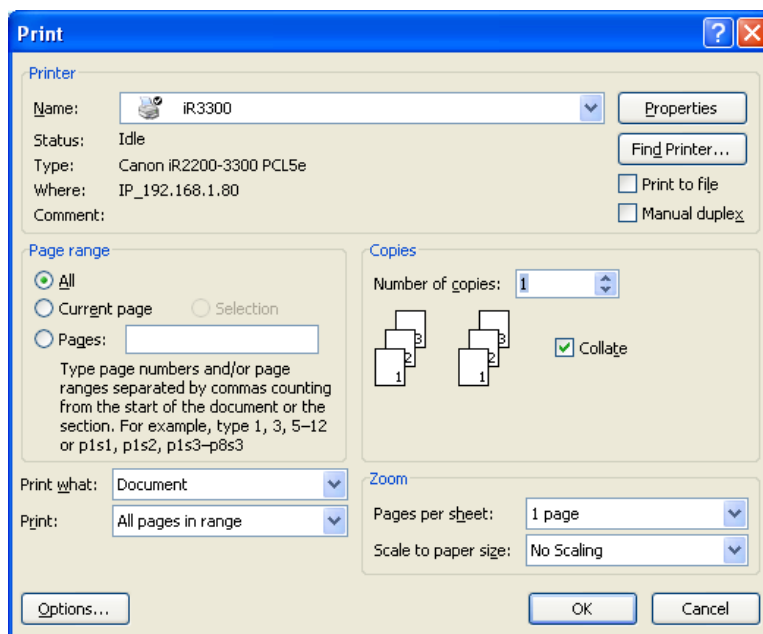
Printing (Ctrl+p)

Click on the *Office* Button, move your mouse down to the 'Print' option, make your choice between 'Print', 'Quick Print', and 'Print Preview'.

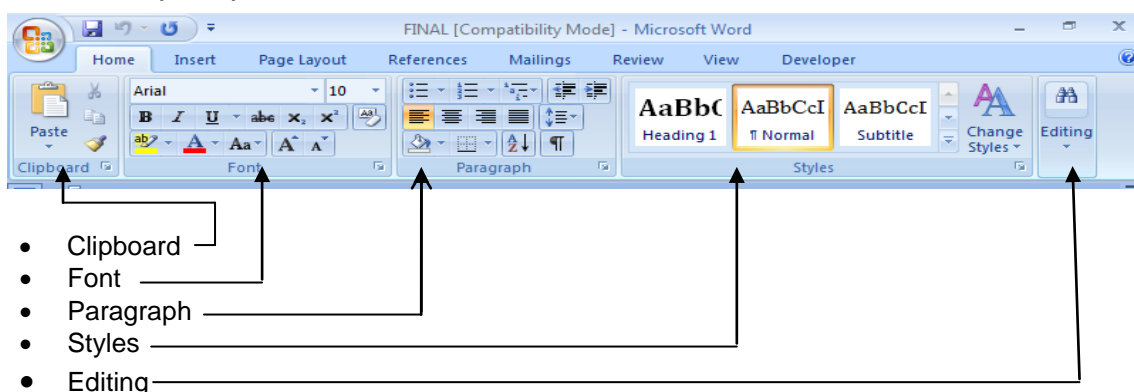
Clicking on **Print** will display the print dialog box, where you can select things like the printer, the number of copies, and what pages you want to print. Once you have selected all your options, you can click **OK**, and Word will send the document to the printer.

Quick Print will print one copy of the document with the default printing settings – so if you have more than one printer set up on your computer, it will print to the one you have marked as default.

Print Preview will display how the document would look if you were to print it on paper. Print preview is a great way to check if your document will look as professional as you want it to look!



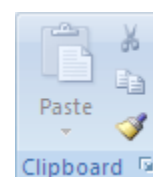
HOME TAB (Alt+h)




The above listed items are groups found in Home Tab.

CLIPBOARD GROUP


This clipboard group is found in the Home Tab. To cut or copy or paste the selected text to another page or another document or another application, clipboard group is very useful. Icons for Cut, Copy, Paste and Format Painter are in the clipboard group.




Copy (Ctrl+C)

To copy anything (text or table or image) from the word document. Select the content and click the copy icon  from the Clipboard or press Ctrl+C.

Paste (Ctrl+V)

To paste the content, click the cursor on the place where the user need to paste and click the paste icon  from the Clipboard or press Ctrl+V.

Cut (Ctrl+X)

To cut anything (text or table or image) from the word document. Select the content and click the cut icon  from the Clipboard or press Ctrl+V. This option deletes the content from the source and keeps the same in the clipboard whereas the copy command retains the contents in the source and clipboard.

Format Painter

User can use the *Format Painter* on the *Home* tab to apply text formatting and some basic graphics formatting, such as borders and fills.

- Select the text or graphic that has the format that the user wants to copy. (Select a portion of a paragraph to copy text format, where select entire paragraph to copy text and paragraph format)
- Click Format Painter in the Clipboard group of the Home Tab.
- Then select the Text or graphic that the user wants to format.

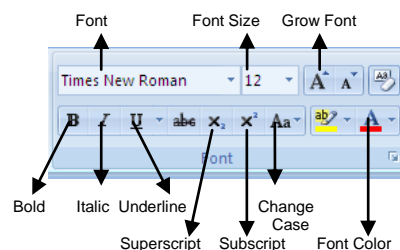
To apply the format to multiple selects in the document, user needs to double click the Format Painter while Selection and to stop the Formatting press ESC.

FONT GROUP

The font group in the Home Tab has options to change font, font size, bold and italic the selected text. User can change their text as their choice.

To change the font (Ctrl+shift+f)

1. Select the text in the document.
2. Click the down pointing arrow-head in the Font box. A drop down menu of fonts will appear.
3. Select anyone Font from the list to change the text to selected font.



Font Group of Home Tab

To change the font size (Ctrl+shift+p)

1. Select the text in the document.
2. Click the down pointing arrow-head in the Font Size box. A drop down menu of font size will appear.
3. Select anyone Font Size from the list or type the desired size, and change the text to selected font.
4. You could also change font size using the Grow Font & Shrink Font buttons in the Ribbon.

Example

Font Name	Font Size				
	8	10	12	14	16
Arial	Chennai	Chennai	Chennai	Chennai	Chennai
Times New Roman	Chennai	Chennai	Chennai	Chennai	Chennai

Normal	Bold	Italic	Underline
Chennai	Chennai	<i>Chennai</i>	<u>Chennai</u>

Superscript (Ctrl + shift + =) and Subscript (ctrl + =)

Like Bold, user can add superscripts & subscripts to the text. Mostly these are used in the creation of Mathematical functions and

Example:

$$(a+b)^2 = a^2 + b^2 + 2ab$$

$$(NH_4)_2Cr_2O_7$$

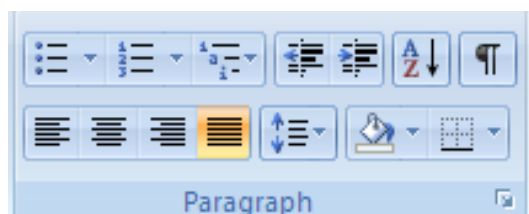
Change Case (Shift + F3)

The typed text can be modified into various cases like Upper, Lower, etc. by using the Change Case in Font group of Home tab.

- Sentence Case: Capitalize the first letter of each sentence.
- UPPER CASE : Make all the letters to capital
- lower case: Makes all the letters to small.
- Capitalize Each Word: Capitalize the first letter of each word to capital
- tOGGLE cASE: Capitalize all letters of the word except first letter.

PARAGRAPH GROUP

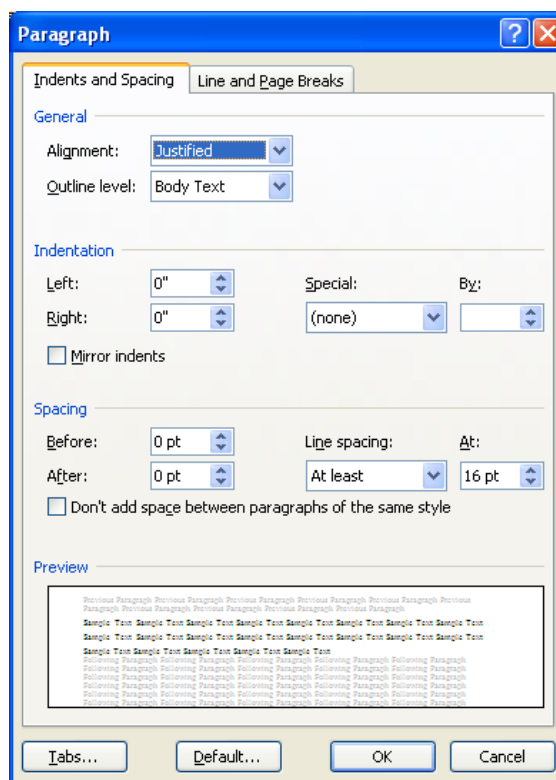
The paragraph group consists of bullets & numbering, indentation, sort, paragraph symbol, alignment, line spacing, shading and borders.



Word 2007 gives you the option of placing the text in four different alignments. These are Left, Center, Right and Justify. The Shortcut key for left align is (Ctrl+L), center align is (Ctrl+E), right align is (Ctrl+R) and for Justify is (Ctrl+J). But the justify alignment can be seen only in Paragraph. If the text aligned with justify shows the text in left align format only.

Line Space

User can set the space between the lines of a paragraph from the given line spaces of single (Ctrl+1), 1.5 lines (Ctrl+5), double (Ctrl+2), atleast, exact and multiple.



Bullets and Numbering

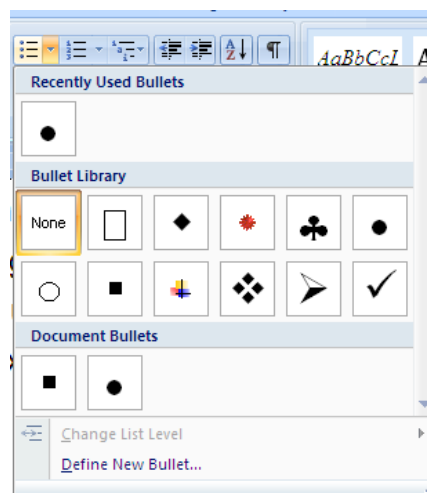
Bullets and numbering is used whenever we need to have texts or sentences in listed form. Bullets are the symbols shown before the items listed, whereas in Numbering method listed items are shown in various styles like 1, 2, 3 . . . (or) I, II, III . . . , (or) a, b, c,

Indentation

The beginning of a paragraph can be indented at any point, using increase indent and decrease indent.

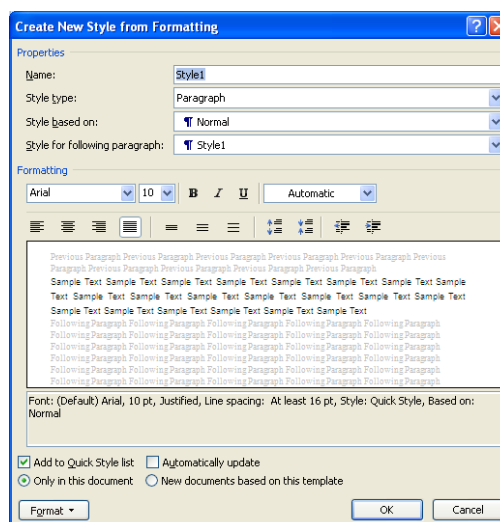
Sort

This option is available in Paragraph group of Home Tab. This is used to arrange the list of items in ascending and descending order.



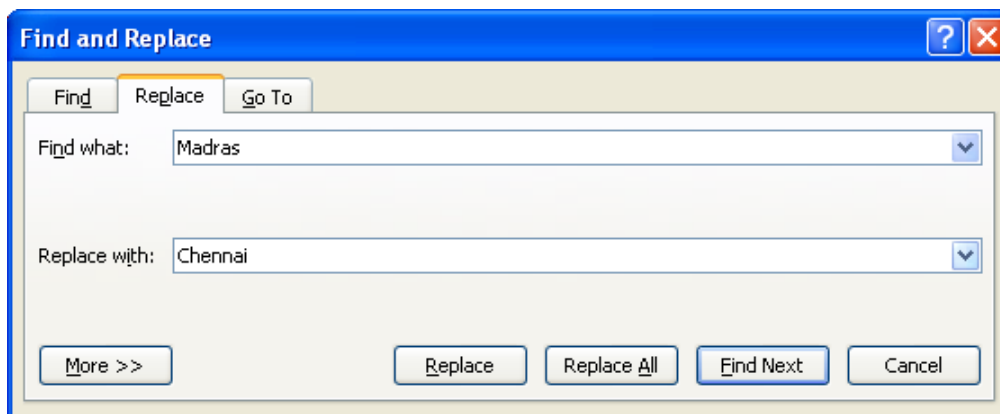
STYLES GROUP

Styles option in word allows the user to format a document with a consistent and professional look. User can save the style created by own and can be used in various documents. By default Microsoft word have many predefined styles like, Normal, Heading1, Subtitle, Title, etc. It is one of the most useful tool to keep various styles in different names to align a book, magazine, etc.



EDITING GROUP

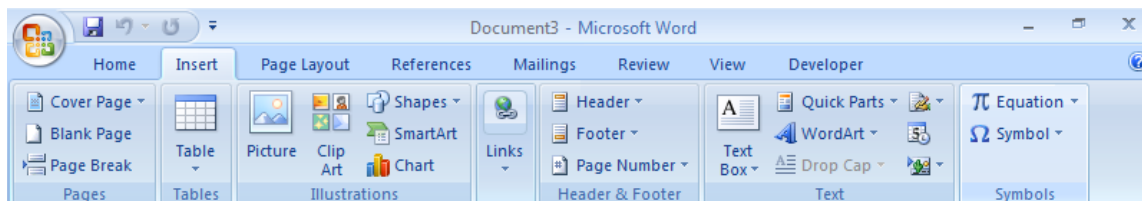
Find & Replace



Find (Ctrl+F) command in Editing Group is used to find any text in the document and replace it with the given text. **Ctrl+H** is the short cut for Find and Replace. **Go To** command is also found in Find and Replace Dialog Box, which is used to go to particular page, section, footnote, etc. **Ctrl+G** is the short cut for Go To command.

INSERT TAB (Alt + n)

Insert tab contains seven groups which are *Pages, Tables, Illustrations, Links, Header & Footer, Text and Symbols*. These groups are used to insert things like, *Table, Picture, Clip Art, Shapes, Page Number, Header & Footer, Word Art, Symbols, Equations*, etc.

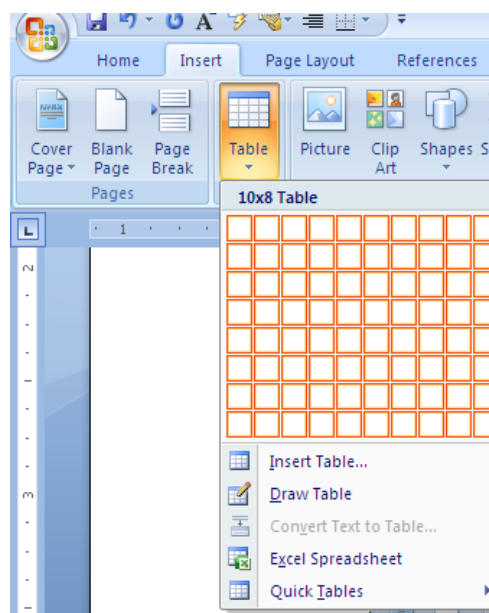
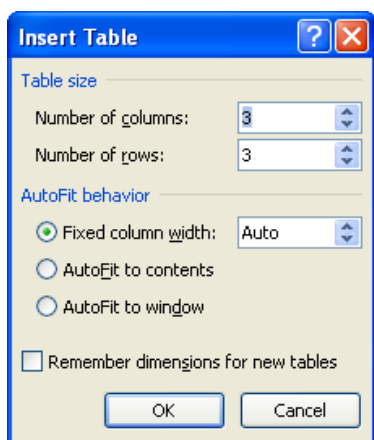


Let's discuss about some of the above mentioned groups separately.

Tables

Creating a Table

To create a table, go to Insert Tab and click **Table** Icon in Tables Group. Then click **insert table** and enter the required number of columns and rows in the respective places and click OK.



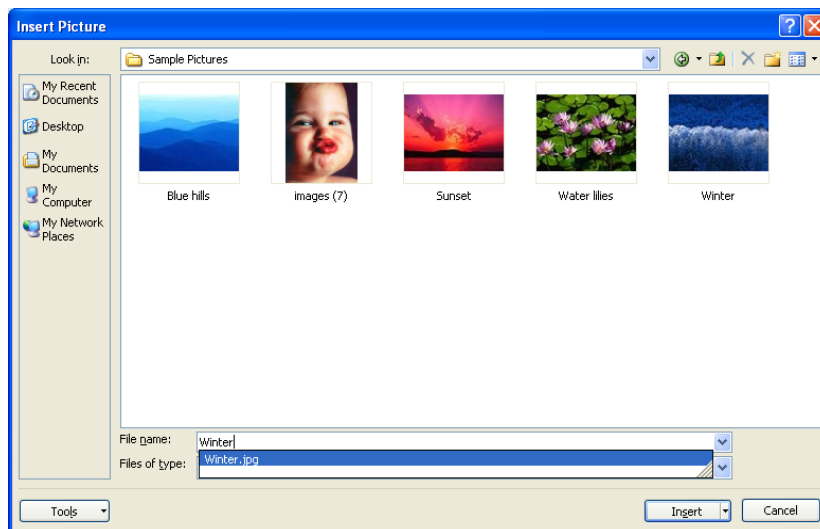
Whenever the cursor is inside the table, two new tabs (Design, Layout) appear in the Ribbon under the name **Table Tools**. With the help of these two tabs user can apply these to a table: *Insert row, Insert column, merge cells, split table, text direction, formula, Borders, Shadings, Table Styles, etc.*

Illustrations

Illustrations Group contains five tools which are *Picture, Clip Art, Shapes, Smart Art, and Chart*. These groups are used to insert things like, *Table, Picture, Clip Art, Shapes, Page Number, Header & Footer, Word Art, Symbols, Equations, etc.*

Inserting a Picture

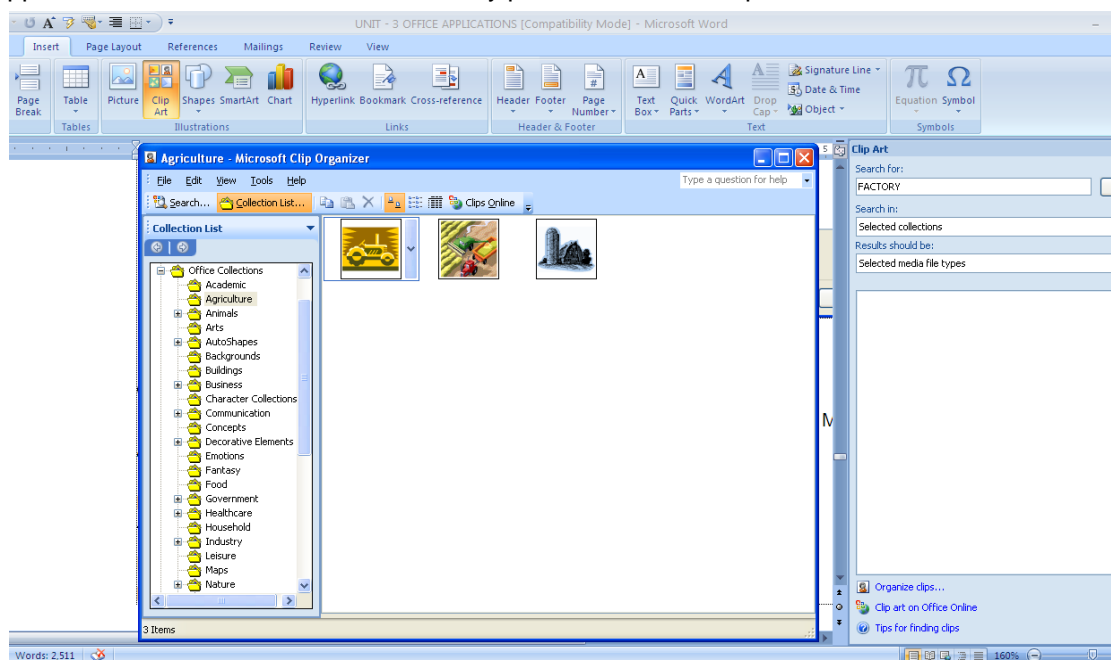
To insert a picture, click on the *Picture* icon. A dialog box appears, as shown in the figure.



Now user can select the picture and click *Insert*.

Clip Art

Clip Art tool contains certain pictures which are available in all the Microsoft Office Applications. User can insert the necessary picture wherever required.



Shapes

Using the Shapes tool, shapes like rectangle, circle, arrow, line, braces, stars, block arrows, etc. can be drawn.

Links

Hyperlink, Bookmark, Cross-reference are found in Links Group. Hyperlink is used to link any files, websites, pages in the same document and so on. Bookmark is used to add a bookmark in the document.

Header & Footer

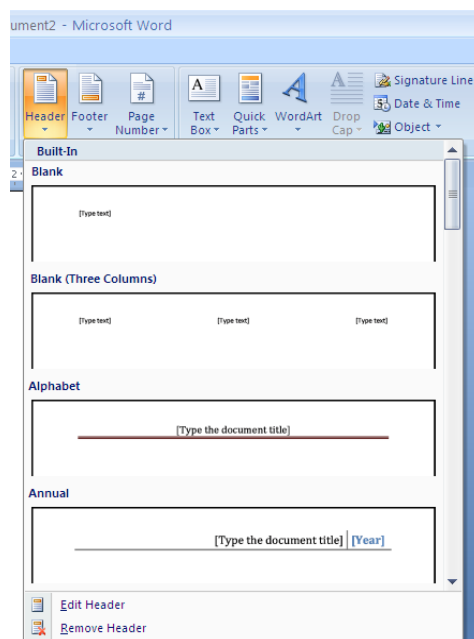
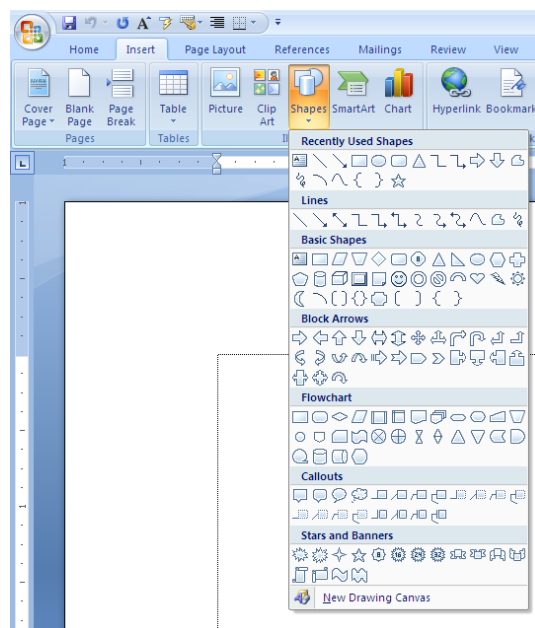
Header and footers are used in printed documents. You can create headers and footers that include text or graphics – for example, page numbers, the date, a company logo, the document's title or file name, or the author's name. A header is printed in the top margin; footer is printed in the bottom margin. You can use the same header and footer throughout a document or change the header and footer for part of the document.

Adding header and footer

To add a header or footer, follow these steps:

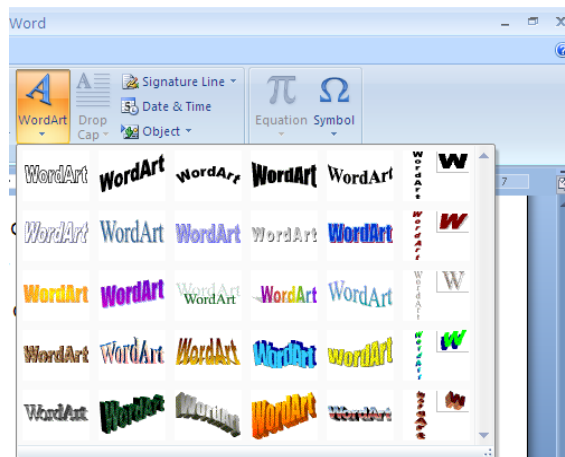
Go to *Insert Tab*, select *Header* and then *Edit Header Tool*. You will temporarily be switched to the Print Layout mode and placed in the header area of the document. The regular text area is dimmed and unavailable while you work in the header or footer box. To add a footer follow the same steps as for the header but use footer tool instead of header.

Note : User can switch between Header and Footer.



Text

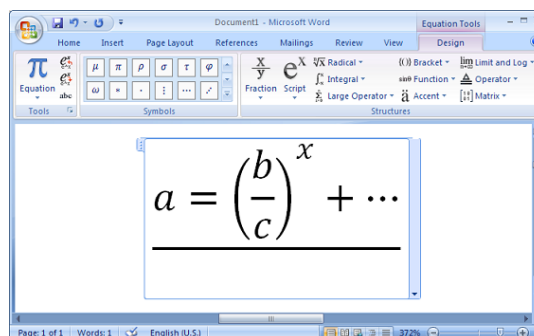
The Text group includes Text Box, Quick Parts, Word Art, Drop Cap, Signature Line, Date & Time and Object. Text Box and WordArt Tools are used for graphical and Design works.



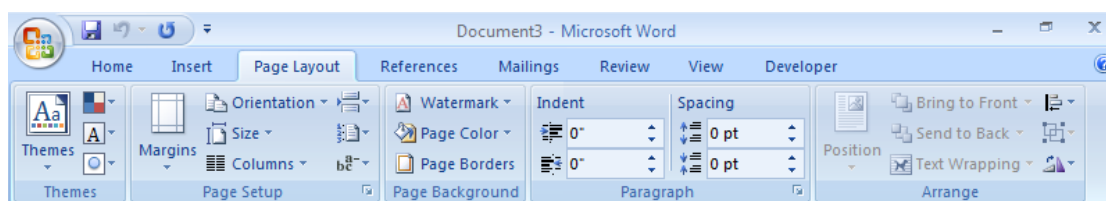
Symbols & Equations

Symbols and Equations, which cannot be typed, can be inserted through *Symbol & Equation Tool* in Symbols group.

These two tools are especially used for Mathematical and Chemical equations and formulae like



PAGE LAYOUT TAB (Alt + p)



There are five groups in Page Layout Tab namely *Themes*, *Page Setup*, *Page Background*, *Paragraph* and *Arrange*. Let's discuss some of the frequently used groups in *Page Layout Tab*.

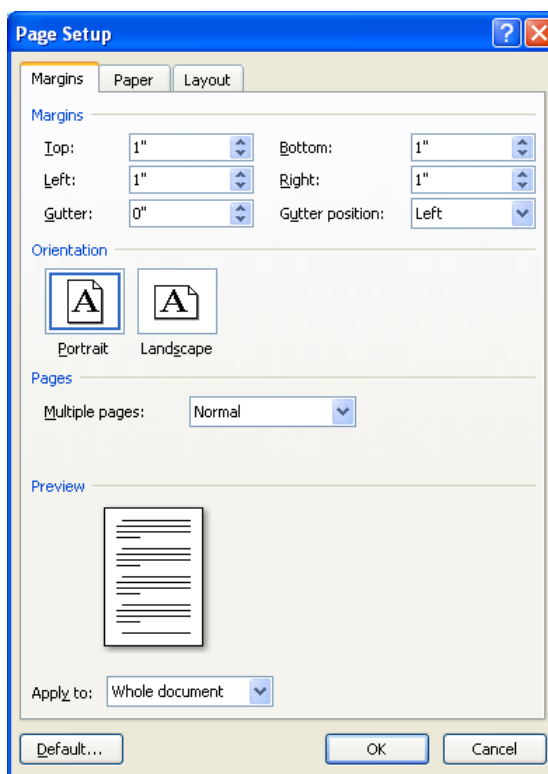
Page Setup

The Page Setup Group includes the tools which are Margins, Orientation, Size, Columns, Breaks, Line Numbers and Hyphenation.

By clicking the small arrow at the bottom right corner of the Page Setup group, *Page Setup* dialog box appears. Using this dialog box paper size, margins and orientation of the currently working document can be set.

Some of the paper sizes which are used professionally are Letter, A4 and Legal.

Portrait and Landscape are the two orientations in Microsoft Office. Portrait sets the paper in vertical whereas landscape sets to horizontal. In a document both portrait and landscape orientation shall be set.



Columns

Column is used to align the texts of the document column-wise (single, double or any). Spaces can be set between columns as required. It can be set either to a part of a document or to the whole using the *Apply to* in the *Column* dialog box. This tool is effectively used in making notices, brochures and newspapers.



Page Background

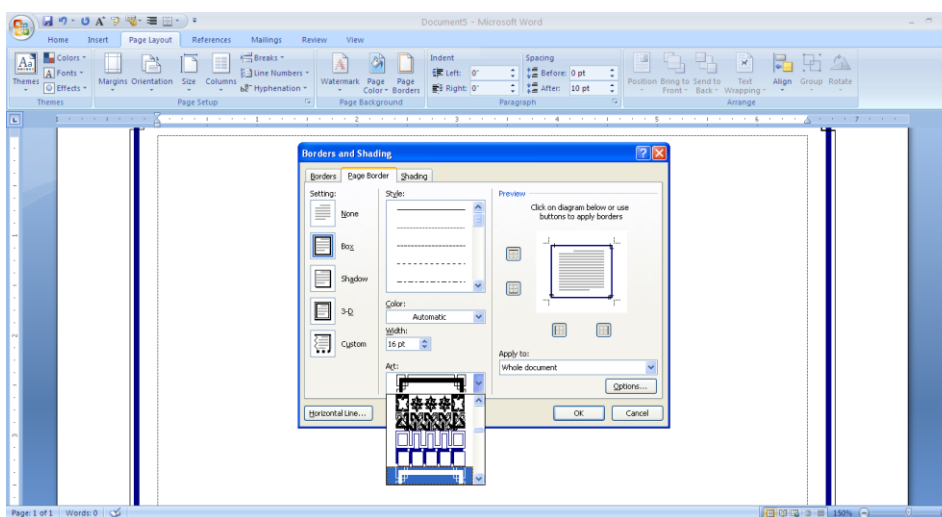
Watermark, Page Color and Page Borders tools are in the *Page Background Group*.

Watermark

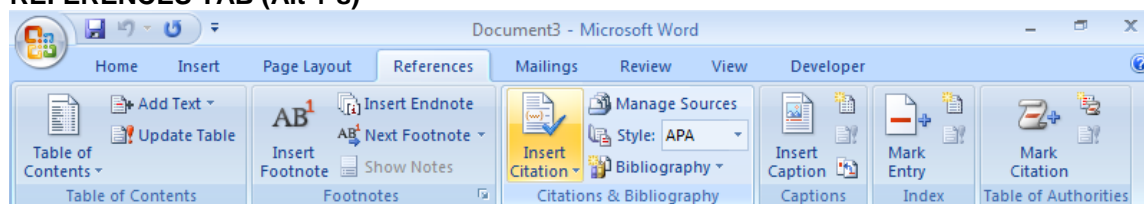
Watermark is a tool that is used to add a faded text or image at the background of a document.

Page Border

Document can be bordered using the Page Border tool, which can even be applied to particular pages.

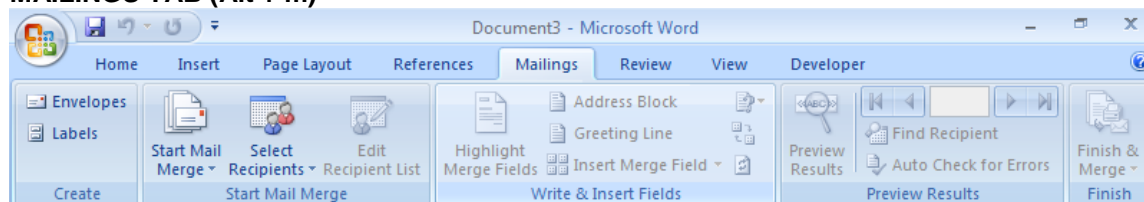


REFERENCES TAB (Alt + s)



References Tab contains the groups namely, Table of Contents, Footnotes, Citations & Bibliography, Captions, Index and Table of Authorities.

MAILINGS TAB (Alt + m)



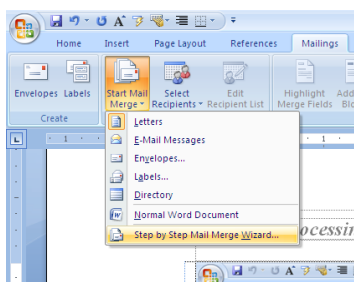
This Tab includes Create, Start Mail Merge, Write & Insert Fields, Preview Results and Finish groups.

Mail Merge

Mail merge is a tool which allows you to create form letters, mailing labels and envelopes by linking a main document to a set of data stored in a list, database, or spreadsheet.

To use Mail Merge:

- Select the **Mailings** on the Ribbon.
- Select the **Start Mail Merge** command.
- Select **Step by Step Mail Merge Wizard**.

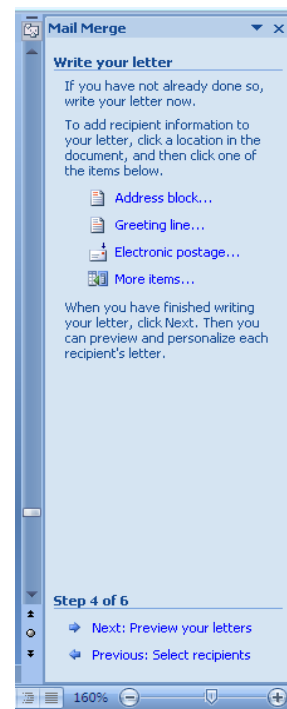
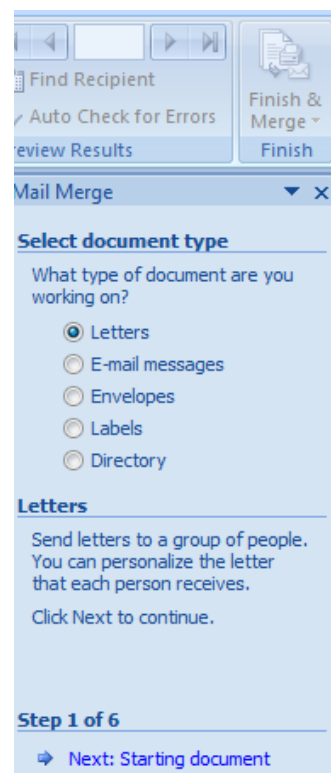


The Mail Merge task pane appears and will guide you through the **six main steps** to complete a merge. You will have several decisions to make during the process. The

following is an example of how to create a letter and merge the letter with a data list.

Steps 1-3

- Choose the type of document you want to create. In this example, select **Letters**.
- Click **Next: Starting document** to move to Step 2.
- Select **Use the current document**.
- Click **Next: Select recipients** to move to Step 3.
- Select the **Type a new list** button.
- Click **Create** to create a data source. The **New Address List** dialog box appears.
- Enter the necessary data in the New Address List dialog box.
- Click **New Entry** to enter another record.
- Click **Close** when you have entered all of your data records.
- Enter the file name you want to save the data list as.
- Choose the location where you want to save the file.
- Click **Save**. The Mail Merge Recipients dialog box appears and displays all of the data records in the list.
- Confirm that the data list is correct, and click **OK**.
- Click **Next: Write your letter** to move to Step 4.



