Computer Application and Banks
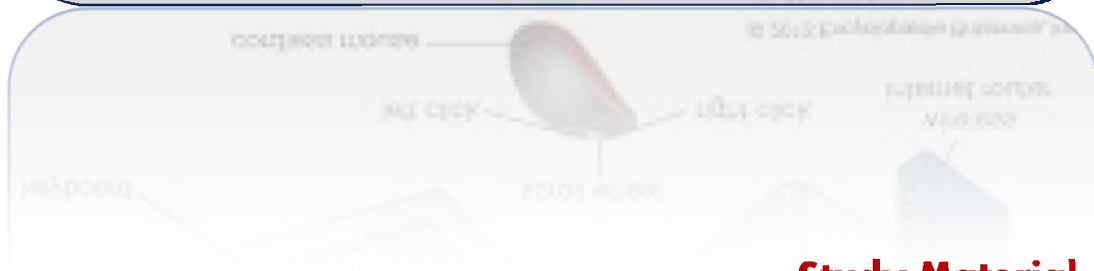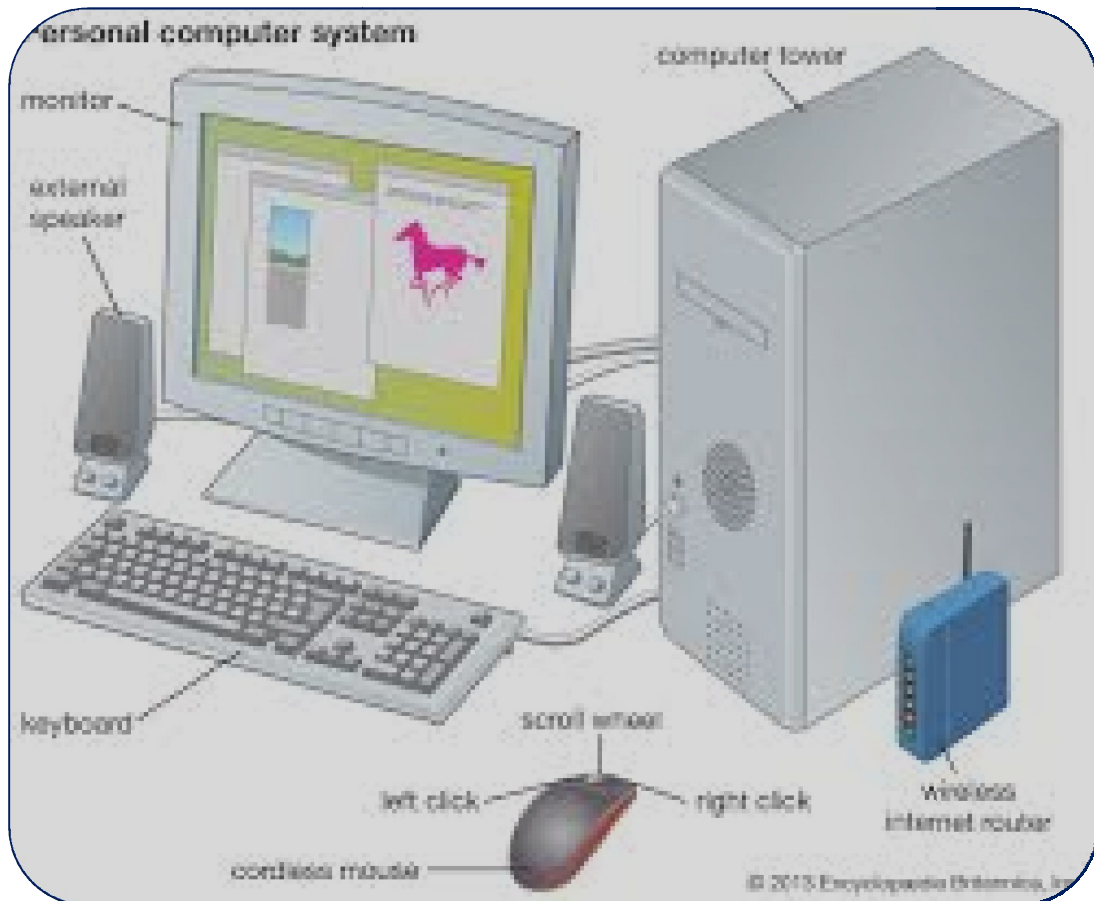
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COMPUTER APPLICATION AND BANKS

CONTENT

COMPUTER:

A computer is a machine that can be instructed to carry out sequences of arithmetic or logical operations automatically via computer programming. Modern computers have the ability to follow generalized sets of operations, called programs. These programs enable computers to perform an extremely wide range of tasks. A "complete" computer including the hardware, the operating system (main software), and peripheral equipment required and used for "full" operation can be referred to as a computer system. This term may as well be used for a group of computers that are connected and work together, in particular a computer network or computer cluster.

Computers are used as control systems for a wide variety of industrial and consumer devices. This includes simple special purpose devices like microwave ovens and remote controls, factory devices such as industrial robots and computer-aided design, and also general purpose devices like personal computers and mobile devices such as smart phones. The Internet is run on computers and it connects hundreds of millions of other computers and their users.

CHARATERISTICS OF COMPUTER:

The characteristics of the computer system are as follows −

Speed

A computer works with much higher speed and accuracy compared to humans while performing mathematical calculations. Computers can process millions (1,000,000) of instructions per second. The time taken by computers for their operations is microseconds and nanoseconds.
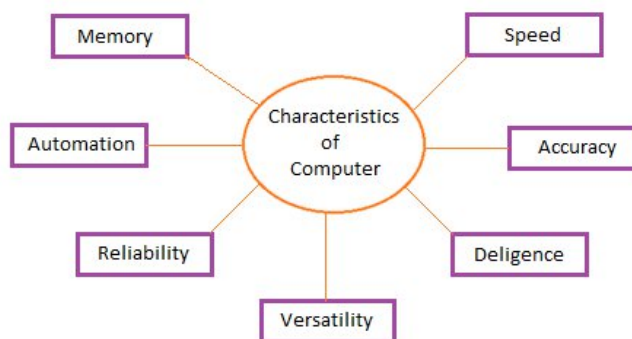
Accuracy

Computers perform calculations with 100% accuracy. Errors may occur due to data inconsistency or inaccuracy.

Diligence

A computer can perform millions of tasks or calculations with the same consistency and accuracy. It doesn't feel any fatigue or lack of concentration. Its memory also makes it superior to that of human beings.

Versatility

Versatility refers to the capability of a computer to perform different kinds of works with same accuracy and efficiency.

Reliability

A computer is reliable as it gives consistent result for similar set of data i.e., if we give same set of input any number of times, we will get the same result.

Automation

Computer performs all the tasks automatically i.e. it performs tasks without manual intervention.

Memory

A computer has built-in memory called primary memory where it stores data. Secondary storage are removable devices such as CDs, pen drives, etc., which are also used to store data.

AREAS OF APPLICATION OF COMPUTERS

It is a binding fact that are computers are very productive, efficient and make our personal and professional lives more rewarding. These 'magical' machines can do just about anything imaginable, moreover they really excel in certain areas. Below is the list of some of the principal applications of the computer systems:

Businesses

Businessmen make bar graphs and pie charts from tedious figures to convey information with far more impact than numbers alone can covey. Furthermore, computers help businesses to predict their future sales, profits, costs etc. making companies more accurate in their accounts. Computers may also play a vital role in aiding thousands of organizations to make judgmental and hard-provoking decisions concerning financial problems and prospective trends.

B 2 B

B 2 C

C 2 C

Buildings

Architects use computer animated graphics to experiment with possible exteriors and to give clients a visual walk-through of their proposed buildings. The computers provide architects a numerous amount of facilities to create different buildings with greater accuracy, better designing and editing tools, and work done at the fastest speed possible. Finally, a new kind of artist has emerged, one who uses computers to express his or her creativity.

Education

Most good schools in the world have computers available for use in the classroom. It has been proved that learning with computers has been more successful and this is why numerous forms of new teaching methods have been introduced. This enhances the knowledge of the student at a a much faster pace than the old traditional methods. Likewise, colleges and various universities have extended the use of computers as many educators prefer the 'learning by doing' method - an approach uniquely suited to the computer.

Energy

Energy companies use computers to locate oil, coal, natural gas and uranium. With the use of these technological machines, these companies can figure out the site of a natural resource, its concentration and other related figures. Electric companies use computers to monitor vast power networks. In addition, meter readers use hand held computers to record how much energy is used each month in homes and offices.

Law Enforcement

Recent innovation in computerised law enforcement include national fingerprint files, a national file on the mode of operation of serial killers, and computer modeling of DNA, which can be used to match traces from an alleged criminal's body, such as blood at a crime scene. In addition, computers also contain a complete databases of all the names, pictures and information of such people who choose to break the law.

Transportation

Computers are used in cars to monitor fluid levels, temperatures and electrical systems. Computers are also used to help run rapid transit systems, load containerships and track railroads cars across the country. An important part is the air control traffic

systems, where computers are used to control the flow of traffic between airplanes which needs a lot of precision and accuracy to be dealt with.

Money

Computers speed up record keeping and allow banks to offer same-day services and even do-it yourself banking over the phone and internet. Computers have helped fuel the cashless economy, enabling the widespread use of credit cards, debit cards and instantaneous credit checks by banks and retailers. There is also a level of greater security when computers are involved in money transactions as there is a better chance of detecting forged cheques and using credit/debit cards illegally etc.

Agriculture

Farmers use small computers to help with billing, crop information, and cost per acre, feed combinations, and market price checks. Cattle ranchers can also use computers for information about livestock breeding and performance.

Government

Among other tasks, the federal government uses computers to forecast the weather, to manage parks and historical sites, to process immigrants, to produce social security checks and to collect taxes. The most important use of the computer system in in this field is perhaps the Army, the Air Force and the Navy. The computers have to be very powerful and in order to be run they have to be very accurate and precise. E.g. in the use of missiles and other likes, every nanosecond counts, which may save trillions of lives on this planet. The government also uses computers in various simulations like the spread of influenza in a particular locality.

The Home

People having a computer in the home justifies the fact that it is not only useful and efficient, but it is also revered as a learning system. Personal computers are being used for innumerous tasks nowadays, for example, to keep records, write letters and memos, prepare budgets, produce presentations, draw pictures, publish newsletters and most importantly - connect with other in the rest of plant earth.

Health and Medicine

Computers are helping immensely to monitor thee extremely ill in the intensive care unit and provide cross-sectional views of the body. This eliminates the need for hired nurses to watch the patient twenty-four hours a day, which is greatly tiring and error prone. Doctors use computers to assist them in diagnosing certain diseases of the sort. This type of computer is called the Expert System, which is basically a collection of accumulated expertise in a specific area of field. Computers are now able to map, in exquisite detail, the structure of the human cold virus - the first step towards the common cold. Furthermore, computers are used greatly in managing patients, doctors, wards and medicine records, as well as deal with making appointments, scheduling surgeries and other likes.

Manufacturing Industries

Computers have made their way towards jobs that were unpleasant or too dangerous for humans to do, such as working hundreds of feet below the earth or opening a package that might contain an explosive device. In other industries, computers are used to control the production of resources very precisely. All robots and machinery are now controlled by various computers, making the production process faster and cheaper. All the stages of manufacturing, from designing to production, can be done with the use of computer technology with greater diversity.

The Human connection

The computers have evolved in such prosperity that it is now able to assist or aid with humans who are disabled - both physically and mentally. The handicapped are now

able to express their missing sense with the aid of computer technology. For example, a deaf and dumb person is able to communicate extensively with other people by using a specially designed computer system. This gives the disabled a chance to live out life and gradually catch up with the other fortunate people living on earth.

Scientific Research

This is very important for mankind and with the development of computers; scientific research has propelled towards the better a great deal. Because of high-speed characteristics of computer systems, systems, researchers can simulate environments, emulate physical characteristics and allow scientists to proof of their theories in a cost-effective manner. Also many test lab animals are spared since computers have taken over their roles in extensive research.

Communication with the World

The computes are most popular for their uses to connect with others on the World Wide Web. Therefore, communication between two or more parties is possible which is relatively cheap considering the old fashioned methods. Emailing, teleconferencing and the use of voice messages are very fast, effective and surprisingly cheaper as well. When connected to the Internet, people can gain various amounts of knowledge, and know about world events as they occur. Purchasing on the Internet is also becoming very popular, and has numerous advantages over the traditional shopping methods.

Training

It is much more cheaper and effective to teach pilots how to fly in a computerised cockpit or simulators, than is real airplanes. This is because the learning pilots will feel much more relaxed and confident due to the fact that no life is at risk at that moment. Railway engineers can also be given some kind of training on how to run a train with the help of a computerised system. Training simulations are relatively cheaper and are always available on one-to-one basis making way for personal training.

Paperwork

Computer systems will increasingly cut down the paperwork that is involved in millions of industries around the world. If a business is run on a manual system, then the amount of papers or registers involved is a great deal, making the administration process more tedious and error prone. If it is replaced by a computer system, then all the necessary data and information is transferred into the memory of the computer. This makes managing various tasks easier, faster and more effective than the manual system. Organisations that involve administrative tasks such as a hotel, school, hospitals, clubs, libraries etc. will become more efficient if a computer system is implemented.

Real Time systems

Many computers provide an environment, which is completely based on real time. This means processing of one entity is done so quickly and effectively, that another entity is not effected. For example Airline systems and Banking systems will come under this category. These systems are immensely huge because they interact with all other airlines or baking systems in the world. A computer system, therefore, becomes more than just necessary in daily uses.

There are so many applications of computers, that it is impractical to mention all of them. This is the Computer Age and these machines are beginning to affect out lives in many ways. Computers are now becoming faster, more reliable, effective and whole lot cheaper than they had been ever before.

IPO CYCLE:

IPO stands for Input, Output and Process. As the name suggests, **IPO cycle** is the input and output after process of the data. To get output, u have to first give input and then the input needs to be processed to get your desired result, i.e. Output.
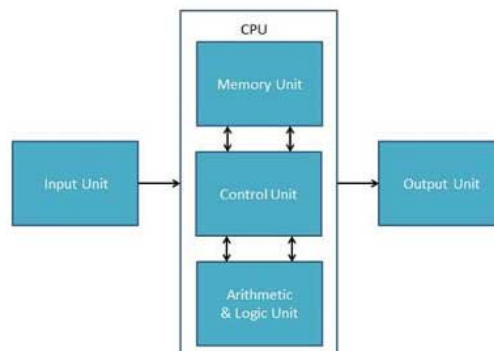
INPUT UNIT

This unit contains devices with the help of which we enter data into the computer. This unit creates a link between the user and the computer. The input devices translate the information into a form understandable by the computer.

CPU (Central Processing Unit)

CPU is considered as the brain of the computer. CPU performs all types of data processing operations. It stores data, intermediate results, and instructions (program). It controls the operation of all parts of the computer.

CPU itself has the following three components −

- ALU (Arithmetic Logic Unit)
- Memory Unit
- Control Unit

OUTPUT UNIT

The output unit consists of devices with the help of which we get the information from the computer. This unit is a link between the computer and the users. Output devices translate the computer's output into a form understandable by the users.

ALU:

An arithmetic-logic unit (**ALU**) is the part of a computer processor (CPU) that carries out arithmetic and logic operations on the operands in computer instruction words. In some processors, the **ALU** is divided into two units, an arithmetic unit (AU) and a logic unit (LU).

MEMORY UNIT:

Memory unit is the amount of data that can be stored in the storage unit. This storage capacity is expressed in terms of Bytes.

The following table explains the main memory storage units −

S. No.	Unit & Description
1	**Bit (Binary Digit)** A binary digit is logical 0 and 1 representing a passive or an active state of a component in an electric circuit.
2	**Nibble** A group of 4 bits is called nibble.
3	**Byte** A group of 8 bits is called byte. A byte is the smallest unit, which can represent a data item or a character.

	Word
4	A computer word, like a byte, is a group of fixed number of bits processed as a unit, which varies from computer to computer but is fixed for each computer. The length of a computer word is called word-size or word length. It may be as small as 8 bits or may be as long as 96 bits. A computer stores the information in the form of computer words.

The following table lists some higher storage units −

S.No.	Unit & Description
1	**Kilobyte (KB)** 1 KB = 1024 Bytes
2	**Megabyte (MB)** 1 MB = 1024 KB
3	**GigaByte (GB)** 1 GB = 1024 MB
4	**TeraByte (TB)** 1 TB = 1024 GB
5	**PetaByte (PB)** 1 PB = 1024 TB

CONTROL UNIT:

The **control unit** (CU) is a component of a computer's central processing **unit** (CPU) that directs the operation of the processor. It tells the computer's memory, arithmetic and logic **unit** and input and output devices how to respond to the instructions that have been sent to the processor.

HARDWARE AND SOFTWARE:

HARDWARE:

The physical components of a computer are called hardware.

Ex. Keyboard, mouse, microprocessor, memory, screen, plotter, printer, floppy disk, hard disk, optical disk, modem, etc....

SOFTWARE:

A set of programs is called a software. Generally the software are classified as :

SOFTWARE
- SYSTEM SOFTWARE
- APPLICATION SOFTWARE.

SYSTEM SOFTWARE:

System software is software designed to provide a platform for other software. Examples of system software include operating systems like macOS, GNU/Linux , Android and Microsoft Windows, computational science software, game engines, industrial automation, and software as a service applications.

APPLICATION SOFTWARE:

Application software (app for short) is a program or group of programs designed for end users. Examples of an application include a word processor, a spreadsheet, an accounting application, a web browser, an email client, a media player, a file viewer, simulators, a
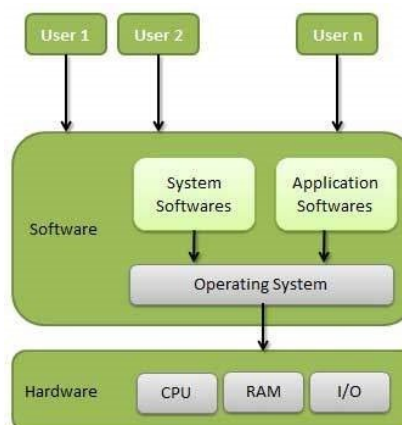
console game or a photo editor.

OPERATING SYSTEM:

An Operating System (OS) is an interface between a computer user and computer hardware. An operating system is a software which performs all the basic tasks like file management, memory management, process management, handling input and output, and controlling peripheral devices such as disk drives and printers.

Some popular Operating Systems include Linux Operating System, Windows Operating System, VMS, OS/400, AIX, z/OS, etc.

Definition

An operating system is a program that acts as an interface between the user and the computer hardware and controls the execution of all kinds of programs.

Following are some of important functions of an operating System.

- Memory Management
- Processor Management
- Device Management
- File Management
- Security
- Control over system performance
- Job accounting
- Error detecting aids
- Coordination between other software and users

Memory Management

Memory management refers to management of Primary Memory or Main Memory. Main memory is a large array of words or bytes where each word or byte has its own address.

Main memory provides a fast storage that can be accessed directly by the CPU. For a program to be executed, it must in the main memory. An Operating System does the following activities for memory management −

- Keeps tracks of primary memory, i.e., what part of it are in use by whom, what part are not in use.
- In multiprogramming, the OS decides which process will get memory when and how much.
- Allocates the memory when a process requests it to do so.
- De-allocates the memory when a process no longer needs it or has been terminated.

Processor Management

In multiprogramming environment, the OS decides which process gets the processor when and for how much time. This function is called process scheduling. An Operating System does the following activities for processor management −

- Keeps tracks of processor and status of process. The program responsible for this task is known as traffic controller.
- Allocates the processor (CPU) to a process.
- De-allocates processor when a process is no longer required.

Device Management

An Operating System manages device communication via their respective drivers. It does the following activities for device management −

- Keeps tracks of all devices. Program responsible for this task is known as the I/O controller.
- Decides which process gets the device when and for how much time.

- Allocates the device in the efficient way.
- De-allocates devices.

File Management

A file system is normally organized into directories for easy navigation and usage. These directories may contain files and other directions.

An Operating System does the following activities for file management −

- Keeps track of information, location, uses, status etc. The collective facilities are often known as file system.
- Decides who gets the resources.
- Allocates the resources.
- De-allocates the resources.

Other Important Activities

Following are some of the important activities that an Operating System performs −

- **Security** − By means of password and similar other techniques, it prevents unauthorized access to programs and data.
- **Control over system performance** − Recording delays between request for a service and response from the system.
- **Job accounting** − Keeping track of time and resources used by various jobs and users.
- **Error detecting aids** − Production of dumps, traces, error messages, and other debugging and error detecting aids.
- **Coordination between other softwares and users** − Coordination and assignment of compilers, interpreters, assemblers and other software to the various users of the computer systems.

Types of Operating Systems

An Operating System performs all the basic tasks like managing file,process, and memory. Thus operating system acts as manager of all the resources, i.e. resource manager. Thus operating system becomes an interface between user and machine.

Types of Operating Systems: Some of the widely used operating systems are as follows-

1. Batch Operating System

This type of operating system does not interact with the computer directly. There is an operator which takes similar jobs having same requirement and group them into batches. It is the responsibility of operator to sort the jobs with similar needs.

Advantages of Batch Operating System:

- It is very difficult to guess or know the time required by any job to complete. Processors of the batch systems know how long the job would be when it is in queue
- Multiple users can share the batch systems
- The idle time for batch system is very less
- It is easy to manage large work repeatedly in batch systems

Disadvantages of Batch Operating System:

- The computer operators should be well known with batch systems
- Batch systems are hard to debug
- It is sometime costly
- The other jobs will have to wait for an unknown time if any job fails

Examples of Batch based Operating System: Payroll System, Bank Statements etc.

2. Time-Sharing Operating Systems:

Each task is given some time to execute, so that all the tasks work smoothly. Each user gets time of CPU as they use single system. These systems are also known as Multitasking Systems. The task can be from single user or from different users also. The time that each task gets to execute is called quantum. After this time interval is over OS switches over to next task.

Advantages of Time-Sharing OS:
- Each task gets an equal opportunity
- Less chances of duplication of software
- CPU idle time can be reduced

Disadvantages of Time-Sharing OS:
- Reliability problem
- One must have to take care of security and integrity of user programs and data
- Data communication problem

Examples of Time-Sharing OSs are: Multics, Unix etc.

3. Distributed Operating System :

These types of operating system is a recent advancement in the world of computer technology and are being widely accepted all-over the world and, that too, with a great pace. Various autonomous interconnected computers communicate each other using a shared communication network. Independent systems possess their own memory unit and CPU. These are referred as **loosely coupled systems** or distributed systems. These system's processors differ in size and function. The major benefit of working with these types of operating system is that it is always possible that one user can access the files or software which are not actually present on his system but on some other system connected within this network i.e., remote access is enabled within the devices connected in that network.

Advantages of Distributed Operating System:
- Failure of one will not affect the other network communication, as all systems are independent from each other
- Electronic mail increases the data exchange speed
- Since resources are being shared, computation is highly fast and durable
- Load on host computer reduces
- These systems are easily scalable as many systems can be easily added to the network
- Delay in data processing reduces

Disadvantages of Distributed Operating System:
- Failure of the main network will stop the entire communication
- To establish distributed systems the language which are used are not well defined yet
- These types of systems are not readily available as they are very expensive. Not only that the underlying software is highly complex and not understood well yet

Examples of Distributed Operating System are- LOCUS etc.

4. Network Operating System :

These systems run on a server and provide the capability to manage data, users, groups, security, applications, and other networking functions. These type of operating systems allow shared access of files, printers, security, applications, and other networking functions over a small private network. One more important aspect of Network Operating Systems is that all the users are well aware of the underlying configuration, of all other users within the network, their individual connections etc. and that's why these computers are popularly known as tightly coupled systems**.**

Advantages of Network Operating System:
- Highly stable centralized servers
- Security concerns are handled through servers
- New technologies and hardware up-gradation are easily integrated to the system
- Server access are possible remotely from different locations and types of systems

Disadvantages of Network Operating System:
- Servers are costly
- User has to depend on central location for most operations
- Maintenance and updates are required regularly

Examples of Network Operating System are: Microsoft Windows Server 2003, Microsoft Windows Server 2008, UNIX, Linux, Mac OS X, Novell NetWare, and BSD etc.

5. Real-Time Operating System:

These types of OSs serves the real-time systems. The time interval required to process and respond to inputs is very small. This time interval is called **response time**.

Real-time systems are used when there are time requirements are very strict like missile systems, air traffic control systems, robots etc.

Two types of Real-Time Operating System which are as follows:
- **Hard Real-Time Systems:**
  These OSs are meant for the applications where time constraints are very strict and even the shortest possible delay is not acceptable. These systems are built for saving life like automatic parachutes or air bags which are required to be readily available in case of any accident. Virtual memory is almost never found in these systems.
- **Soft Real-Time Systems:**
  These OSs are for applications where for time-constraint is less strict.

Advantages of RTOS:
- **Maximum Consumption:** Maximum utilization of devices and system,thus more output from all the resources
- **Task Shifting:** Time assigned for shifting tasks in these systems are very less. For example in older systems it takes about 10 micro seconds in shifting one task to another and in latest systems it takes 3 micro seconds.
- **Focus on Application:** Focus on running applications and less importance to applications which are in queue.
- **Real time operating system in embedded system:** Since size of programs are small, RTOS can also be used in embedded systems like in transport and others.
- **Error Free:** These types of systems are error free.
- **Memory Allocation:** Memory allocation is best managed in these type of systems.

Disadvantages of RTOS:
- **Limited Tasks:** Very few tasks run at the same time and their concentration is very less on few applications to avoid errors.
- **Use heavy system resources:** Sometimes the system resources are not so good and they are expensive as well.
- **Complex Algorithms:** The algorithms are very complex and difficult for the designer to write on.
- **Device driver and interrupt signals:** It needs specific device drivers and interrupt signals to response earliest to interrupts.
- **Thread Priority:** It is not good to set thread priority as these systems are very less prone to switching tasks.

Introduction on Windows:

Microsoft Windows, commonly referred to as Windows, is a group of several proprietary graphical operating system families, all of which are developed and marketed by Microsoft. Each family caters to a certain sector of the computing industry. Active Microsoft Windows families include Windows NT and Windows IoT; these may encompass subfamilies, e.g. Windows Server or Windows Embedded Compact (Windows CE). Defunct Microsoft Windows families include Windows 9x, Windows Mobile and Windows Phone.