Step 4

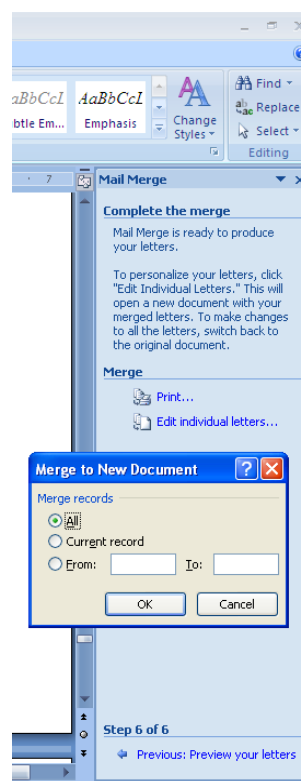
- Write a letter in the current Word document.
- To insert recipient data from the list:
- Place the insertion point in the document where you want the information to appear.
- Select Address block, Greeting line, or Electronic postage from the task pane. A dialog box with options will appear based on your selection.
- Click **Next: Preview your letters** in the task pane once you have completed your letter.

Step 5

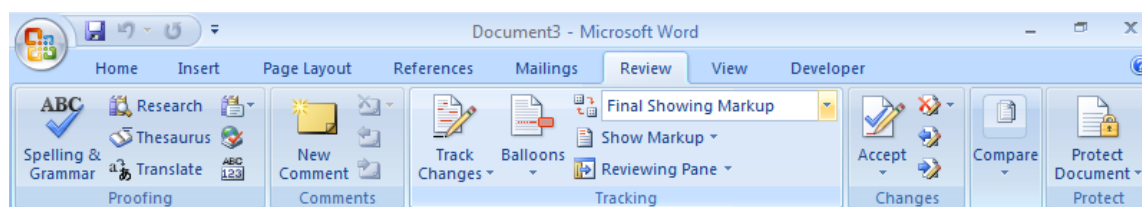
- Preview the letters to make sure the information from the data record appears correctly in the letter.
- Click **Next: Complete the merge**.

Step 6

- Click **Print** to print the letters.
- Click **All**, to merge all the records whereas you can merge the letter to current record, like that you can merge selective records by entering from and to value.
- Click **OK** in the Merge to Printer dialog box.
- If you don't want print the letter immediately, you may save in a separate document by selecting Edit Individual Letters.



The Mail Merge Wizard allows you to complete the merge process in a variety of ways. The **best** way to learn how to use the different functions in Mail Merge is to try to develop several of the different documents—letters, labels, and envelopes—using the different types of data sources.

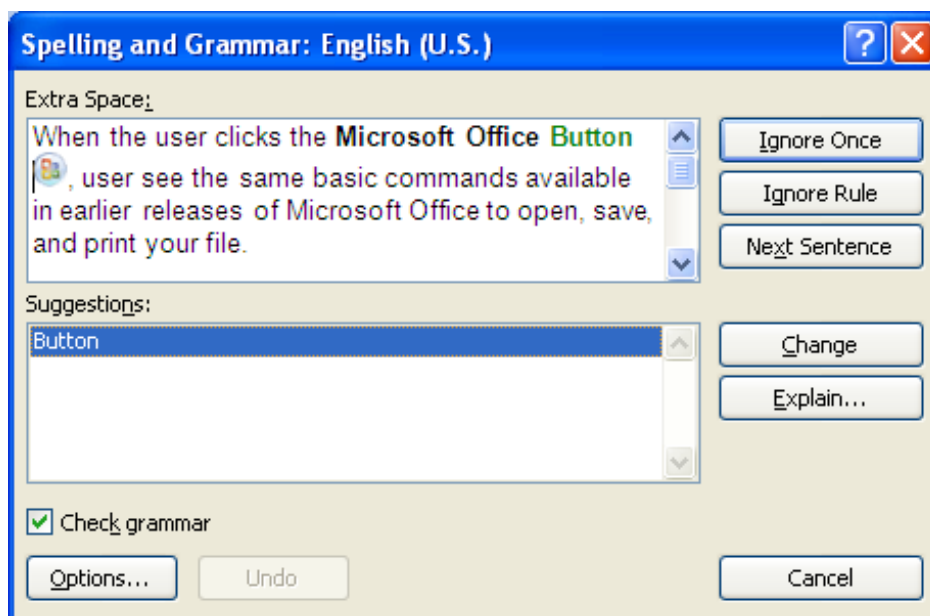
REVIEW TAB (Alt + r)

Review tab contains six groups namely *Proofing*, *Comments*, *Tracking*, *Changes*, *Compare* and *Protect*. Let's discuss about some of the significant groups found in this tab.

Proofing

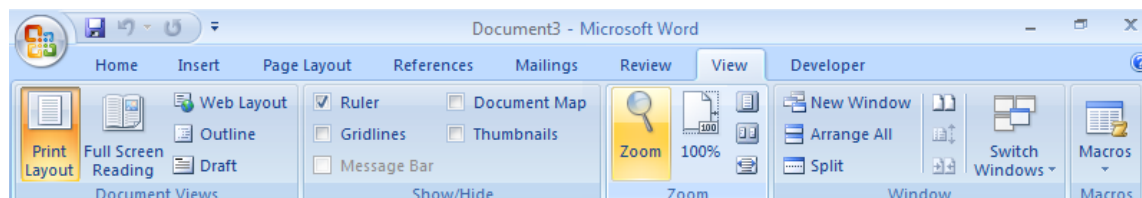
Spelling & Grammar, Research, Thesaurus, Translate are the four tools available in *Proofing* group.

Spelling & Grammar (F7)



Spelling & Grammar is used to correct the grammatical and/or spelling mistakes present in the document. If any unwanted mistakes are shown in the document, they can be ignored by using *Ignore Once* or *Ignore Rule*. You can add any word into the Microsoft Dictionary by clicking the button add to Dictionary. But before adding you need to verify that word is correct.

VIEW TAB (Alt + w)



This tab is used to view the document in different views such as **Print Layout, Full Screen Reading, Web Layout, Outline** and **Draft**.

The next group in the View Tab that we will look at Show/Hide group. Using this group, you can turn on options like the **Ruler, Gridlines, Document Map** and **Thumbnails**. The **Ruler** displays on the left and top sides off your document and uses inches as measurement by default and it can be modified to various measuring units.

Using the **Document Map** in Show/Hide Group you can navigate to different areas by clicking on the heading in the document map.

Zoom option in the *Zoom Group* helps us to maximize or minimize the view size of the document content. It never changes the font size of the content.

Window group essentially lets you work on the same document utilizing different views and windows. When you select the *New Window* option, it will open a new window containing the same document. This can be useful if you need to see two different sections of the same document at the same time.

The last option under the *View Tab* is *Macros* option. Macros are useful in re-enabling a certain order of tasks that you may perform commonly. For example, if you add a title, heading, your name and date to almost every document that you put together, it makes sense to add these steps to a Macro and then run it every time you start a new document.

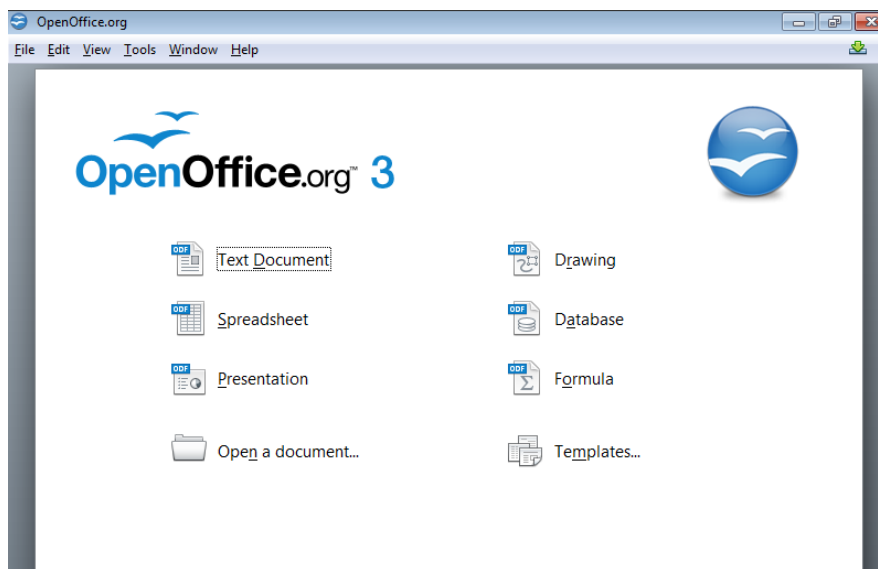
OPEN OFFICE - WRITER

Introduction

Open Office is a stable, high quality, robust, freely available software, which is developed by a community of very talented volunteer programmers to provide a leading multi-lingual, multi-platform, fully functional Office for everyone. It is developed by *Sun Microsystems* and available in many languages. It works on various Operating Systems like Windows, Solaris, Linux, Macintosh (Mac), etc. It is the Office Suite for Word Processing, Spreadsheets, Presentations, Databases and Drawings.

Open Office files created by Writer's document, Calc's spreadsheets, Presentation of Impress, database of Base can be opened through Microsoft Word, Excel, PowerPoint, and Access respectively.

Launching Open Office in Linux



Go To Office in Applications, Click Open Office. The above shown window will appear. Any Suites of Open Office can be opened from this Window.

All Open Office Suites can also be opened from *Applications* and *All Programs* of *Start Menu* in Linux and Windows respectively.

Note: Most of the commands in Open Office Writer, like Open, Save, Save As, Print, Spell Check, etc. are same as that used in Microsoft Office Word. But these commands are inside menus in Open Office Writer.

Applications of Open Office

Open Office Writer

Writer is a useful tool for creating documents, newsletters, books, reports, letters, brochures, and others. In this Writer user can insert graphics and objects from other components. Like that user can export files to HTML, XHTML, XML, Adobe's Portable Document Format (PDF), and several versions of Microsoft Word files.

File Menu (Alt + f)

File contains commands that apply to the entire document such as *Open*, *Save*, *Save As*, *Export as PDF*, *Page Preview* and *Print*.

The *New* opens any suites of Open Office.

Wizards contain readymade Letter, Fax, Agenda, Presentation and Web Page

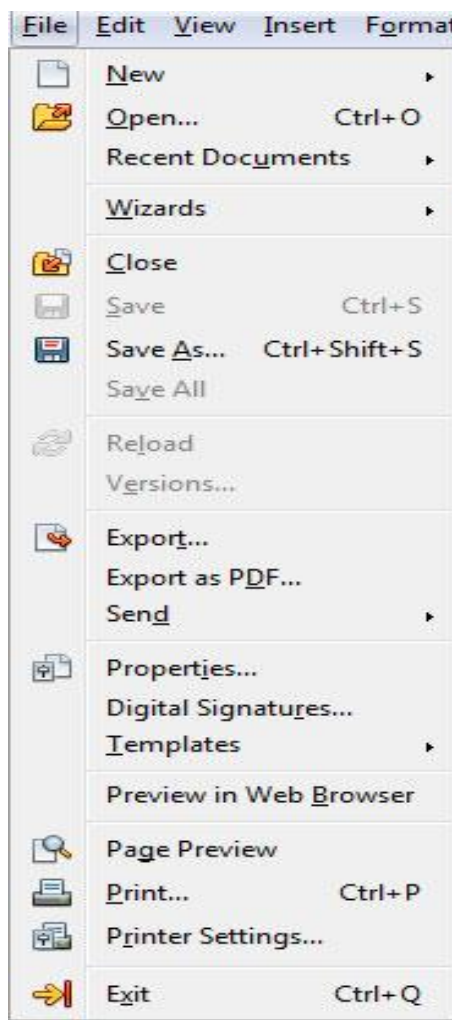
You can save a document by clicking *save* found in *File* Menu. *Save As* command saves the document in different name and / or at different place.

An existing file of Writer can be exported as XHTML, PDF, JPEG, XML and PNG formats through *Export*. *Export as PDF* is used only to export a document in PDF format.

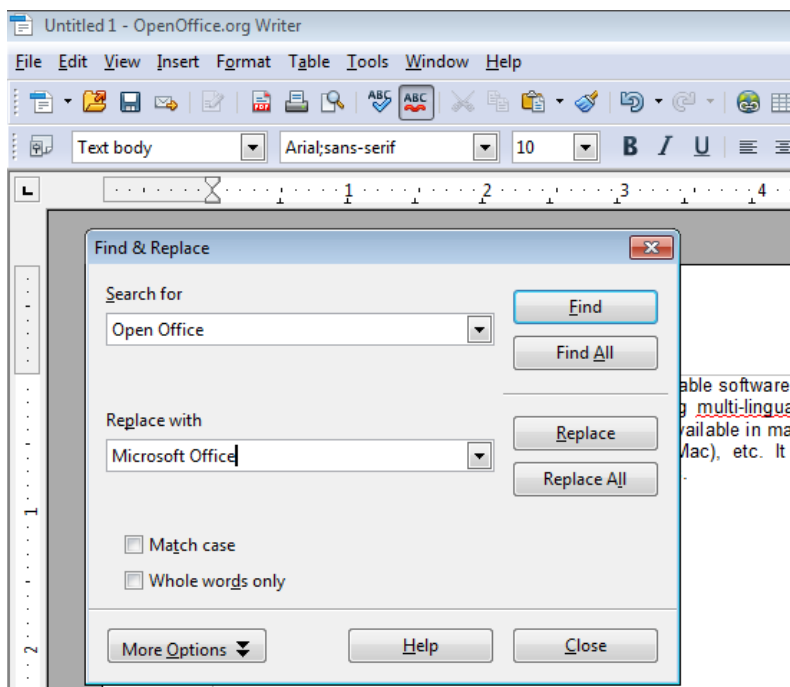
Print is also found in this menu, and is used to print a Document.

Edit Menu (Alt + e)

Cut, *Copy*, *Paste*, *Selection Mode*, *Select All*, *Find & Replace*, *AutoText* is found in Edit Menu. The shortcuts for these commands are same as those in MS Office Word and are listed below:



Find and Replace

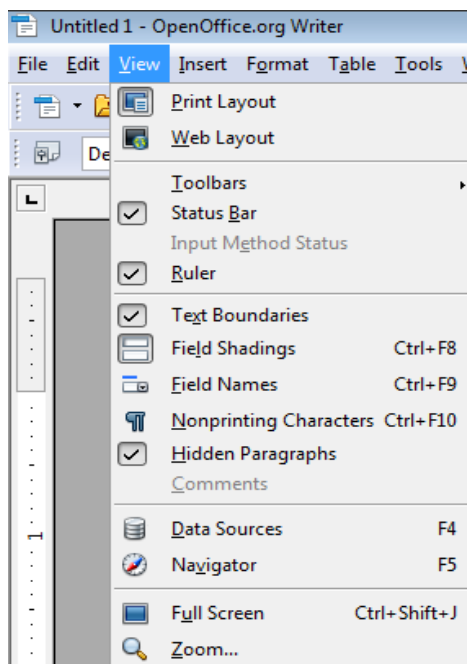


Find command in Edit Menu is used to find any text in the document and replace it with the given text. **Ctrl+f** is the short cut for Find and Replace.

View Menu (Alt + v)

The Print and Web Layout commands in the View menu, controls the onscreen display of the Document. Toolbars contains the tools provided by the Open Office the required tools can be activated to show in the screen. Status Bar, Ruler, Text Boundaries can be activated from the *View Menu* so that they are visible in the working screen. Zoom is used to change the view size of the screen.

Text Boundary is an option available both in Microsoft Word and Open Office Writer, which is used to show the boundary line to the content of the document.



Insert Menu (Alt + i)

It is one of the most of useful Menu in Open Office that is used to insert anything that cannot be typed manually, like pictures, symbols, table, frames, movies, etc. Hyperlink is used to link any files, websites, E-Mail and pages in the same document. Bookmark is a mark that is used to move the cursor to the required page in the document instantly.

Header and footers are also found in this menu which is similar to that found in Microsoft Office Word. *Movie and Sound* is an additional feature that is found in Microsoft Office Word and is used to insert any movie or sound in the Writer document.

Format Menu (Alt+O)

Format is designed to align the content of the document. *Font, Font Size, and Style* can be applied to the content using the Character Dialog Box.

Some of the commands in the Paragraph are discussed below.

Alignment (settings like left, center, right and justify), *Indentation* (spacing before and after text), *Spacing* (spacing between paragraphs), *Line spacing*

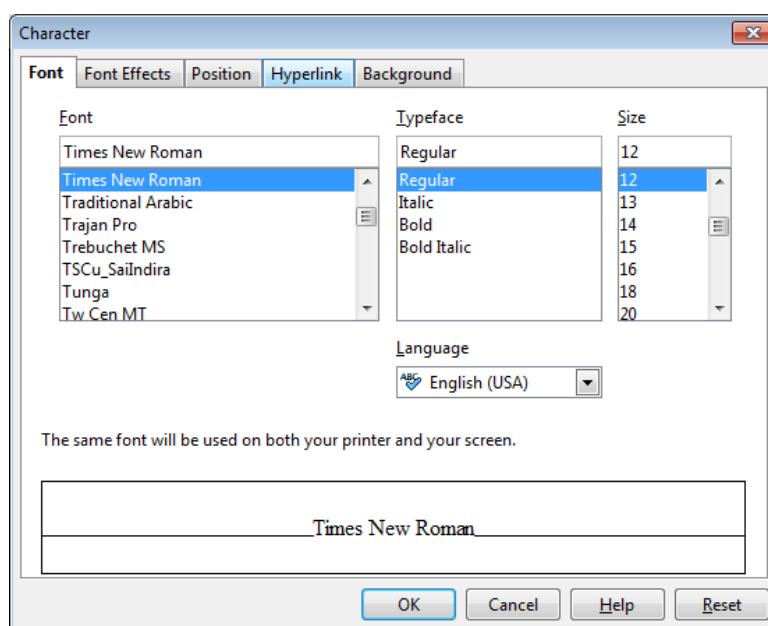
(spacing between lines), *Tabs, Drop Caps, Borders*, are found in the Paragraph Dialogue Box.

Bullets and Numbering is used to list out the contents in separate points using different symbols or number formats.

The functions of *Columns* and *Change Case* in Open Office are similar to that found in Microsoft Word.

Anchor, Wrap, Alignment, Arrange, Flip, Rotate and *Group* can be used only to objects.

The *Anchor* in the format menu attaches the objects like image, symbols, etc. with the page, paragraph and character.

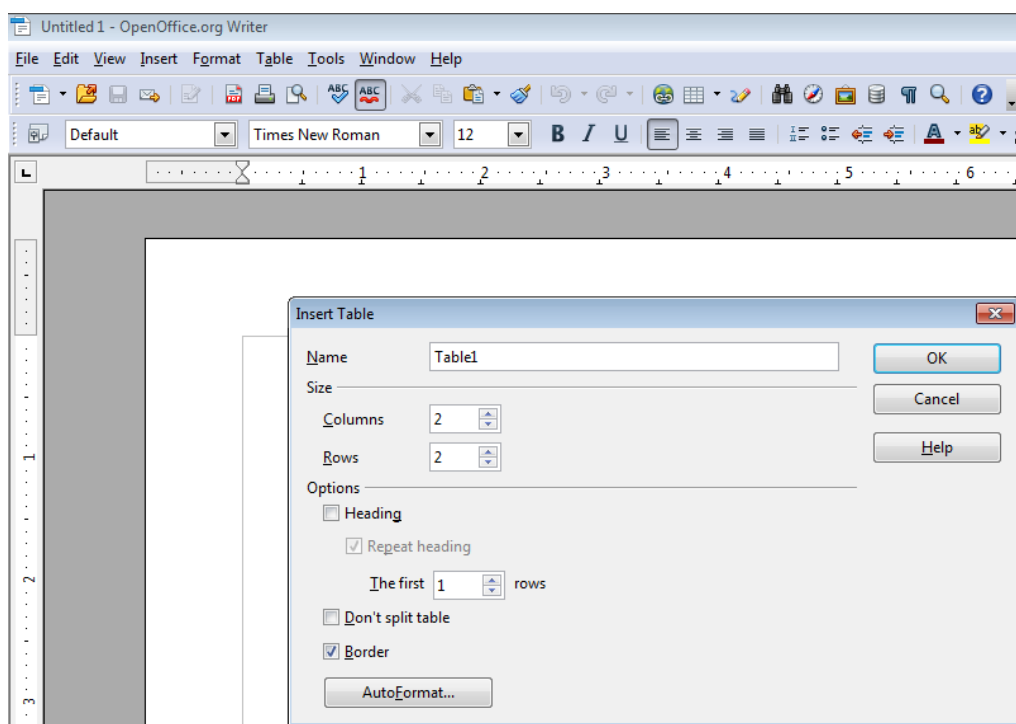


Wrap is used to wrap the objects around the text in the desired manner. *Alignment*, found in the format menu, is used to align the objects.

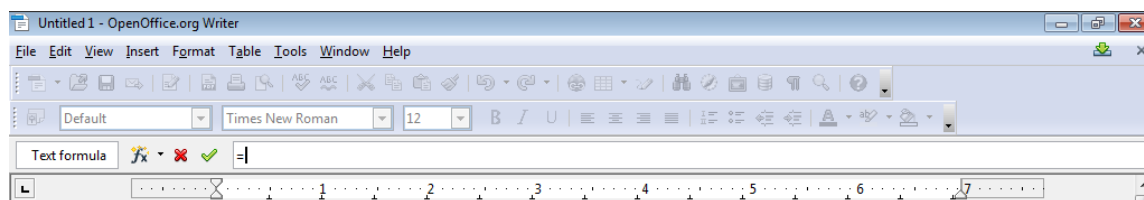
Table Menu (Alt + a)

Table menu is specifically used only for creating, editing and deleting tables. Using the special command, Protect Cells found in the Table Menu, the cell can be made readable only.

Using Convert command, either a table can be converted to Text or any text can be converted to a table.

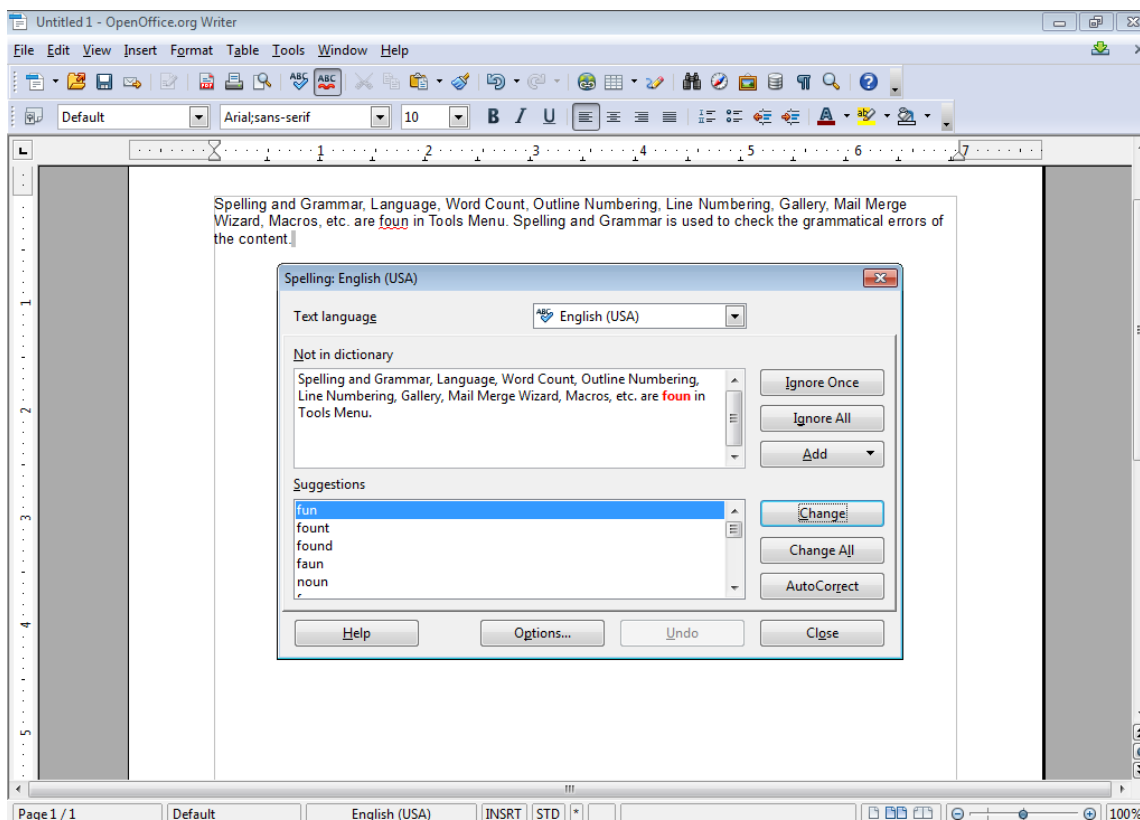


Formula is used to get the mathematical results of the data that are in the table. The results for the formula types will be shown in the text area.



Tools Menu (Alt + t)

Spelling and Grammar, Language, Word Count, Outline Numbering, Line Numbering, Gallery, Mail Merge Wizard, Macros, etc. are found in Tools Menu. Spelling and Grammar is used to check the grammatical errors of the content.



Help Menu (Alt + h)

User can get any details about the tools found in the Open Officer Wirter using the Help Menu.

Some of the short cut keys for Open Office Writer





Shortcut Keys	Effect
Ctrl+A	Select All
Ctrl+J	Align Justify
Ctrl+D	Double Underline
Ctrl+E	Align Centre
Ctrl+F	Find and Replace
Ctrl+Shift+P	Superscript
Ctrl+L	Align Left
Ctrl+R	Align Right
Ctrl+Shift+B	Subscript
Ctrl+Y	Redo last action
Ctrl+0 (zero)	Apply Default paragraph style
Ctrl+1	Apply Heading 1 paragraph style
Ctrl+2	Apply Heading 2 paragraph style
Ctrl+3	Apply Heading 3 paragraph style
Ctrl+5	1.5 Line Spacing
Ctrl+Hyphen(-)	Custom hyphens; hyphenation set by you
Shift+Enter	Line break without paragraph change
Ctrl+Enter	Manual page break
Ctrl+Shift+Enter	Column break in multi-columnar texts
Alt+Enter	Inserting a new paragraph directly before or after a section or a table
Arrow Left	Move cursor to left
Shift+Arrow Left	Move cursor with selection to the left
Ctrl+Arrow Left	Go to beginning of word
Ctrl+Shift+Arrow Left	Selecting to the left word by word
Arrow Right	Move cursor to right
Shift+Arrow Right	Move cursor with selection to the right
Ctrl+Arrow Right	Go to end of word
Ctrl+Shift+Arrow Right	Selecting to the right word by word
Arrow Up	Move up one line
Shift+Arrow Up	Selecting lines in an upwards direction
Arrow Down	Move cursor down one line
Shift+Arrow Down	Selecting lines in a downward direction
Home	Go to beginning of line
Shift+Home	Go and select to the beginning of a line

End	Go to end of line
Shift+End	Go and select to end of line
Ctrl+Home	Go to start of document
Ctrl+Shift+Home	Go and select text to start of document
Ctrl+End	Go to end of document
Ctrl+Shift+End	Go and select text to end of document
Ctrl+PageUp	Switch cursor between text and header
Ctrl+PageDown	Switch cursor between text and footer
Insert	Insert mode on/off
PageUp	Screen page up
PageDown	Move down screen page
Shift+PageUp	Move up screen page with selection
Shift+PageDown	Move down screen page with selection
Ctrl+Backspace	Delete text to beginning of word
Ctrl+Shift+Del	Delete text to end of sentence
Ctrl+Shift+Backspace	Delete text to beginning of sentence
Ctrl+Tab	Next suggestion with Automatic Word Completion
Ctrl+Shift+Tab	Use previous suggestion with Automatic Word Completion
Alt+W	Spell checker dialog: Call back the original unknown word into the text box
Ctrl+ double-click or Ctrl+Shift+F10	Dock or un-dock the Navigator, Styles and Formatting window, or other windows

QUESTIONS AND ANSWERS**I. Fill in the blanks**

1. **Insert** mode is the default text mode in MS-WORD
2. Page set-up command is available in **Page Layout** tab.
3. The Microsoft Word 2007 documents are saved with extension **.docx**.
4. **Change Case** command is used to change text between uppercase and lowercase.
5. **Ctrl+p** in the shortcut menu to choose print option.
6. Two types of page orientation are **Portrait and Landscape**
7. When you type new text **Overtyp** mode replacing existing text.
8. You can use **Undo** to reverse more than one change
9. **Save as** command is used for saving the active document with a different name.
10. Maximum zooming in word is **500**
11. The red wave underline in MS Word document indicates **Spelling Mistakes**.
12. The short cut key for pasting copied contents in a document in a Microsoft Word is **Ctrl+V**.
13. The short cut to align left is **Ctrl + L**.
14. The short cut **Ctrl + Enter** is used to break manually in Open Office Writer.

II. Choose the best answer

1. Which icon represents the center alignment
a)  b)  c)  d) 
2. Document is used in
a) PowerPoint b) **Word** c) Excel d) Impress
3. This key is used to Spell Check
a) **F7** b) F5 c) F2 d) F12
4. Current page number, section number are displayed in
a) Title bar b) Ruler c) Menu Bar d) **Status Bar**
5. This key is used to select entire document
a) Ctrl + X b) Ctrl + U c) **Ctrl + A** d) None
6. Portrait in Open office is
a) Margin b) Paper Size c) **Orientation** d) None
7. Which of the following is not a font style?
a) Bold b) italics c) Regular d) **Superscript**

III. Say true or false

1. Restore command is used to copy the files. (F)
2. Ms-Word is used to prepare spreadsheets. (F)
3. Delete key deletes one character to left (F)
4. We can change the margins in *Print Preview* (T)
5. We can undo only the last action (F)
6. Header and Footer option is available in Insert Menu (T)
7. Borders can be applied to Cells, Paragraph and Text. (T)
8. The Green wave underline in MS Word document indicates Grammar Mistakes. (T)

IV. Write answer in two or three lines

1. What are the packages available in Ms-Office?
2. Write short notes on Header and Footer.
3. Write the procedure to copy a text from one location to another location.
4. Define Mail Merge.
5. Write about change case in Microsoft Word.
6. What is the use of Print Preview?
7. How do you create a table in Open Office Writer?

V. Write answer in brief

1. Explain the steps for creating mail merge in Microsoft Word.
2. Explain about Home tab in Ms-Word
3. List the packages available in Open Office and give its uses.
4. Write the steps to find and replace a text in the word document.
5. List and explain the options found in Microsoft Office Button.
6. Explain Spelling and Grammar in Open Office Writer.
7. Write the steps to change the page size and margins in Writer.
8. Write the steps to insert a clipart in the Word document.
9. Write in detail about the page setup of Open Office Writer.

UNIT – 4

Office Applications - II

**Microsoft Excel
&
Open Office Calc & Math**

MICROSOFT EXCEL

Introduction

Microsoft Office Excel 2007 is modified Step by Step from their older versions. Now it is Simple, Faster and Smarter.

Getting started with Excel 2007 you will notice that there are many similar features to previous versions. You will also notice that there are many new features that you'll be able to utilize. There are three features that you should remember as you work within Excel 2007: the Microsoft Office Button, the Quick Access Toolbar, and the Ribbon. The function of these features will be more fully explored below. Microsoft Excel is a very powerful tool for you to use for numeric computations and analysis. Excel can also function as a simple database but that is another class.

Applications of Excel

- Budgeting
- Annual reports of business firms.
- Income statement and Income tax calculations.
- Banking Calculations.
- Cost Analysis and Production and Marketing analysis etc.

Features of Excel

- User friendly spreadsheet program.
- Automatic number formatting, Summation, Worksheet formatting.
- Built-in spell checking.
- High performance Chart and Graphs.
- Easier entry of range references in dialog boxes.
- Row and column headings indicate the active cell.
- Better drag-and-drop editing.

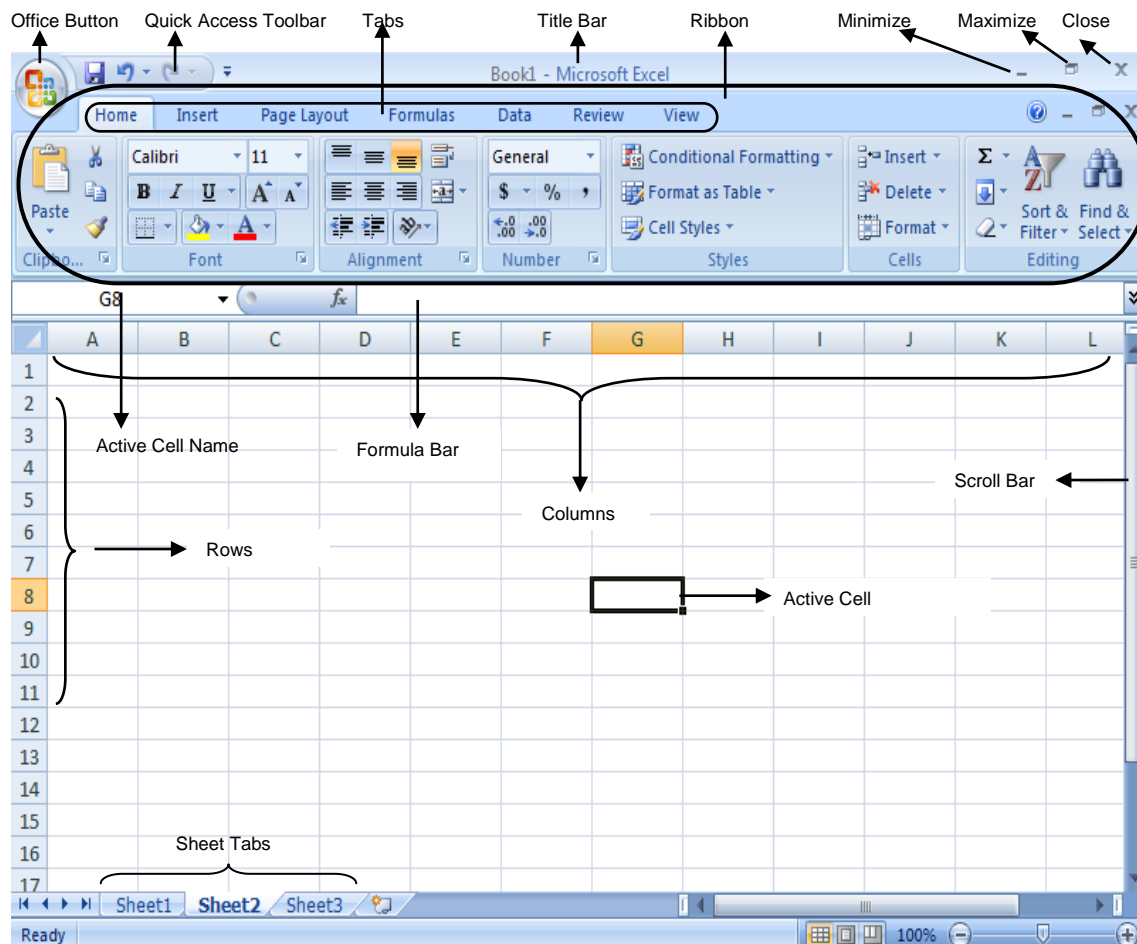
Workbook

Excel file is a Workbook, which is a collection of worksheets (spreadsheets). By default, Excel has 3 worksheets in a new workbook. The worksheets are designated at the bottom part of the window where you see the file folder-like tabs. The tabs are named Sheet1, Sheet2, and Sheet3. If you click on Sheet2, you will be in Sheet2 and not Sheet1 so you need to be aware of which worksheet you are in.