Microsoft introduced an operating environment named Windows on November 20, 1985, as a graphical operating system shell for MS-DOS in response to the growing interest in graphical user interfaces (GUIs).[3] Microsoft Windows came to dominate the world's personal computer (PC) market with over 90% market share, overtaking Mac OS, which had been introduced in 1984. Apple came to see Windows as an unfair encroachment on their innovation in GUI development as implemented on products such as the Lisa and Macintosh (eventually settled in court in Microsoft's favor in 1993). On PCs, Windows is still the most popular operating system. However, in 2014, Microsoft admitted losing the majority of the overall operating system market to Android, because of the massive growth in sales of Android smartphones. In 2014, the number of Windows devices sold was less than 25% that of Android devices sold. This comparison, however, may not be fully relevant, as the two operating systems traditionally target different platforms. Still, numbers for server use of Windows (that are comparable to competitors) show one third market share, similar to that for end user use.

Logging On:

Logging on is a security measure that is enforced before allowing users to gain access to a computer system, a network, an email account or a restricted area of a website. The procedure typically requires users to provide identification information such as a username or email. It is also the simplest way to protect a system from outsiders.Logging on is also known as logging in, signing in and signing on.

Getting started with Windows XP

Introduction to Windows XP tutorial

Windows XP is an operating system. The program helps in starting your computer. Windows XP functions as a platform for applications like Word, PowerPoint, Excel, CorelDraw, Internet Explorer, and many others. It controls and handles all kinds of hardware, including RAM and cards

Windows XP comes as a program package. The package includes independent user programs like Windows Media Player and Internet Explorer.

All about the Windows XP interface - 1

What is Windows XP?

Windows XP is an operating system produced by Microsoft Corporation for use on personal computers running x86 and IA-64

processors. The name "XP" stands for "experience". Windows XP was first released on 25 October 2001. Windows XP presents a graphical user interface (the visible part of the software), regarded as more user-friendly than previous versions of Windows. The Windows XP user interface consists of the desktop, taskbar, start menu and desktop items. Windows XP is the most widely used operating system in the world. The earlier versions of Windows XP are Windows 98, Windows 2000, and Windows ME.

What is a Window?

A window is an enclosed, rectangular area on the PC display screen. Graphical user interfaces (GUIs) allow you to divide your display into several windows. Within each

window, you can run a different program or display different data.

What is an Icon?

An icon is a small picture representing the program running in the window. Every application in Windows XP has their own set of icons that visually distinguishes themselves from the other.

What is a Shortcut?

In Windows, a shortcut is an icon used to represent a document, folder, or program file. You can open a file or launch an application by clicking the shortcut icon.

What is a Menu?—common menu types

A menu is a set of options presented to the user of a computer application to help the user find information or execute a program function. Menus are common in graphical user interfaces (GUIs) such as Windows.

Common menu types are File Menu, Edit Menu, Format Menu and Help Menu. What is a Dialog Box?
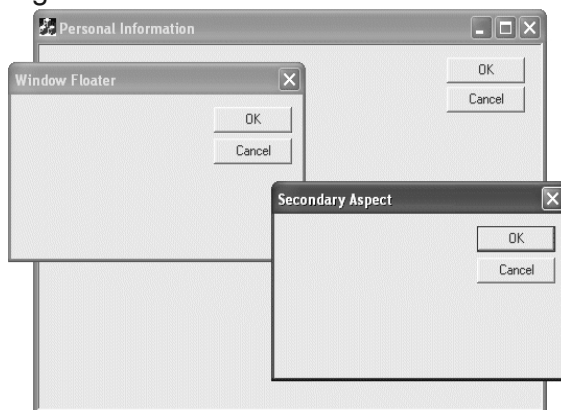
In graphical user interfaces, a dialog (or dialogue) box is a special window that displays information to the user, or to get a response if needed. They are called dialog because they form a dialog between the computer and the user—either informing the user of something, or requesting input from the user, or both.

A simple type of dialog box is the alert, which displays a message and requires just an acknowledgment (by clicking 'OK' usually) that the message has been read.

What are Tabs?

Tab(s) is the name for a way to display information on websites. Website tabs resemble manilla folder tabs - that part of the folder that sticks out so it can be labeled and seen. Clicking on the text of the tab shows you a different view in the same browser window.

All about the Windows XP interface - 2

What are Fields?

A field is a space assigned for a specific item of information. In Windows XP, fields are also referred to as text boxes. In the Save As dialog box, for example, you type the name you choose your file to have in the File Name field.

What are List Boxes?

List boxes allow you to choose an option from a list of options. To select a specific option, just click on that specific option. Some list boxes allow you to

choose multiple options. To select more than one option, hold down the Ctrl key while clicking. A scrollbar appears on the side of the list box when there are many options that cannot be displayed in the box. You can utilize the scrollbar to display the extra choices.

What is a Drop-Down Menu?

Drop-down menu is a set of options that appear in a rectangular box under a menu item, when the user clicks it.

Drop-down menus are also found in association with fields. You can click the downward-pointing arrow to display a list of options. Select your chosen option from the list. If you wish to open a drop-down menu from the keyboard, hold down the Alt key and press the down arrow.

What are Radio Buttons?

Radio buttons are a type of GUI element in Windows that allows user to select a predefined option, from a set of options. Radio buttons allow users to select only one option at a time. An unselected radio button looks like a white circular ring. When selected, a black dot appears in the middle, indicating as selected.

What are Check Boxes?

Check boxes are a type of GUI element in Windows that allows user to select a predefined option, from a set of options. Check boxes allow users to select more than one option at a time. An unselected check box looks like a white square box. When selected, a 'X' appears in the middle, indicating as selected.

Set of arrows situated on a text box side is termed a spinner. The up arrow increases the value and the down arrow decreases the value. Values can also be typed into the text box.

What is a Color Box?

The color box displays a wide range of color options. 48 basic colors are available. To select a specific color, click on that color square. A maximum of 16 custom colors can be saved in Windows XP. If you wish to select a custom color, click the Define Custom Color button. Hue, Saturation, Luminosity (HSL) and Red, Green, Blue (RGB) values are displayed at the bottom of the color box. You can add your selected color to the Custom Color square by clicking the Add to Custom Colors button.

All about the Desktop and its properties

Icon arrangement

The simplest way to rearrange the icons on your desktop is to simply drag and drop them. You can drag an icon to any location on your desktop.

However, dragging and dropping your icons can lead to icons not aligning in neat columns and rows. If you want neat columns and rows of icons, you can have Windows automatically arrange them for you. Simply right-click your desktop, click Arrange Icons By, and then click Align to Grid. Windows XP does not immediately move your icons. However, the next time you drag an icon, Windows XP will automatically place it into an orderly row.

To automatically arrange your icons into rows without changing their order, right-click your desktop, click Arrange Icons By, and then click Auto Arrange. Windows XP places your icons into neat rows.

Utilities in Windows XP

What is a compressed (zipped) Folder?

Compressing files, folders, and programs decreases their size and reduces the space they use on your drives or

removable storage devices. Windows XP has its own built-in zip support.

This means you do not need third party software to open compressed files. In Windows XP, to compress an existing folder simply right click, point to Send To, and click Compressed (zipped) folder. The Compressed (zipped) Folder is located at C:\Documents and Settings\ Default User\Send to folder.

How to create a Compressed (zipped) Folder?

To create a Compressed (zipped) Folder, right-click a blank area on the desktop or in an open folder, point to New and then click Compressed (zipped) Folder.

Type a name for the new compressed folder, and then press ENTER. Your new compressed folder is displayed as a folder icon with a zipper. Depending on your preferences, a .zip file name extension may also appear.

How to extract files from a Compressed (zipped) Folder?

Getting files or folders out of a compressed folder is known as extracting them. You can extract one file or folder at a time, or you can extract multiple files or folders. To extract a single file or folder, follow these steps:

- Double-click the compressed folder to open it.
- Then, drag the file or folder from the compressed folder to a new location.

CD Writing Wizard

The Windows XP package includes the CD Writing Wizard. Built-in support for CD burning makes the task easier than ever before—as easy as copying to a floppy disk.

Using Windows XP, you can copy tracks either to a compact disk-recorder (CD-R) or to a compact disk-rewritable (CD-RW).

Summary

Windows XP is an operating system and acts as a platform for other computer applications. You require Windows XP to run popular programs like Microsoft Word, Microsoft Excel and CorelDraw among many others.

You can now identify various components of Windows Graphical Use Interface (GUI). Functions of components like icons, dialog boxes, list boxes and tabs are also known to you. Difference between checkboxes and radio buttons is also elaborated. Importance of Taskbar is explained.

You have learnt how to personalize your computer. You now know how to change themes and the entertainment value of screensavers. The Start menu provides quick access to frequently used programs. You now know which desktop icons are available by default and how to restore and remove these icons.

You now have a fair knowledge of graphical user interface in Windows Explorer. File systems can be accessed through this program. Control of the computer is also done via Windows Explorer.

"My Computer" displays storage area inside your computer. If you wish to share information with other persons, store your files and folders in Shared Documents folder. Knowledge about "Cut", "Copy" and "Paste" functions enable you to copy text or an object from one place to another.

MS – Word:
Introduction

Word processing software is one of the miracles of the modern age. It evolved from the needs of writers as word processing software gives users an extensive set of tools for working with text. It is used to create all kinds of documents, from simple notes and memos, to brochures, resumes, and long reports.

A word processor is a computer program used to create and print text documents that might otherwise be prepared on a typewriter. The key advantage of a word processor is its ability to make changes easily, such as correcting spelling, adding, deleting, and relocating text. Once created, the document can be printed quickly and accurately and saved for later modifications.

The most recent word processors are practically powerful editing devices that only a few years ago would have been the envy of professional printers. But it is not only a matter of graphical arrangement and page layout, the effects of writing through this medium are far reaching on a number of more profound levels.

A number of softwares are available for word processing like Microsoft Word, Lotus WordPro or WordPerfect etc. Although these are expensive and sophisticated products, many of the facilities of word processing are also to be found in free software, like Microsoft WordPad, which comes as part of the Microsoft Windows standard installation. If one cannot afford to purchase a word processing application, then there are many powerful programs free, either as downloads from the Web or on cover disks with magazines. A word processing program is a good introductory program to learn for two important reasons:

- Word processors are good examples of competing programs that all run and work in essentially the same way. Learning one program allows us to use almost all of the competing programs.

- Skills such as saving, copying, pasting, formatting, printing, and using old files as templates for new work are easy to understand within word processors. Many of the skills utilized in word processing programs are used in other popular applications such as spreadsheets, web browsers and e-mail programs.

Concept of Word Processing Software

The word processor is the modern version of paper, pen, typewriter, eraser, dictionary and thesaurus… all in one. They were introduced on the market in the 1960s and became a typical office tool by the 1970s. Modern word processors display documents in graphics mode, thus enhancing the **WYSIWYG** function (What You See Is What You Get); this means that the way the text and images are displayed on the screen is the way they will appear when printed. Their formatting features include font changes, page layout, and paragraph indention. They also check spelling, find synonyms, incorporate graphics, perform calculations, and so on.

The basic concept of word processing software is that one can type the text into the computer, instead of onto paper. Then errors can be corrected, text can be rearranged and all sorts of modifications can be made. It can then be seen on the screen and if we are satisfied with it, then only take a print-out on

paper. It is a four steps process-type, store, edit, and print.

A word processor is software that enables us to write, edit, format, and print text. As we type on a keyboard, the words appear on the screen to see. Mistakes can be corrected easily before printing the text on paper. Words, sentences, and even entire paragraphs can be moved by special commands. Nothing is printed until we are satisfied with the results. Word processor and the hardware simply provide a convenient way to display, store, edit, and recall the work done.

Standard Features of Word Processing Software

- **Word-wrap:** automatic arrangement of text in lines of specified length without the necessity of touching the return key.
- **Discretionary Hyphenation:** option of inserting a hyphen to break a word that ends a line: the hyphen does not print if later editing moves the word to the middle of a line.
- **Justification:** automatic alignment of text to both the left and right margins.
- **Adjustment:** realignment of text to new margin and tab settings.
- **Alignment:** positioning text or numbers to specified margin and tab settings.
- **Decimal Alignment:** positioning columns of numbers with the decimal points vertically aligned.
- **Indents:** the setting of temporary margins within a document differing from the primary margins used.
- **Centering** text on a line.
- **Insertion:** the entry of new text within previously typed material without erasing the existing material.
- **Overstriking:** the substitution of new text for old by typing over the old text.
- **Deletion:** erasure of text from the screen, or of whole documents from the disk.
- **Search and Replace:** moving directly to specified words or parts of words within a document and replacing them with different words or word portions.
- **Copying or Cutting:** the duplication or moving of blocks of text within a document.
- **Boilerplate:** the separate storage and retrieval of blocks of text from which standard documents can be built.
- **Pagination:** automatic division of a document into pages of specified numbers of lines.
- **Page Numbering:** automatic sequential numbering of pages.
- **Line spacing:** Line spacing or leading is used to change the amount of space between lines of text. Normal text is single line spaced. This can be altered to
  1.5 times or double or a number of points. Leading is a term which originates from typesetters who used strips of lead to place in-between the lines of text to increase the amount of space between each line.
- **Headers and Footers:** option of creating standard blocks of text that will automatically appear at the top or bottom of each page in a document.
- **Footnoting:** automatic sequential numbering of footnotes and positioning of the footnotes at the bottom of their appropriate pages

during pagination.
- **Table of Contents and Index Generators**. Programs that create these based on the text of a document.
- **Form Letter Merging:** automatic combining of a form letter with a mailing list to generate multiple copies of the letter with the different addresses and other variable information filled in.
- **Automatic Spelling Checker and Corrector**. Program that compares words in the text against an on-line dictionary, flagging items not found in the dictionary and offering alternative spellings and a means of correcting the errors.

In this chapter, we will learn how to use Microsoft Word assaulted with the above features.

Getting Started with Microsoft Word

Before getting started with Microsoft Word, we need to locate and open it from the computer desktop. On computer, we should be able to see a MS Word icon on the desktop. From the computer desktop:
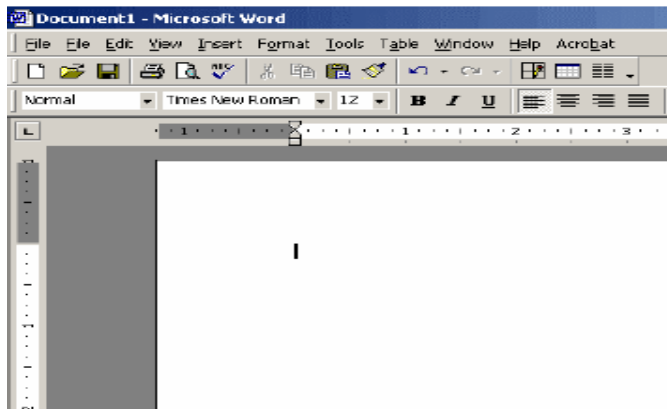
1. Double-click on the MS Word icon

Go to the Start menu if the MS Word icon is not on the desktop:

1. Click ►**Start** ►**Programs** ►**Microsoft Word**

MS Word will open a blank page called Document 1.

Structure of Microsoft Word Window

When you open the word a blank document opens. You can start typing on it directly. But for performing various other options you have to learn about the different components in the window and the options under these bars.

1. Title Bar: Title bar shows the name of the document and is situated in the top of the window application.

2. Menu Bar: Menu bar contains the various commands under the various topics to perform some special tasks. Menu bar is located under the title bar.

3. Standard Toolbar: Toolbar is nothing more than the shortcut of the Menu options to execute or perform the menu options in the easiest and fastest way. Standard toolbar contains the commands for the Word's most frequently used commands.

4. Formatting Toolbar: Formatting toolbar contains the various commands related to the formatting of the document.

5. Ruler: From Ruler margins and indents can be adjusted in the easier way and it also provides measurement for the page formatting.
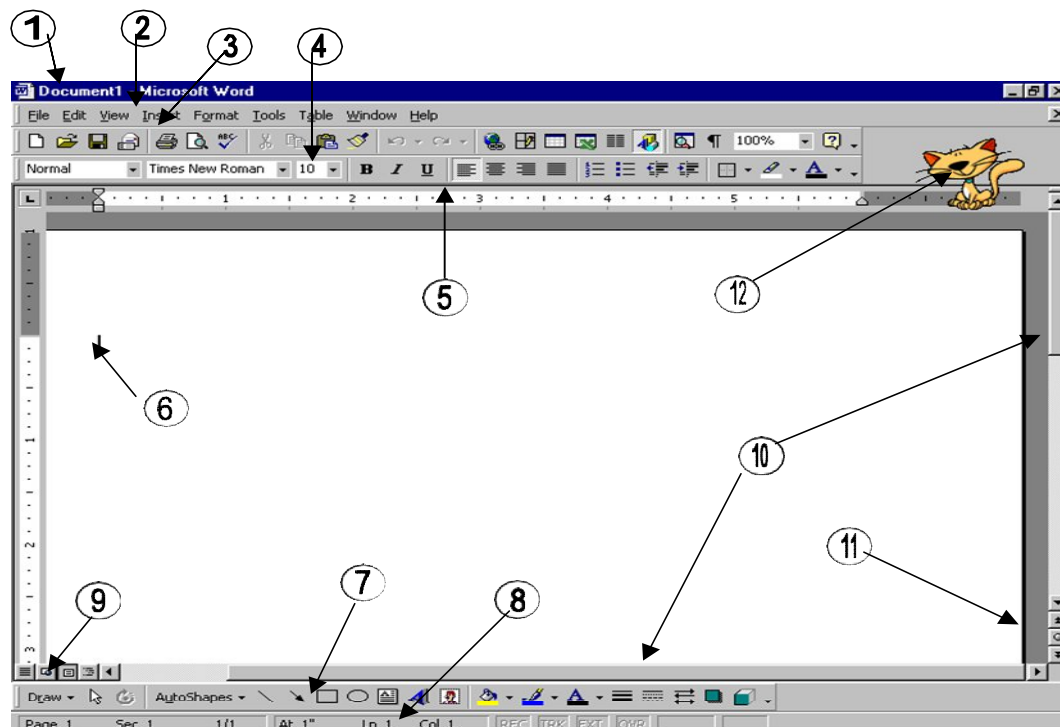
Microsoft Word Window

6. Cursor: Cursor is Word pointer, which tells that from or on the cursor position you can perform your action.

7. Drawing Toolbar: Drawing toolbar has the various commands related to the graphics and the drawing options.

8. Status Bar: It displays the positioning of the cursor, displays the status of some important keys of keyboard, shows the messages for the toolbar button when a mouse

points to it, displays messages for menu option when a menu option is selected or pointed out by a user.

9. View Buttons: View buttons are shortcuts of various views in the View Menu.

10. Scroll Bars: There are two types of scroll bars

    i. Horizontal Scrollbar

    ii. Vertical Scrollbar

Working of both the scroll bar is to scroll the document in either direction.

11. Document Navigator: Document Navigator allows navigating the document in different types of objects and is activated when clicked on the ball type button on the vertical scroll bar.

12. Office Assistant: Office assistant provides you the online help, real-time tips while working.

Common Key Definitions in a Word Processor

Action	Key or Key Combination
Moves Left or Right one chara cter	□ Or □
Moves Left or Right one word	Ctrl + □ or Ctrl + □
Moves Up or Down one line	□ Or □
Moves Up or Down one paragraph	Ctrl + □ or Ctrl + □
Moves to the start or end of a line	Home or End
Moves Up or Down one screen	Page up or Page Down
Moves to the top or bottom of the current screen	Ctrl + Page up or Ctrl + Page Down
Moves to the start or end of the document	Ctrl + Home or Ctrl + End

Working with Word Document - File Related Operations

When WORD is opened you will be presented with a blank page. All what you have to do is start writing. Of course you don't have to worry about overflowing the text line because the program will take care of breaking it up appropriately. After writing your first document you have to save it; if you don't and turn off the computer what you have written will be cancelled and nothing will remain. However the program asks you what you want to do of the document the moment you shut off WORD without having saved it first. If you intend to keep the document you will be prompted

to tell the computer where you want to save it. By default it will be saved as a file in a folder called My Documents. Give a name to the document and choose the file's destination: it will be saved with a .DOC extension; this is to tell Windows that this document is a WORD file. From now on the document you have written will be available for you to do whatever you like: you can open it again and modify it, or print it, or send it via e-mail or fax. We can do all file or document related operations from FILE menu.

Open a New File: To open a new file, Click on the File menu. Then Click on the new option or you can directly press the Ctrl+N from the keyboard. Select the Blank document from the General Tab from the following dialog box and then press OK button.
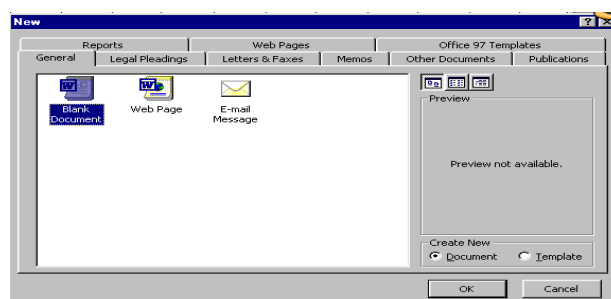
Save a Document: For saving a document, Click on the File►Save option. OR Press Ctrl+S OR Press the Save tool from standard toolbar.

If you are saving the file for the first time the Save as window will appear. Choose the appropriate folder from Save in combo box. Write the proper file name in the File name text box. And then press the Save button

Save and Save As options do the same work of saving a document but the difference between both options is that the Save As command every time gives you the Save As dialog box and you can save the file with different names also. But the Save option will gives you the Save As dialog box when you are saving the document for very first time. Other times it will save the document with the previous name without giving any dialog box.

Opening of an Existing Document: To open an existing document, Select the Open option from the File menu OR Press Ctrl+O OR Click on the Open tool from the standard toolbar. Then the open dialog box will appear. Select the appropriate folder from Look in combo box. Select the required file from the file window Or Write the required file's name in the File name window. Click on open button on the right hand side.

Page Setup: Click ►**File** ►**Page Setup**
Note. If you can not see **Page Setup**, scroll down to the two little arrows pointing down and click once to see the entire menu.
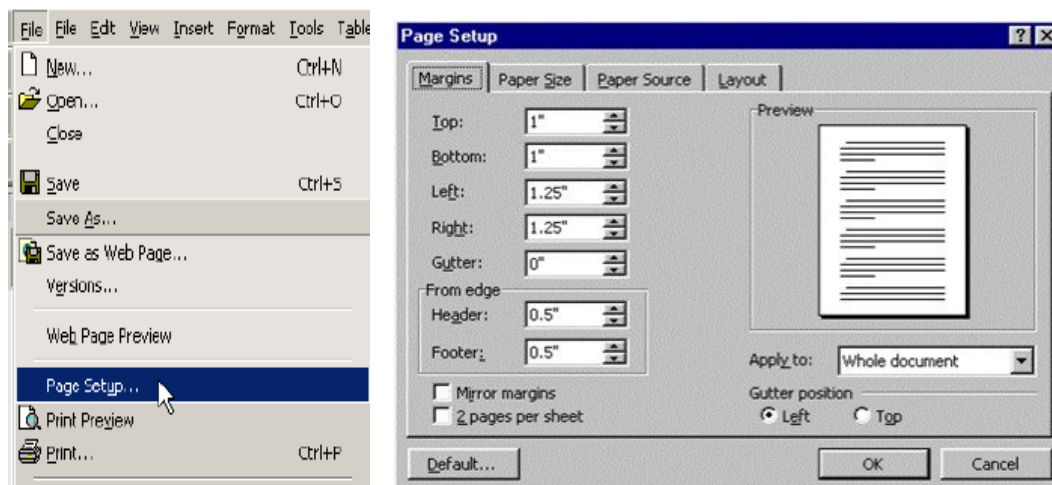
A **Page Setup** window will appear. From the Page setup option one can setup the page layout according to the job. You can adjust the different margins or apply different options from the margin tab where:

i)   In top margin enter the distance you want between the top of the page and the top of the first line on the page.

ii)   In Bottom margin enter the distance you want between the bottom of the page and the bottom of the last line on the page.

iii)   In Left option enters the distance you want between the left edge of the page and the left edge of unindented lines.

iv)   In Right option enter the distance you want between the right edge of the page and the right end of a line with no right indent.

v)   In Gutter option enter the amount of extra space you want to add to the margin for binding. Word adds the extra space to the left margin of all pages if you clear the Mirror margins check box, or to the inside margin of all pages if you select the Mirror margins check box.

vi)   In Header option under From edge frame enter the distance you want from the top edge of the paper to the top edge of the header. If the Header setting is larger than the Top setting, Word prints the body text below the header.

vii)   In Footer option under From edge frame, enter the distance you want from the bottom edge of the paper to the bottom edge of the footer. If the Footer setting is larger than the Bottom setting, Word stops printing the body text above the footer.

viii)   Check Mirror margin check box to Adjusts left and right margins so that when you print on both sides of the page the inside margins of facing pages are the same width and the outside margins are the same width.

ix)   Check the 2 pages per sheet checkbox to Print the second page of a document on the first page. This check box is used when the printed page is folded in half with the two pages on the inside. The outer margins (gutter) of the page will be the same width, and the inner margins will be the same width.

x)   In the Apply to list box, Click the portion of the document you want to apply the current settings to in the Page Setup dialog box. And the options of this list box are Whole document, This point forward etc can be changed according to the situation.

Sometimes we create documents that do not fit on a standard piece of paper in its normal standing up position. If you are creating something by hand then you can simply turn the page so it is lying on its side. With MS Word you can change the orientation of your page anytime you want while you are creating your document.

To change the orientation of your document to landscape (sideways):

From the Paper size tab you can set the length or width of the page. When you click on the Paper size tab the following window will appear.
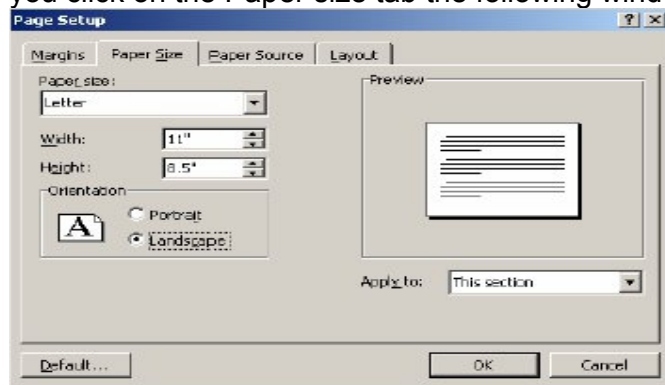
1. Click on the **Paper Size** tab
**2.** Click in the circle besides **Landscape**
3. Click ►**OK**

Your document should now be in a landscape position. If you wish to place it back in a portrait position, go through the same steps but instead of clicking in the circle besides **Landscape**, click in the circle besides **Portrait**.