Spreadsheets

A spreadsheet is an electronic document that stores various types of data. There are vertical columns and horizontal rows. A cell is where the column and row intersect. A cell can

contain data and can be used in calculations of data within the spreadsheet. An Excel spreadsheet can contain workbooks and worksheets.



Some basic information about the Worksheet

Rows in a worksheet	1 to 1048576
Columns in a worksheet	A to XFD (16384)
First cell of a worksheet	A1
Last cell of a worksheet	XFD1048576
Total number of cells in a worksheet	17179869184
Maximum characters per cell	255

Microsoft Office Button

The Microsoft Office Button performs many of the functions that were located in the File menu of older versions of Excel. This button allows you to create a new workbook, Open an existing workbook, save and save as, print, send, or close.

Ribbon

The ribbon is the panel at the top portion of the document. It has seven tabs: Home, Insert, Page Layouts, Formulas, Data, Review, and View. Each tab is divided into groups. The groups are logical collections of features designed to perform function that you will utilize in developing or editing your Excel spreadsheets.

Commonly utilized features are displayed on the Ribbon. To view additional features within each group, click the arrow at the bottom right corner of each group.

Home	: Clipboard, Fonts, Alignment, Number, Styles, Cells, Editing
Insert	: Tables, Illustrations, Charts, Links, Text
Page Layouts	: Themes, Page Setup, Scale to Fit, Sheet Options, Arrange
Formulas	: Function Library, Defined Names, Formula Auditing, Calculation
Data	: Get External Data, Connections, Sort & Filter, Data Tools, Outline
Review	: Proofing, Comments, Changes
View	: Workbook Views, Show/Hide, Zoom, Window, Macros

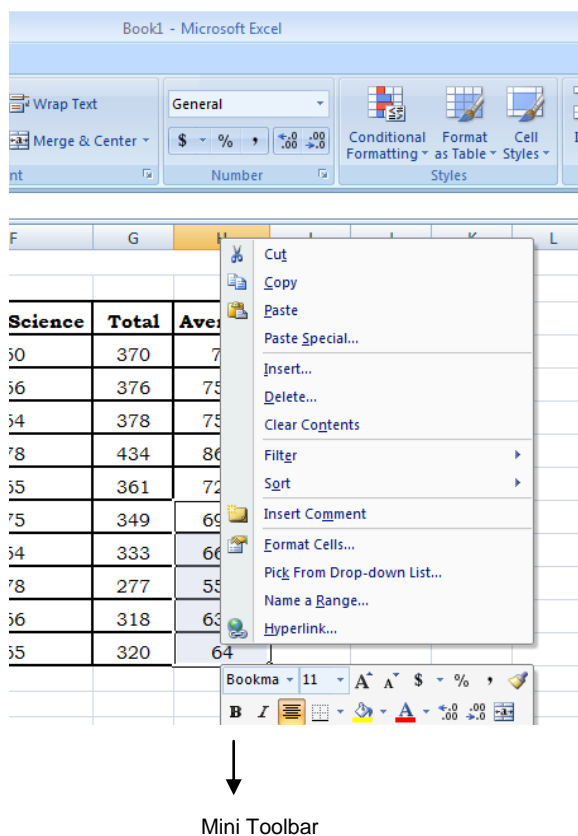
Quick Access Toolbar

The *quick access toolbar* is a customizable toolbar that contains commands that you may want to use. You can place the quick access toolbar above or below the ribbon. To change the location of the quick access toolbar, click on the arrow at the end of the toolbar and click *Show Below the Ribbon*.

You can also add items to the quick access toolbar. Right click on any item in the Office Button or the Ribbon and click *Add to Quick Access Toolbar* and a shortcut will be added.

Mini Toolbar


A new feature in Office 2007 is the Mini Toolbar. This is a floating toolbar that is displayed when you select text or right-click text. It displays common formatting tools, such as Bold, Italics, Fonts, Font Size and Font Color.

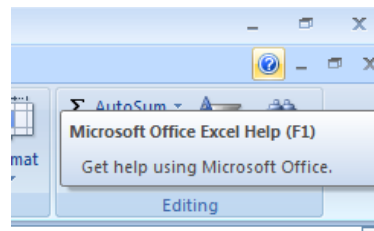


Excel 2007 offers a wide range of customizable options that allow you to make Excel work the best for you. To access these customizable options:

- Click the Office Button
- Click Excel Options

Using Help in Excel

To get help, click on the help icon  which is at the Top Right Corner of the Microsoft Excel Screen or by using the function key (F1).



Creating a Workbook

To create a new Workbook:

- Click the Microsoft Office Toolbar
- Click New
- Choose Blank Document

If you want to create a new document from a template, explore the templates and choose one that fits your needs.

Save a Workbook

When you save a workbook, you have two choices: Save or Save As.

To save a document:

- Click the Microsoft Office Button
- Click Save

You may need to use the Save As feature when you need to save a workbook under a different name or to save it for earlier versions of Excel. Remember that older versions of Excel will not be able to open an Excel 2007 worksheet unless you save it as an Excel 97-2003 Format. To use the Save As feature:

- Click the Microsoft Office Button
- Click Save As
- Type in the name for the Workbook
- In the Save as Type box, choose Excel 97-2003 Workbook

Open a Workbook

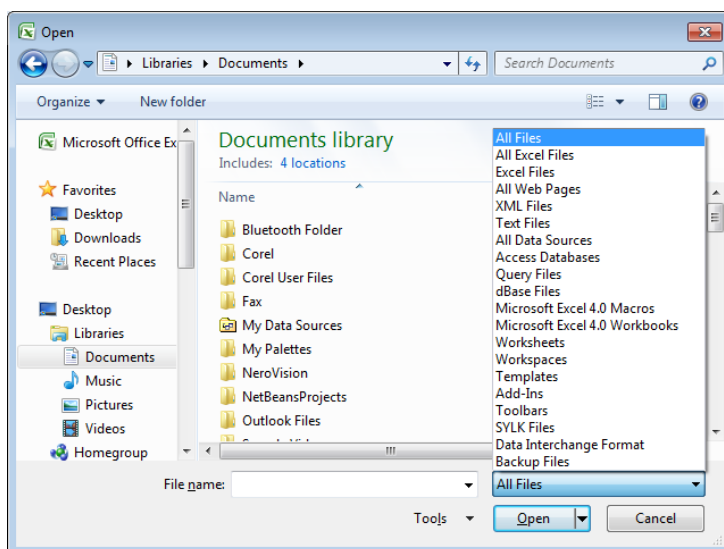
To open an existing workbook:

- Click the Microsoft Office Button
- Click Open
- Browse to the workbook
- Click the title of the workbook
- Click Open

Importing other files

To import files other than excel format, execute the following steps.

- From the Office Button, click Open.
- Select file format from the dropdown list which is just above the Open button by default it shows *All Files*.
- Select the file to open and click Open Button.



Exporting

To export excel files to other file formats, execute the following steps.

- Open the Excel File.
- From the Office Button, click *Save As* (or) press F12.
- Select *Save as type* format from the dropdown list by default it shows *Excel Workbook*.
- Click *Save*.

Formatting Worksheet Tab

You can rename a worksheet or change the color of the tabs to meet your needs.

To rename a worksheet:

- Open the sheet to be renamed
- Click the **Format** button on the **Home** tab
- Click **Rename** sheet
- Type in a new name
- Press **Enter**

Changing the color of a worksheet tab:

- Open the sheet to be renamed
- Click the **Format** button on the **Home** tab
- Click **Tab Color**
- Click the color

Moving Worksheets in a Workbook

- Open the workbook that contains the sheets you want to rearrange
- Click and hold the worksheet tab that will be moved until an arrow appears in the left corner of the sheet
- Drag the worksheet to the desired location

Insert and Delete Worksheets***To insert a worksheet***

- Open the workbook
- Click the Insert button on the Cells group of the Home tab
- Click Insert Sheet

To delete a worksheet

- Open the workbook
- Click the Delete button on the Cells group of the Home tab
- Click Delete Sheet

To Copy and Paste Worksheets

- Click the tab of the worksheet to be copied
- Right click and choose Move or Copy
- Choose the desired position of the sheet
- Click the check box next to Create a Copy
- Click OK

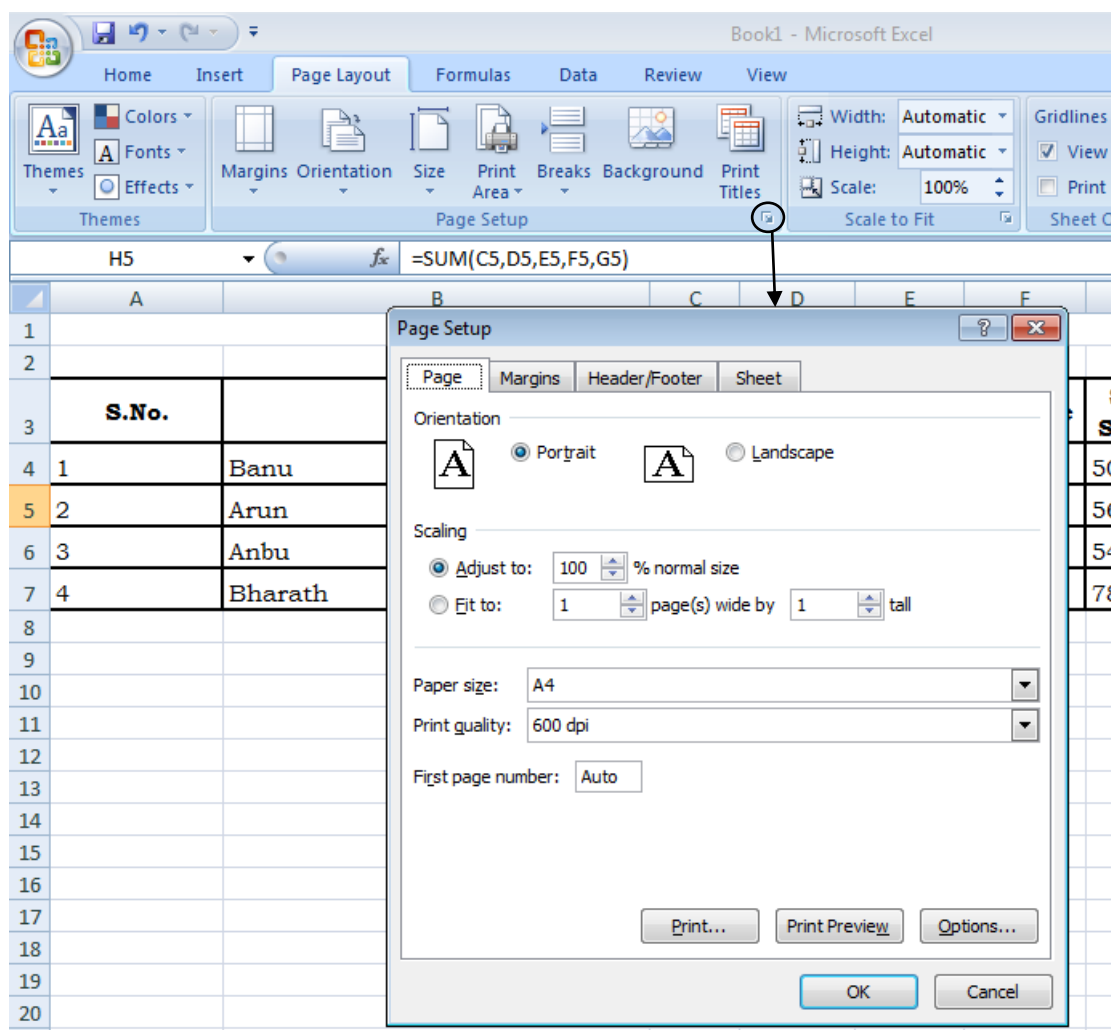
Page Setup

- Click the Page Layout tab in the Ribbon.
- Go to the Page Setup group, and then you will find that some common used setups, such as margins, backgrounds and size are listed in this group. For further setup, you should click the little square with an arrow in the right bottom of the group.
- Then a Page Setup box appears, and you can choose Orientation, Paper Size, Margins and set some other the settings based on your need. Click OK to finish it.

Set Page Margins

To set the page margins:

- Click the Margins button on the Page Layout tab
- Select one of the give choices, or
- Click Custom Margins
- Complete the boxes to set margins
- Click Ok



Change Page Orientation

To change the page orientation from portrait to landscape:

- Click the Orientation button on the Page Layout tab
- Choose Portrait or Landscape

Printing the Worksheet

1. Select the worksheet, worksheets, or worksheet data that you want to print.
2. Click Microsoft Office Button, and then click Print.
3. Keyboard shortcut you can also press CTRL+P.
4. In the Print dialog box, select the options that you want, and then click Print Preview.
5. On the Print Preview tab, in the Print group, click Page Setup.
6. On the Page tab, under Orientation, click Portrait or Landscape.

NOTE If you don't have a printer set up, the Orientation option will appear dimmed, and you won't be able to select it. To resolve this, you must set up a printer. The option also appears dimmed when you're in process of editing the contents of a cell. To resolve this, press ENTER to accept the changes or ESC to cancel the changes.

7. Click OK.
8. When you are ready to print, click Print.

Entering Data

Various kind of entries can be made in a cell like Text, numbers, Date, Time and Formula. We are going to see how to enter them one by one.

To enter data in an active cell

- Click in the **cell** where you want the data
- Begin typing

	A	B	C	D	E	F	G	H
1	MARK STATEMENT							
2								
3	Name	Tamil	English	Maths	Science	Social Science	Total	Average
4	Banu	85	95	65	75	50	370	74
5	Arun	95	65	75	85	56	376	75.2

Entering the Text or Number

1. Click the cell in which you want to enter the data, Type the data and Press ENTER to finish.
2. The data will be displayed in the active cell as well as in formula bar.
3. By default the text aligned to left, but the cell which has the numerical data is aligned to right.
4. To enter the digits as text (it's not suitable for calculation) use an apostrophe (') as the first character.

Entering the Date

1. Click the cell in which you want to enter the Date
2. Type your own Date in the format of **DD: MM: YYYY** or **DD / MM / YYYY**
3. If you want to enter the current date, press **Ctrl + ;** semicolon) or **TODAY ()**.
4. Press ENTER to finish your entry. Ex: 15:10:2015 or 15/10/2015

Entering the Time

1. Click the cell in which cell you want to enter the Time & type your own Time in the format of HH : MM a/p
2. Excel calculates the time in 12 hours method. So you give space after your time and enter a for AM and p for PM. Otherwise it takes as AM.
3. If you want to enter the current time, press CTRL + SHIFT + : (colon).

Example: 10:10p (or) 11:00a

Entering the Formula

1. Click the cell in which you want to enter the formula.
2. Type = (an equal sign) where you want the result.
3. Enter the formula and press ENTER
4. You can enter the same formula into a range of cells by selecting the range first, typing the formula, and then pressing CTRL + ENTER. You can also enter a formula into a range of cells by copying a formula from another cell.

Example: (40/100*C5) (or) (60*100)

	A	B	C
1			
2			
3	S.No.	Name	Tami
4	1	Banu	85
5	2	Arun	95
6	3	Anbu	85
7	4	Bharath	95
8			
9			
10			
11			
12			
13			

Auto Fill

The Auto Fill feature fills cell data or series of data in a worksheet into a selected range of cells. If you want the same data copied into the other cells, you only need to complete one cell. If you want to have a series of data (for example, days of the week) fill in the first two cells in the series and then use the auto fill feature. To use the Auto Fill feature:

- Click the Fill Handle
- Drag the Fill Handle to complete the cells

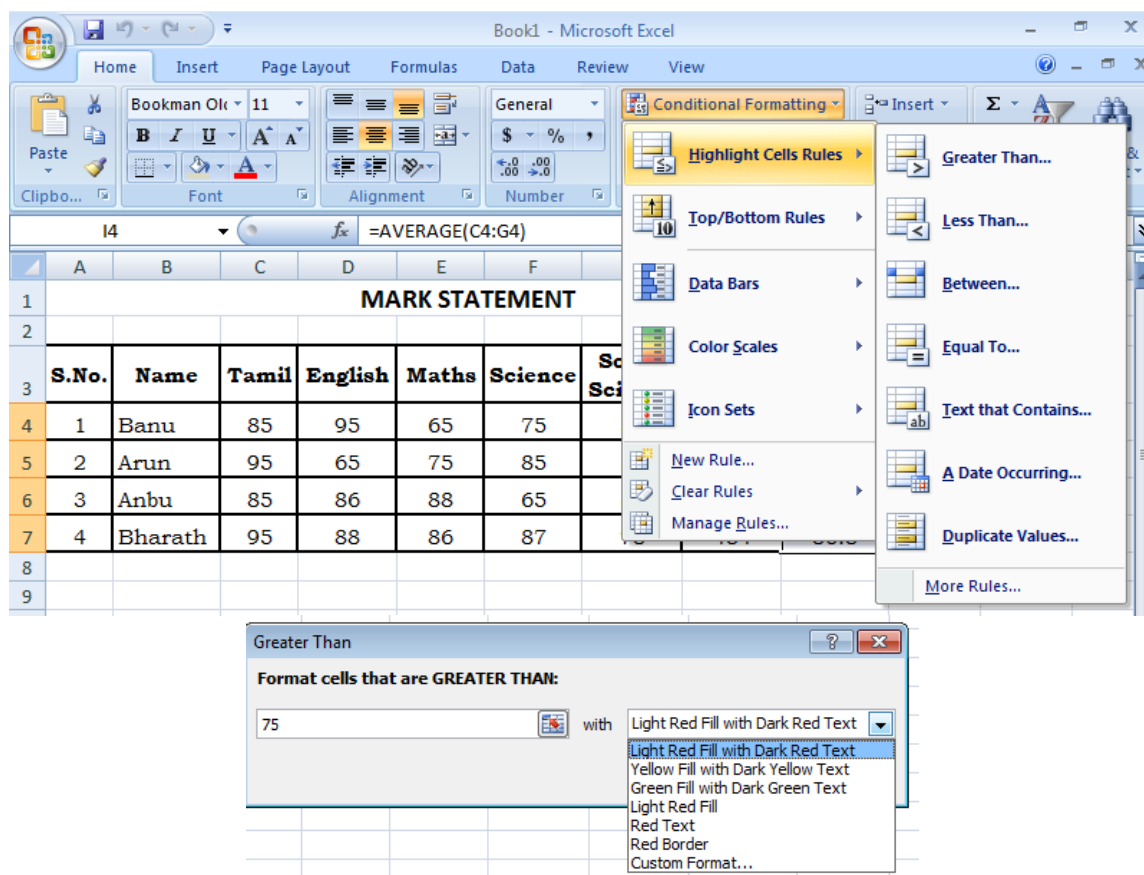
Example to fill days

1. Enter MONDAY in cell A1.
2. Drag the Autofill handle till the cell A14.

(The whole range will be filled with days from MONDAY to SUNDAY, like this you can fill months also).

Highlighting Values

1. Select the range of cells which is to be highlighted.
2. Click Conditional Formatting from the Styles Group in the Home Tab.
3. Click the *Highlight Cells Rules* from the shown list.
4. Now a list of conditions are shown from which the required condition can be chosen.
5. A small dialog box will appear to which the necessary values are given.



Some Keyboard shortcuts for entering data

Press	To
ENTER	Complete a cell entry and move down in the selection
ALT + ENTER	Start a new line in the same cell
CTRL + ENTER	Fill the selected cell range with the current entry
SHIFT + ENTER	Complete a cell entry and move up in the selection
TAB	Complete a cell entry and move to the right in the selection
SHIFT + TAB	Complete a cell entry and move to the left in the selection
ESC	Cancel a cell entry
BACKSPACE	Delete the character to the left of the insertion point, or delete the selection.
DELETE	Delete the character to the right of the insertion point, or delete the selection.
CTRL + DELETE	Delete text to the end of the line
Arrow keys	Move one character up, down, left or right

HOME	Move to the first cell of the row
F4 or CTRL + Y	Repeat the last action
SHIFT +F2	Edit a cell comment
CTRL + SHIFT + F3	Create names from row and column labels
CTRL + D	Fill down
CTRL + R	Fill to the right
CTRL + F3	Define a name

Keys for editing data

Press	To
F2	Edit the active cell and the insertion point goes to end of the line
ESC	Cancel an entry in the cell or formula bar
BACKSPACE	Edit the active cell and then clear it, or delete the preceding character in the active cell as you edit the cell contents
F3	Paste a defined name into a formula
CTRL + A	Display the formula Palette after you type a function name in a formula
CTRL + SHIFT + A	Insert the argument names and parentheses for a function, after you type a function name in a formula
F7	Display the Spelling dialog box

Keys for moving and scrolling in a worksheet or workbook

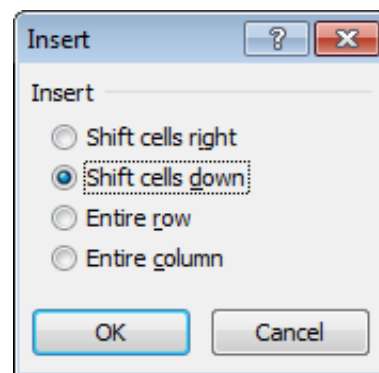
Press	To
Arrow keys	Move one cell up, down, left, or right
CTRL + arrow key	Move to the edge of the current data region
HOME	Move to the beginning of the row
CTRL + HOME	Move to the beginning of the worksheet
CTRL + END	Move to the last cell on the worksheet, which is the cell at the intersection of the rightmost used column and the bottom-most used row (in the lower-right-corner), or the cell opposite the home cell, which is typically A1
PAGE DOWN	Move down one screen
PAGE UP	Move up one screen
ALT + PAGE DOWN	Move one screen to the right
ALT + PAGE UP	Move one screen to the left

CTRL + PAGE DOWN	Move to the next sheet in the workbook
CTRL + PAGE UP	Move to the previous sheet in the workbook
CTRL + F6 or CTRL + TAB	Move to the next workbook or window
CTRL + SHIFT + F6 or CTRL + SHIFT + TAB	Move to the previous workbook or window
F6	Move to the next pane in a workbook that has been split
SHIFT + F6	Move to the previous pane in a workbook that has been split
CTRL + BACKSPACE	Scroll to display the active cell
F5	Display to Go To dialog box
SHIFT + F5	Display to Find dialog box
SHIFT + F4	Repeat the last Find action (same as Find Next)
TAB	Move between unlocked cells on a protected worksheet.

Insert Cells, Rows, and Columns

To insert cells, rows, and columns in Excel:

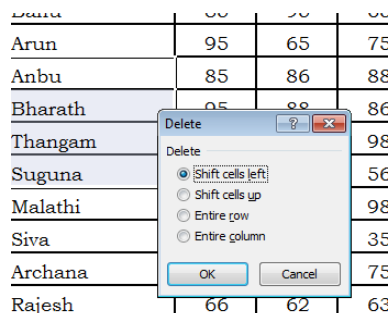
- Place the cursor in the row below where you want the new row, or in the column to the left of where you want the new column
- Click the *Insert* button on the *Cells* group of the *Home* tab
- Click the appropriate choice: *Cell*, *Row*, or *Column*



Delete Cells, Rows and Columns

To delete cells, rows, and columns:

- Place the cursor in the cell, row, or column that you want to delete
- Click the *Delete* button on the *Cells* group of the *Home* tab
- Click the appropriate choice: *Cell*, *Row*, or *Column*



Select Data

To select a cell or data to be copied or cut:

- Click the *cell*
- Click and drag the cursor to select many cells in a range

Select data using Keyboard

To select	Press
Current cell	Enter
Entire column	Ctrl + Spacebar
Entire row	Shift + Spacebar
Entire Worksheet	Ctrl + Shift + Spacebar
Extend selection to End of Data block	End, Shift + Arrow Key

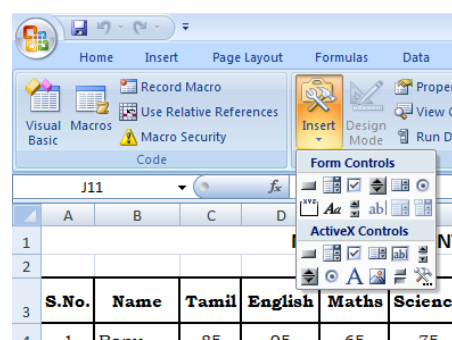
Locking and Unlocking a Cell

By default all the cells in Excel are locked. To unlock, select the cell to unlock and right click on the cell, Go to Format Cells in the Popup Menu. From the Custom Lists dialog box, uncheck the *Locked* under the Protection Tab.

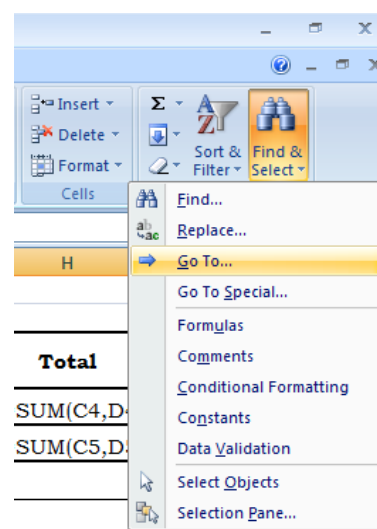
Adding Frame Control

1. If the **Developer** tab is not available, display it by **Display the Developer tab**

- a. Click the **Microsoft Office Button**, and then click **Excel Options**.
- b. In the **Popular** category, under **Top options for working with Excel**, select the **Show Developer tab in the Ribbon** check box, and then click **OK**.



2. On the **Developer** tab, in the **Controls** group, click **Insert**, and select a control under **ActiveX Controls**.
3. Click the worksheet location where you want the upper-left corner of the frame control to appear.
4. To edit the ActiveX control, make sure that you are in design mode. On the **Developer** tab, in the **Controls** group, turn on **Design Mode**.
5. To specify the control properties, on the **Developer** tab, in the **Controls** group, click **Properties**.
6. Double click the button, a Visual Basic window appears where necessary code should be entered.
7. Once the code is entered close the VB window and disable the design mode to run the command.



Go To Command

The Go To command takes you to a specific cell either by cell reference (the Column Letter and the Row Number) or cell name.

- Click the **Find & Select** button on the **Editing** group of the **Home** tab
- Click **Go To**

Copy and Paste

To copy and paste data:

- Select the cell(s) that you wish to copy
- On the **Clipboard** group of the **Home** tab, click **Copy** or press **Ctrl+C**
- Select the cell(s) where you would like to copy the data
- On the **Clipboard** group of the **Home** tab, click **Paste** or press **Ctrl+V**

Cut and Paste

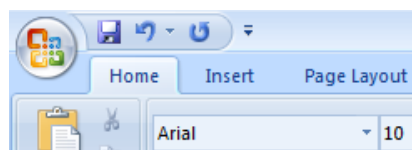
To cut and paste data:

- Select the cell(s) that you wish to copy
- On the **Clipboard** group of the **Home** tab, click **Cut** or press **Ctrl+X**.
- Select the cell(s) where you would like to copy the data.
- On the **Clipboard** group of the **Home** tab, click **Paste** or press **Ctrl+V**.

Undo and Redo

To undo or redo your most recent actions:

- On the **Quick Access Toolbar**
- Click **Undo**  or **Redo** 



Relative, Absolute and Mixed References

Calling cells by just their column and row labels (such as "A1") is called **relative referencing**. When a formula contains relative referencing and it is copied from one cell to another, Excel does not create an exact copy of the formula. It will change cell addresses relative to the row and column they are moved to. For example, if a simple addition formula in cell C1 " $=A1+B1$ " is copied to cell C2, the formula would change to " $=A2+B2$ " to reflect the new row.

To prevent this change, cells must be called by **absolute referencing** and this is accomplished by placing dollar signs "\$" within the cell addresses in the formula. Continuing the previous example, the formula in cell C1 would read " $=\$A\$1+\$B\1 " if the value of cell C2 should be the sum of cells A1 and B1. Both the column and row of both cells are absolute and will not change when copied.

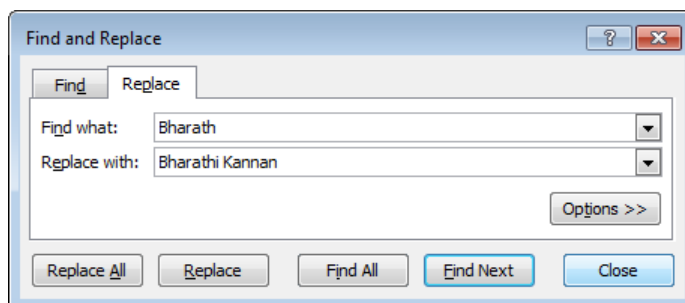
Mixed reference

Mixed referencing can also be used where only the row OR column fixed. For example, in the formula "=(A\$1+\$B2)", the row of cell A1 is fixed and the column of cell B2 is fixed.

Find and Replace

To find data or find and replace data:

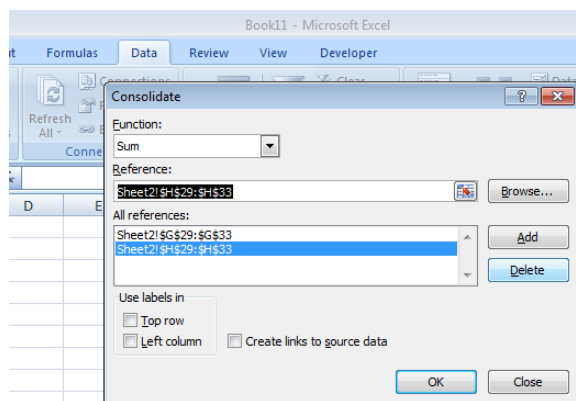
- Click the **Find & Select** button on the **Editing** group of the **Home** tab
- Choose **Find or Replace**
- Complete the **Find What** and **Replace with** text box
- Click on **Options** for more search options (Optional)



Consolidation

Example for adding Internal and External Marks

1. Type the Internal and External Marks in two separate columns.
2. Select Consolidation from Data Tools group in Data Tab.
3. Now the select the column to store the consolidated result.
4. Choose the function *Sum*.
5. Click in the Reference box, select the range of internal marks from the workbook and click *Add*.
6. Then, add the External marks as it was done in step 5 and Click *OK*.
7. Check Top row, Left column and Create links to source data.



S.No.	Name	Internal	External	Consolidated Mark
1	Banu	85	95	
2	Arun	95	65	
3	Anbu	85	86	
4	Bharath	95	88	

Note: if you don't check Top row and Left column, Excel sums all cells that have the same position. For example, cell B2 (in district1.xls) + cell B2 (in district2.xls) + cell B2 (in district3.xls). Because our worksheets are not identical, we want Excel to sum cells that have the same labels. If you check Create links to source data, Excel creates a link to your source data (your consolidated data will be updated if your source data changes) and creates an outline.

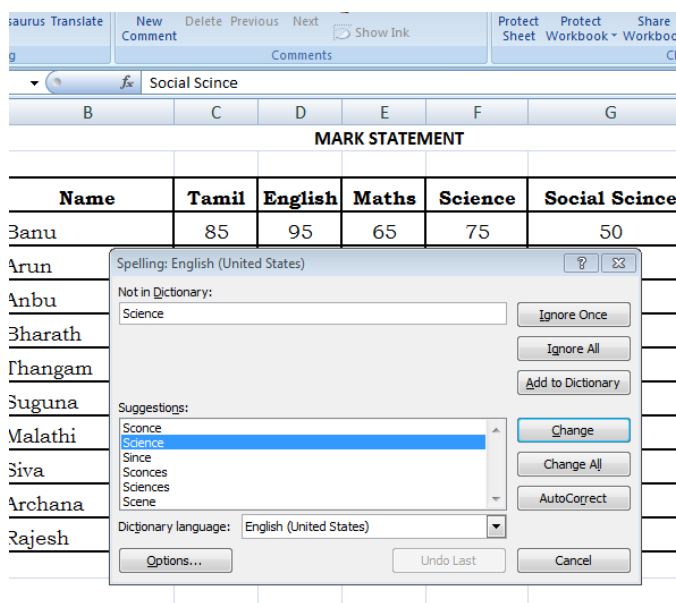
8. Click OK.

Spell Check

On the **Review** tab, in the **Proofing** group, click **Spelling**.

- The **Spelling** dialog box appears, and the first suggested correction is highlighted.
- Use the following buttons to check your spelling:

Note: It checks the spelling mistakes in the active sheet only



Options	Uses
Ignore Once	Ignore this word once, but check it again.
Ignore All	Ignore this word throughout the sheet.
Add to Dictionary	Include this word in the program's dictionary.
Change	Use the suggested word in the Suggestions pane.
Change All	Use the suggested word to change all instances of this word.
AutoCorrect	Use the first suggested word each time you click AutoCorrect.

Working with Formula

Formula are widely used in simple (like addition, subtraction, multiplication and division) and advanced computing. They provide the power to analyze data extensively, Spreadsheets also provide an important feature of auto-recalculation every time a change is made in the cells. Any change made in one cell causes a ripple effect in all dependent cells. There are basically two kinds of recalculation. They are Automatic, Manual.

Automatic

This is the default mode in which the change in the value of the cell causes the recalculation of the whole worksheet automatically.

Manual

On selecting this option, the recalculation of the complete worksheet is done only on pressing F9 key. This option can be selected choosing Calculation options in **Formulas Tab's** Calculation Group.

There are many elements to excel formula.

References: The cell or range of cells that you want to use in your calculation

Constants: Numbers or text values that do not change

Functions: Predefined formulas in Excel

Operators: Symbols (+, -, *, /, etc.) that specify the calculation to be performed

Operator in the Order of Precedence

Operator	Description	Example
:	Range	B2:B5
Space	Intersection of Cells	
-	Negation (single operand)	= -10
%	Percentage	= 25%
^	Exponential	= 10^2
*	Multiplication	= 5*5
/	Division	= 24/3
+	Addition	= 55+80
-	Subtraction	= 40-25
&	Joining Text	= "work" & "book"
=	Equal to	= A1=5
<	Less than	= B13<1000
>	Greater than	= B13>1000
<=	Less than or Equal to	= B13<=1000
>=	Greater than or Equal to	= B13>=1000
<>	Not Equal to	= B13<>1000

To create a basic formula in Excel:

- Select the **cell** for the formula
- Type = (the equal sign) and type the **formula** and Click **Enter**

The screenshot shows the Microsoft Excel interface with the 'Formulas' ribbon selected. The formula bar displays the formula $=C6+D6+E6+F6+G6$. The spreadsheet contains a table titled 'MARK STATEMENT' with the following data:

No	Name	Tamil	English	Maths	Science	Social Science	Total	Average
1	Banu	85	95	65	75	50	370	
2	Arun	95	65	75	85	56	376	
3	Anbu	85	86	88	65	54	$=C6+D6+E6+F6+G6$	
4	Bharath	95	88	86	87	78		

Working with Functions

A function is a built in formula in Excel. A function has a name and arguments (the mathematical function) in parentheses. Common functions in Excel:

Sum: Adds all cells in the argument

Average: Calculates the average of the cells in the argument

Min: Finds the minimum value

Max: Finds the maximum value

Count: Finds the number of cells that contain a numerical value within a range of the argument

To calculate a function:

- Click the **cell** where you want the function applied
- Click the **Insert Function** button
- Choose the function
- Click **OK**

Some sample functions

SUM (Starting cell address: ending cell address)

Returns the sum of some continues cells values

Example: = SUM (C10:C20)

AVG (Starting cell address: ending cell address)

Returns the average of some continues cells values

Example: = AVG (C10:C20)

INT (number)

Rounds a number down to the nearest integer. **Number** is the real number you want to round down to an integer.