In the above window you can adjust the following:
  i)   From Paper size list box you can select the predefined Paper sizes.
  ii) From Width and Height text boxes the custom Paper size can be defined by adjusting the Height and width of the paper.
  iii) Select the orientation of the paper from Landscape or Portrait orientation frame.

Print Option: For taking the printout you have to select the print option of the file menu. To print your MS Word document:
  i)   Click ►**File** ►**Print** from the menu bar and a **Print** window will come up on the screen
  ii) Click ►**OK** for it to start printing OR
  iii) Change some of the automatic settings first, such as which pages or how many copies will be printed
  iv) Click ►**OK** to start printing
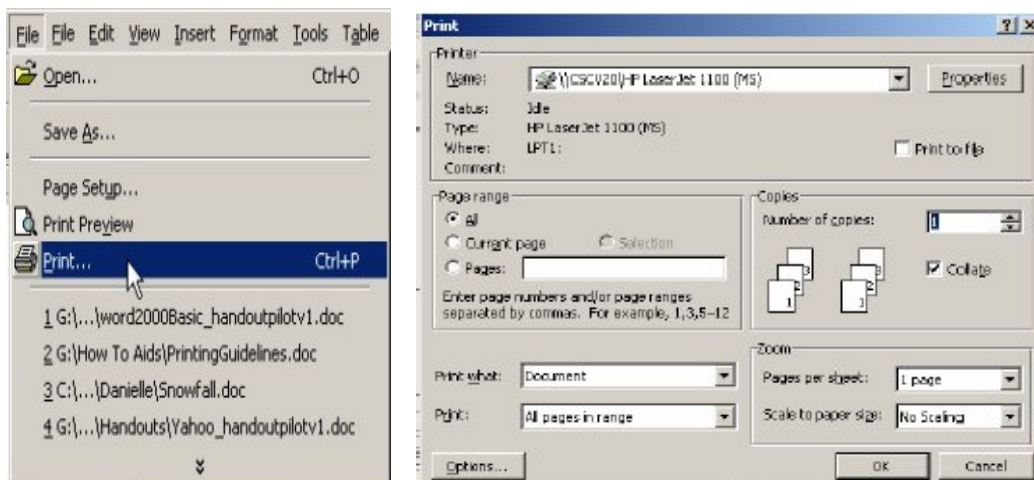
You can set various options before taking the printout.
- i) From the Name combo box you can select the printer if more than one printer is installed.
- ii) You can select the range of pages i.e. all pages or current page or number of pages you require from Page range frame.
- iii) From the print what option you can choose which part of a document you want to print i.e. the whole document or comments or anything else.
- iv) From print option the types of pages can be selected to print i.e. all pages or even pages or odd pages.
- v) You can choose number of copies from Number of copies option under Copies frame.
- vi) From Pages per sheet option under Zoom frame you can Select the number of pages in the document that you want to print on each sheet of paper.
- vii) From scale to paper size option you can select the paper size on which you want to print the document. For example, you can specify that a B4-size document prints on A4-size paper by decreasing the size of the font and the graphics. This feature is similar to the reduce/enlarge feature on a photocopy machine.
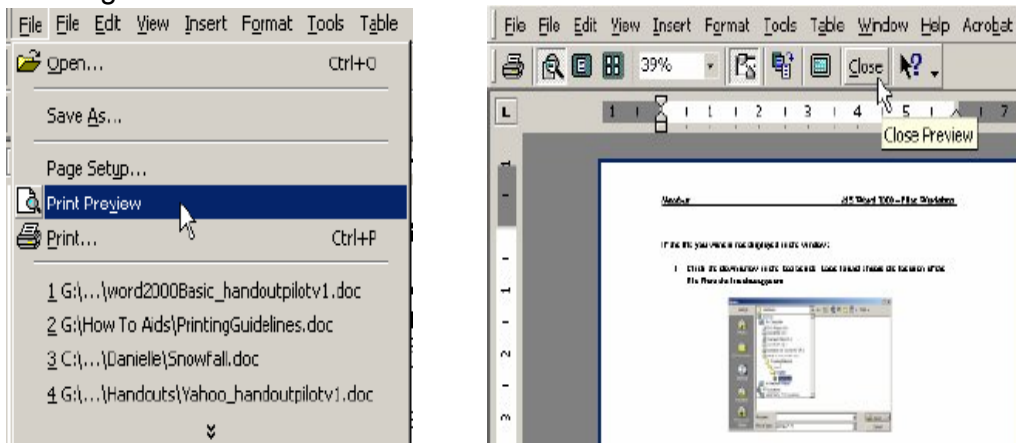
The collate check box can print the copies of the document in proper binding order.

If you want to check what your document will look like before you print:
- i) Click ►**File** ►**Print Preview** from the menu bar at the top or Click on the

**Print Preview** icon on the standard toolbar

ii) Click on **Close** at the top of the **Print Preview** page to go back to the regular view


Closing MS Word: Be sure to leave yourself enough time to save or print your work before the end of your session. When you are finished, Click ►**File** ►**Exit** from the menu bar OR Click on the **X** in the top right corner of the computer screen

Some Important Editing Functions

When you start up a word-processing program, a window will appear for entering text, with a ruler above to indicate the paper width. You will probably also see lots of little buttons with pictures on them, as seen below. The buttons are shortcuts to certain popular commands. If you hover your mouse over these buttons (without clicking) a little tag will appear telling you what the button does.
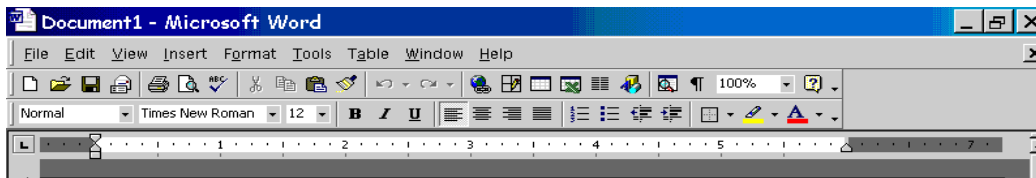
The cursor (called a 'flashing i-beam') will blink on an off, indicating the text insertion point. Anything typed will appear at the insertion point. By clicking the mouse within the typed text, you can reposition the cursor. Additional text can then by typed, or text can be deleted:
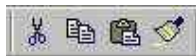
Cut, Copy, Paste and Copy Format:

To copy words, portions of text, images, or just about whatever you have in your document, you can click on the COPY icon or hit Ctrl+C; this will memorize what you have copied in the clipboard and you can paste it any place you want by clicking on the PASTE icon or hitting the keys Ctrl+V. However, if you wish to delete something in order to copy it somewhere else, use the CUT command (the scissors icon) or hit Ctrl+X.

Finally, clicking on COPY FORMAT (the brush icon) you can format text as you wish: to do so, position your pointer on the word whose format you want to copy; click on COPY FORMAT icon; move pointer to word or text you want to modify and highlight it with your mouse, and finally release the mouse button. The text will show the new format (font, character size and colour).

Reverse Commands:

To reverse changes while editing, undo command is used. To perform undo you can Click on the Undo option under Edit menu Or Click on the Undo button on
Standard toolbar Or Press Ctrl+Z.

If an undo has to perform on last reversed action that is known as Redo
. To perform redo you can Click on the Redo option under Edit Menu Or Click on the Undo button on Standard Toolbar Or Press Ctrl+Y

Find, Replace And Go To Options:
Find: Some times while working in document you need to find a particular text. To find a particular text click on the Edit menu, click Find or Ctrl+F. Then you will see the window shown below. In the Find what box, enter the text that you want to search for. Select the direction of searching from Search list box. Select any other options that you want.
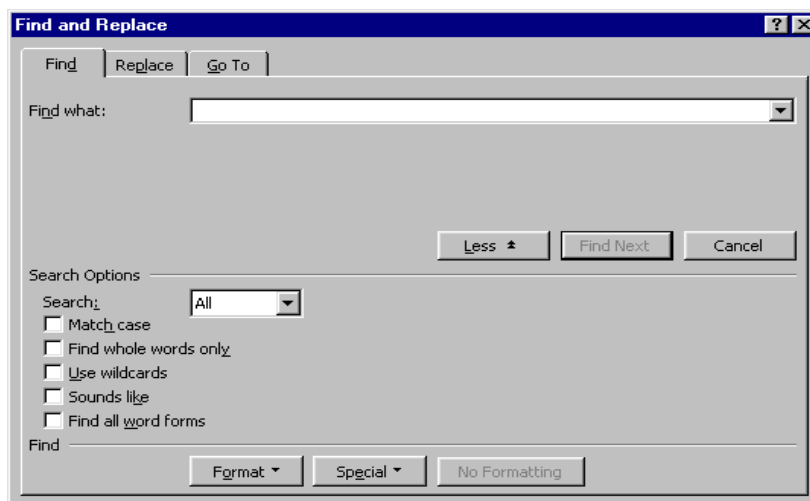
Match case: To find the characters that are a word by themselves and are not a part of another word.
Find whole words only: To find the characters that are a word by themselves and are not a part of another word.
Use wildcards: To specify the wildcard characters (? Or *) in the Find what text box Sounds like: To find words that sound similar but are spelt differently. For example hair, heir, hear and hare sound similar to here.
Find all word forms: To find all grammatical forms of the word. For example, on entering the word eat it also searches ate, eaten and eating words.
If you want find similar word again in the rest of the document click on the Find next button.
Replace: If you have to replace a word in the document with another word you

can use find and replace command. On the Edit menu, click Replace or Ctrl+H. Then you will find a window.

The Find what box, enter the text that you want to search for. In the Replace with box, enter the replacement text. Select any other options that you want. Click Find Next, Replace, or Replace All. To cancel a search in progress, press ESC.
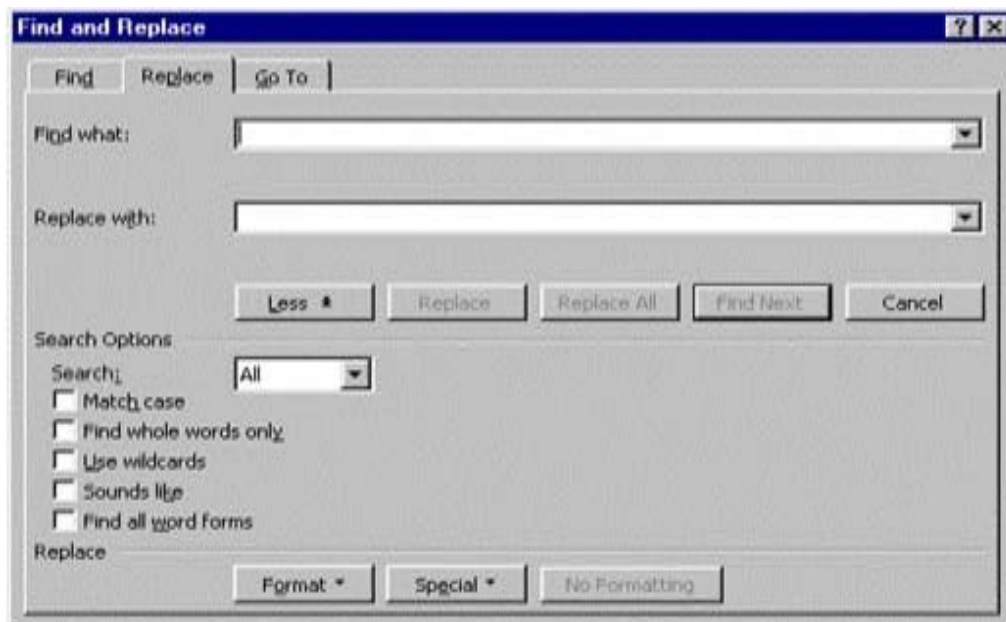
Go to: To go to on a particular location or particular item use Go to option under the Edit menu click on the Go to option under the Edit menu or Ctrl+G. Then the following window will appear on the screen.
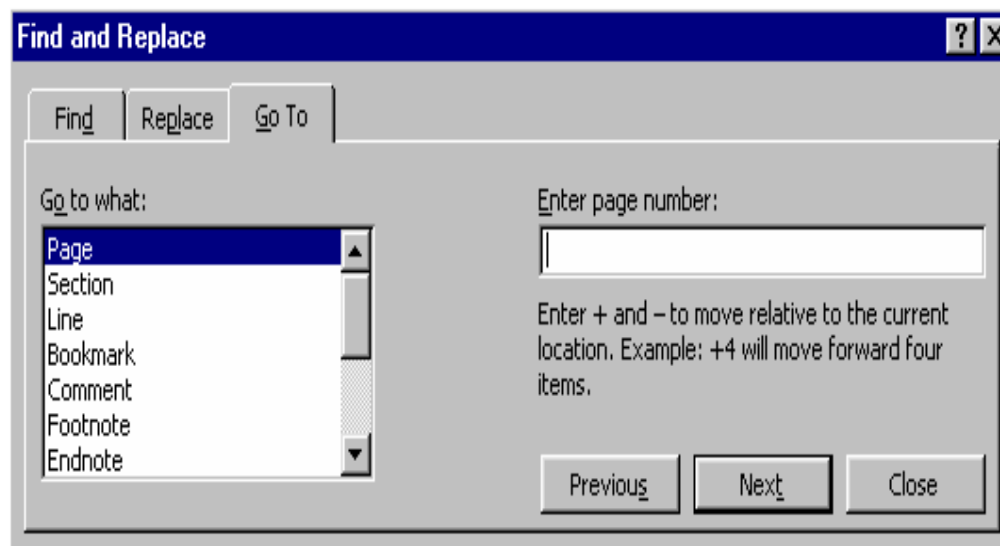
Select according to what you want to navigate in the document from Go to what combo box. Enter the parameter as page number or name of the bookmark. Click on the previous or next depending upon the direction you

want to go.

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[Screenshot: example - Microsoft Word]

Computer Education

The concept of Web Services originated from the basic idea of cutting down development costs as much as possible by reusing code and components. That idea is an old one-even in the late seventies developers were trying out tricks to reuse code after spending months writing lines of COBOL code to create MIS packages. Their way of reusing code was, to copy code already written and customize it-a crude, uninnovative solution, but it nevertheless meant that the 'wheel' needn't be reinvented again and again.

In the late eighties, with the advent of object oriented programming, developers once again managed to cut down development costs by building in inherent features within the development tool or even the compiler.

End of section 1

Right Ali gned

[Screenshot: Font dialog box]

Paragraphs Formatting:

Alignment of the Paragraph: Alignment refers to the way the right and left edges of a paragraph line up along the right and left margins of your document. Word gives you four alignment choices - left, centered, right and justified.

Working with Columns: You can use columns to create documents such as newsletters or book pages. The column option controls the width and number of columns. Narrower column widths make your text easier to read. Often, creating columns enables you to fit more text on a single page. Columns work particularly well where you have several shorter topics making up a larger document, as with a newspaper. To create a column selects the text which you want to convert in column Click on the column button in the Standard toolbar. A drop-down list appears with four columns across it. Click on the first column in the drop-down list and drag across to highlight desired number of columns.

Zoom In and Out of Text:

It is worth mentioning here that the zoom function that is on the standard tool bar of WORD can be used to zoom in and out the text, this way even if you decide for a very small font size you don't have to kill your eyes to read what you are writing. Simply select a higher value on the pull down menu or directly type in a value in the box.

Spelling Checker:

Another important feature is the Spelling Checker and vocabulary, whereas the Grammar Checker is highly unreliable yet and therefore not so useful. Normally most modern WORD versions have this feature of English in-built vocabulary that may be an invaluable helping tool for synonyms and antonyms. To activate this function, position the pointer on the word you want to check and hit F7 key, or alternatively right-click on your mouse and work through the pop-up menu.

Microsoft Word automatically underlines any words that it does not recognize in red, assuming that they are not spelled right. Right-click the red underlined word and click on either one of the corrections suggested or Ignore, to make no changes or add, to make no changes but to add the word to Microsoft Word's list of words that it thinks are spelled correctly. This is especially useful for names of people or places that you type often, so that Word will not think it is wrong the next time it sees it.

Green underlines mean that Microsoft Word thinks there is something wrong with the way the sentence is written. Right-click the underlined words and either click on the corrections suggested or click Ignore.

Inserting Images From Clip Gallery:

To insert an image from Clip Gallery you have to move the cursor where you want to insert the image. Select Clip art option from Insert ►Picture menu. Click the picture category from which you want to insert the picture. If you know what type of image you're looking for, type a descriptive word or two in the Search for Clips text box, and press Enter. Word displays the images that are most closely match your keywords. When you find out the image that you want to use, click it. Clicking on the image will display a small toolbar. From that toolbar, click the Insert button as given in the figure given below. This will insert a clipart in your document.
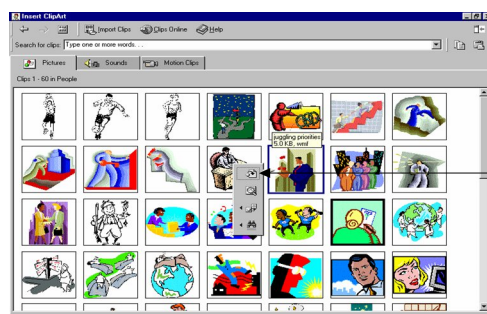
insert

Mail Merge
Mail merge is a pretty simple concept. Mail merge allows standard letters to be 'personalized' by merging it with data from a database. The result is a batch of letters which contain virtually the same information with the exception of names, addresses and any other information stored in a database.

You take a document (such as a form letter) and a set of information (such as the names and addresses of all your clients) and merge them. When you merge the form letter and the list of names, you can generate a mass mailing. Each copy of the document you print will be personalized with a different name and address. Typing the letter once, combining it with your client list, and printing it can therefore accomplish a mailing to hundreds of clients.

Before you start learning mail merge process, you need to understand the two documents that make up a mail merge:

1. Main Document: In a mail-merge operation, the document containing the text and graphics stays the same for each version of the merged document. For example, the return address and the body of a form letter.
2. Data Source: A file that contains the text and graphics that varies with each version of a mail-merge document. For example, a list of names and addresses for a form
letter you want to send to a list of client's or in any report in which you want to use information from a database.

Creating the Main Document
The main document can be a form letter, an invoice, an invitation or any type of document. The idea here is that the document will go to many recipients, and some unique information must be included to personalize it.
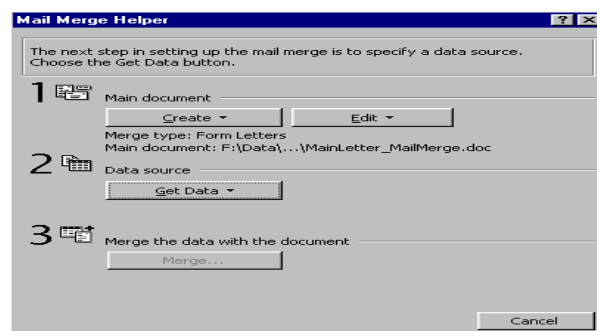
If you have an existing letter that you want to use for your form letter, open it, and modify it according to your need or if you want to start a letter from scratch, start a new blank document. Save the document. Choose tools, Mail Merge to display the Mail Merge Helper Dialog box. Click the Create button. Select Form Letter from the drop-down list. A dialog box will appears with two choices: to create a form letter within the active window or in new window. Click the Active window Button. Click on edit button if you haven't written the letter body.

<<TITLE>> <<FORENAME>> <<SURNAME>>

<<ADDRESS 1>>

<<ADDRESS 2>>

<<POST CODE>>

Dear *<<TITLE>> <<SURNAME>>,*

You have been selected among thousands of people to take part in our prize draw to win Rs. 10,000. A

A standard letter is written and mail merge markers are placed in it to show where the data from the database will be inserted into the letter to personalize it.

Building Data Source

In this second phase, you tell Word which document you want to use as your data source. You can either create a new one or open an existing one.

A data source is a file that contains the data that varies in each copy of a merged document. For example, a data source can include the name and address of each recipient of a form letter.

Create a New Word Data Source

Make sure you've already set up the main document. If you don't see the Mail Merge Helper dialog box, click in the main document, and then click Mail Merge on the Tools menu. Under Data source, click Get Data, and then click Create Data Source.

In the Field names in header row box, specify the data fields (A category of information in a data source. A data field corresponds to one column of information in

the data source. The name of each data field is listed in the first row (header row) of the data source. "PostalCode" and "LastName" are examples of data field names.) that you want to include in the data source. To delete a data field, click the field name in the Field names in header row box, and then click

Remove Field Name. To add a data field, type a new field name in the Field name box, and then click Add Field Name. To change the order of the data fields, click a field name in the Field names in header row box, and then click one of the arrow buttons. When you finish specifying the data fields, click OK. Locate the folder that you want to save the data source in, type a file name, and then click Save.
Click Edit Data Source.
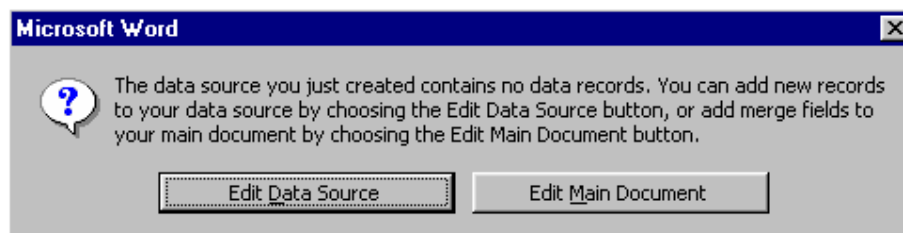
In the Data Form dialog box, fill in the information for each data record (A complete set of related information in a data source. A data record corresponds to one row of information in the data source. All information about one client in a client mailing list is an example of a data record. To fill in a record, type information for a data field, and then press ENTER to move to the next field. If you don't want to include information for a particular field, press ENTER to skip the field. Don't type spaces in the box. To start a new data record, click Add New.

To return to the main document, click Mail Merge Main Document on the Database toolbar.
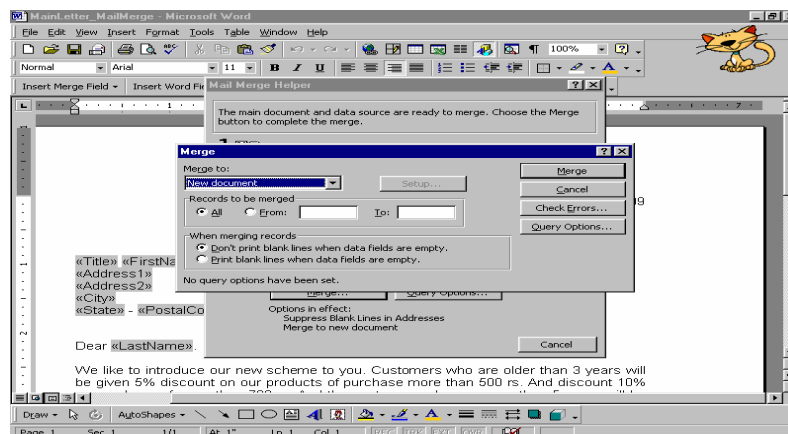
 Mail   Merge   Main

Now the main document displays out with the new toolbar of Mail Merge
Inserting the Merge Fields
It's time to enter merge fields in the form letter you typed. The merge fields in the letter will correspond to the fields in your database. Place your cursor halfway between the date and salutation. Choose the Insert Merge field's button on the Mail Merge toolbar.
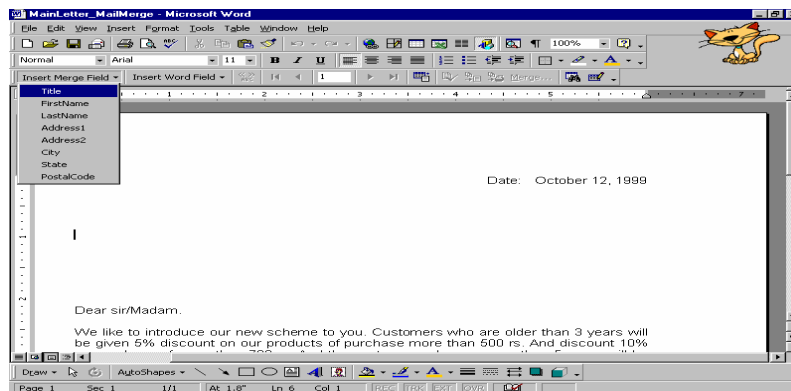
Word inserts the merge field surrounded by chevron brackets. Insert the remaining merge fields in the address block, pressing Enter and adding spaces and commas where necessary. If you have a salutation field, add it after Dear, and follow it with a colon or comma. Save the main document.

Merging Document and DATA
Merging to a Printer or
Document
Choose the Mail Merge Helper button. Now the look of Mail Merge Helper
dialog box changed and some new buttons get activated.

Choose Merge button. The merge dialog box appears. Open the Merge to drop-down list. Select the option from Printer, New Document, Electronic mail for the destination of the mail merge. Select the New Document option and click on the Merge button. Then you will get a new document named as Form Letters 1 with a copy of letter with different names and address on different pages.
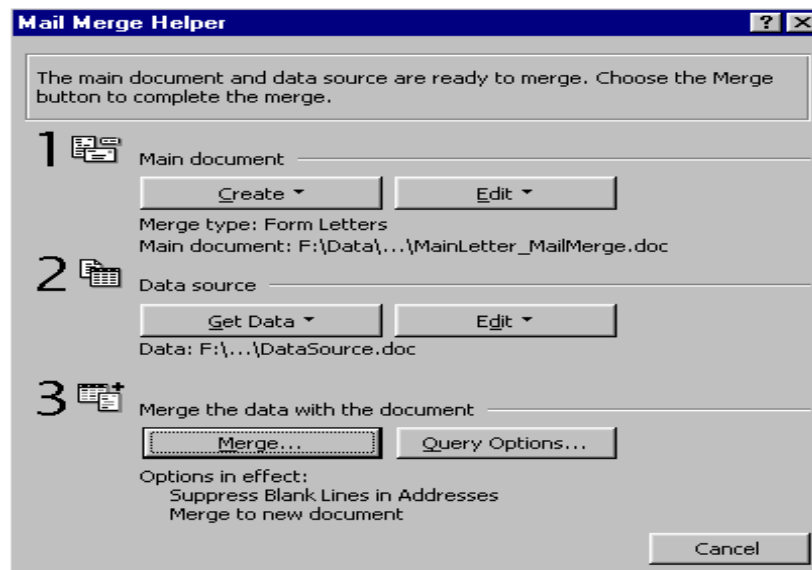
Summary

The word processor is the modern version of paper, pen, typewriter, eraser, dictionary and thesaurus… all in one. It is used to create all kinds of documents, from simple notes and memos, to brochures, resumes, and long reports. The key advantage of a word processor is its ability to make changes easily, such as correcting spelling, adding, deleting, and relocating text. Once created, the document can be printed quickly and accurately and saved for later modifications.