Example: = INT (6.2)

FACT (number)

Returns the factorial of a number. Number is the non-negative number you want the factorial of. If number is not integer, it is truncated.

Example: = FACT (5)

MOD (number, divisor)

Returns the remainder after number is divided by divisor. The result has the same sign as divisor.

Number: It is the number of which you want to find the remainder.

Divisor: It is the number by which you want to divide number.

Example: = MOD (15, 2) = MOD (15, -2)

ROUND (number, num_digits)

Rounds a number to a specified number of digits.

Number : It is the number you want to round.

Num_digits : It specifies the number of digits to which you want to round number.

Example: = ROUND (96.54, 0)

CEILING (number, significance)

Returns number rounded up to the nearest multiple of significance.

Number : It is the value you want to round.

Significance : It is the multiple to which you want to round.

Example: = CEILING (97.8, 1)

CONCATENATE (text1, text2,)

Joins several text items into one text item. The "&" operator can be used instead of CONCATENATE to join text items. Text1, Text2,....are 1 to 30 text items to be joined into a single text item can be text strings, numbers or single-cell references.

Example: = CONCATENATE ("Soft", "ware")

LEFT (text, num_chars)

Returns the first (or leftmost) character or characters in a text string.

Text: It is the text string containing the characters you want to extract.

Num_chars: Specified how many characters you want LEFT to return. Num_chars must be greater than or equal to zero.

Example: =LEFT ("Salesman", 5)

RIGHT (text, num_chars)

Returns the last (or rightmost) character or characters in a text string.

Text : It is the text string containing the characters you want to extract.

Num_Chars: It specifies how many characters you want to extract.

Example: =RIGHT ("Salesman", 3)

LOWER (text)

Converts all uppercase letters in a text string to lowercase.

Text: It is text you want to convert to lowercase. LOWER does not change characters in text that are not letters.

Example: =LOWER ("Limit")

UPPER (TEXT)

Converts text to uppercase.

Text : It is the text you want convert to uppercase.

Text can be a reference of text string.

Example: =UPPER ("Limit")

DATE (year, month, day)

Returns the serial number of a particular date.

Year: It is number from 1900 to 2078 in Microsoft Excel for windows

Month: It is a number representing the month of the year.

Day: It is a number representing the day of the month.

Example: =DATE (99,2,12)

NOW ()

Returns the serial number of the current date and time.

Example: =NOW ()

TODAY ()

Returns the serial number of the current date.

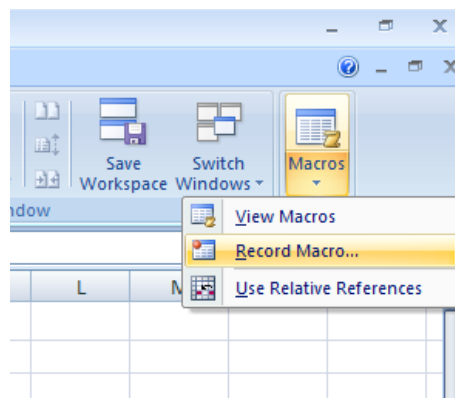
Example: =TODAY ()

WORKING WITH MACROS

Recording a Macro

To record a Macro:

- Click the **View** tab on the Ribbon
- Click **Macros**
- Click **Record Macro**
- Enter a name (without spaces)
- Enter a **Shortcut Key**
- Enter a **Description**
- Perform the **Macro**
- Click **Macros**
- Click **Stop Recording**



Running a Macro

To run a Macro from the Keyboard shortcut, simply **press the keys** that you have programmed to run the Macro. Or you can view all macros and run by:

- Click **Macros**
- Click **View Macros**
- Select the **Macro** that you want to run and click **Run**

Sorting & Filtering

Sorting and Filtering allow you to manipulate data in a worksheet based on given set of criteria.

Basic Sorts

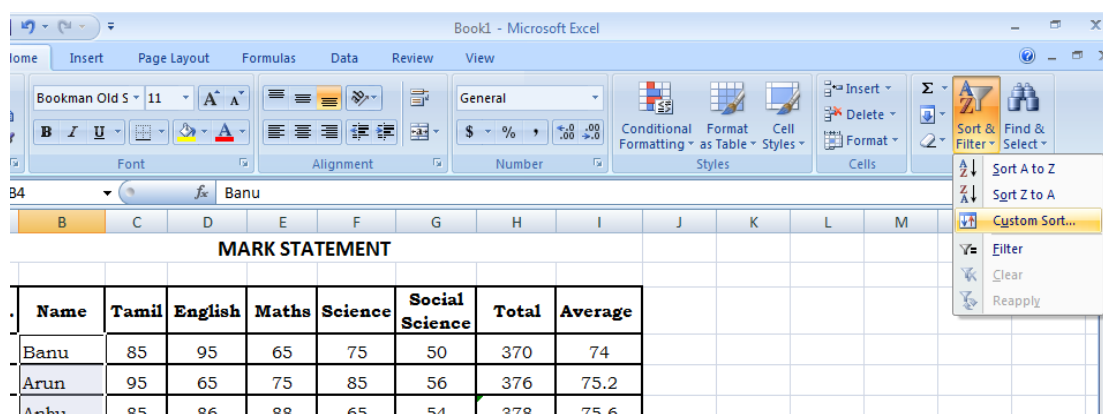
To execute a basic descending or ascending sort based on one column:

- Highlight the cells that will be sorted
- Click the **Sort & Filter** button on the **Home** tab or **Data** Tab
- Click the **Sort Ascending** (A-Z) button or **Sort Descending** (Z-A) button

Custom Sorts

To sort on the basis of more than one column:

- Click the **Sort & Filter** button on the **Home** tab
- Choose which column you want to sort by first
- Click **Add Level**
- Choose the next column you want to sort
- Click **OK**



Filtering

Filtering allows you to display only data that meets certain criteria. To filter:

- Click the column or columns that contain the data you wish to filter
- On the **Home** tab, click on **Sort & Filter**
- Click **Filter** button
- Click the **Arrow** at the bottom of the first cell
- Click the **Text Filter**
- Click the **Words** you wish to Filter
- To clear the filter click the **Sort & Filter** button
- Click **Clear**

Data Validation

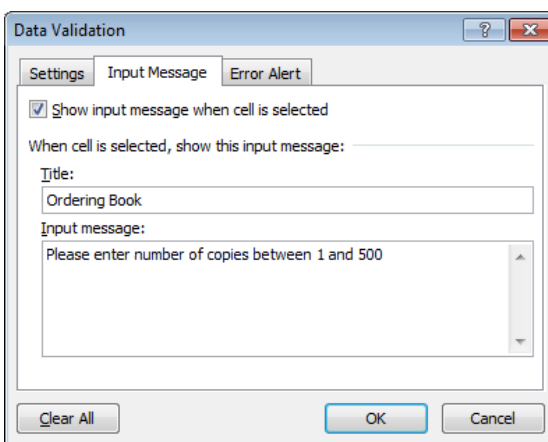
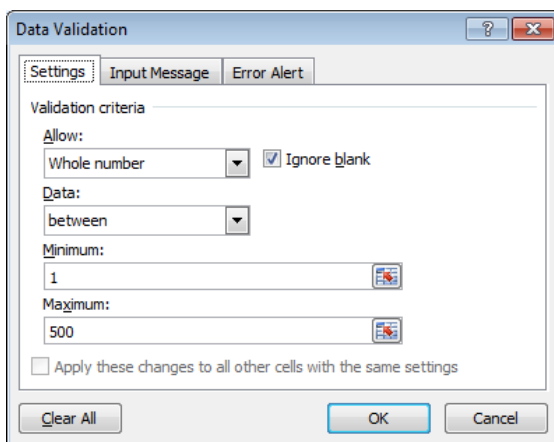
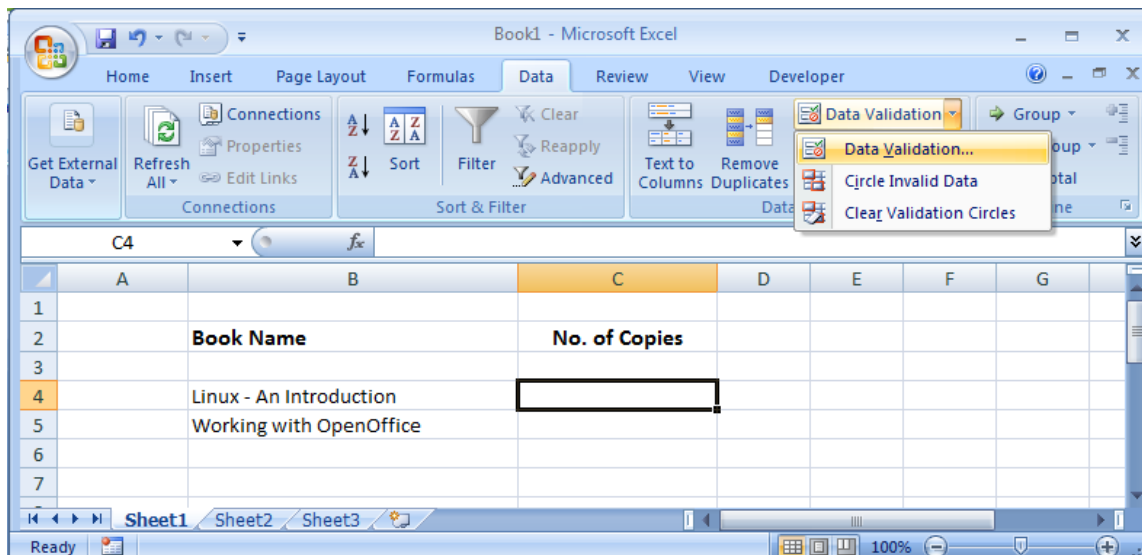
Data validation is can be used to define restrictions on what data should be entered in a cell. Data validation is designed to prevent users from entering data that is not valid and allowed to enter invalid data with a warning. *Show Input Message* facility can be used to provide messages to define what input can be allowed.

Example

1. Select cell where the data to be entered.
2. On the Data tab, click Data Validation.

On the *Settings* tab:

1. In the Allow list, select Whole number.
2. In the Data list, click between.
3. Enter the Minimum and Maximum values.



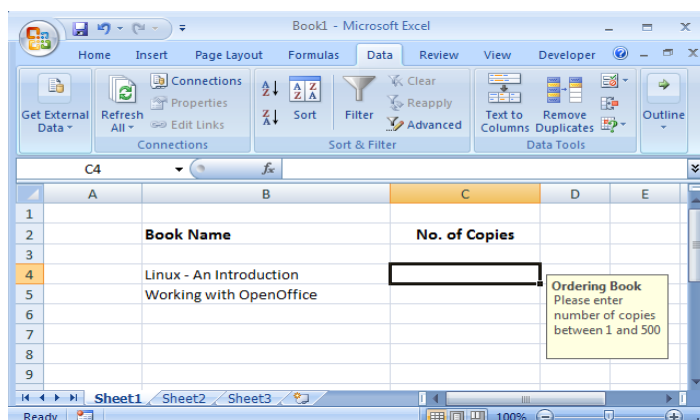
Input Message

On the Input Message tab:

1. Check *Show input message when cell is selected*
2. Enter a title.
3. Enter an input message.

Error Alert

If users ignore the input message and enter a number that is not valid, the error alert is shown.



On the Error Alert tab:

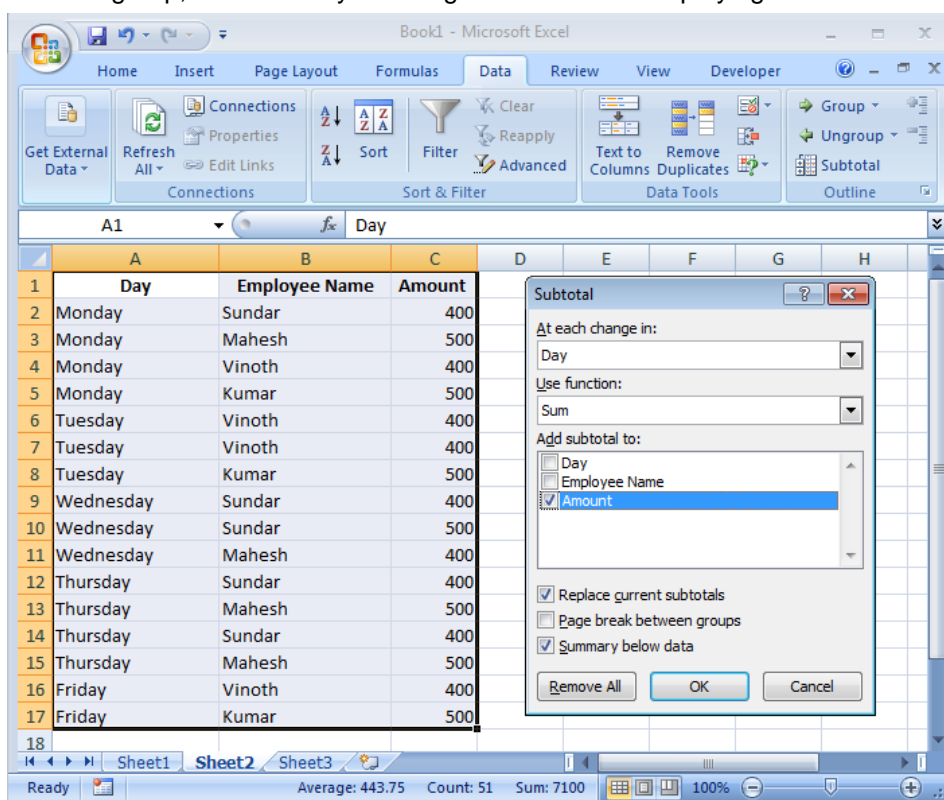
1. Check 'Show error alert after invalid data is entered'.
2. Enter a title.
3. Enter an error message.
4. Click OK.

Data Validation Result

1. Select cell C4.
2. Try to enter a number higher than 10.

Subtotals

Once you have sorted a data range into groups, Excel's *Subtotal* command can create a subtotal for each group, automatically inserting a new row and displaying the total for each line.



Subtotals are added using the *Subtotal* dialog box, which is accessed from the *Data* command tab.

1. Sort your data range
2. Select a cell within the data range
3. From the *Data* command tab, in the *Outline* group, click *Subtotal*. The *Subtotal* dialog box appears.

4. From the *At each change in* pull-down list, select the column containing data groups for which the subtotal is needed
5. It is important to have this column sorted into data groups, because the *Subtotal* command subtotals numerical data at every change in the column *Day*.
6. From the *Use function* pull-down list, select the sum that will be used to create subtotals
7. From the *Add subtotal to* scroll box, select the column with the numerical data subtotaled
8. Click **OK**

Formula auditing in Excel is allowed to display the relationship between formulas and cells.

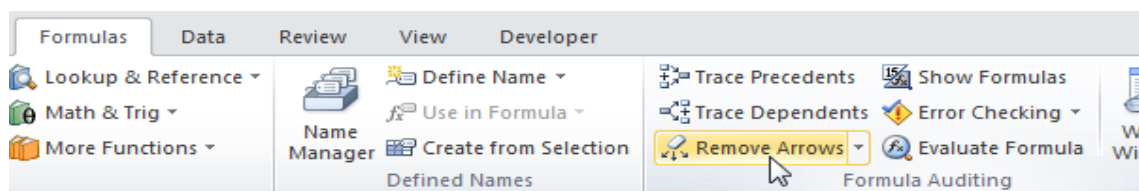
Trace Precedents

Trace Precedents is used to show arrows that indicate which cells are used to calculate the result.

1. Select cell where the formula is used.
2. On the Formulas tab, in the Formula Auditing group, click Trace Precedents.
3. The arrow is shown to point the result from source data.

Remove Arrows

To remove the arrows, click Remove Arrows on the Formulas tab, in the Formula Auditing group,



Trace Dependents

Trace dependents is used to show arrows that indicate which cells depend on a selected cell.

1. Select the cell where the data to calculate is entered.
2. On the Formulas tab, in the Formula Auditing group, click Trace Dependents.

Show Formulas

By default, Excel shows the results of formulas at the cell where the formula is entered. To show the formulas instead of their results,

1. Click Show Formulas, on the Formulas tab in the Formula Auditing group.

Error Checking

To check for common errors that occur in formulas, On the Formulas tab, in the Formula Auditing group, click Error Checking.

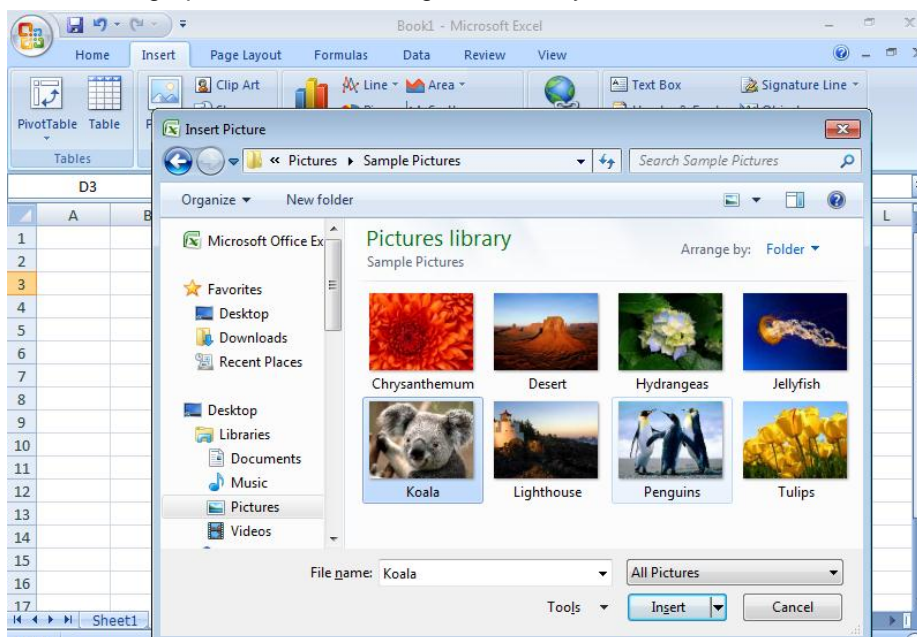
Evaluate Formula

Errors in the formula can be evaluated by selecting the cell where the formula is entered and click Evaluate Formula on the Formulas tab, in the Formula Auditing group and click Evaluate.

Adding a Picture

To add a picture

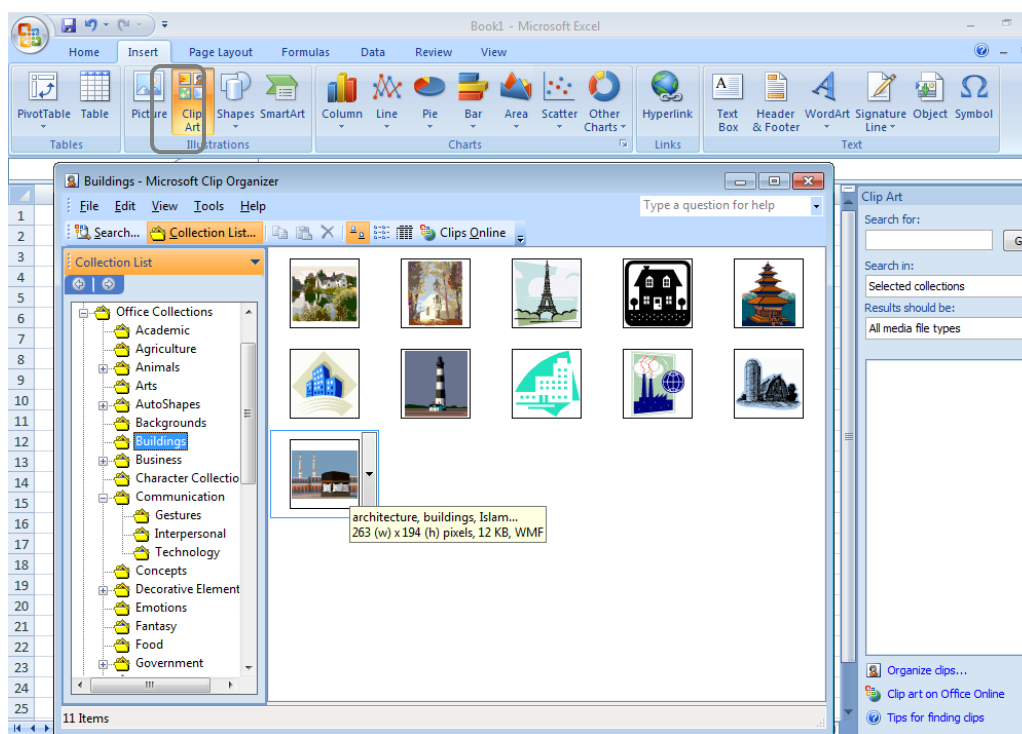
- Click the **Insert** tab
- Click the **Picture** button
- Browse to the picture from your files
- Click the **name** of the picture
- Click **Insert**
- To move the graphic, click it and drag it to where you want it



Adding Clip Art

To add Clip Art

- Click the **Insert** tab
- Click the **Clip Art** button
- Search for the clip art using the search **Clip Art** Or press **Organize Clips**
- Click the **clip art**
- To move the graphic, click it and drag it to where you want it



Adding Shapes

To add Shape

- Click the **Insert** tab
- Click the **Shapes** button
- Click the shape you choose
- Click the **Worksheet**
- Drag the cursor to expand the Shape

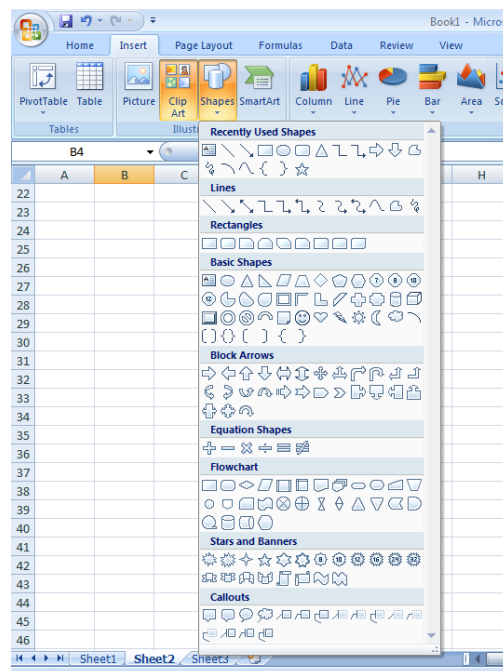
To format the shapes

- Click the **Shape**
- Click the **Format** tab

Adding SmartArt

SmartArt is a feature in Office 2007 that allows you to choose from a variety of graphics, including flow charts, lists, cycles, and processes. To add SmartArt

- Click the **Insert** tab
- Click the **SmartArt** button
- Click the **SmartArt** you choose



- Select the **Smart Art**
- Drag it to the desired location in the worksheet

To format the SmartArt

- Select the **SmartArt**
- Click either the **Design** or the **Format** tab
- Click the **SmartArt** to add text and pictures.

WORKING WITH CHARTS

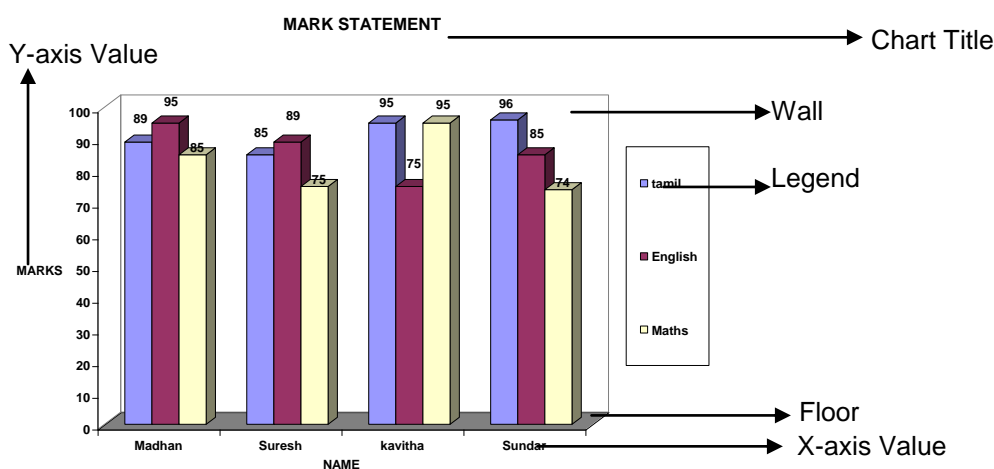
Charts are the graphic component of Excel. The data which is entered as tables can be viewed in the graphical form as charts which makes the figures of data effective, interesting, easy to understand, and easy to analyze and compare data. Charts are inserted when a chart is created. It contains only one chart. To create Chart sheets, choose Insert menu, Chart command's As New sheet option.

Chart components

An example of a 2-dimensional chart is.....

- Chart Title** - A title given to the whole chart.
- X axis Title** - A title given to the X axis range.
- Y axis Title** - A title given to the Y axis range.
- Y axis Value** - This is the data range marked to plot the data series.
- Data Labels** - The values of the data series plotted.
- Legend** - It specifies the color, symbol or pattern used to mark the data series.

An example of a-3 dimensional chart is.....



- Wall** - This is the background of the potted area.
- Floor** - This is the base upon which data series is plotted.

Chart Types

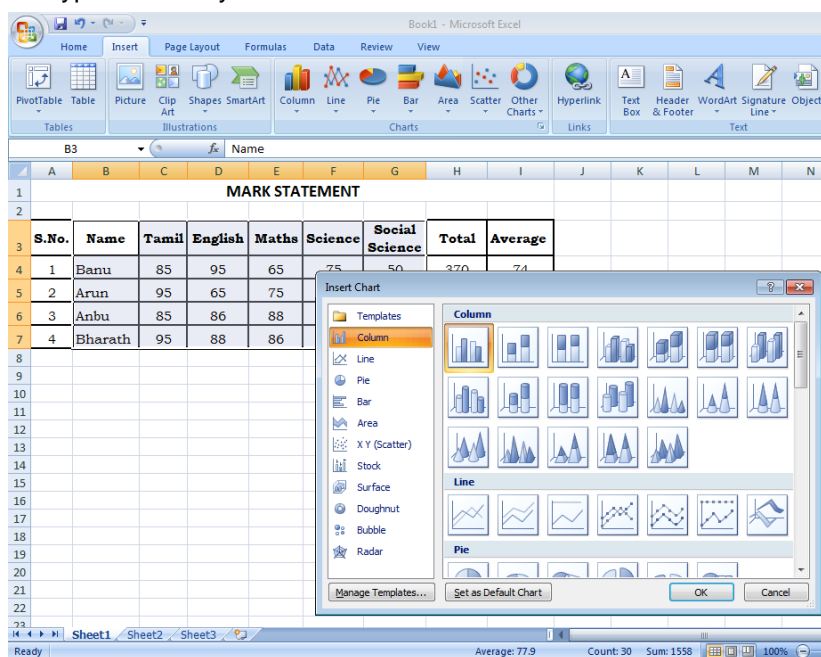
MS-Excel offers 14 different major chart types, each of which has at least one sub type, or variations. You can change the chart type to present your data most clearly and effectively. Some of the chart types are.....

Area Chart	Pie Chart
Bar Chart	Doughnut Chart
Column Chart	Radar Chart
Line Chart	XY (Scatter) Chart

Creating a Chart

To create a chart

- Select the **cells** that contain the data you want to use in the chart
- Click the **Insert** tab on the Ribbon
- Click the type of **Chart** you want to create



Modify a Chart

Once you have created a chart you can do several things to modify the chart.

To move the chart

- Click the **Chart** and **Drag** it another location on the same worksheet, or
- Click the **Move Chart** button on the **Design** tab
- Choose the desired location (either a new sheet or a current sheet in the workbook)

To change the data included in the chart:

- Click the **Chart**
- Click the **Select Data** button on the **Design** tab

To modify the labels and titles:

- Click the **Chart**
- On the **Layout** tab, click the **Chart Title** or the **Data Labels** button
- Change the **Title** and click **Enter**

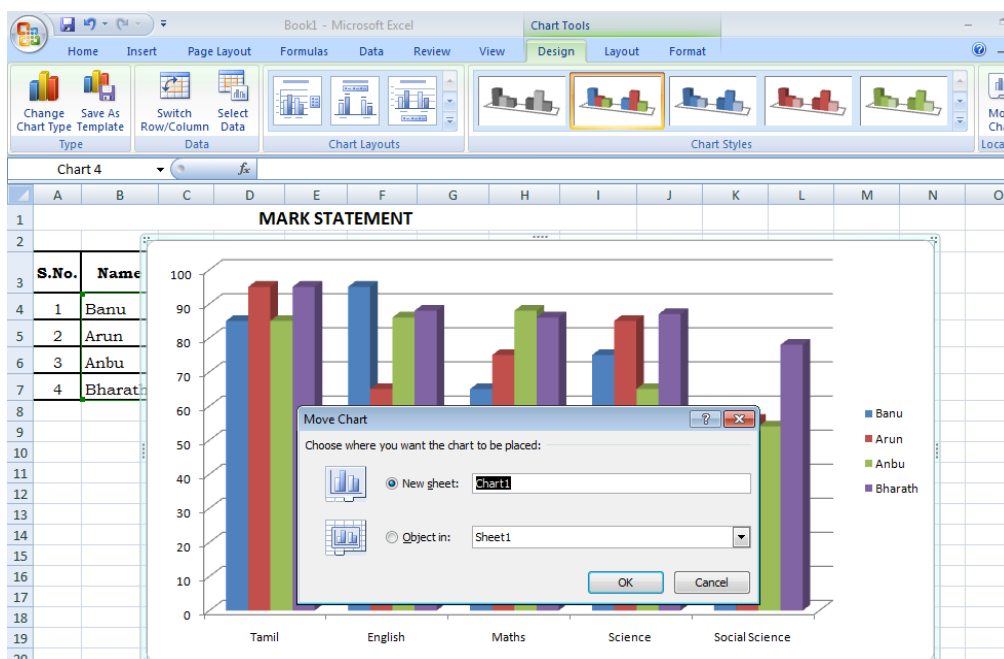


Chart Tools

The Chart Tools appear on the Ribbon when you click on the chart. The tools are located on three tabs: Design, Layout, and Format.

- Using **Design** tab you can control the chart type, layout, styles, and location.
- With the help of **Layout** tab you can control inserting pictures, shapes and text boxes, labels, axes, background, and analysis.
- Within the **Format** tab you can modify shape styles, word styles and size of the chart.

Format Cells Dialog Box

In Excel, you can also apply specific formatting to a cell. To apply formatting to a cell or group of cells:

- Select the cell or cells that will have the formatting
- Click the **Dialog Box** arrow on the **Alignment** group of the **Home** tab

There are several tabs on this dialog box that allow you to modify properties of the cell or cells.

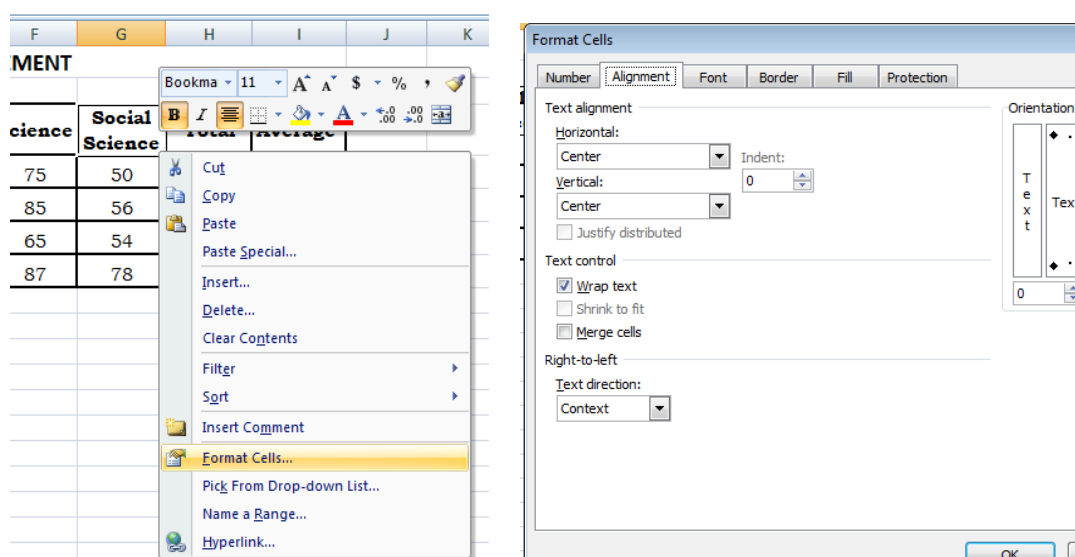
Number: Allows for the display of different number types and decimal places

Alignment: Allows for the horizontal and vertical alignment of text, wrap text, shrink text, merge cells and the direction of the text.

Font: Allows for control of font, font style, size, color, and additional features

Border: Border styles and colors

Fill: Cell fill colors and styles



Add Borders and Colors to Cells

Borders and colors can be added to cells manually or through the use of styles. To add borders manually:

- Click the Borders drop down menu on the Font group of the Home tab
- Choose the appropriate border

To apply colors manually:

- Click the Fill drop down menu on the Font group of the Home tab
- Choose the appropriate color

To apply borders and colors using styles:

- Click Cell Styles on the Home tab
- Choose a style or click New Cell Style

Change Column Width and Row Height

To change the width of a column or the height of a row:

- Click the Format button on the Cells group of the Home tab
- Manually adjust the height and width by clicking Row Height or Column Width
- To use AutoFit click AutoFit Row Height or AutoFit Column Width

Hide or Unhide Rows or Columns

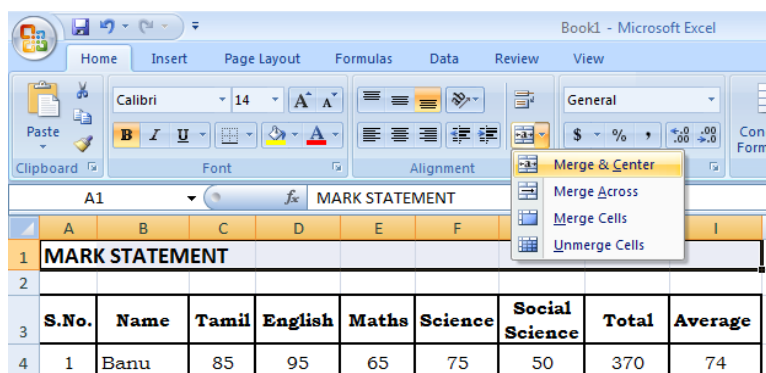
To hide or unhide rows or columns:

- Select the row or column you wish to hide or unhide
- Click the Format button on the Cells group of the Home tab
- Click Hide & Unhide

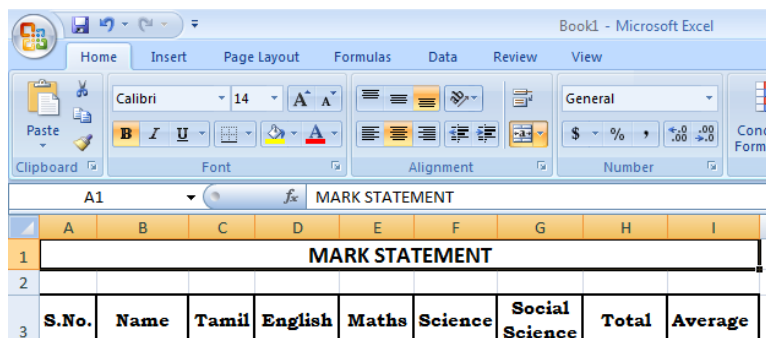
Merge Cells

To merge cells select the cells you want to merge and click the Merge & Centre button on the Alignment Group

To merge cells select the cells you want to merge and click the **Merge & Center** button on the **Alignment** Group of the **Home** tab. The four choices for merging cells are:



After Merge and Center



Merge & Center: Combines the cells and centers the contents in the new, larger cell.

Merge Across: Combines the cells across columns without centering data.

Merge Cells: Combines the cells in a range without centering

Unmerge Cells: Splits the cell that has been merged

Align Cell Contents

To align cell contents, click the cell or cells you want to align and click on the options within the Alignment group on the Home tab. There are several options for alignment of cell contents:

Top Align: Aligns text to the top of the cell

Middle Align: Aligns text between the top and bottom of the cell

Bottom Align: Aligns text to the bottom of the cell

Align Text Left: Aligns text to the left of the cell

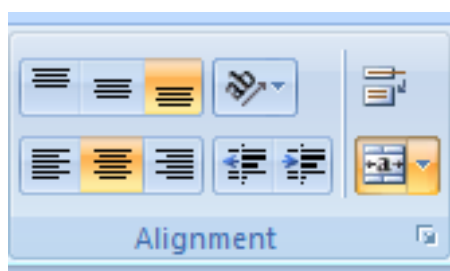
Center: Centers the text from left to right in the cell

Align Text Right: Aligns text to the right of the cell

Decrease Indent: Decreases the indent between the left border and the text

Increase Indent: Increase the indent between the left border and the text

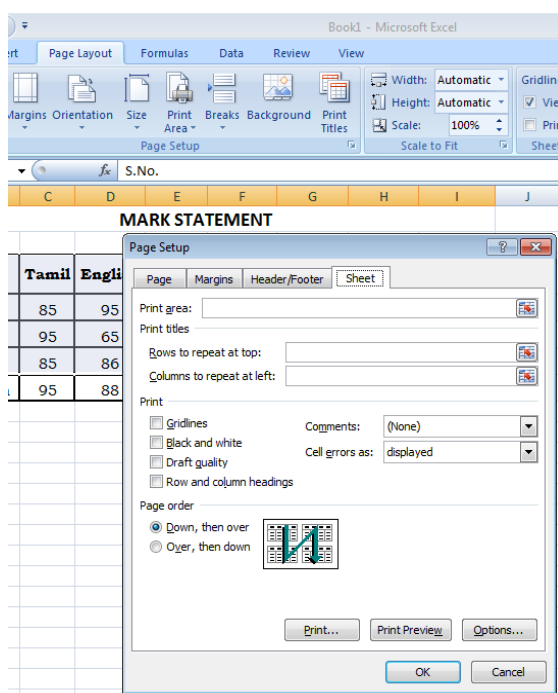
Orientation: Rotate the text diagonally or vertically



Set Print Titles

The print titles function allows you to repeat the column and row headings at the beginning of each new page to make reading a multiple page sheet easier to read when printed. To Print Titles:

- Click the Page Layout tab on the Ribbon
- Click the Print Titles button
- In the Print Titles section, click the box to select the rows/columns to be repeated
- Select the row or column
- Click the Select Row/Column Button
- Click OK



Create a Header or Footer

To create a header or footer:

- Click the Header & Footer button on the Insert tab
- This will display the Header & Footer Design Tools Tab
- To switch between the Header and Footer, click the Go to Header or Go to Footer button
- To insert text, enter the text in the header or footer
- To enter preprogrammed data such as page numbers, date, time, file name or sheet name, click the appropriate button
- To change the location of data, click the desired cell

Freeze Rows and Columns

You can select a particular portion of a worksheet to stay static while you work on other parts of the sheet. This is accomplished through the Freeze Rows and Columns Function.

To Freeze a row or column:

- Click the Freeze Panes button on the View tab
- Either select a section to be frozen or click the defaults of top row or left column
- To unfreeze, click the Freeze Panes button
- Click Unfreeze.

OPEN OFFICE – CALC & MATH

Introduction to Calc

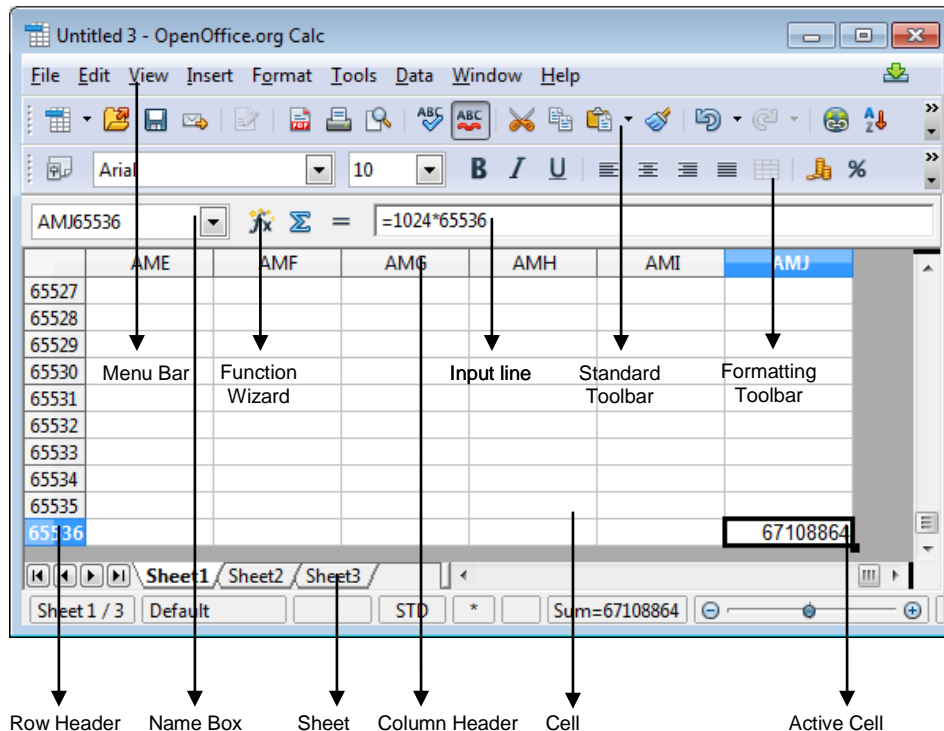
Calc is a spreadsheet program which can calculate, analyse and visually communicate your data quickly and easily. Most of the functions in Microsoft Excel can be done in this application and a Microsoft Excel file can be opened in Calc.

Features of Calc

- Formulas can be created.
- Data can be stored, sorted, filtered as a database.
- Like Microsoft Excel Charts can be created in 2D and 3D charts.
- Recording and executing repetitive tasks are done with the concept of Macros.
- Import and export of spreadsheets in multiple formats is also possible.

Introduction to Spreadsheets

Spreadsheet is a sheet containing a number individual sheets and each sheet containing cells arranged in rows and columns. A cell can be spotted out separately using its row number and column letter. Text, numbers, formulas, etc. can be put in a cell and make up the data to display and manipulate.



Rows in a worksheet	1 to 65536
Columns in a worksheet	A to AMJ (1024)
First cell of a worksheet	A1
Last cell of a worksheet	AMJ65536
Total number of cells in a worksheet	67108864
Maximum characters per cell	255

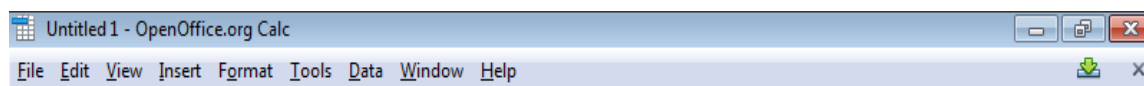
Menus

File, Edit, View, Insert Format, Tools, Data, Window and Help menus are found in Open Office Calc application.

Like other applications, Writer, Impress, etc. *File menu* in calc is designed mainly for file management and printing processes.

Open Office provides three main toolbars by default, which are most frequently used they are Menu Bar, Formatting toolbar and Standard Toolbar.

Menu Bar



The first toolbar is the **Menu Bar** that gives access to many of the basic commands used in Calc.

Standard Toolbar



The *Standard Toolbar* contains icons (pictures) to provide quick access to commands like New, Open, Print, Copy, Paste, etc. When you place your mouse cursor over any of the elements of a toolbar, the name of the tool appears on the screen.

Formatting Toolbar



Another important toolbar is the *Formatting Toolbar*, which also has some icons with drop-down menus that allow you to select a font, font color, alignments, number formats, border options and background colors.

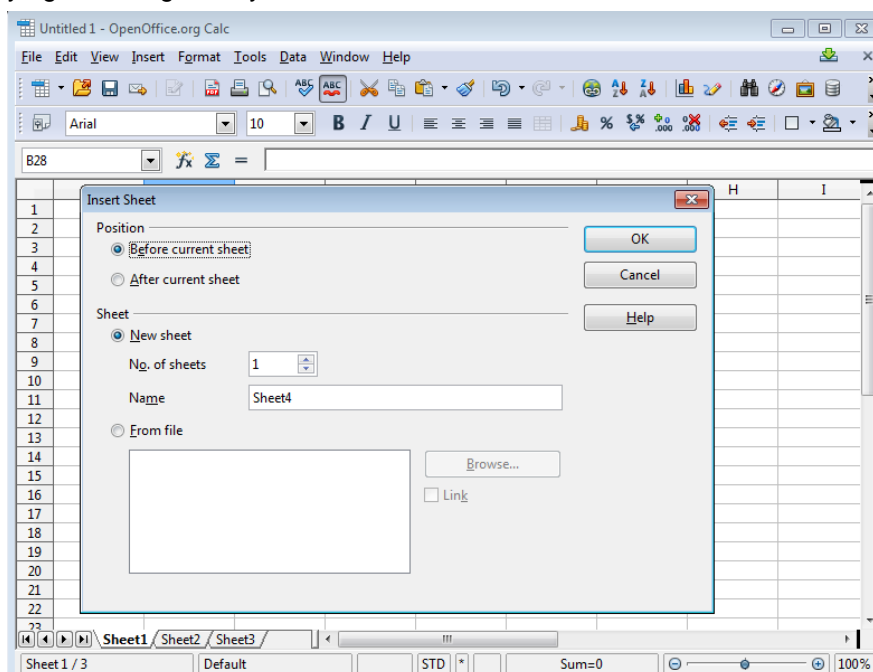
Formula Toolbar



The Formula Toolbar contains the Name Box drop-down menu and a long white box called the **Input Line**.

Understanding Sheets

By default, there are three sheets in *Open Office Calc* but more sheets can be added. It can be done with the support of Inserting Sheet dialog box. Inserting sheet dialog box is opened by clicking on the space after the sheet3 in the Sheet Tab, or by selecting Sheet in the Insert Menu, or by right clicking on any sheets in the sheets tab and select Insert sheet.



Renaming a Sheet

Just right click on the sheet that needs to rename and select *Rename Sheet*. Rename Sheet window appears, where type the new name and click *Ok*.

Deleting a Sheet

Firstly select the sheet to delete and right click on it, a menu appears. From the menu, select the *Delete Sheet*. After confirmation, it deletes the sheet. Once the sheet deleted from the sheet tab, it can be got back only with the help of the immediate action *Undo*.

Move / Copy Sheets

Right click on the sheet that to be copied or moved, select *Move/Copy Sheet* from that menu which appeared after right click. The sheet can be moved or copied into the same file or to new document by selecting the drop down under the title *To document*. If the location to move is the same document, the place to move is selected under *Insert Before*, where all the sheets are listed out.

To copy, it is needed to check the *Copy* Checkbox.

Entering Data into the cell

1. Click on the cell, where you want to type the content.
2. Notice the heavy black border around the cell. The heavy black border indicates that is the **active cell**.
3. Type the content and press **Enter**.

Entering the same data in more than one sheet

1. Press the *Ctrl* key at the same select the sheets to type. Then release the ctrl key.
2. Select the cell to type and enter the data in the active sheet. Now the same data entered in the sheets that selected already using ctrl key.

Using the ctrl key, data entered already can be deleted from the selected sheets.

Delete Data

1. Select the cell to delete.
2. Just press the **Delete** key.
3. Delete Cell dialog box has some special features to delete only the text, number, etc.

Using AutoFill

AutoFill automatically generates a data series based on a defined pattern.

1. On a sheet, click in a cell, and type a number.
2. Click in another cell and then click back in the cell where you typed the number.
3. Drag the fill handle in the bottom right corner of the cell across the cells that you want to fill, and release the mouse button.

The cells are filled with ascending numbers.

Using a Defined Series

1. Select the cell range in the sheet that you want to fill.
2. Choose *Series* from *Fill of Edit Menu*.
3. Select the parameters for the series.

If you select a linear series, the increment that you enter is added to each consecutive number in the series to create the next value. If you select a growth series, the increment that you enter is multiplied by each consecutive number to create the next value. If you select a date series, the increment that you enter is added to the time unit that you specify.

Working with formulas

Like Microsoft Excel, all formulas begin with an equal sign. The formulas can contain numbers, text, arithmetic operators, logic operators, or functions. Nesting Formulas is also possible which is supported by a wizard

Entering formulas can be done in several ways: using the icons, or by typing on the keyboard, or by a mixture of both methods.

1. Click the cell in which you want to enter the formula.
2. Click the *Function* icon on the Formula Bar.

An equal sign will be shown in the input line and where the select the formula and then select the values to which the formula to be calculated.

3. After entering the required values, press Enter or click *Accept* to insert the result in the active cell. To clear entry in the input line, press Escape or click *Cancel*.

Entering Formulas

1. Click in a cell, and type a number and press *Enter*.

The cursor moves down to the next cell.

2. Enter another number.

3. Press the *Tab* key.

The cursor moves to the right into the next cell.

4. Type in a formula, for example, $=A9 * A8 / 100$ and press Enter.

The result of the formula appears in the cell. If you want, you can edit the formula in the input line of the Formula bar. When you edit a formula, the new result is calculated automatically.

Filtering

1. One use for the *AutoFilter* function is to quickly restrict the display to records with identical entries in a data field.
2. In the *Standard Filter* dialog, you can also define ranges which contain the values in particular data fields. You can use the standard filter to connect the conditions with either a logical AND or a logical OR operator.
3. The *Advanced filter* allows up to a total of eight filter conditions. With advanced filters you enter the conditions directly into the sheet.

Auto Filter

The *AutoFilter* function inserts a combo box on one or more data columns that lets you select the records (rows) to be displayed.

1. Select the columns you want to use AutoFilter on.
2. Choose *Data* → *Filter* → *AutoFilter*. The combo box arrows are visible in the first row of the range selected.
3. Run the filter by clicking the drop-down arrow in the column heading and choosing an item.

Only those rows whose contents meet the filter criteria are displayed. The other rows are filtered. You can see if rows have been filtered from the discontinuous row numbers. The column that has been used for the filter is identified by a different color for the arrow button.

When you apply an additional AutoFilter on another column of a filtered data range, then the other combo boxes list only the filtered data. To display all records again, select the "all" entry in the AutoFilter combo box. If you choose "Standard", the *Standard Filter* dialog appears, allowing you to set up a standard filter. Choose "Top 10" to display the highest 10 values only.

Chart Creation

- To create a chart, select the data to be included in the chart.
- Next, open the Chart Wizard dialog using one of two methods.
- Choose Insert, then select Chart from the menu bar (or) click the Chart icon on the main toolbar
- Either method inserts a sample chart on the worksheet, opens the Formatting toolbar, and opens the Chart Wizard

The Chart Wizard includes a sample chart with your data. This sample chart updates to reflect the changes you make in the Chart Wizard.

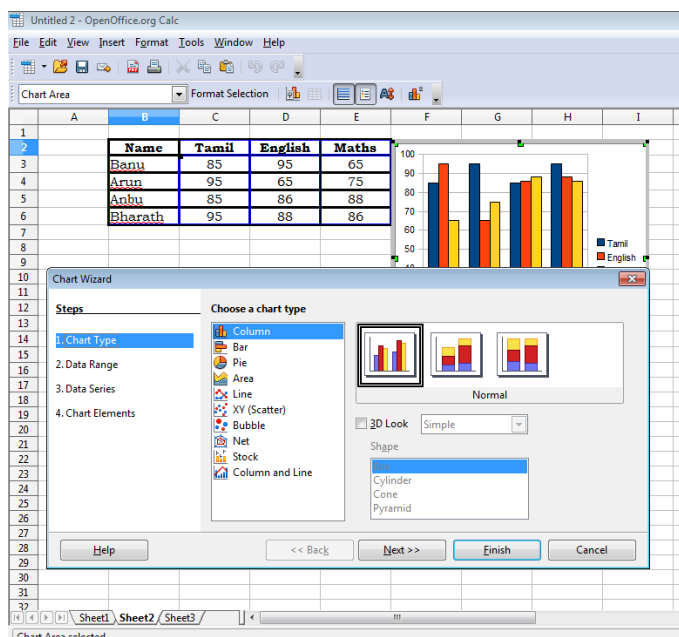
The Chart Wizard has three main parts: a list of steps involved in setting up the chart, a list of chart types, and the options for each chart type. At any time the user can go back to a previous step and change selections.

On the Choose a chart type page, select a type by clicking on its icon. The preview updates every time to select a different type of chart, and provides a good idea of what the finished chart will look like. The current selection is highlighted on the Choose a chart type page. The chart's name is shown just below creating a chart.

Types of Charts

There are 10 basic chart types are in Open Office Calc.

- Column
- Bar
- Pie
- Area
- Line
- XY (Scatter)
- Bubble
- Net
- Stock
- Column and Line



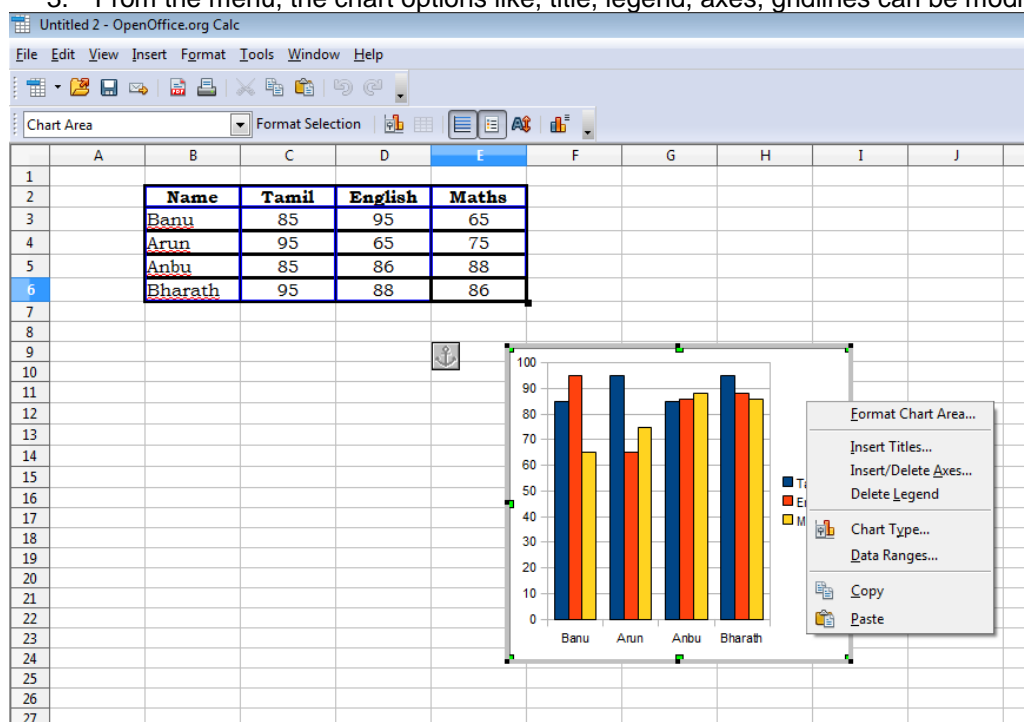
On the Chart Elements page, title, subtitle, x-axis, y-axis, legend to the chart can be given. Confirmation is done by clicking on the Finish button

Editing Charts

Modifying chart type, Format Area, Title, Legend, etc.

Once the chart created the modification can be done by the given steps.

1. Right click the chart.
2. The pop-up menu appears.
3. From the menu, the chart options like, title, legend, axes, gridlines can be modified.



Changing Source Data

To change the Data for a Chart,

1. Select the Chart area
2. Press the right mouse button to get the short-cut menu
3. Choose Data Ranges option
4. This opens up the Source Data dialog box. In this dialog box, you may reselect the data range.

Page preview and Print options

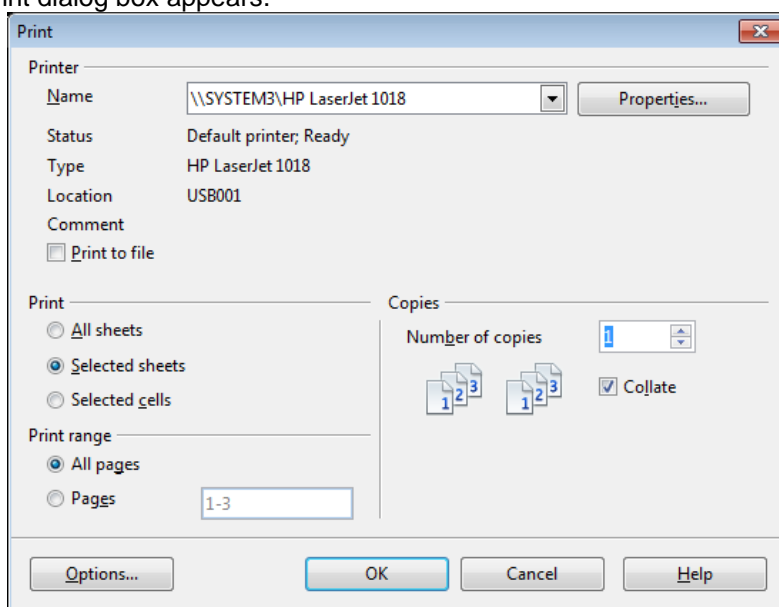
The Page Preview Toolbar allows the user to see what Calc is going to print. Click File, and select Page Preview (The Page Preview toolbar appears)

There could see four book icons with arrows. With those icons user can preview the previous, next, first and last pages of the work sheet. To get back from the page preview more just Click *Close Preview*.

Like Microsoft Excel, it is easy to take hard copy of the worksheet

Printing

To take printed copy of the sheet, press Ctrl+P or just go to the File Menu and select Print option. Print dialog box appears.



With the help of the printer dialog box, number of copies, print range (pages need to print), etc. can be modified. In the printer name, the default printer is assigned by default, to change the printer just click on the dropdown and choose the printer to print.

Some of the shortcut keys are listed below to work freely with OpenOffice Calc.

Shortcut Keys	Purpose
Ctrl+Home	Moves the cursor to the first cell in the sheet (A1).
Ctrl+End	Moves the cursor to the last cell on the sheet that contains data.
Home	Moves the cursor to the first cell of the current row.
End	Moves the cursor to the last cell of the current row.
Ctrl+Left Arrow	Moves the cursor to the left edge of the current data range. If the column to the left of the cell that contains the cursor is empty, the cursor moves to the next column to the left that contains data.

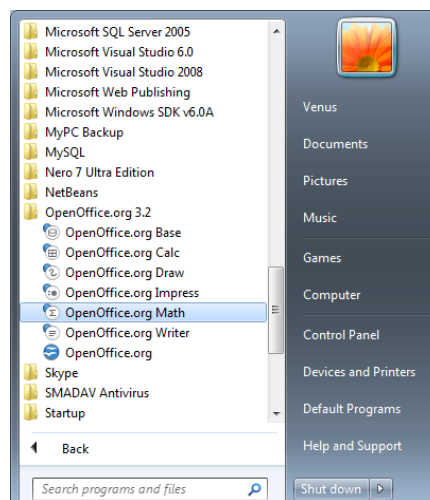
Ctrl+Right Arrow	Moves the cursor to the right edge of the current data range. If the column to the right of the cell that contains the cursor is empty, the cursor moves to the next column to the right that contains data.
Ctrl+Up Arrow	Moves the cursor to the top edge of the current data range. If the row above the cell that contains the cursor is empty, the cursor moves up to the next row that contains data.
Ctrl+Down Arrow	Moves the cursor to the bottom edge of the current data range. If the row below the cell that contains the cursor is empty, the cursor moves down to the next row that contains data.
Ctrl+Shift+Arrow	Selects all cells containing data from the current cell to the end of the continuous range of data cells, in the direction of the arrow pressed. If used to select rows and columns together, a rectangular cell range is selected.
Ctrl+Page Up	Moves one sheet to the left. In the page preview: Moves to the previous print page.
Ctrl+Page Down	Moves one sheet to the right. In the page preview: Moves to the next print page.
Alt + Page Up	Moves one screen to the left.
Alt + Page Down	Moves one screen page to the right.
Shift+Ctrl+Page Up	Adds the previous sheet to the current selection of sheets. If all the sheets in a spreadsheet are selected, this shortcut key combination only selects the previous sheet. Makes the previous sheet the current sheet.
Shift+Ctrl+Page Down	Adds the next sheet to the current selection of sheets. If all the sheets in a spreadsheet are selected, this shortcut key combination only selects the next sheet. Makes the next sheet the current sheet.
Ctrl + /	where (/) is the division sign on the numeric key pad Selects the matrix formula range that contains the cursor.
Ctrl+Plus key	Insert cells (as in menu Insert - Cells)
Ctrl+Minus key	Delete cells (as in menu Edit - Delete Cells)
Enter (in a selected range)	Moves the cursor down one cell in a selected range. To specify the direction that the cursor moves, choose Tools - Options - OpenOffice.org Calc - General.
Ctrl + `	Displays or hides the formulas instead of the values in all cells.
Ctrl+F1	Displays the comment that is attached to the current cell
F2	Switches to Edit mode and places the cursor at the end of the contents of the current cell. Press again to exit Edit mode.
Ctrl+F2	Opens the Function Wizard.
Shift+Ctrl+F2	Moves the cursor to the Input line where you can enter a formula for the current cell.

Ctrl+F3	Opens the Define Names dialog.
F4	Shows or Hides the Database explorer.
Shift+F4	Rearranges the relative or absolute references (for example, A1, \$A\$1, \$A1, A\$1) in the input field.
F5	Shows or hides the Navigator.
Shift+F5	Traces dependents.
Ctrl+F5	Traces precedents.
Shift+Ctrl+F5	Moves the cursor from the Input line to the Sheet area box.
F7	Checks spelling in the current sheet.
Ctrl+F7	Opens the Thesaurus if the current cell contains text.
Ctrl+F8	Highlights cells containing values.
F9	Recalculates changed formulas in the current sheet.
Ctrl+Shift+F9	Recalculates all formulas in all sheets.
Ctrl+F9	Updates the selected chart.
F11	Opens the Styles and Formatting window where you can apply a formatting style to the contents of the cell or to the current sheet.
Shift+F11	Creates a document template.
Shift+Ctrl+F11	Updates the templates.
F12	Groups the selected data range.
Ctrl+F12	Ungroups the selected data range.
Alt + Down Arrow	Increases the height of current row.
Alt + Up Arrow	Decreases the height of current row.
Alt + Right Arrow	Increases the width of the current column.
Alt + Left Arrow	Decreases the width of the current column.
Alt+Shift+Arrow Key	Optimizes the column width or row height based on the current cell.

MATH

Like the Equation support in Microsoft Word, Math in Open Office provides the facility to write mathematical formulas in symbolic form. It provides numerous operators, functions and formatting assistants to create formulas. These are all listed in a selection window, in which the user can click the required element with the mouse to insert the object into the work.

The lower area of the Formula Elements window displays the individual operators. The context menu of the Commands window also contains a list of these operators, as well as additional operators. If any operator is found in the Formula Elements window, it can be inserted by context menu or typed directly in the Commands window. The categorized group of Operators, Functions, Formats, etc. are explained and listed below.



Unary/Binary Operators

Unary refers to operators that affect one placeholder. Binary refers to operators that connect two placeholders.

Commands	Meaning
-	Subtraction
-	- Sign
-+	Minus/Plus
/	Division
*	Multiplication
+	Addition
+	+ Sign
+-	Plus/Minus
and or &	Boolean AND operation
boper	A user-defined symbol follows, which is used as a binary operator.
uoper	A user-defined symbol follows, which is used as a unary operator.
cdot	Multiplication, small multiply symbol
circ	Concatenate symbols
div	Division
neg	Boolean NOT
odivide	Slash / in circle
odot	Small multiply symbol in circle
ominus	Subtract symbol in circle
oplus	Add symbol in circle
or or	Boolean OR operation

otimes	Multiply symbol times in circle
over	Division/Fraction
times	Multiplication
widebslash	Backslash \ between two characters, of which the right is superscript, the left subscript
wideslash	Slash / between two characters, of which the left is superscript, the right subscript

Relations

Relations are used to structure the formula. Mostly the comparisons are done using these relational operators.

Command	Meaning
< or lt	Less than
<< or ll	Much less than
<= or le	Less than or equal to
<> or neq	Not equal
=	Equation
> or gt	Greater than
>= or ge	Greater than or equal to
>> or gg	Much greater than
approx	Is approximately
def	is defined as/by definition equal to
divides	divides
dldarrow	Arrow with double line to the left
dlrarrow	Arrow with double line to the left and the right
drarrow	Arrow with double line to the right
equiv	Is equivalent/congruent to
geslant	Greater than-equal to
leslant	Less than-equal to
ndivides	does not divide
ortho	Is orthogonal to
parallel	Is parallel to
prop	Is proportional to
sim	Is similar to
simeq	Is similar or equal to
toward	Toward
transl	Correspondence symbol image of
transr	Correspondence symbol original of

Set Operations

Assign different set operators to the characters in your OpenOffice.org Math formula. The individual operators are shown in the lower section of the Formula Elements window. Call the context menu in the Commands window to see an identical list of the individual functions. Any operators not found in the Formula Elements window have to be entered directly in the Commands window. You can also directly insert other parts of the formula even if symbols already exist for them.

Command	Meaning
aleph	Cardinal number
emptyset	Empty set
in	is contained in
intersection	Intersection of sets
notin	is not contained in
nsubset	Not subset to
nsubsetq	Not subset or equal to
nsupset	Not superset
nsupsetq	Not superset or equal to
owns or ni	Contains
setc	Complex number
setminus or bslash	Difference between sets
setn	Natural number
setq	Rational number
setr	Real number
setz	Integer
slash	Slash / for quotient set (slash) between characters
subset	Subset
subsetq	Subset or equal to
supset	Superset
supsetq	Superset or equal to
union	Union of sets

Functions

Choose a function in the lower part of the window. These functions are also listed in the context menu of the Commands window. Any functions not contained in the Formula Elements window need to be typed manually in the Commands window.

Commands	Meaning
abs	Absolute amount
arccos	Inverse cosine or arccosine
arccot	Inverse cotangent or arccotangent
arcosh	Inverse hyperbolic cosine
arcoth	Inverse hyperbolic cotangent
arcsin	Inverse sine or arcsine
arctan	Inverse tangent or arctangent
arsinh	Inverse hyperbolic sine
artanh	Inverse hyperbolic tangent
backepsilon	Back epsilon
cos	Cosine
cosh	Hyperbolic cosine
cot	Cotangent
coth	Hyperbolic cotangent
exp	General exponential function
fact	Factorial
func e ^{}	Natural exponential function
ln	Natural logarithm
log	General logarithm
nroot	n-th root of x
sin	Sine
sinh	Hyperbolic sine
sqrt	Square root
sub	x with subscript n
sup	n-th power of x
tan	Tangent
tanh	Hyperbolic tangent

Operators

You can choose among various operators to structure your OpenOffice.org Math formula. All available operators appear in the lower part of the Formula Elements window. They are also listed in the context menu of the Commands window. All operators not contained in the Formula Elements window or in the context menu must be typed manually in the Commands window.

Commands	Meaning
coprod	Coproduct
from	Lower limit of an operator
from to	Range from ... to
iiint	Triple integral
iiint	Double integral

int	Integral
liminf	Limes inferior
limsup	Limes superior
lint	Curve integral
llint	Double curve integral
lllint	Triple curve integral
oper	Placeholder, user-defined operator
prod	Product
sum	Sum
to	Upper limit of an operator
lim	Limes

Attributes

You can choose from various attributes for OpenOffice.org Math formulas. Some attributes are displayed in the lower part of the Formula Elements window. These attributes are also listed in the context menu of the Commands window. All attributes not contained in the Formula Elements window or in the context menu must be typed manually in the Commands window.

Commands	Meaning
acute	Accent to top right above a character
bar	Horizontal bar above a character
bold	Bold
breve	Top open arc above a character
check	Upside down roof
circle	Circle above a character
color	The color command changes the character color; first enter the color command directly in the Commands window. Then enter the color name (black, white, cyan, magenta, red, blue, green, or yellow). Then enter the characters to be changed.
ddd	Three dots above a character
ddot	Two dots above a character
dot	Dot above a character
grave	Accent to bottom right above a character
hat	"Roof" above a character
ital	Italics
nbold	Remove the Bold attribute
nitalic	Remove the Italics attribute
overline	Horizontal bar above a character
overstrike	Horizontal bar through a character
phantom	Phantom character
tilde	Tilde above a character

underline	Horizontal bar below a character
vec	Vector arrow above a character
widehat	wide roof, adjusts to the character size
widetilde	wide tilde, adjusts to the character size
widevec	wide vector arrow, adjusts to the character size

Brackets

You can choose among various bracket types to structure a OpenOffice.org Math formula. Bracket types are displayed in the lower part of the Formula Elements window. These brackets are also listed in the context menu of the Commands window. All brackets that are not contained in the Formula Elements window or in the context menu can be typed manually in the Commands window.