In a word-processing program, a window appears for entering text, with a ruler above to indicate the paper width and lots of little buttons with pictures on them. The buttons are shortcuts to certain popular commands. If mouse is hovered over these buttons (without clicking) a little tag will appear telling you what the button does.

Word processing software has various facilities like Mail merge. Mail merge allows standard letters to be 'personalized' by merging it with data from a database. The result is a batch of letters which contain virtually the same information with the exception of names, addresses and any other information stored in a database.

MS – EXCEL:

Introduction

Though most business computations can be handled by general accounting software, more complex calculations often are needed in order to help businesses make wise investment decisions. A computer aids the business person in performing these complex mathematical tasks. Perhaps the most common use of the computer is in financial analysis that involves the electronic spreadsheet use for designing solutions for complex calculations.

A spreadsheet is a grid that organizes data into columns and rows. Spreadsheets make it easy to display information, and one can insert formulas to work with the data. We use spreadsheet programs to learn about different kinds of things, and to make decisions. Spreadsheets are based on different varieties of subjects. Although electronic spreadsheets are useful in many areas of business, nowhere they are more helpful than in financial analysis, or forecasting, which determines profit margins, sales, and long term strategies. The reason for the great impact of the electronic spreadsheet in this area is its ability to answer "What if?" type queries on available data, as with the help of formula and function facility one can intelligently setup complex relationships between individual items in a table. A spreadsheet program uses the memory capability of computer to solve mathematically oriented problems. With a spreadsheet program, columns of numbers can be setup to keep track of money or objects. These items are stored in a place known as cells. The user may setup relationships and see the affect of varying independent quantities. With the high speed computing power of the digital computer, complex problems can be modeled on the computer and various options can be tried. For example, there is a particular icon that has a formula to sum up numbers that are given. This icon is called auto sum. Information can also be sorted and filtered.

This chapter will present an overview of the spreadsheet software and highlight the use of spreadsheets through its applications.

Concept and Definitions of Spreadsheet Software

Spreadsheet is a very powerful and easy to use software package, which is being commonly used these days. It is basically an end user application package. It works very well with numbers and their complex calculations. Spreadsheet helps to prepare data in an organized, orderly and meaningful fashion. Spreadsheet finds its major contribution in creating reports, using formulas and performing calculations. It is best suited for scientific and statistical analysis. Spreadsheet can also be used to prepare Profit and Loss accounts, Balance sheet and other Tax statements. It works well for both simple and complicated numbers. It can be used for preparing analytical reports including statistical analysis, forecasting and regression analysis. Good looking and attractive charts can be created which depict data in clearer and meaningful fashion. Spreadsheet can also used to create relationships between different types of data. Spreadsheet can do all the work of a full-fledged word-processor but it lacks the advanced features of desktop publishing. It also supports the high level features of object linking and embedding which means data from word processor can be safely and easily put and linked with data in spreadsheet and vice versa is also true.

Spreadsheet History1961 - Professor Richard Mattessich was the first to develop a computerized spreadsheet.

❖ 1978 - Robert Frankston and Dan Bricklin invented VisiCalc, the first spreadsheet. It came out with the Apple II computer. VisiCalc did very well in its first year because it could run. On personal computers, could perform simple math formulas, and gave immediate results.

❖ 1980 - DIF formats were invented. Data was more portable and could be shared with other programs.

❖ 1980-83 - New versions of DIF, SuperCalc, and some other programs came out to the public.

❖ 1983 - Lotus 123 was introduced. It allowed people to chart information and identify cells. For example cell A1.

❖ 1985 - Lotus 123 number 2.

❖ 1987 - New spreadsheet programs such as Excel and Corel Quattro Pro were introduced. This allowed people to add graphics. They are different because they include graphic capabilities.

❖ 2001 - Spreadsheet programs in use today are Excel, Appleworks, Filemaker, and Corel Quattro Pro.

We can define spreadsheet in the following manner:

A spreadsheet is a software tool for entering, calculating, manipulating, and analyzing sets of numbers.

An electronic spreadsheet is a relational grid of columns and rows used to store and manipulate numeric information by means of a computer. The grid appears on the display screen, and data is stored in the memory of computer.

We have seen from historical evolution many of the spreadsheet software, from learning point of view we shall consider only Microsoft Excel.
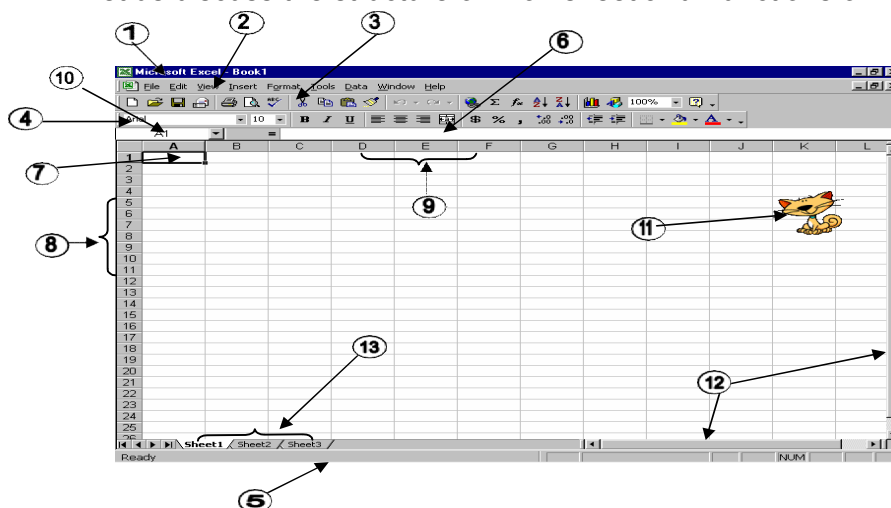
Structure of Worksheet:

Start with Microsoft Excel:

To start Excel, follow the following steps:

1. Click on the Start button at windows taskbar.
2. Select Program option.
3. Select Microsoft Excel option.
4. Selecting this option will open up Microsoft Excel and the main screen will appear.

Let us discuss the structure of Worksheet and Functions of Various

Components of Microsoft Excel from the main screen.

Functions of various components of Microsoft Excel are given below:

1. **Title Bar:** Title bar shows the name of the document and situated in the top of the window application.
2. **Menu Bar:** Menu bar contains the various commands under the various topics to perform some special tasks. Menu bar is located under the title bar
3. **Standard Toolbar:** Toolbar is nothing more than the shortcut of the Menu options to execute or perform the menu options in the easiest and faster way. Standard toolbar contains the commands for the Excel's most frequently used commands.
4. **Formatting Toolbar:** Formatting toolbar contains the various commands related to the formatting of the document.
5. **Status Bar:** It displays the positioning of the cursor, displays the status of some important keys of keyboard, shows the messages for the toolbar button when a mouse points to it, display messages for menu option when a menu option is selected or pointed out by a user.
6. **Formula Bar:** Formula bar shows you the formula instead of the result whenever you click on a cell in which you have a formula.
7. **Rows:** Rows are combination of all the horizontal cells joined together in single horizontal line. An Excel workbook has maximum 65,536 rows in a worksheet
8. **Columns:** Columns are combination of all the vertical cells joined together in single vertical line. An Excel workbook has maximum 256 columns in a worksheet
9. **Cell:** A Cell is an intersection point of row and column. It is used to store data. There are 65536 x 256 = 16777216 cells in a single worksheet.
10. **Name Box:** This box shows the name or the address of the currently active cell.
11. **Office Assistant:** Office assistant provides you the online help, real-time tips while working.
12. **Scroll Bars:** There are two types of scroll bars
    i. Horizontal Scrollbar
    ii. Vertical Scrollbar
    Working of both the scroll bar is to scroll the Worksheet in the either directions
13. **Worksheets:** As name suggests it is the working area in which you can work. Each worksheet of a single workbook has its own identity they are separate from other worksheets. The maximum limit of the worksheet in a workbook is 255.

Creation of Spreadsheet:

Open a New Workbook

To open a new workbook, follow the steps:

1. Click on the File Menu.
2. Select Option New.
3. Click the OK Button. Now you will get a fresh new workbook to work on.

Save a Workbook

For saving a document, following are the steps:

Click Save option on the File OR Press Ctrl+S OR Press the Save Button from standard toolbar. If you are saving the file for the first time, the Save As… window

will appear. Choose the appropriate folder from Save in combo box. Write the proper file name in the File name text box. And then press the Save button

Opening of an Existing Workbook

To open an existing workbook, the following steps are required:

1. Select the Open option from the File menu OR Press Ctrl+O OR Click on the Open tool from the standard toolbar. Then the open dialog box will appear.
2. Select the appropriate folder from Look in combo box.
3. Select the required file from the file window OR write the required file's name in the File name window
4. Click on open button on the right hand side OR Press Enter

Closing of Workbook

To close an already opened workbook just choose the Close option from file menu but keep it in your mind that only the current window or workbook will close because Microsoft Excel works in MDI (Multi document interface) environment unlike notepad which works in SDI(Single document interface).

Page Setup

From the Page setup option, one can setup the page layout according to his work. For using the Page setup option, you have to perform the following steps:

1. Click on the Page setup option from the file menu. Then a window will appear.
2. Select the page Orientation from Portrait or Landscape.
3. Setting the Adjust to setting will Reduces or enlarges the printed worksheet.
4. Select the Adjust to check box, and then enter a percentage number in the % normal size box. You can reduce the worksheet to 10 percent of normal size or enlarge it to 400 percent of normal size.
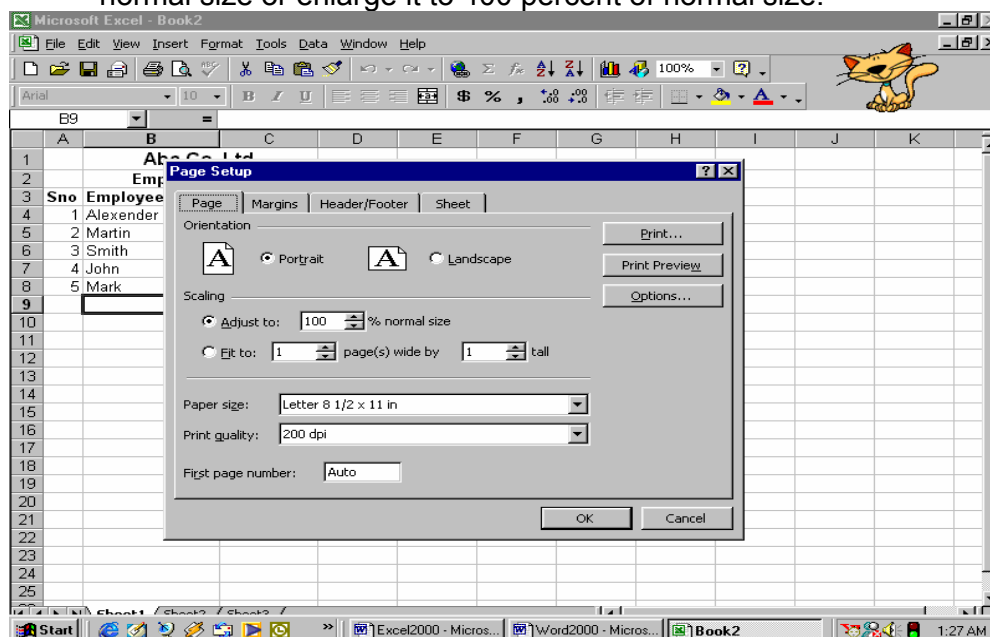
Give the value to 'Fit to'. Setting to 'Fit To' reduces the worksheet or selection when you print so that it fits on the specified number of pages. Select the 'Fit to' check box, enter a number in the page(s) wide by box, and enter a number in the tall box. To fill the paper width and use as many pages as necessary, type 1 in the pages(s) wide by box and leave the tall box blank.
Select the Paper size

Print Option

For taking the printout you have to select the print option of the file menu. After selecting the print option from file menu the window given below will appear.
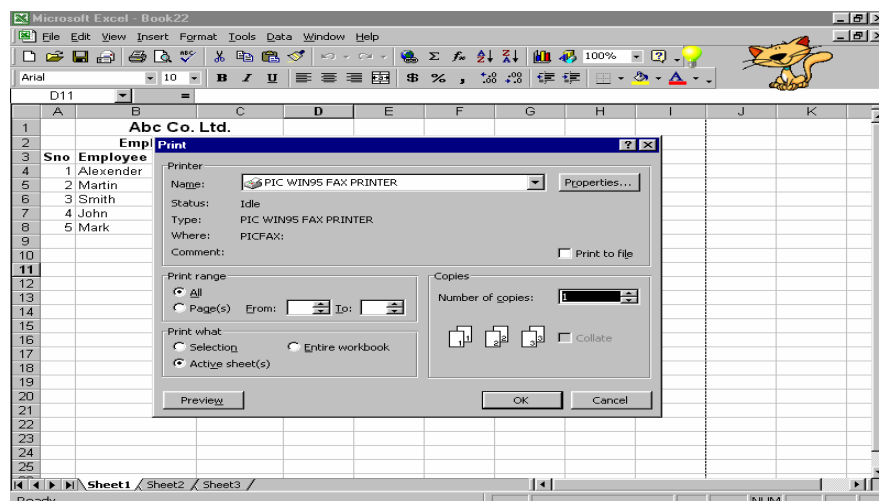
You can set various options before taking printout.