Commands	Meaning
(...)	Normal round left and right bracket
[...]	Left and right square bracket
lbracket ... rbracket	Left and right square double bracket
lline ... rline	Left and right vertical line
ldline ... rdline	Left and right double vertical lines
lbrace ... rbrace	Left and right curly brackets, set bracket
langle ... rangle	Left and right pointed bracket
langle ... mline ... rangle	Left and right pointed operator bracket
{...}	Left and right group bracket. They are not displayed in the document and do not take up any room.
left(... right)	Brackets, scalable
left[... right]	Square brackets, scalable
left lbracket ... right rbracket	Double square brackets, scalable
left lbrace ... right rbrace	Braces, scalable
left lline ... right rline	Single lines, scalable
left ldline ... right rdline	Double lines, scalable
left angle ... right angle	Angle brackets, scalable
left langle ... mline ... right rangle	Scalable left and right pointed operator bracket
overbrace	Scalable curly set bracket on top
underbrace	Scalable curly set bracket below
lfloor ... rfloor	Left and right line with lower edges
lceil ... rceil	Left and right line with upper edges
\lbrace \rbrace or \{ \}	Left curly bracket or right curly bracket
\(\)	Left and right round bracket
\[\]	Left and right square bracket
\langle \rangle	Left and right pointed bracket
\ line \ rline	Left and right vertical line

<code>\ldline \rdline</code>	Left and right double line
<code>\lfloor \rfloor</code>	Left and right line with lower edges
<code>\lceil \rceil</code>	Left and right line with upper edges
none	Qualifier to suppress one bracket, as in right none

Format

You can choose among various options for formatting a OpenOffice.org Math formula. The format options are displayed in the lower half of the Formula Elements window. These options are also listed in the context menu of the Commands window.

Commands	Meaning
<code>l^{sup}</code>	Left exponent
<code>c^{sup}</code>	Exponent directly above a character
<code>^</code> or <code>sup</code> or <code>r^{sup}</code>	Right exponent
<code>binom</code>	Binom
<code>newline</code>	New line
<code>l_{sub}</code>	Left index
<code>c_{sub}</code>	Index directly below a character
<code>_</code> or <code>sub</code> or <code>r_{sub}</code>	Right index
<code>stack{...}</code>	Stack
<code>`</code>	Small space/small blank
<code>alignl</code>	Align left
<code>alignc</code>	Align to horizontal center
<code>alignr</code>	Align right
<code>matrix{...}</code>	Matrix
<code>~</code>	Wide space/gap

Other Symbols

Some other mathematical symbols

Commands	Meaning
<code><?></code>	Placeholder
<code>dotsaxis</code>	Math-axis ellipsis
<code>dotsdown</code>	Downward diagonal ellipsis
<code>dotslow</code>	Ellipsis
<code>dotsup</code> or <code>dotsdiag</code>	Upward diagonal ellipsis
<code>dotsvert</code>	Vertical ellipsis
<code>downarrow</code>	Down arrow
<code>exists</code>	Existential quantifier, there is at least one
<code>forall</code>	Universal quantifier, for all
<code>hbar</code>	h with line over it
<code>im</code>	Imaginary part of a complex number
<code>infinity</code> or <code>infty</code>	Infinite

lambdabar	Lambda with line over it
leftarrow	Left arrow
nabla	Nabla vector
partial	Partial derivative or set margin
re	Real part of a complex number
rightarrow	Right arrow
uparrow	Up arrow
wp	p function, Weierstrass p

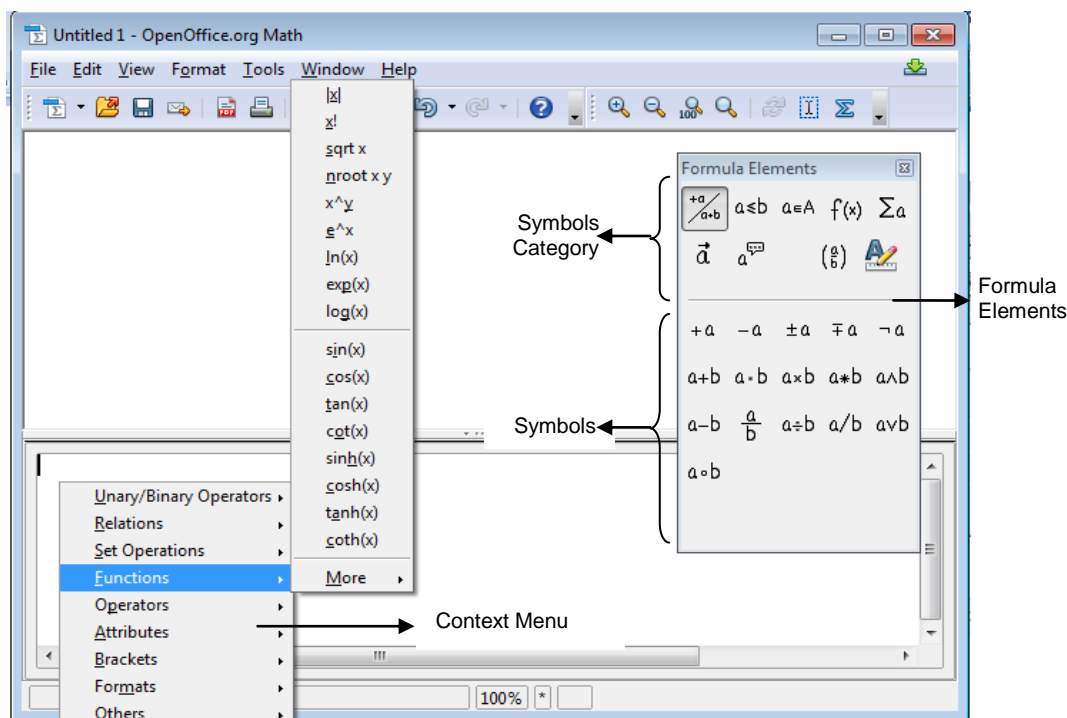
Creating Formula

As with charts and images, formulas are created as objects within a document. Inserting a formula into a document automatically starts OpenOffice.org Math. The formula is easy to create, edit with symbols, and functions.

The formula can be created and saved in the Math application of OpenOffice by the following two methods and it could be created and inserted in any other open office applications. By the

Launch the Open Office Math

1. Right-click on the equation editor and select the symbol from the context menu.
2. Select a symbol from the *Formula Elements* toolbox.



Entering a Formula

There are three main ways of entering a formula:

- Type markup in the equation editor.
- Right-click on the equation editor and select the symbol from the context menu.
- Select a symbol from the *Selection* toolbox.

The context menu and the *Selection* toolbox insert the markup corresponding to a symbol. Incidentally, this provides a convenient way to learn the OoMath markup. When you select a symbol from the Selection toolbox, it will show up like this in this equation editor:

<?> times <?>

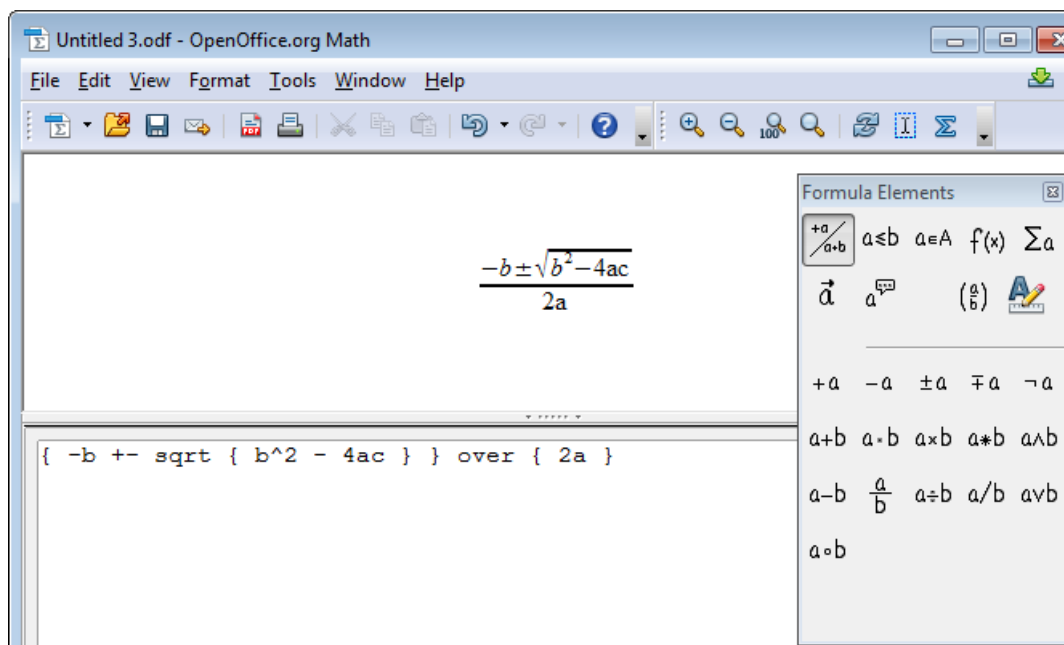
And it will display on screen like this:

□ × □

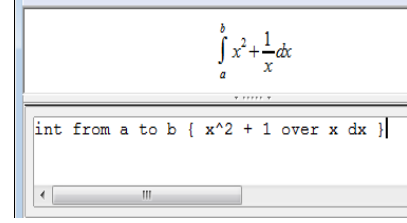
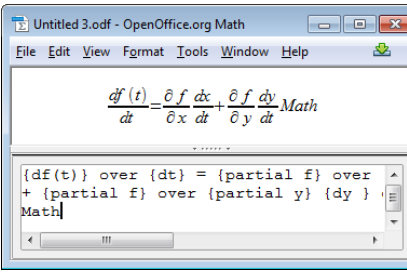
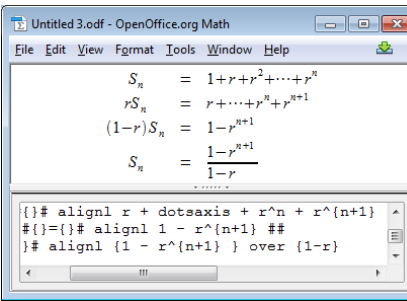
While editing in the equation editor, it is required to remove <?> and replace it with the terms of the equation. For example, “9 times 3” produces 9×3 . Below is a short list of common equations and their corresponding markup.

The equation editor knows nothing of order of operation. Complex formulas can be made using brackets. To get the square root formula, the command to be given is :

$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$



Some other samples

Typed Commands	Output
\int from a to b { x^2 + 1 over x dx }	
$\frac{df(t)}{dt} = \frac{\partial f}{\partial x} \frac{dx}{dt} + \frac{\partial f}{\partial y} \frac{dy}{dt}$	
<pre>matrix { S_n #{}={}\# alignl 1 + r + r^2 + dotsaxis + r^n ## rS_n #{}={}\# alignl r + dotsaxis + r^n + r^{n+1} ## (1-r)S_n #{}={}\# alignl 1 - r^{n+1} ## S_n #{}={}\# alignl {1 - r^{n+1}} over {1-r} }</pre>	

Customizing the interface

There are a few ways to customize the equation editor's interface to make you more productive. Here are some suggestions:

- The selection tool can be shown or hidden by, View → Selection.
- To improve the speed, AutoUpdate can be turned on or off with View→AutoUpdate display.
- The formula can be updated manually by pressing F9 or through View → Update.
- The editor can be turned into a floating window:
 - Hover the mouse above the *border* of the equation editor.
 - Hold down the *Control* key.
 - Drag the editor away from the main window.

QUESTIONS AND ANSWERS**I. Fill in the blanks**

1. The first cell in Excel worksheet is labeled as **A1**.
2. In Microsoft Excel current date and time can be displayed using the function **now()**.
3. Extension of Excel workbook is **.xlsx**.
4. Microsoft Excel worksheet has **1048576** rows and **XFD** columns.
5. **Ctrl + Spacebar** is used to select the column in Microsoft Excel.
6. Calling cells by their column and row label is called **relative reference**.
7. Shortcut to edit the active cell in Excel is **F2**.
8. The extension for Open Office Calc file is **.ods**.
9. In Open Office Calc, Spelling and Grammar tool is in **Tools Menu**.
10. In Open Office Calc, the data organized as **Rows and Columns**.

II. Choose the best answer

1. How many default worksheets can a workbook have?
a) 4 b) 8 **c) 3** d) 1
2. Excel displays the current cell address in
a) Name box b) Status bar c) Formula bar d) Formula bar
3. How do you display current date only in Microsoft Excel?
a) date() b) now() **c) today()** d) time()
4. Shortcut key to select a row in Excel is
a) Shift + Spacebar b) Ctrl + A c) Ctrl + R d) Ctrl + Spacebar
5. In Open Office Calc, the arithmetic operator for multiplication in a spreadsheet is
a) + **b) *** c) @ d) %
6. Which of the following file extensions is not compatible with Open Office Calc?
a) .sdw **b) .dbf** c) .sxc d) .xls
7. What function displays row data in a column or column data in a row?
a) Hyperlink b) Index **c) Transpose** d) Rows
8. Except for the function, a formula with a logical function shows the word "TRUE" or "FALSE" as a result
a) IF b) AND c) OR d) NOT
9. Macros are run or executed from _____ menu.
a) Tools b) Format c) Data d) Insert

III. Say true or false

1. Worksheet can be added or deleted in Open Office Calc. (T)
2. Gridlines may be turned on or off for printing in both Excel and Calc. (T)
3. Escape key (ESC) is used to enter data in a cell. (F)
4. F2 is the shortcut to edit a cell in both Excel and Calc. (T)
5. Data Validation is used to ensure correct data is entered in a cell. (T)

IV. Write answer in two or three lines

1. What are the applications of Microsoft Excel?
2. Write the steps to inserting a row or column in Microsoft Excel.
3. How do you change the page orientation in Excel?
4. What are the applications of Ms-Excel?
5. List out the different types of charts available in Excel.
6. Write the steps to edit the formula in a cell.
7. What is the use of Open Office Math?

V. Write answer in brief

1. Write the steps to enter a formula in Excel.
2. Write any six functions in Excel with examples.
3. Write about consolidation.
4. Write the steps to make a chart in Open Office Calc.
5. Explain about the Formula Tool bar in Calc.
6. How do you draw a formula in Open Office Math?
7. How do you same data in more than one sheet
8. Write the steps to insert a chart in Ms-Excel.

UNIT – 5

Office Applications - III

**Microsoft Access
&
Open Office Base**

MICROSOFT ACCESS

Introduction

Microsoft Access is a **Relational Database Management System (RDMS)** that allows a user to store, retrieve and organize data in graphical form. Data stored in the any other applications or databases can be shared, imported and linked to Access. It allows user to query data and produce reports. Access enables sharing data with other suites of Microsoft Office, Microsoft SQL Server and documents in XML, HTML, XPS and PDF formats. A significant benefit of Access, for a programmer, is its compatibility with SQL. To work in access, a user need not be an expert to develop or create a sophisticated database application(s).

Relational Database

A relational database utilizes two or more tables, containing data arranged in rows and columns to cross-reference and define relationships between the data.

A relational database splits up the information into more manageable small pieces. A relationship among these pieces of information is made in order to achieve.

- fast data entry
- provide speed
- flexibility in managing data
- flexibility in locating data
- flexibility to make reports
- easy sorting of information
- facility to avoid duplication of data etc.,

The above advantages can be achieved with the help of the database organization in a relational database. A relational database comprises of several objects such as Tables, Forms, Queries, Reports, etc.

The standard file name extension for databases in the Microsoft Office Access 2007 is **.accdb**. In the earlier versions of Access the **.mdb** file name extension is used.

Tables: A table is a collection of records. A table is the basic object and element of the Database. A database can contain several tables. A table organizes information into **rows** and **columns**. It can be used to both store and display data in a structured format.

Forms: A form is a type of database object that is primarily used to enter or display data in a database. It is just a data entry window just like normal forms. The data entry can be done easily in a form than in a table. Most forms are bound to one or more tables and

Queries in the database. A form's record source refers to the fields in its underlying tables and queries. This focuses on one record at a time. We can design our forms to provide an attractive look. We can place windows controls such as Command button, list box, combo box etc., in order to help the user to enter the data easily. The most important help we get from forms is that we can calculate the data at the data entry time dynamically.

Queries: Queries are the questions asked about the information stored in the tables. The result of a query is a table like structure called dynaset. A dynaset contain the extracted data. A query can extract data from more than one table also. This is one of the major features present in a relational database. Query can Append (Add), Update, Delete records at the same time and perform various calculations on the data.

- **Select Query** is used to extract the information from table(s) as per the need.
- **Update Query** is used to add / modify the information in the fields of the table.
- **Append Query** is used to add records from various tables or queries.
- **Delete Query** is used to remove unwanted records permanently from the table.

Reports: A report is the final statement of the data present in the database. We can make reports from tables, queries. To print all the data in the table, it is better to use table, no need for query. To print selective records or columns based on the need, the user should use queries.

Macros: A macro is a set of sequence operations. Macros in Access can be thought of as a simplified programming language which you can use to add functionality to your database. For example, you can attach a macro to a command button on a form so that the macro runs whenever the button is clicked. Macros contain actions that perform tasks, such as opening a report, running a query, or closing the database. Most database operations that you do manually can be automated by using macros, so they can be great time-saving devices.

Modules: Like macros, Modules are objects used to add functionality to the database. Whereas to create macros in Access by choosing from a list of macro actions, modules are written in Visual Basic for Applications (VBA) programming language. A module is a collection of declarations, statements, and procedures that are stored together as a unit. A module can be either a class module or a standard module. Class modules are attached to forms or reports, and usually contain procedures that are specific to the form or report they're attached to. Standard modules contain general procedures that aren't associated with any object.

Steps in designing a database

The steps needed to design a database is

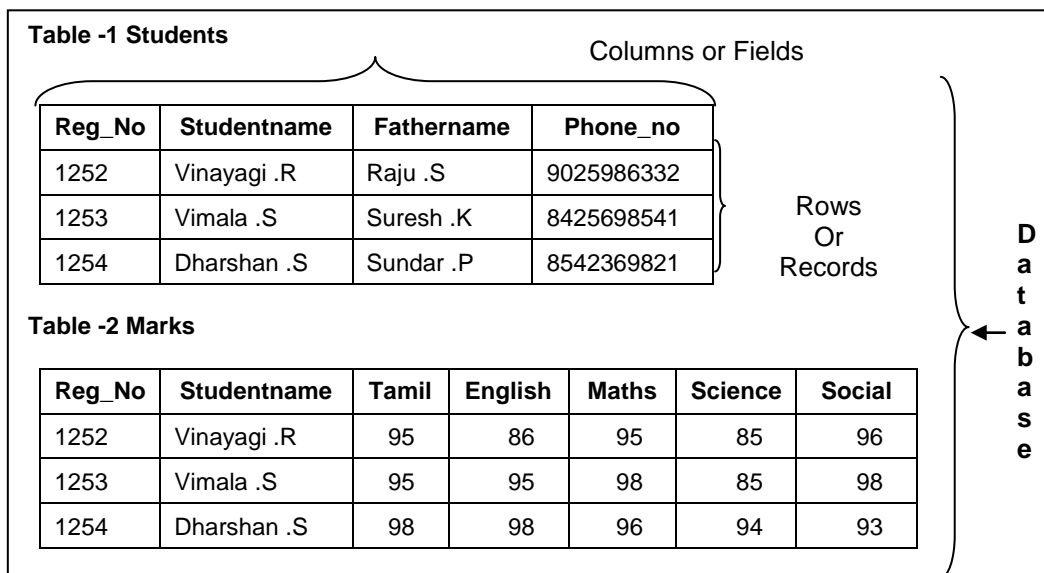
1. Determine the purpose of your database
2. Determine the tables you need in the database
3. Determine the fields you need in the tables
4. Identify fields with unique values in each record
5. Determine the relationships between tables
6. Refine your design
7. Enter data and create other database objects.

Planning a Database

As explained already a database can have many tables (collection of tables), though a database should have a separate table for every major subject.

A table is a set of columns and rows. Each column is called a field. Within a table, each field must be given a name and no two fields can have the same name. Each value in a field represents a single category of data. Each row in a table is called a record.

To understand these concepts, let us plan a database for school. To maintain Students' personal Information and Mark Details; planned to create these tables in a single database.



All of the data in a table should refer to the same subject. For example, all of the data in the Students table should refer to Students' Information and all of the data in the Marks table should refer to Mark details of the students.

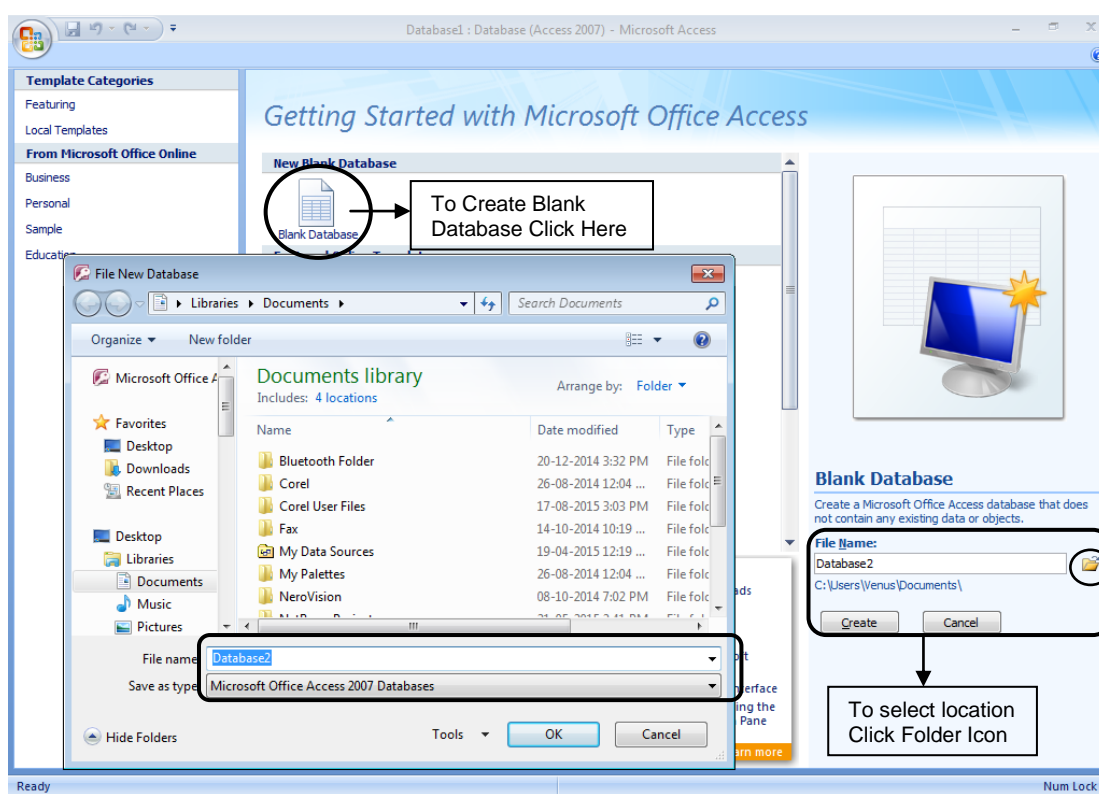
Steps to create a Database

Database can be created in different ways. First Go To the Microsoft Office Button and Select New.

On the **Getting Started with Microsoft Office Access** page, under **New Blank Database**, click **Blank Database**.

In the **Blank Database** pane, type a file name in the **File Name** box. To change the location of the file from the default, click **Folder Icon**, browse to the new location, and then click **OK**.

Then Click **Create**.



Creating a Table

Microsoft Access database provides an empty table named Table1 in Datasheet view. A new table can be created by using Design View or Datasheet View or Templates. But it is better to create a table using Design View while comparing with other two ways. Because using the Design View, needed field name and data type can be chosen properly.

Before creating table you should know the data types. Data types decide the data to be stored in a field. The data types are listed below.

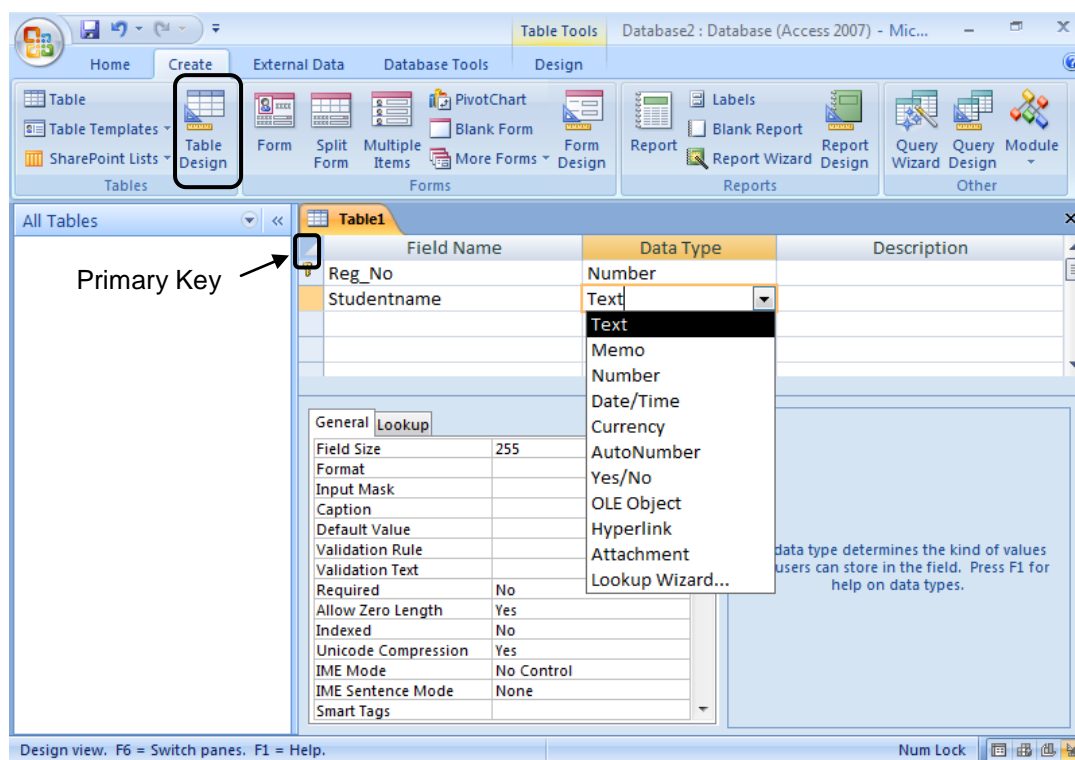
Data Type	Description
AutoNumber	Access automatically fills in a consecutive number for each record. The AutoNumber field is primarily used for Primary Keys in Access.
Text	Allows values that are text, numeric or alphanumeric up to 255 characters.
Memo	As same as text but allows 2 GB of data.
Number	Allows storing numeric values of 16 bytes.
Date/Time	Allows storage of date and time information with Auto Calendar.
Currency	Currency data type stores values in a financial (money) format.
Yes/No	Accepts Yes or No (It means True or False, On or Off)
OLE Object	Stores images, documents, graphs etc with maximum data size of 2GB.
Hyperlink	Used to store web addresses.
Attachment	Used to store images, spreadsheet files, documents, charts and other types of supported files to the records. This is a new feature in this version.

Each data type has some special properties: Using this user can change the size, format, etc.

A **primary key** is a field or combination of fields that uniquely identify each record in a table. A field that is assigned as a primary key can't have same values.

Steps to Create Table in Design View

1. Click Table Design, in the Create Tab of the Tables Group.
2. For each field in your table, type a name in the Field Name column, then select a data type from the Data Type list.
3. If you want, you can type a description for each field in the Description column. The description is then displayed on the status bar when the cursor is in that field in Datasheet view.
4. To set a Primary Key to any field, just Right Click on field and select Primary Key (or) Select the field and click the *Primary Key* button in *Design Tab*.
5. After you have added all of your fields, save the table by Clicking Save Option in the Microsoft Office Button or press CTRL+S.
6. You can begin typing data in the table at any time by switching to Datasheet view and clicking in the first empty cell. You can also paste data from another source.



Entering data into the table

- Double click the table you just created in the Navigation Pane.
- Now a *Data sheet* is opened with the *Field Names* you just created. Place the mouse pointer in the first cell just below the Name header.
- Type the *data* and press Enter key or Right Arrow key to move to the *next field*. Now the text cursor is moved to the second cell just below Addresses. In a similar manner complete the row.
- After completing the *first row*, type Enter key to create the *second row* and start keying.
- Each row can be termed as *record*.
- After keying all the data press Close button of the data sheet window.

Creating table using template

Access provides templates for commonly-used types of tables. With a single mouse click, a complete table structure can be created with fields already configured. If needed, fields can be added or removed as per the need.

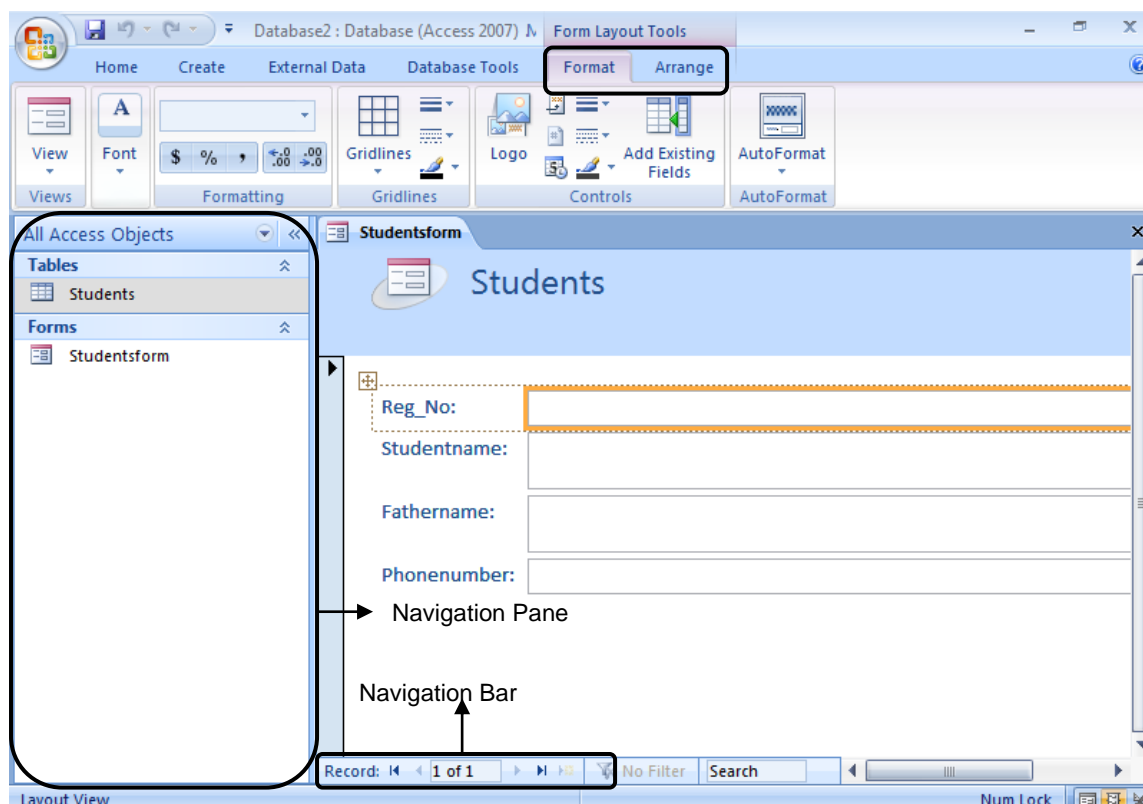
1. On the Create tab, in the Tables group, click Table Templates and then select one of the available templates from the list.
2. To add data, begin typing in the first empty cell or paste data from another source, as described in the section.

3. To delete a column, Right-click the column heading, and then click Delete Column.
4. To add a new column, On the Datasheet tab, in the Fields & Columns group, click New Field.
5. Access displays the Field Templates pane, which contains a list of commonly used field types. If you double-click or drag one of these fields into your datasheet and save the Table.

Creating and Working with Forms

Forms are used to enter, modify and view the data. It is as like the forms used in day to day activities. Forms can be created in many methods such as basic forms (simple selecting a table or query), using Wizard (step by step method to create form with more than one table or queries) and using Design (complete form is designed with the help of controls to any number of tables and queries)

Access 2007 has several automatic tools for creating forms. These tools are located in the Forms group on the Create tab in the Ribbon.



Creating Form in basic method

To create a Form for a Table or Query:

- 1) From the Navigation Pane, select the table you want to create the form
- 2) Click Create on the Ribbon and Click Forms.

Creating Form using Wizard

- 1) From the Create Tab, Click More Forms Button
- 2) Select Form Wizard, the step by step methods helps to design the form.
 - Select the table or query that is needed to design the form
 - Select the fields for the form
 - Select the layout to the form (Columnar is better to create form)
 - Select the style and give suitable name and finish the form

Modify the Form Design

To modify the Form just right click on the form in Navigation Pane and select the Design View. Using the Format and Arrange Table under Format Layout Tools you can modify the form.

Now with the help of this form, enter the data and move to the next field by Enter key or Tab key, once all the fields completed it creates a new record automatically.

With the help of the navigation bar you can create a new record and navigate to any record. The data entered through the form is automatically added to the appropriate table.

Preview a form

Many ways are available to preview a form from various views. But it is simple to select the print preview in the *Print* of the Office Button. Using this method you can print the form by giving appropriate options in the print dialog box.

Print selected records in a form or datasheet

1. Open the form. And select the record you want to print by clicking the record selector
2. On the Office Button, click Print.
3. In the Print dialog box under Print Range, click Selected Record(s).

Sort records in Form or Datasheet view

In Form view or Datasheet view, click the field you want to use for sorting records.

- To sort in ascending order, click **Sort Ascending** icon in the toolbar.
- To sort in descending order, click **Sort Descending** icon in the toolbar.

In a form, you can sort on only one field at a time.
When you save the form or datasheet, Microsoft Access saves the sort order

Searching Records

The records can be searched with the help of a field data. For example, if you want to find the record containing “Suresh” in the name field, you can search for the record,

1. Open the Form by double clicking on it.
2. Place the cursor in the name field.
3. Select *Find* in Find Menu.
4. Type “Suresh” in the Find What combo box.
5. Select name field in the Look in list box.
6. Click *Find Next* button.
7. Access searches the table or query for the record with “Suresh” in its name field and moves the record pointer to the record in the form.

Working with Queries

Queries are the primary mechanism for retrieving information from a database based on the questions presented to the database in a predefined format. Tables hold the information, queries contain stored questions.

Queries can be created in two different ways; Using Query Design and Using Query Wizard.

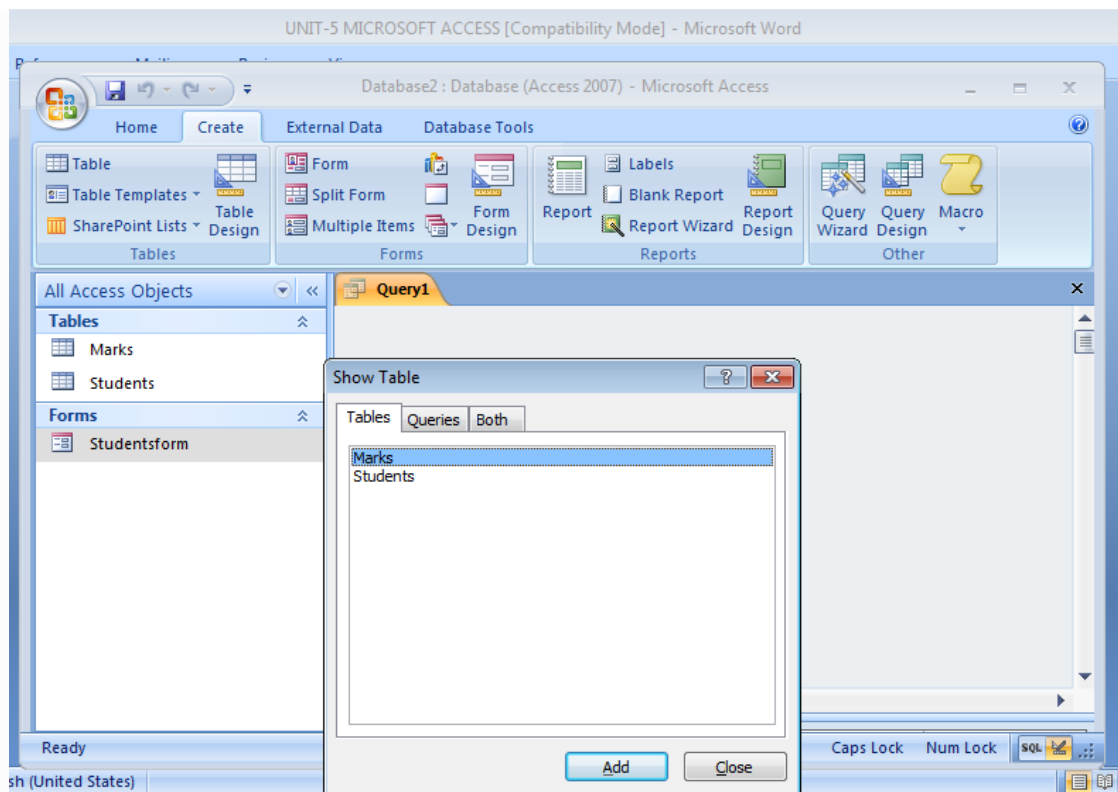
Creating a Query



A query can be based on tables or on other queries. To create a query, you open the tables or queries on which you are going to base your query in Query Design view, and then use the options in Design view to create your query. You then click the Run button to display the results. You can save queries for later use.

1. From the Create tab click the Query Design button in the Other group. The Show Table dialog box appears.
2. Activate the Tables tab if you want to base your query on tables, activate the Queries tab if you want base your query on queries or activate the both tab if you want to base your query on both tables and queries.
3. Click to choose the table or query on which you want to base your query.
4. Click Add. The table appears in the window.

5. Click to choose the next table or query on which you want to base your query.
6. Continue clicking tables or queries until you have all the tables and queries you plan to use.
7. Click Close. Access changes to Query Design view



Display All Records and All Fields

In Query Design view, each table has an option which will allow you to display all the fields in a table. It can be done by selecting the asterisk (*) followed by the table name (tablename.*).

To change to Query Design view:

1. From the Home Tab, Click the down-arrow below View in the Views group.
2. Click Design View. Access changes to Query Design view to modify your query.

Steps to retrieve selective Columns

1. Open a table or query in Query Design view.
2. Double click the field names that you want to display in the field line.
3. Click the Run button.

Sort a Query

Sort in Query Design view helps to arrange the rows in ascending or descending order.

1. Open a table or query in Query Design view.
2. Choose the field names that you want to sort.
3. Under the field you want to sort, click the down-arrow and then choose Ascending or Descending.
4. Click the Run button.

Note: Like that you can sort multiple columns with the same method.

Retrieve particular Records

Using the following steps one can view specific records from the table or query.

1. Open a table or query in Query Design view.
2. Choose the field names that you want to assign the criteria.
3. Click the Run button.

Criteria are used to sort out the data of a record(s) from a field(s) through a condition provided. Some of the most frequently used operators in criteria are given below:

Operator	Meaning
=	Equal to
<>	Not equal to
>	Greater than
>=	Greater than or equal to
<	Less than
<=	Less than or equal to
In	Equal to any item in a list
Not In	Not equal to any item in a list
Between	Brings the values between a range
Not Between	Not between two values
Is Null	Checks whether the field has no value
Is Not Null	Checks whether the field has any value
Like	Searches a value that is similar to the specified pattern

Creating Reports

Report displays all the selected records. You can include summary data such as totals, counts, and percentages in a detail report. A summary report does not list the selected records but instead summarizes the data and presents totals, counts, percentages, or other summary data only. Access has several report generation tools that you can use to create both detail and summary reports quickly.

Creating Report with simple method

1. Open the Navigation pane.
2. Click the table or query on which you want to base your report.
3. Select the Create tab.
4. Click the Report button in the Reports group and save it.
5. The report lists in the navigation pane.

Creating Report using Report Wizard

Generating report using Wizard is better than other ways. The Report Wizard provides more flexibility than by using the Report button. You can choose the tables and fields, group the data, sort the data, summarize the data, choose a layout and orientation, apply a style, and title your report. Follow the steps shown here to create a report by using the Report Wizard:

1. Click Report Wizard in the Reports group of Create Tab.
2. Click the down-arrow next to the Table/Queries field and then select the table from which you want to select fields. And add the required fields.
3. The Report Wizard moves to the next page. Click to select the field by which you want to group your data (Grouping puts all the values in a field into a group based on the field's value.) and Click Next.
4. Click the fields that you want to group by (it is optional) and Click Next.
5. By using the Report Wizard, you can create up to four levels of sort. This is also optional if you need to sort any field just select the field and Click Next.
6. *If you want to summarize, click to select the summary data you want.*
7. *Click Next. The Report Wizard moves to the next page Layout and Orientation.*
8. *Click Next to select the Style to display the Report, and click next.*
9. *Give a suitable title to the Report and Click Finish*

These are the sections of the Report. You can modify the report using Design View.

- Report Header : Appears at the top of the first page and displays the report title.
- Page Header : Appears at the top of every page and displays the headings (field labels) for each column.
- Page Footer : Appears at the bottom of every page and displays the page number and total number of pages.
- Detail Section : Appears between the page header and page footer and displays the records from the table or query.
- Report Footer : This section is optional. Appears on the last page of the report and displays summary information such as grand totals.

Printing a Report

Irrespective of the view, the user is in, any report can be printed out using the following steps:

1. Open your report and Go to the Home Tab.
2. Activate the Home tab.
3. Click the down-arrow under the View button. A menu appears.
4. Click Print Preview. Access changes to Print Preview. You can make changes in this view using several options found here.
5. Then click the print option in the Print Group.

Importing Data from Other Databases

Importing data creates a copy of its information in a new table in your Access database or Access project. The source table or file is not altered in this process.

Import data into an existing table

1. Click the Microsoft Office Button, and then click Open.
2. In the Open dialog box, select and open the database.
3. On the External Data tab, in the Import group, click the command for the type of file that you are importing. For example, if you are importing data from an Excel worksheet, click Excel. If you don't see the program type that you need, click More. The Get External Data dialog box appears.
4. In the Get External Data dialog box, click Browse to find the source data file, or type the full path of the source data file in the File name box.

5. Click the option that you want under Specify how and where you want to store the data in the current database. You can create a new table that uses the imported data, append the data to an existing table, or create a linked table that maintains a link to the data source.
6. Follow the instructions on the next few pages of the wizard. The exact process will depend on the import options that you choose.
7. On the last page of the wizard, click Finish.
8. On the last page of the wizard, you might be prompted to save the details of these import steps. If you think that you will be performing this same import operation again in the future, select the Save Import Steps check box, and then enter the details and click Save Import. You can then easily repeat the operation at a later time by clicking Saved Imports in the Import group on the External Data tab. If you don't want to save the details of the operation, click Close.

OPEN OFFICE – BASE

Introduction

Open Office Base is a fully featured desktop database management system, designed to meet the needs of a broad array of users. Base offers wizards to help users new to database design to create Tables, Queries, Forms and Reports, along with a set of predefined table definitions for student's records, Employee Management, ticket booking, patient record management, tracking Assets, Customers, Sales Orders, Invoices and much more.

MySQL, Microsoft Access, Microsoft SQL Server, Oracle are some of the databases. Like Microsoft Access, Base offers a choice of using Wizards, Design Views, or SQL Views for beginners, intermediate, and advanced users.

The main features of BASE are:

- Creating new tables and modifying existing ones
- Maintaining indices
- Viewing tables in an editing grid
- Adding, modifying, and deleting records
- Report Wizard (to produce impressive reports) and Form Wizard (to create database applications)
- Simple (single column) or complex (multi-column) data sorts
- Simple (one-click) or complex (logical query) filters for viewing data
- Powerful queries to show data in new ways, including summaries and multi-table views
- Supplying address book data for mail merge
- Creating linked data ranges in Calc files for data pilot analysis or as the basis for charts.

Nowadays all sorts of works are occupied by databases. Without knowing about the database tools, most of the processes are done by applications. It is not necessary to know whether the user should understand the database, by entering the data in the designed forms, it stores the data into the database.

The user does not have to understand the entire database system. The maintenance, technical implementation and integration of databases are ensured by specialists. Administrators of the service using the data system are able to establish the user's access level to the database.

The term database is used to refer to both the *software* and the *integrated data storage mechanism* at the same time. Open Office Base uses the Tables, Forms, Queries and Reports as objects for data management:

Tables

Data in a database are stored in a table or multiple interlinked tables. The table is the fundamental structure of a database, so it is important to understand how it works. A *table* is

organized in horizontal and vertical termed as rows and columns respectively. The column which contains information is defined as field. Fields are normally given a name in the column header based on the data.

Each *field* is assigned by a data type like, numbers, text, etc. This helps to disallow the data which doesn't match data type of the field. Length limitations, format to the field is given at the properties. Row of the table is defined by the name of *Record*.

Though, it is possible to create a database with a single large table, it is better to store data in separate tables.

Primary key

A *primary key* is a field or combination of fields that uniquely identify each record in a table. No two records in a table should have the same values in every field. The primary key is usually marked with a little key symbol.

Forms

Forms are used to create, display and modify the records in the table. Entering the data into the table using *Form* is more easy and simple than entering directly into the *Table*. Forms may contain fields for data entry, action buttons, menus, pictures, and design elements.

Queries

Query is an important object in all databases, which is used to store and accumulate information, and ensure information retrieval according to specific criteria with or without Mathematical, logical actions. Once created, a query can be saved and later reused. Also that, a query can be designed to retrieve result from more tables. The result of a query is displayed in data table, form and report views.

Reports

A report is the final paper statement of the data present in the database. We can make reports from tables, queries. To print all the data in the table, it is better to use table, no need for query. To print selective records or columns based on the need, the user should use queries. The layout of reports can be modified.

Creating a Database

In Open Office Base, a database can be created by using the steps given below.

- In Linux, Go to *Applications* → *Office* → *OpenOffice.org Base*.
- In Windows, Go to *Start* → *Programs* → *Office* → *OpenOffice.org Base*.
- In the *Database Wizard*, make sure that *Create a New Database* is selected and click *Next* and click *Finish*.
- Enter the name to save the file and the location can be changed as user needs.

Creating Table using Wizard

1. In the Database pane, select the object type Table.
2. In the Tasks pane, click on Use Wizard to create Table.
3. Select the database category, from which choose a table from the Sample tables list.
4. Select the necessary fields in the table sample for the creation of the table.
5. Click the respective button to insert the selected fields in the new table and click Next.
6. Set the data type of the selected fields as required.
7. Select a field in the selected field pane.
8. In the field information pane, change the field properties and Click Next.
9. Set primary to required field or check *Automatically add a primary key* and Click Next.
10. Enter the table name and click Finish, to complete the table wizard:

Creating Table using Design View

1. In the Database pane, select the object type Table.
2. In the Tasks pane, click on Create Table in Design View.
3. Type the fieldname and select field type. (Fieldname should not have space, special symbols except underscore '_').
4. Set primary to required field *and* Click Next.
5. After entering the fields with datatypes press Ctrl+s to save the table.

Creating a form by using a wizard

Like Table, Forms also can create by both Wizard and Design View. But using Wizard is better than Design.

1. In the Database pane, select Forms.
2. In the Tasks pane, click on Use Wizard to Create Form.
3. In the Tables or queries menu, select the database table.
4. In the Available fields menu, select the fields for the form.
5. Move the selected fields or all fields to the pane Fields in the form
6. Click Next. (If necessary, add a sub form)
7. Choose the Arrangement of the main form and click Next.
8. Make sure that *the form is to display all data* is selected and click Next.
9. In the Apply styles pane, select any style for the form background and choose border type and click Next.
10. Enter the name to the form in the corresponding box.
11. Make sure that Work with the form has been selected and click Finish.

Entering, Modifying and Sorting Data

Databases store data in tables and changes in the data can be made both by directly entering them in the table and by using forms linked directly or indirectly (with a query).

Entering Data in a Database**To enter (modify) data in a table:**

1. Select a table.
2. Open the table in data view.
3. Select a data field in a record.
4. Enter the data into the corresponding cells.

To enter (modify) data in a form:

1. Select a form.
2. Open the form in data view.
3. To select a record, enter the number of the record in the Absolute Record field. (navigation buttons also supports to go particular record).
4. Press Enter on the keyboard;
5. Click inside the corresponding field and type the data.

Creating a New Record

Like Microsoft Access it is possible to create a new record in table and also in form. In Open Office *Base*, to create a new record, click on the button ► which is just before save icon in the navigation button.

To create a new record while using a table in data view, no additional actions are required.

- Open a form in data view
- Go to the last record
- Click the navigation button Next Record

To sort table records in ascending order by a selected field:

- Open a database table (form, query) in data view.
- Select the field by which to sort.
- Click the Sort Ascending button.
- Save the changes in the table.

To sort table records by several fields:

- Open a database table in data view.
- Click the Sort button.
- In the first Field Name menu, select the first field by which to sort.
- In the Order menu, choose the sort order: Ascending for alphabetical order, Descending for reverse alphabetical order.
- Repeat the steps for the following sort conditions.
- Confirm by clicking OK.

Record Search

Following steps is very useful method to search the specific data in large tables for viewing, modification or replacement with a different value.

- Open a table in data view;
- Click the Find Record button in the toolbar;
- In the Record Search dialogue box, enter the value to search for and the search settings;
- Click Search;
- View the result marked in the table with a red border, perform the necessary actions;
- To continue searching, click Search again;
- Stop searching by clicking Close in the Record Search dialogue box.

Creating a New Query With the Query Wizard

In OpenOffice.org you can create a new query using the Query Wizard

1. Open the database file where you want to create the new query.
2. In the left pane of the database window, click the Queries icon.
3. Click Use Wizard to Create Query.
4. Specifies the table to create query, and specifies which fields you wish to include in query.
5. Specifies the sorting order for the data records in your query.
6. Specifies the search conditions to filter the query.
7. Specifies whether to display all records of the query, or only the results of aggregate functions.
8. This page is only displayed when there are numerical fields in the query that allow the use of aggregate functions.
9. Specifies whether to group the query. The data source must support the SQL statement "Order by clauses" to enable this page of the Wizard.
10. Specifies the conditions to group the query. The data source must support the SQL statement "Order by clauses" to enable this page of the Wizard and click Finish.
11. Applies all changes and closes the wizard.

Creating a New Report With the Report Wizard

1. Open the database file where you want to create the new report.
2. In the left pane of the database window, click the Reports icon.
3. Click Use Wizard to Create Report.
4. Specifies the title that is printed at the title line of each page.
5. Saves the report as a static report. When you open a static report, it will always display the data from the time the report was created.
6. Saves the report as a template. When you open a dynamic report, it will display with the current data contents.
7. When you click Finish, the report will be saved and opened for edit.
8. Create report now
9. When you click Finish, the report will be saved.

QUESTIONS AND ANSWERS

I. Fill in the blanks

1. Expansion of RDBMS is **Relational Data Base Management System**.
2. The extension of Microsoft Access 2007 database file is **.accdb**.
3. A table is the **basic object** of Microsoft Access.
4. A **Primary Key** is a field or combination of fields that uniquely identify each record in a table.
5. **Update Query** is used to add / modify the information in the fields of the table.
6. **Hyperlink** data type is used to store web addresses.
7. **Report** is a final paper statement of the data present in the database.
8. Each field in a table is assigned by a **data type**.
9. Forms are used for **Easy Data Entry**.

II. Choose the best answer

1. Which of the following is not a valid data type in
 a) **Date** b) Auto Number c) Text d) Currency
2. In Base, Macros is found in
 a) File Menu b) **Tools Menu** c) Data Menu d) Insert Menu
3. Table structure can be modified using
 a) Form b) Report c) **Design View** d) Preview

III. Match the Following

- | | | | |
|--------------|---|---------------------------|-----|
| 1. .accdb | - | Microsoft Access 2003 | (5) |
| 2. Wizard | - | Structured Query Language | (4) |
| 3. Templates | - | Microsoft Access 2007 | (1) |
| 4. SQL | - | Step by Step Method | (2) |
| 5. .mdb | - | Built-in Format | (3) |

III. Say true or false

1. A database can have only one table. (F)
2. More than one field in a table can have same field name. (F)
3. A macro is a set of sequence of operations. (T)

IV. Write answer in two or three lines

1. What are the data types supported by Ms-Access?
2. What is a Table?
3. What are the types of queries in Microsoft Access?
4. List the steps to design database in Ms-Access.
5. Write the steps to create form using Wizard.
6. What are the sections of report in Microsoft Access?
7. How do you print a form?
8. Define Primary Key.

V. Write answer in brief

1. How will you find, add or delete a record in Microsoft Access?
2. Write in detail about adding objects to records in Access.
3. What is Report? Write the steps to create a report in simple method in Excel.
4. How do you create a form by using a Wizard in Open Office Base?
5. Write the steps to sort records in Base.

UNIT – 6

Office Applications - IV

**Microsoft PowerPoint
&
Open Office Impress**

MICROSOFT POWERPOINT

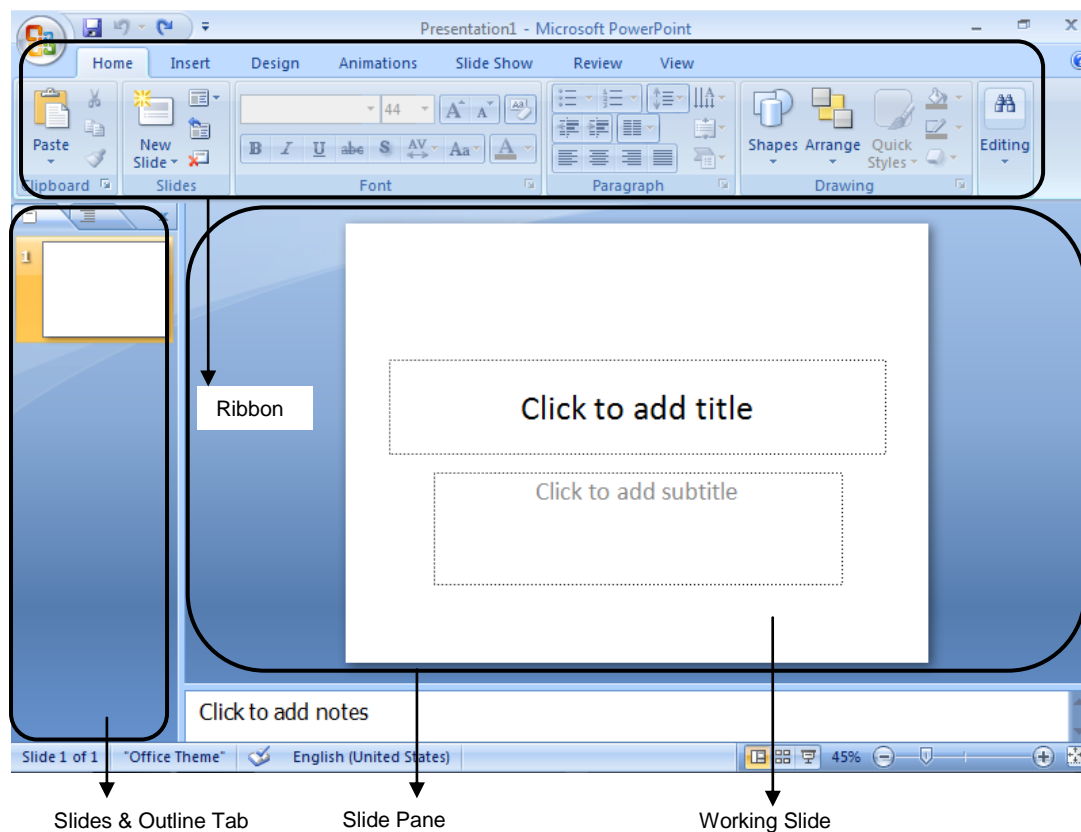
Introduction

Microsoft PowerPoint is an application that is used to design computer-based presentation consisting of multiple slides with images, text, video clips, and related types of information. Slide shows can also be created with the help of Power Point. These presentations are helpful in teaching a class, advertising products, explaining anything, etc. The presentation can run automatically or can be controlled by a presenter.

In Microsoft PowerPoint 2007, there are many new features are added while comparing with the earlier versions. Like other applications like Word, Excel and Access, PowerPoint tools are also designed with Groups and Tabs which are grouped by the Ribbon.

Opening a New Presentation

Click Start Button → select All Programs → Microsoft Office → Microsoft PowerPoint 2007. The PowerPoint application opens with a New PowerPoint Presentation which is as shown below.



All the slides added in the presentation are listed in the Slides Tab in left side. The working slide appears in the Slide Pane.

The Ribbon in the Microsoft PowerPoint has seven Tabs. They are *Home, Insert, Design, Animations, Slide Show, Review* and *View*. These Tabs also have several options organized into groups. They are listed below:

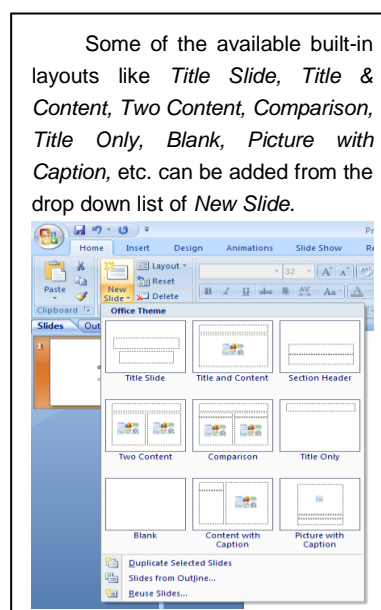
- Home** : Clipboard, Slides, Font, Paragraph, Drawing, Editing
- Insert** : Tables, Illustrations, Links, Text, Media Clips
- Design** : Page Setup, Themes, Background
- Animations** : Preview, Animations, Transition to This Slide
- Slide Show** : Start Slide Show, Set Up, Monitors
- Review** : Proofing, Comments, Protect
- View** : Presentation Views, Show / Hide, Zoom, Color/Gray Scale, Window, Macros

CREATING A NEW SLIDE

PowerPoint provides a single slide by default as shown above, further more slides with different layouts can be added by pressing the short cut *Ctrl+m* or by any of the three given methods:

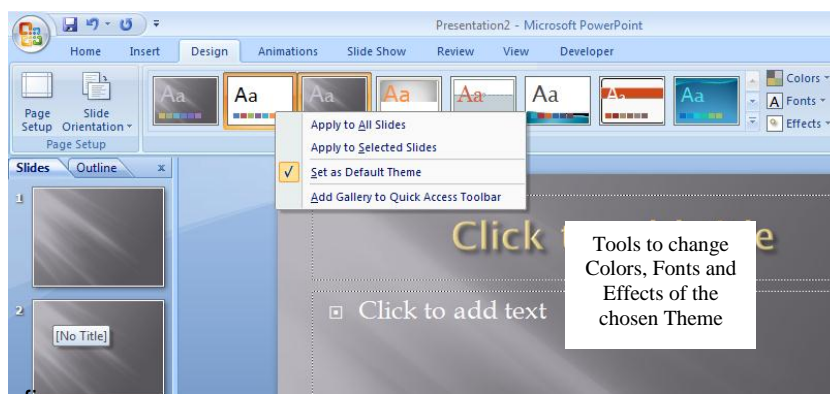
- On the *Home* tab, in the *Slides* group, click *New Slide*.
- Right-click on the slide from the *Slides Tab* and select *New Slide* on the pop-up menu.
- Click on a slide from the *Slides tab* and hit the enter key.

Any slide can be duplicated by using the short cut *Ctrl+D*.



Formatting Slides

Slides can be designed with the help of predefined formats found in the *Themes Group* of *Design* Tab either to all the slides in the Presentation or only to selected slide(s) by right clicking on the design and giving the required choice as in the figure.



Every slide appears in *Landscape* mode, but it can be also changed to *Portrait* mode if necessary using *Page Setup* Group of *Design* Tab.

Designing a Slide

Pictures, Tables, Clip Arts, Text Box, Shapes, Charts, Symbols, etc. can be inserted as it is done in other Microsoft applications like Word, Excel. In addition to this, *Photo Album, Movie* and *Sound* are the exclusively available tools in PowerPoint.

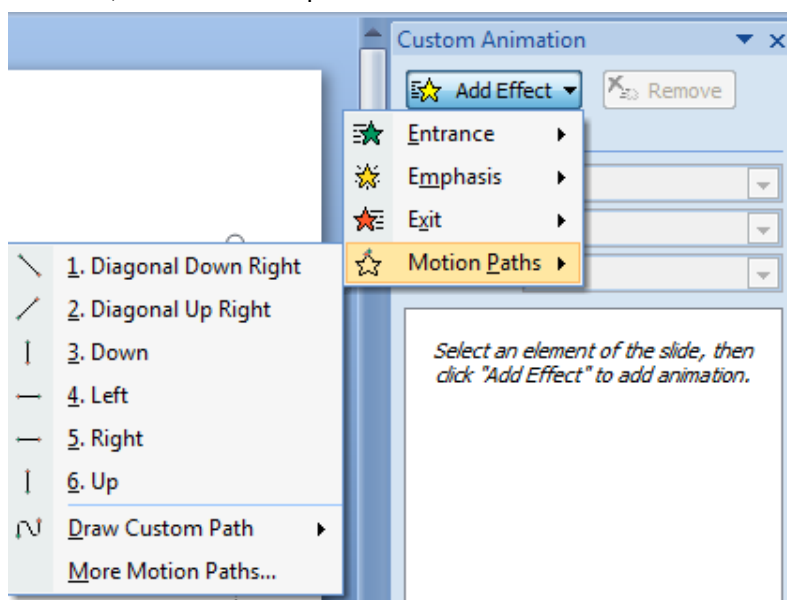
Contents can be typed into the Textbox that usually appears whenever a new slide is created. Additionally, contents can be fed in the slide with the help of *Textbox*.

To insert a movie / sound click on the *Movie / Sound* in the *Media Clips* group of *Insert* Tab. As soon as, it is clicked a dialog box appears through which the location of the necessary movie / sound can be given to add in the working presentation.

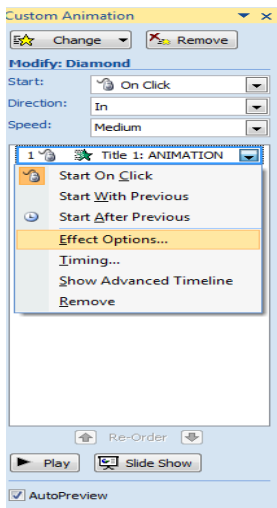
Animations

It is possible to animate any objects of slides, like textbox, pictures, shapes, SmartArt, etc. in PowerPoint with different styles.

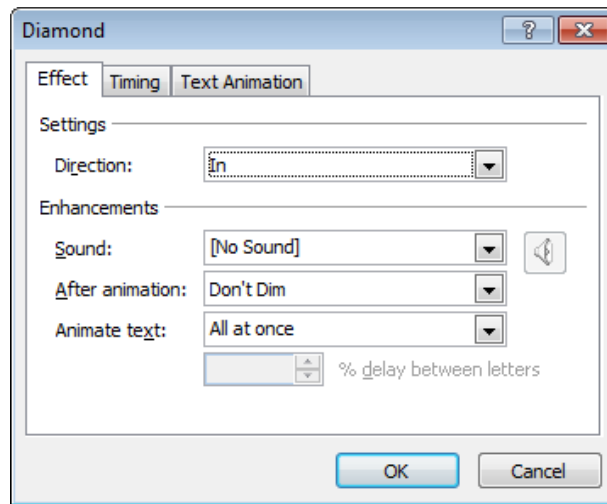
To animate the required object, first select the object and then click *Custom Animation* in *Animations* group of *Animations* tab. Now the *Custom Animation Pane* appears in the right of the presentation. With the help of this pane, the necessary effects are added to the selected object. Starting mode, Duration, Direction and Speed of the effects can also be altered.



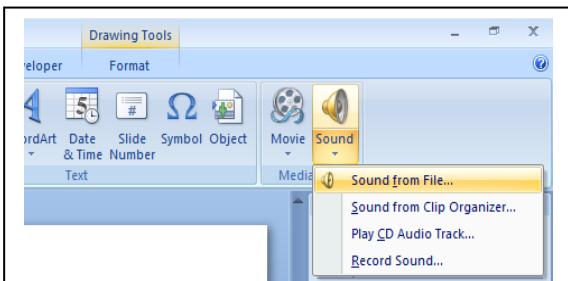
Custom Animation Pane - where effects are added



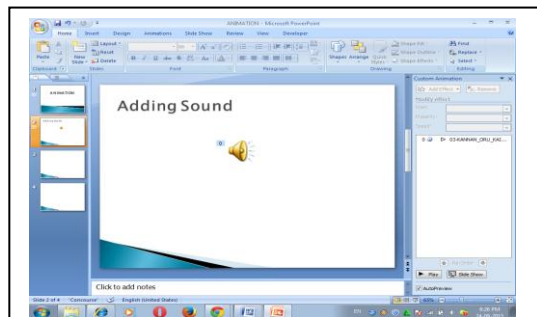
A popup menu appears after right clicking an added effect



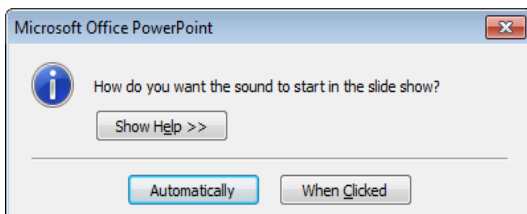
A dialog box that appears, after clicking the effect options, to set direction, sound, time, sound, speed, etc.



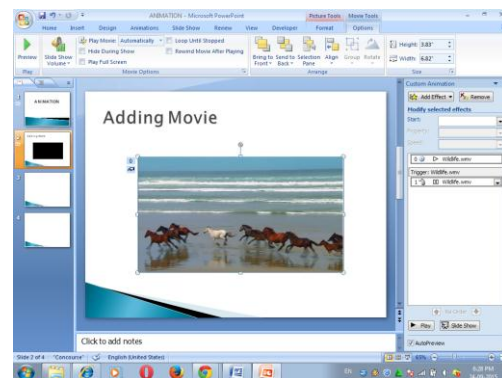
To insert sound click on *Sound* and then click *Sound from File*.



The above shown symbol appears after adding an audio file.



Select *Automatically*, to run the sound on its own or select *When Clicked* to run the sound whenever it is clicked



A video file after it is added

Slide Transitions

To run a slide show automatically with constant time interval between slides, check *Automatically After* in *Transition To This Slide* group of Animation tab. If it is to be run after mouse clicks or enter presses, check the *On Mouse Click* which is above *Automatically After*.

If necessary, sound can be given between slide transitions and transition speed can also be set using *Transition Sound* and *Transition Speed* respectively.

Slide Show (F5)

Slide show is a presentation of the prepared slides. It can be run in different ways, such that, from beginning and from current slide. To run a presentation from beginning click *From Beginning* in *Start Slide Show* group of *Slide Show* tab. Click *From Current Slide* found in the same tab and group to run the presentation from the current slide.

Custom Slide Show in *Start Slide Show* group of *Slide Show* tab, is used to run only the selected slides

View and its kinds

Whenever the prepared slides are to be displayed other than the way that is displayed usually, views are useful in that case. Views are of four types, namely,

- Normal: This tool provides the normal display where slides and outline tabs are on the left side and the slide pane appears next to those tabs.
- Slide Sorter: This tool is used to list all the prepared slides at a time and to arrange the slides as per the necessity.
- Notes Page: This tool is helpful whenever notes are to be added for a slide.
- Slide Show: This tool is used to run the presentation in full screen view.

Slide Master

To have a specific layout for all the slides, *Slide Master* is used.

Making PowerPoint Show File

PowerPoint Show is basically a presentation that is programmed to automatically launch in Slide Show mode. It can't be edited. To make a PowerPoint show file, save the presentation file as PowerPoint Show.

Some of the shortcut keys to work with Microsoft PowerPoint

Purpose	Key
Bold	Ctrl-B
Close	Ctrl-W
Close	Ctrl-F4
Copy	Ctrl-C
Cut	Ctrl-X
Find	Ctrl-F
Italics	Ctrl-I

Menu bar	F10
Move to the end of the entry	End
New (slide)	Ctrl-N
Next window	Ctrl-F6
Open	Ctrl-O
Paste	Ctrl-V
Print	Ctrl-P
Repeat Find	Shift-F4
Repeat/Redo	Ctrl-Y
Replace	Ctrl-H
Save	Ctrl-S
Select all	Ctrl-A
Slide Show: Begin the slide show	F5
Slide Show: Black screen show/hide	B
Slide Show: End	Esc
Slide Show: Erase annotations	E
Slide Show: Go to next hidden slide	H
Slide Show: Hide pointer and button always	Ctrl-L
Slide Show: Hide pointer and button temporarily	Ctrl-H
Slide Show: Mouse pointer to arrow	Ctrl-A
Slide Show: Mouse pointer to pen	Ctrl-P
Slide Show: Next slide	N
Slide Show: Previous slide	P
Slide Show: Set new timings while rehearsing	T
Slide Show: Stop/restart automatic slide show	S
Slide Show: Use mouse-click to advance (rehearsing)	M
Slide Show: Use original timings (rehearsing)	O
Slide Show: White screen show/hide	W
Spelling and Grammar check	F7
Switch to the next presentation window	Ctrl-F6
Switch to the next tab in a dialog box	Ctrl-Tab / Ctrl-Page Down
Switch to the previous presentation window	Ctrl-Shift-F6
Switch to the previous tab in a dialog box	Ctrl-Shift-Tab / Ctrl-Page Up
Turn character formatting on or off	Num /
Underline	Ctrl-U
Undo	Ctrl-Z

OPEN OFFICE – IMPRESS

Introduction

OpenOffice Impress is a presentation application which does the same job as what Microsoft Office PowerPoint does. Impress produces presentations and slide shows through graphical approach in a simple way. Unlike Microsoft Office PowerPoint 2007 it has Menus instead of Ribbon.

A PowerPoint file can be opened and used through Impress. An Impress made presentation can be saved as PDF, HTML, PowerPoint formats.

Starting with Open Office Impress

In Linux: Applications → Office → OpenOffice Impress

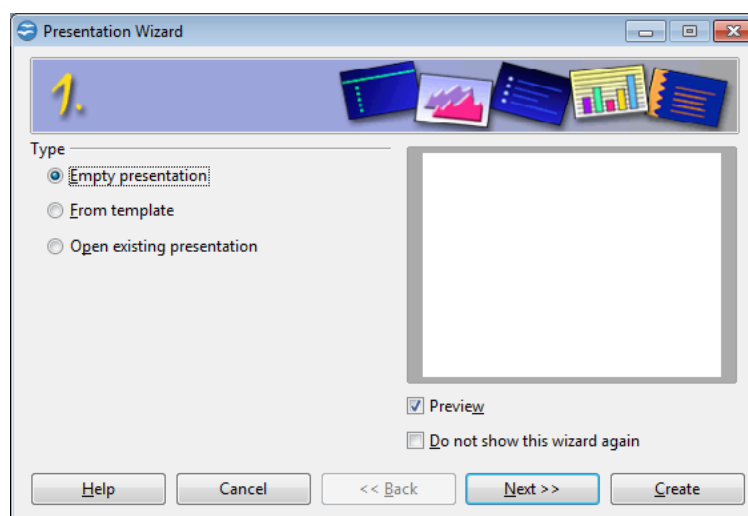
In Windows: Start → Programs → OfficeOffice.org3.2 → OpenOffice.org 3.2 Impress

As soon as Impress is opened, Presentation Wizard appears as shown below, containing three stages which are discussed below:

Stage 1:

Here type of the presentation is to be chosen from three choices which are as shown below.

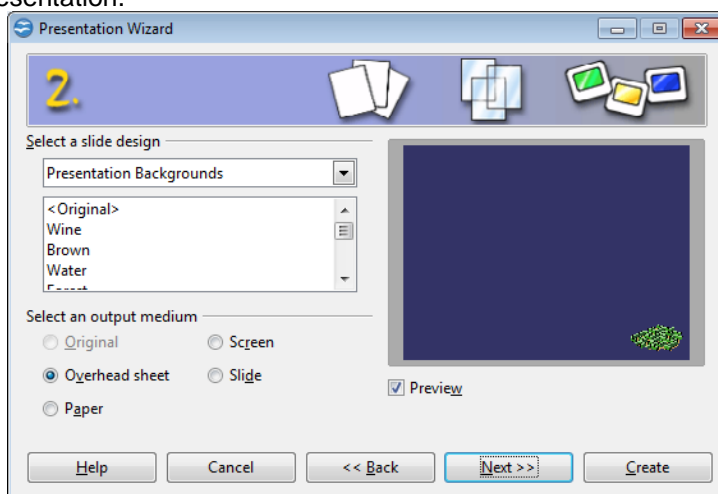
Empty Presentation	To open a fresh blank presentation
From Template	To open an already designed presentation from the templates provided by Open Office Impress
Open existing presentation	To open an existing Presentation



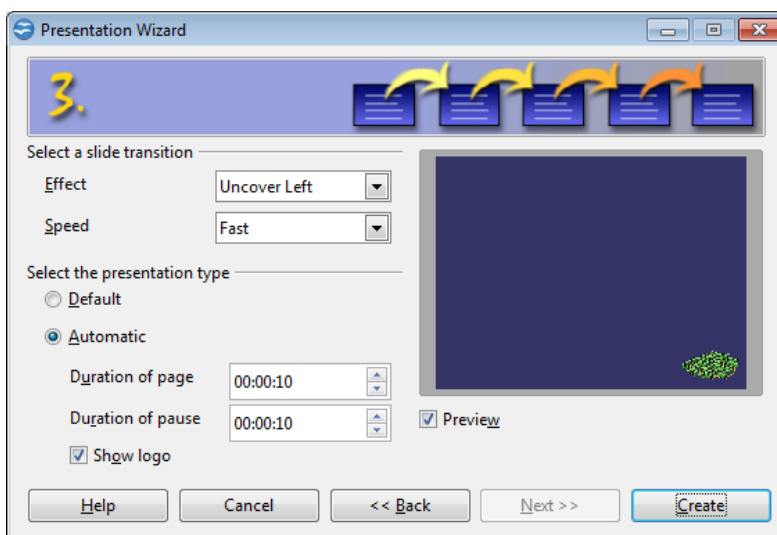
Note: Stage 2 & 3 will not appear if an existing presentation is opened.

Stage 2:

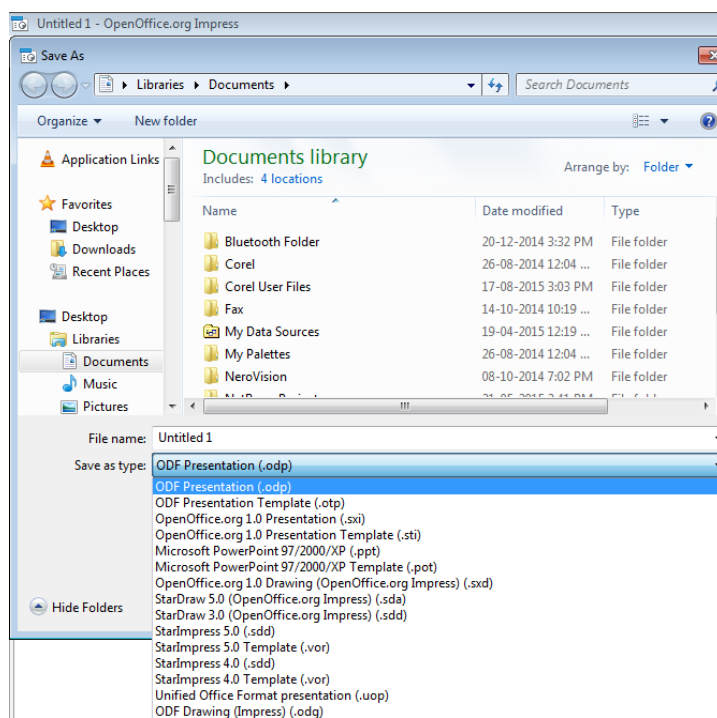
In stage 2, the wizard shows a list of Slide designs and output medium which should be chosen for the presentation.

**Stage 3:**

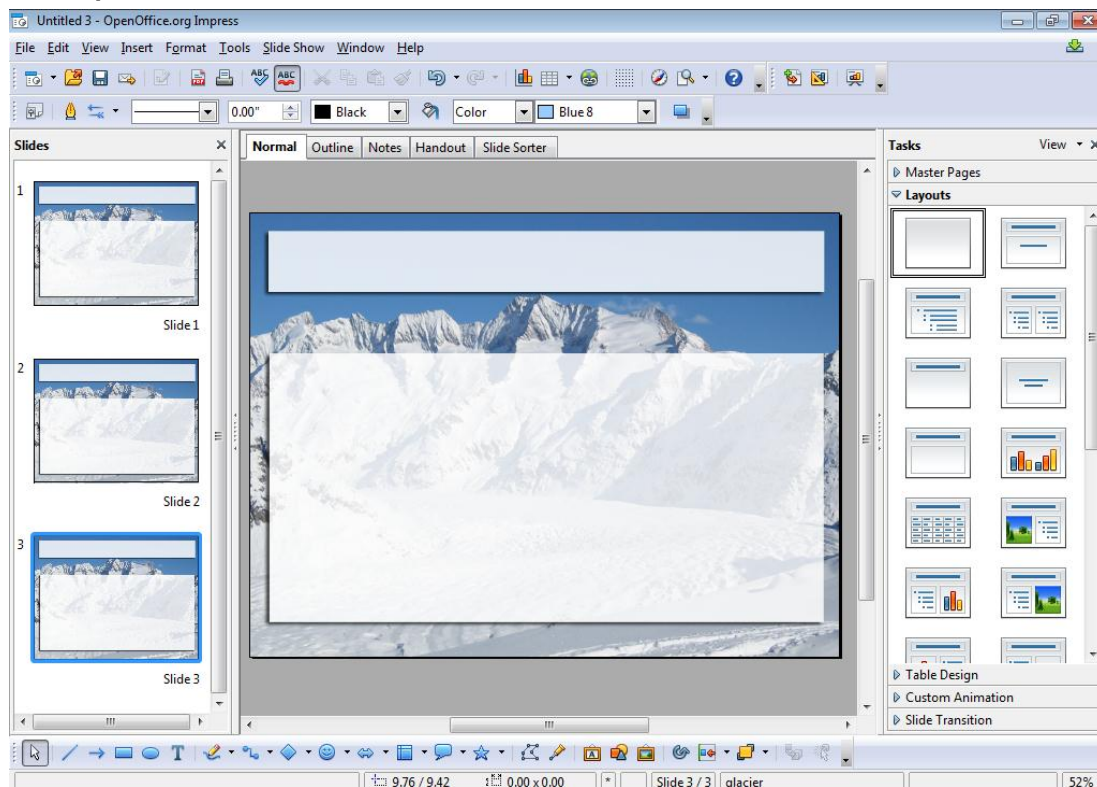
In stage 3, Transitions and its types for the presentation are chosen here.

**Saving Presentation**

Saving a presentation is similar to saving a file in other suites of Open Office and can be saved in various formats and versions of Microsoft Office, Open Office and Start Office Suites.



Inside Open Office



As told previously, unlike PowerPoint 2007, Impress does not have any tabs or groups, but instead it has menus in the place of tabs. There are nine menus available which are File, Edit, View, Insert, Format, Tools, Slide Show, Window and Help. Usually, Slide Pane appears on the left side and Task Pane appears on the right. The working slide appears at the centre.

Slide Pane

Slide Pane lists out the all the slides present in the presentation. A new slide can be added to the presentation by just right clicking on the slide pane and clicking *New Slide*.

Task Pane

Task pane consists of five sections, which can be opened by clicking the triangle near the name of the Section. Only one section can be opened at a time. The five sections available in the task pane are listed and discussed below:

Master Pages

Master Pages gives a list of designs to the slides which can be applied either to all the slides or only the selected slide(s).

Layouts

Layouts section has different predesigned formats of slides which shall be given to a selected slide or a new slide can be inserted with the preferable layout.

Table Design

Table Design is helpful in inserting a new table with necessary style. As soon as a table is inserted, *Table* tool bar also appears, which provides tools for editing and modifying the table further, like split cells, merge cells, add row / column, delete row / column, etc.

Custom Animation

Custom Animation adds an animation to individual elements like, title chart, image, bullets, of a slide. Animation effects need to be applied from normal view, so that individual objects on the slide can be selected.

Adding an effect to an object

- First, ensure that the working slide is in normal view.
- Select the object to which effect is to be given.
- Go to *Custom Animation* section in the *Task Pane* and click *Add*.
- *Custom Animation* dialog box appears with five tabs, *Entrance*, *Emphasis*, *Exit*, *Motion Paths* and *Misc Effects*, by which required effect can be added to the selected object. Preview of an effect can be seen, before adding, by just clicking on the effect once.

Added effects can be changed or removed. Timing and Sound can also be set for an effect. More than one effect can be applied to an object.

Slide Transition

Like individual objects have effects, slides can also have transitions. Transition, set here, can be applied either to all the slides or only to selected slide(s). Like Microsoft PowerPoint, Transitions shall be run in different ways; one is to run the transition after mouse clicks, or enter presses. The other one is to run the transition automatically.

Templates

Templates are the pre-designed slides with different layouts, instead of creating new layouts for the working presentation, and can be modified as per the need.

Making a presentation using templates

File→*New* →*Templates and Documents*.

After *Templates and Documents* is clicked, *Templates and Documents* dialog box appears. Go to *Templates* and enter into *Presentation* folder. A list of pre-designed templates is shown and any templates can be chosen.

Working with Master Slide

Master Slide helps in adding any object(s) to all the slides in the presentation. To set a master slide, Go to *View* menu and click *Slide Master* in *Master*. After working with the master slide, click *Close Master View* in the *Master View* tool bar.

Printing Handouts

After the presentation is prepared, *Handouts* is useful to print more than one slide in single page. It can be done by the following steps.

- Go to *File* menu's *Print*.
- Select *Handouts* from the drop down of *Print Content Section*, Slides per page will be enabled.
- Select, number of slides per page to be printed.
- Press OK.

Working with Ms-PowerPoint Files

It is possible to work Microsoft PowerPoint file in Open Office Impress and vice versa. The Presentation created in Microsoft PowerPoint can be opened, viewed and modified in Open Office Impress as in usual methods. Saving an Impress file in PowerPoint can be done by simply changing the File type to Microsoft PowerPoint 97/2000/XP(.ppt) in the Save dialog box with the confirmation.

QUESTIONS AND ANSWERS**I. Fill in the blanks**

1. The keyboard shortcut to run the presentation is **F5**.
2. Themes to the presentation can be changed from the **Design** tab.
3. Shortcut to insert a new slide is **Ctrl +M**.
4. A file which contains built-in styles that can be used for a presentation is called **Template**.
5. The extension of Open Office Impress is **.odp**.
6. An **animation** is a special visual and audio effect applied in PowerPoint to text or content.
7. The file created by PowerPoint is called **Presentation**.
8. **Slide transition** is feature that adds special effects to modify the appearance of the slides and the timing between each slide.

II. Choose the best answer

1. What tab on the Ribbon would you find slide background?
a) **Design** b) Animations c) Slideshow d) Insert
2. The arrangement of elements such as title, text, pictures, tables, etc. in PowerPoint is called
a) Wizard b) **Layout** c) Menu d) Ribbon
3. In which view the slide sequences can be arranged in PowerPoint?
a) **Slide Sorter** b) Normal c) Notes Page d) Slide show
4. In Ms-PowerPoint which master allows the user to change the background, color and size of the slides?
a) Notes Master b) Handout Master c) **Slide Master** d) None of the above

III. Say true or false

1. Short cut to create a new Presentation is Ctrl + C. **(F)**
2. Microsoft Access is an application used to create a Presentation. **(F)**
3. Shortcut to view Side show is F7. **(F)**

IV. Write answer in two or three lines

1. Write the uses of Microsoft PowerPoint and the steps to launch.
2. What are the views found in Microsoft PowerPoint?
3. What is Slide Transitions?
4. How do you add effects to the Presentation?
5. Write the steps to animate an element in PowerPoint.
6. Explain about the Master Slides.
7. Write about Custom Animation.
8. What are the views found in Microsoft PowerPoint?
9. How do you add a slide in a presentation?

V. Write answer in brief

1. Write the steps to insert an image and a sound file in Microsoft PowerPoint.
2. How do you create a presentation in Open Office Impress?
3. Write about the Handout in Presentation.

UNIT – 7

Internet & Advanced Communication

INTERNET & ADVANCED COMMUNICATION

INTERNET AND WEB BROWSERS

Definition

The Internet is a worldwide collection of computer networks. It provides access to communication service and information resources to millions of users around the globe. Internet is also called as the network of networks. It is a group of two or more networks that are interconnected, capable of communicating and sharing data with each other, and able to act together as a single network.

The computers on one network can communicate with computers on other networks and send data, files and other information back and forth. For this it follows a set of rules called TCP/IP Protocol (Transmission Control Protocol/Internet Protocol). The Internet covers the globe and includes large, international network as well as many smaller, local area networks (LANs). It is not owned by any individual, company or country.

Uses of Internet

1) Email: Email and chat facilities are possible with the help of internet. Anybody can communicate with anyone who is at anywhere in the world at any time. There are plenty messenger services and email services offering this service for free.

2) Information: The biggest advantage that internet offering is information. This means that millions of web sites include various data in the shape of text, images and text on every subject, which can be easily collected by the users. For this facility, special sites, called search engines can be found on the Internet.

3) Business: It is possible to carry out financial transactions online. Internet users can transfer funds, pay taxes and utility bills or book movie tickets over the Internet in the comfort of user's location. The growth of e-commerce has made it possible for people to shop for most things online with attractive advertisements`.

4) Social Networking: Today social networking sites have become an important part of the online community. Almost all users are members in Social Networking and use it for personal and business purposes. It's an awesome place to network with many entrepreneurs who come here to begin building their own personal and business brand. Ex: Facebook, Twitter ...

5) Entertainment: On internet, users can find all forms of entertainment like watching films, playing games online. When people surf the Web, there are numerous things that can be found. Music, news and more can be found and shared on the Internet. There are numerous games that may be downloaded from the Internet for free.

6) Services: Many services are now provided on the internet such as online banking, job seeking, purchasing tickets for your favorite movies, and guidance services on array of topics in the every aspect of life, and hotel reservations and bills paying. Often these services are not available off-line and can cost you more.

Web Addressing

The World Wide Web is a set of protocols that allows user to access any document on the net through a naming system based on **URLs (Uniform Resource Locators)**. A web address identifies particular file on the internet, usually consisting of the protocol as http followed by the domain name. Every computer connected to the internet has its unique web address, without which it cannot be reached by other computers.

URL

URL, **Uniform Resource Locator**, is the generic term for all types of names and addresses that refer to objects on the World Wide Web. It is a pointer to information on the WWW. *It is the format which HTTP uses to find a web page.* The term "Web address" is a synonym for a **URL**.

DIFFERENT TYPES OF INTERNET CONNECTIONS

Dial-up connection

In this connection, user can connect to the ISP using a telephone line and a MODEM. In this connection, the user computer is connected to the telephone line via MODEM. The MODEM converts the computer data into modulated signals that the telephone line can transmit. These signals are received by a MODEM at the ISP computer and demodulated into computer data.

To establish a dial-up connection to the Internet, user needs the following:

1. An account with an Internet Service Provider (ISP). In India VSNL, Dish net, Satyam Online and some other ISPs are available.
2. A telephone line connection.
3. A computer with serial port for connecting external MODEM or an expansion slot for connecting Internal MODEM.
4. A MODEM (external/internal).
5. A browser software such as Microsoft Internet Explorer, Netscape navigator, etc. and an e-mail software such as Microsoft Internet Mail, Netscape Messenger, Eudora Pro, etc. For shell account holders the browser software Lynx and the e-mail software Pine are available on the VSNL server and can be accessed using the shell account menu.

Broadband connection

The term **broadband** commonly refers to high-speed Internet **access** that is always on and faster than dial-up **access**. It is a wide bandwidth data transmission that can simultaneously transport multiple signals and traffic types. The medium can be coaxial cable, optical fiber, twisted pair etc. In this telecommunication, there is a wide band of frequencies available to transmit information. Since there is a wide band of frequencies available, information can be multiplexed and sent on many different frequencies or channels within the band concurrently, allowing more amount of information to be transmitted simultaneously.

Wireless

In networking, wireless is a network connection which does not require any physical wired connection between the sender and the receiver. It is connected by radio waves and/or microwaves to maintain communications.

Wi-fi (Wireless Fidelity)

With wifi user can access or connect to a network using radio waves, without using wires.

Wi-max (Worldwide Interoperability for Microwave Access)

WiMAX is one of the hottest broadband wireless technologies around today. WiMAX systems are expected to deliver broadband access services to residential and enterprise customers in an economical way. WiMAX would operate similar to WiFi but at higher speeds over greater distances and for a greater number of users.

Satellite Connection

Satellite Connection is a telecommunications network provided by orbital communication stations. Signals from these satellites allow a user with a dish to have a high speed internet connection.

BROWSER

Browser is an application used to locate, retrieve and display content on the World Wide Web, including Web pages, images, video and other files. As a client/server model, the browser is the client run on a computer that contacts the Web server and requests information. The Web server sends the information back to the Web browser which displays the results on the computer or other Internet-enabled device that supports a browser.

Examples of Web browsers are: Google chrome, Internet explorer, Mozilla Firefox

Search Engine

Search Engine is a software program that searches the database then gathers and reports information that contains or is related to specified terms. It is also a website whose primary function is providing a search engine for gathering and reporting information available on the internet or a portion of the internet.

Portal

A *Web portal* or *public portal* refers to a Web site or service that offers a broad array of resources and services, such as e-mail, forums, search engines, and online shopping malls. The first Web portals were online services, such as AOL, that provided access to the Web, but by now most of the traditional search engines have transformed themselves into Web portals to attract and keep a larger audience.

Social Networking Sites

A social networking website is an online platform that allows users to create a public profile and interact with other users on the website. Social networking websites usually have a new user input a list of people with whom they share a connection and then allow the people on the list to confirm or deny the connection. After connections are established, the new user can search the networks of his connections to make more connections. Ex: Facebook, Twitter, ...

Blog

A blog (short for weblog) is a frequently updated online personal journal or diary. Blogs are defined by their format: a series of entries posted to a single page in reverse-chronological order. It is a place to share your thoughts and your passions. In simple, Blog is user's own website that user can update on an ongoing basis.

FTP

The File Transfer Protocol (FTP) is the Internet facility for downloading and uploading files. While uploading a file to another site, user must usually have permission in advance to access the site and the directory where the file is to be placed.

Uploading

Uploading is the transmission of a file from one computer system to another, usually larger computer system. Uploading is opposite to downloading, from a network user's point-of-view, to upload a file is to send it to another computer that is set up to receive it.

Downloading files

There are millions of files, utilities and applications across the internet that you can try out free of charge. We can download those files or transfer them to your PC using a protocol called File Transfer Protocol(FTP).

To transfer files using FTP, you need to have an FTP program or FTP client installed on our computer.

There are many ways of logging on to FTP sites and downloading files. The two most common methods are to use an FTP client like Cute FTP or ftp explorer or to use your web browser. If we want to access the Microsoft corporation's ftp site you should key in the url as ftp://ftp.microsoft.com.

E-mail

Electronic Mail (e-mail) is an electronic message sent from one computer to another via communication links. The messages sent may be personal or business-related with attachments like pictures or other documents.

Just as a letter or document makes stop at different postal stations along its way, an e-mail is also passed from one computer to another as it travels along the network. Each computer reads the e-mail address and routes it to another computer until it reaches the destination. It is then stored in an electronic mailbox. With the Internet, this whole process takes a few minutes which makes the communication so quickly and easily around the world anytime.

We can send e-mail to anyone for those having an e-mail address anywhere in the world. Initially e-mail was good for only short textual information. Now-a-days, after the invention on Multipurpose Internet Mail Extension (MIME), we can also send formatted documents, photos, sound files and video files as attachments.

Components of an e-mail

One piece of an e-mail has three main parts:

1. Headers
2. Message body
3. Signature

Contents of a Header

1. Date : date of writing the e-mail
2. From : the sender's e-mail address
3. To : e-mail address of the recipient
4. Subject : brief narration about the content of the e-mail
5. Cc : list of other recipients known to receiver
6. Bcc : list of recipients to be disclosed to receiver

7. Attachments : name of the other objects such as Programs / image files sent along with the e-mail documents.
8. Reply to : Sender's email-id will appear in this by default.

Message body

This is the actual content of the e-mail. We can type in the contents manually or we can copy it from an already typed or stored document. Also we can insert graphic elements and pictures in the body of the message itself. It is possible to send blank e-mail with only the header.

Signature

The signature is not the signed name but a sequence of lines usually giving some information about the person who sent the e-mail. It is optional and it is made up of anything the user wants to include usually a postal mail address. We need not to type in the signature each time. E-mail software will automatically append the contents of a specified file to each outgoing e-mail.

Attachments

We can attach computer files to the e-mail messages. When the recipient gets an e-mail with an attached file, recipient will get a message that a file is attached and the recipient can download the file to the computer.

Reading E-mail

To read the received E-mail, mail window must be opened first. Then e-mail program contacts ISP server that delivers mail. Received messages can be viewed at Inbox. The list of mails in the Inbox folder is displayed in the Message List pane. We can read any message by clicking on the mail and the corresponding message is displayed in the message display area. We can move from message to message by either selecting one from the message list and clicking on it with the mouse, clicking on the icons PREVIOUS and NEXT from the Toolbar, or choosing an item from the Go pull down menu that takes displays another message.

Saving Messages

We can save a message into a file or onto a folder. To save an e-mail message as a file, go to the message list and select the entry for the message you want to save by clicking on it. Then click on FILE on the Menu bar and select SAVE AS or press Ctrl+S. A SAVE AS Dialog box pops up and type in the name of the file to hold the message. Saving a message to a file is useful if we want to use the body of the message with some other program. More than one message can be saved into a folder by highlighting a group of messages. Click on Message in the Menu Bar and choose either MOVE or COPY. Choosing either one brings up a menu from which we can choose the folder in which we want to save the message.

Printing Messages

To print a message, select it by clicking on its entry in the message list and then click on the print icon. A window pops up, we can select a printer, set options and finally click on the button OK.

Deleting Messages

Deleting messages is necessary to keep the amount of e-mail in the inbox and other folders under control. Select the entries in the message list and press the DELETE key on the keyboard or press the icon DELETE. Deleting a message sends it to the folder TRASH. To delete the mail permanently go to trash folder and delete it.

Composing and sending E-Mail

Composing e-mail means creating e-mail which is done by following the steps given below.

- 1) Open the compose mail window.
- 2) Fill in the header which should contain the recipient's address.
- 3) Compose/type the message body.
- 4) Send it by clicking on the icon labeled Send.

We can move to header to header by pressing the tab key. It contains three parts

Send To	:	addresses of primary receiver(s)
Cc	:	addresses where copies of the e-mail will be sent
Subject	:	What the message is about (brief description)
Attachments	:	Files to be attached along with the message.

Composing the Message Body's

Type the message to be sent into the message body or compose the message using any other word processor and copy it to the message body. The e-mail software will align the message accordingly.

Including attachments

Anything that is not in plain text format has to be an attachment if it is sent in e-mail. Click on the icon Attachment to attach a file to the message and choose the file to be attached.

Replying to a Message

We can reply to the current message by clicking on the icon labeled REPLY. We can reply while we are reading a message or by clicking on the reply icon. Clicking on the REPLY icon brings up a mail composing window just like the one for new message. But send to address is automatically filled. If the address list in the original one includes several people you can send a reply to everyone on the To : or Cc : list by pressing the icon labeled Reply All. The message window is now filled with the original message with an indication symbol > in all the lines of the original message.

Forwarding E-mail

Forwarding e-mail means passing the e-mail we have received to another address. We can do it by selecting one or many e-mails from the message list and then clicking on the icon labeled forward.

When we select the message to be forwarded, a message composing window will appear. The Subject: field is filled with [Fed: "subject of original message"] and the message or the messages being forwarded are included as attachments. Any attachments to the original message are included with the forwarded message.

Note: The above steps may vary for email accounts in different email service providers like gmail, yahoomail, rediffmail, etc.

Electronic Gadgets

Electronic gadgets are small electronic or mechanical devices. The availability of electronic gadgets has exploded over the years, and the technology of these devices has only improved. It seems electronic gadgets exist for every facet of life, from entertainment to education, from work to play. Entertainment gadgets include mp3 players, book e-readers, portable movie players, cell phones, and digital cameras. Gadgets for work include cell phones, portable computers and tablets, digital watches, and many more. Gadgets seem to be available to suit any need in the modern age.

The general purpose of most electronic gadgets is to make life easier, more fun, or more efficient. Computers are perhaps the most sought-after electronic gadgets that fall into just about any category. Tablets are thin, small computers that are touch-screen activated and navigated. They are useful as an e-reader, as a portable communications device, as a creative tool, and so on. The technology changes rapidly, and these tablets tend to get thinner, smaller, and more functional with each new iteration.

Tablet

A tablet is a wireless, portable personal computer with a touch screen interface. The tablet form factor is typically smaller than a notebook computer but larger than a smartphone. It is not very heavy, smaller in size with / without flexible screen.

Advantages of Tablet

1. It is portable
2. It can be used as an e-book reader
3. It is comfortable to use
4. It is very functional
5. It uses a reliable OS
6. It has powerful social networking tools
7. It is better than a smartphone

Smartphone

Mobile phone which includes functions similar to those found on personal computers is smartphone. Smartphones provide a one-stop solution for information management, mobile calls, email sending, and Internet access. Smartphones are compact in size and often only slightly bigger than standard mobile telephones.

- Smart phones have the ability to browse full websites with large amount of data and it will appear the same way as it is in the desktop browser.
- Also has QWERTY keyboard which is similar to the computer keyboard.
- Smart phones have applications that can help you create and edit Microsoft office documents.
- Smart phone also has a GPS which can be used to locate places.
- When it comes to messaging, a smart phone will send messages and also emails. A smart phone can synchronize your personal and most likely your professional email account. Some smart phone can support multiple accounts depending on the make and model.

Applications used by Tablets and Smartphones

An **app** is a software **application** developed specifically for use on small, wireless computing devices, such as smartphones and tablets, rather than desktop or laptop computers. There are thousands of applications available in Google Play Store. WhatsApp, UC Browser, Maps, YouTube, Google+, Drive, Facebook, etc. are some of the apps which user can download and install in the tablet or smartphone.

Facebook

Facebook is a popular free social networking website that allows registered users to create profiles, upload photos and video, send messages and keep in touch with friends, family and colleagues.

UB browser

UC Browser is an application designed to browse the sites in mobile or smartphone.

WhatsApp

WhatsApp is a cross-platform messenger which allows the smartphone or tablet to pass the message in the form of text, image, video and audio instantly for free.

QUESTIONS AND ANSWERS**I. Fill in the blanks**

1. Internet is a **network of networks**.
2. Expansion of WWW is **World Wide Web**.
3. Microsoft Internet Explorer is an **Internet Browser**.
4. Facebook is a **social networking site**
5. **E-mail** is an electronic mail sent from one computer to another.
6. Receiver's e-mail address is entered in **CC box**.
7. Transmission of a file from one computer to another is called **Uploading**.
8. **Downloading** is receiving a file from a computer to the user's computer.
9. **Attachments** are the additional object(s) or file(s) that is sent along with e-mail.

II. Match the following

- | | | | |
|---------|---|--------------------------------------|-------|
| 1. Wifi | - | File Transfer Protocol | (2) |
| 2. FTP | - | Uniform Resource Locator | (4) |
| 3. HTTP | - | Wireless Fidelity | (1) |
| 4. URL | - | Transmission Control Protocol | (6) |
| 5. MIME | - | Hyper Text Transmission Protocol | (3) |
| 6. TCP | - | Multipurpose Internet Mail Extension | (5) |

V. Write answer in two or three lines

1. What are the uses of Internet?
2. What is an E-mail?
3. What are the components of an E-mail?
4. Define Portal.
5. What is Browser?
6. Define Search Engine.
7. What is Social Networking?
8. Define Wireless?
9. What are the advantages of Tablet?

VI. Write answer in brief

1. Write about the different types of internet connections?
2. Write the steps to creating and sending E-mail.
3. What is uploading and downloading?
4. What are the applications used by Tablet and Smartphone?

SYLLABUS – PRACTICAL

- 1
 - ◆ Starting the Windows
 - ◆ Starting a program, running a program
 - ◆ Running multiple programs and switching between windows
 - ◆ Customizing the Task bar
 - ◆ Recycle bin, restoring the deleted files
- 2
 - ◆ Creating and removing folders
 - ◆ Making the taskbar wider, arranging icons on the Desktop
 - ◆ Displaying and hiding the taskbar clock
 - ◆ Controlling the size of start menu options
 - ◆ Creating Shortcuts
- 3
 - ◆ Installing a screen saver
 - ◆ Assigning a wallpaper to Desktop
 - ◆ Adding a program to the start menu
 - ◆ Adding a program shortcut in the Desktop
 - ◆ Customizing the mouse settings
- 4
 - ◆ Expanding and collapsing a folder
 - ◆ Recognizing File types using icons
 - ◆ Running a program from explorer
 - ◆ Renaming a file or folder
- 5
 - ◆ Displaying the properties for a file or folder
 - ◆ Using cut and paste operations to move a file
 - ◆ Using copy of paste operations to copy a file
 - ◆ Moving and copying files with mouse
 - ◆ Searching a file or folder by suing search command
- 6
 - ◆ Finding a file or folder, by name
 - ◆ Defragmenting the disk, using disk defragmenter
 - ◆ Controlling the speaker volume
 - ◆ Recording and saving an audio file
 - ◆ Connecting a printer to the PC
- 7
 - ◆ Booting Linux, Maintaining user accounts
 - ◆ Creating folders, renaming folders and files
 - ◆ Copying, moving, deleting files
 - ◆ Taking backups and restoration of files
 - ◆ Practicing the commands like passwd, who, whoami, kill, write etc.
- 8
 - ◆ Preparing a Govt. Order / Official Letter / Business Letter / Circular Letter
 - ◆ Covering formatting commands – font size and styles – bold, underline, upper case, superscript, subscript, indenting paragraphs, spacing between lines and characters, tab settings etc.

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- 9
 - ◆ Preparing a news letter
 - ◆ To prepare a newsletter with borders, two columns text, header and footer and inserting a graphic image and page layout.
 - 10
 - ◆ Creating and using styles and templates
 - ◆ To create a style and apply that style in a document
 - ◆ To create a template for the styles created and assemble the styles for the template.
 - 11
 - ◆ Creating and editing the table
 - ◆ To create a table using table menu
 - ◆ To create a monthly calendar using cell editing operations like inserting, joining, deleting, splitting and merging cells.
 - ◆ To create a simple statement for math calculations viz. totaling the column.
 - 12
 - ◆ Creating numbered lists and bulleted lists
 - ◆ To create numbered list with different formats (with numbers, alphabets, roman letters)
 - ◆ To create a bulleted list with different bullet characters.
 - 13
 - ◆ Printing envelopes and mail merge.
 - ◆ To print envelopes with from addresses and to addresses
 - ◆ To use mail merge facility for sending a circular letter to many persons.
 - ◆ To use mail merge facility for printing mailing labels.
 - 14
 - ◆ Using the special features of word
 - ◆ To find and replace the text
 - ◆ To spell check and correct
 - ◆ To generate table of contents for a document
 - ◆ To prepare index for a document.
 - 15
 - ◆ Create an advertisement
 - ◆ Prepare a resume
 - ◆ Prepare a Corporate Circular letter inviting the share holders to attend the Annual Meeting.
 - 16
 - ◆ Using formulas and functions:
 - ◆ To prepare a worksheet showing the monthly sales of a company in different branch officers (Showing Total Sales, Average Sales).
 - ◆ Prepare a Statement for preparing Result of 10 students in 5 subjects (using formula to get Distinction, I, Class, II Class and Fail under Result column against each student).
 - 17
 - ◆ Operating on the sheets:
 - ◆ Finding, deleting and adding records, formatting columns, row height, merging, splitting columns etc. Connecting the worksheets and enter the data.
 - 18
 - ◆ Creating a Chart:
 - ◆ To create a chart for comparing the monthly sales of a company in different branch offices.

- 19 ♦ Using the data consolidate command:
 - ♦ To use the data consolidate command to calculate the total amount budgeted for all departments (wages, travel and entertainment, office supplies and so on) or to calculate the average amount budgeted for – say, department office expenses.
- 20 ♦ Sorting Data, Filtering Data and creation of Pivot tables.
- 21 ♦ Creating Student's address Database and then list the data on the screen in alphabetical order.
- 22 ♦ Performing various queries.
- 23 ♦ Generating in Access.
- 24 ♦ Generating the Report from Database.
- 25 ♦ Importing and exporting data.
- 26 ♦ Creating a new Presentation based on a template – using Auto content wizard, design template and Plain blank presentation.
- 27 ♦ Creating a Presentation with Slide Transition – Automatic and Manual with different effects.
- 28 ♦ Creating a Presentation applying Custom Animation effects –
 - ♦ Applying multiple effects to the same object and changing to a different effect and removing effects.
- 29 ♦ Creating and Printing handouts.
- 30 ♦ Searching for a web site / application / text documents viewing and downloading.
- 31 ♦ Create an E-mail account, Retrieving messages from inbox, replying, attaching files filtering and forwarding
- 32 ♦ Operating on a Tablet / Smart Phone – browsing and practising on some important applications (UcBrowser, Skype) – operating on internet – creating and sending messages / mails using the applications like WhatsApp and WeChat etc. – downloading text and media files and video conferencing using Skype.