1. From the Name combo box, you can select the printer if more than one printer is installed.
2. You can select the range of pages i.e. all pages or current page or number of pages you require from Print range frame.
3. From the print what option you can choose that which part of a worksheet you want to print i.e. some selection or Entire workbook or active sheet only.
4. You can choose number of copies from Number of copies option under Copies frame.

Creating Range, Formulas and Functions:

Creating Range:

Range is a specified area from one location (cell address) to another location (cell address) on what some sort of operation has to be performed.

Here as shown in the window the specified area is from B3 to I18 which is selected with the help of mouse.

Perform the following steps to select a range of cells:
1. Point your mouse to cell address B3.
2. By pressing the left button of the mouse drag upto cell address I18.
3. Release the button.

The range is created for performing any operation on the worksheet.

Creating Formulas:

After entering the data into the worksheet, calculations are performed with that data. This is done using formulas, the true power of a spreadsheet program. For creating the formula, syntax is required which describe the sequence of character used in a formula.

The syntax of a formula begins with an equal sign (=) in Excel and is followed by a combination of values, operators and cell references.

Operators: Operators specify the type of operation that has to be performed on the parts of a formula. Basically we use three types of operators.
1. Arithmetic Operators: To perform mathematical operation on numeric values and thereby produces numeric results.
2. Comparison Operators: To compare the values or labels in two cells. The result of this formula is either TRUE or FALSE.
3. Text Operators: To join one or more text values into a single combined text value. The ampersand (&) (which is the only text operator) is used to join one or more labels into a single combined label. For example,
    =D2& " "&F3
    This formula combines the labels in cells D2 and F3.

Various Arithmetic and Comparison operators are shown in the table.

Arithmetic Operators		Comparison Operators	
Operators	Meaning	Operators	Meaning
+	Addition	=	Equals
-	Subtraction or Negation	<>	Does not equal
/	Division	>	Greater than
*	Multiplication	>=	Greater than or equal to
%	Percent, e.g. 35%	<	Less than
^	Exponentiation (e.g. 4^2=16)	<=	Less than or equal to

When arithmetic operators are used in formulas, spreadsheets calculate the results using the rules of precedence followed in mathematics. The order is as follows:

1. Exponentiation (^)
2. Negation (-)
3. Multiplication and Division (*,/)
4. Addition and Subtraction (+, -)

Otherwise, operators are evaluated from left to right. In order to change the order of precedence to suit your needs, you add parentheses around any part of the formula that you want to be calculated first.

Creating Functions:

Spreadsheets come with many built formulas, called functions that perform specialized calculations automatically. We can include these functions in our own formulas. Some functions are quite simple, such as the COUNT function (to count the number of values in a range of cells). Many functions, however are very complex.

To insert a function you have to follow the following steps.

1. Click on the cell in which you want to insert the function.
2. Select the option Function from insert menu.
3. Above dialog box will appear.
4. Select the desired function and click on OK button
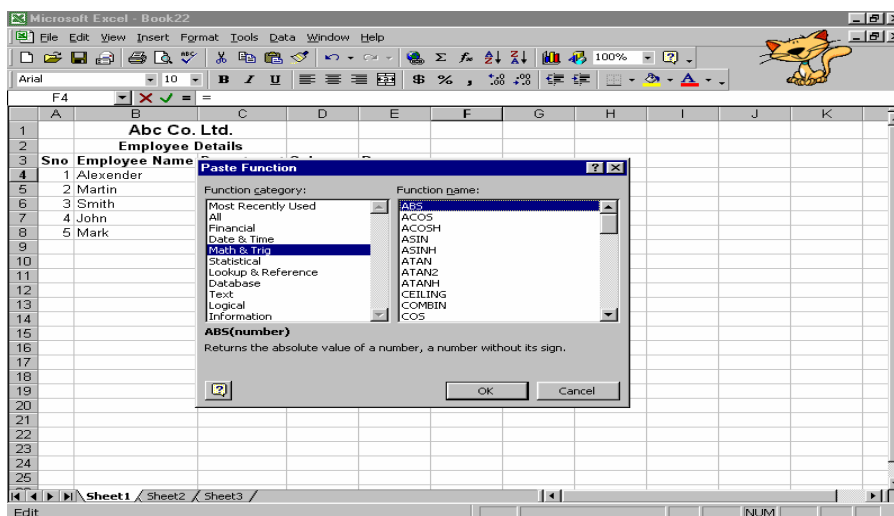
Using Various Functions in MS-Excel:

The leading spreadsheets come with hundreds of these functions. Here we are discussing some of the most commonly used ones with the help of examples:

1. Date and Time Functions
   i. DATE: Represents the date number that represents a particular date.
   Syntax: DATE(year, month, day)
   Argument Type: Number, Number,
   Number **Return Type:** Number
   Example: =date(2005, 04, 17)
   MS-EXCEL returns 4/17/05
   ii. DATEVALUE: Returns the serial number of the date represented by date_text.
   Syntax:
   DATEVALUE(date_text)

Argument Type: Text like date
Return Type: Number
Example: =DATEVALUE("2005/04/17")
MS-EXCEL returns 38459
iii. DAY: Returns the day of a date, which is represented by a serial
number. The day is given as an integer ranging from 1 to 31.
Syntax: DAY(serial_number)
Argument Type: Number(Date
number) **Return Type:** Number
Example: =DAY(38459)
MS-EXCEL returns 17
iv. MONTH: Returns the month of a date, which is represented by a serial
number. The month is given as an integer ranging from 1 to 12.
Syntax: MONTH(serial_number)
Argument Type: Number(Date
number) **Return Type:** Integer
Example: =MONTH(38459)
MS-EXCEL returns 4
v. NOW: Returns the serial number of the current date and time i.e. this
function returns sum of current date number and current time number.
Syntax: NOW( )
Argument Type:
None **Return Type:**
Number **Example:**
=NOW( )
MS-EXCEL returns 4/17/2005 21:58
vi. TIME: Returns the decimal number for a particular time.
Syntax: TIME(hour, minute, second)
Argument Type: Number, Number,
Number **Return Type:** Number (the time
number) **Example:** =TIME(21, 58, 12)
MS-EXCEL returns 9:58 PM
vii. TODAY: Returns the serial number of current date i.e. the date number
of current date.
Syntax: TODAY( )
Argument Type:
None **Return Type:**
Number **Example:**
=TODAY( )
MS-EXCEL returns 4/17/2005
2. Financial Functions
i. FV: Returns the future value of an investment based on periodic,
constant payments and a constant interest rate.
Syntax: FV(rate, nper, pmt, pv, type)
Argument Type: Number, Number, Number, Number,
Return Type: Number
Example: =FV(0.005, 18, -500, -2000, 0)
MS-EXCEL returns $11,580.75
ii. PMT: Calculates the payment for a loan based on constant payments
and a constant interest rate.
Syntax: PMT(rate, nper, pv, fv, type)
Argument Type: Number, Number, Number, Number, Number

Return Type: Number
Example: =PMT(8%/12,10,10000,0,1)
MS-EXCEL returns ($1,030.16)
iii. PV: Returns the present value of an investment. The present value is the total amount that a series of future payments is worth now.
Syntax: PV(rate, nper, pmt, fv,
type) **Argument Type:** Number
all **Return Type: Number**
Example: =PV(0.08/12,240,500, ,0)
MS-EXCEL returns ($59,777.15)

3. Logical Functions
Examples based on the following table:

R. No.	Name	Marks	Grade
2001	Anil	96	A+
2002	Sanjay	43	F
2003	Jagdeep	66	A
2004	Rajneesh	55	B
2005	Renu	80	A+

i. AND: The logical functions are used to see whether a condition is true or false or to check for multiple conditions.
Syntax: AND(Logical1, Logical2, ….)
Argument Type: Logical
all **Return Type:** Logical
Example: =AND(c2:c6)
MS-EXCEL returns TRUE
ii. OR: Returns TRUE if any argument is TRUE; returns FALSE if all arguments are FALSE.
Syntax: OR(Logical1, Logical2,
….) **Argument Type:** Logical all
Return Type: Logical
Example: =OR(c2:c6)
MS-EXCEL returns TRUE
Type: =OR(b2:b6)
MS-EXCEL returns #VALUE
iii. NOT: Reverses the value of its expression that can be evaluated to TRUE or FALSE.
Syntax: NOT(logical)
Argument Type: Logical
Return Type: Logical
Example: =NOT(FALSE)
MS-EXCEL returns
TRUE **Type:**
=NOT(1+4=5)
MS-EXCEL returns FALSE
4. Math Functions
i. ABS: Returns the absolute value of a number.
Syntax: ABS(Number)
Argument Type:

Number **Return Type:**

Number **Example:**

=ABS(5)

MS-EXCEL returns 5

Type: =ABS(-5)

MS-EXCEL returns 5

ii. **EXP:** Returns e raised to the power of a number e.g. e^x. The constant
   e=2.71828182845904, the base of the natural logarithm.

Syntax: EXP(number)

Argument Type:

Number **Return Type:**

Number **Example:**

=EXP(1)

MS-EXCEL returns 2.718281828

Example: =EXP(2)

MS-EXCEL returns 7.389056099

iii. **INT:** Rounds a number down to a nearest integer.

Syntax: INT(number)

Argument Type:

Number **Return Type:**

Number **Example:**

=INT(8.9)

MS-EXCEL returns 8

Example: =INT(-8.9)

MS-EXCEL returns -9

iv. **LOG:** Returns the logarithm of a number to the base we specify.

Syntax: LOG(Number, base)

Argument Type: Number, Number

Return Type:

Number **Example:**

=LOG(10) **MS-**

EXCEL returns 1

Example: =LOG(8,2)

MS-EXCEL returns 3

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

Syntax: MOD(Number, divisor)

Argument Type: Number,

Number **Return Type:** Number

Example: =MOD(3,2)

MS-EXCEL returns 1

Example: =MOD(3,-
2)

MS-EXCEL returns -1

vi. **ROUND:** Returns a number to a specified number of digits

Syntax: ROUND(number, num_digits)

Argument Type: Number

Return Type: Number

Example:

=ROUND(2.15,1)

MS-EXCEL returns 2.2

Example: =ROUND(2.149,1)

MS-EXCEL returns 2.1

vii. SQRT: Returns a positive square root.

Syntax:

SQRT(number)

Argument Type:

Number **Return Type:**

Number **Example:**

=SQRT(16) **MS-EXCEL**

returns 4 **Example:**

=SQRT(-16)

MS-EXCEL returns #NUM

viii. SUM: Adds all the numbers in a range of cells.

Syntax: SUM(number1, number2, ….)

Argument Type: Number

Return Type: Number

Example: =SUM(3,2)

MS-EXCEL returns 5

Example: =SUM(a2, b2, 2)

MS-EXCEL returns 2

ix. TRUNC: Truncates a number to an integer by removing the fractional part of the number.

Syntax: TRUNC(number, num_digits)

Argument Type: All

number **Return Type:**

Number **Example:**

=TRUN(8.9)

MS-EXCEL returns 8

Example: =TRUN(-

8.9) **MS-EXCEL**

returns -8

5. Statistical Functions

Examples based on the following table:

R. No.	Name	Marks	Grade
2001	Anil	96	A+
2002	Sanjay	43	F
2003	Jagdeep	66	A
2004	Rajneesh	55	B
2005	Renu	80	A+

i. AVERAGE: Returns the average of the arguments. **Syntax:** AVERAGE(number1, numner2, number3,….) **Argument Type:** All numbers

Return Type: Number

Example: =AVERAGE(c2:c6)

MS-EXCEL returns 68

ii. COUNT: Counts the number of cells that contain numbers and numbers within the list of arguments.

Syntax: COUNT(value1, value2,…)
Argument Type: Any
type **Return Type:**
Number **Example:**
=COUNT(c2:c6)
MS-EXCEL returns 5
iii. MAX: Returns the largest value in a set of values.
Syntax: MAX(number1,
number2,…) **Argument Type:** All
numbers **Return Type:** Number
Example: =MAX(c2:c6)
MS-EXCEL returns 96
iv. MIN: Returns the smallest value in a set of values.
Syntax: MIN(number1,
number2,…) **Argument Type:** All
numbers **Return Type:** Number
Example: =MIN(c2:c6)
MS-EXCEL returns 43

6. **Text Functions**

   i.   CHAR: Returns the character specified by a number. The number is
        assumed to be the ASCII value and its equivalent is returned.
   Syntax:
   CHAR(number)
   Argument Type:
   Number **Return Type:**
   Character **Example:**
   =CHAR(65)
   MS-EXCEL returns A
   ii. CONCATENATE: Joins several text strings into one string.
   Syntax: CONCATENATE(text1, text2,…)
   Argument Type: All Text
   Return Type: Text
   Example: CONCATENATE("Ram", "Avtar")
   MS-EXCEL returns RamAvtar
   iii. LEFT: Returns the first character or the characters in a text string,
        based on the number of characters we specify.
   Syntax: LEFT(text,
   num_chars)   **Argument**
   Type: Text, Number **Return**
   Type: Text
   Example: =LEFT("SALES PRICE", 4)
   MS-EXCEL returns SALE

iv. LEN: Returns the number of characters in a text string i.e. Length of a string.
Syntax: LEN(text)
Argument Type: Text
Return Type: Number
Example: =LEN("SALES PRICE")
MS-EXCEL returns 11
v. LOWER: Converts all uppercase letters in a text string to lowercase.
Syntax: LOWER(text)
Argument Type: Text
Return Type: Text
Example: =LOWER("SALES PRICE")
MS-EXCEL returns sales price
vi. RIGHT: Returns the last character or the characters in a text string, based
on the number of characters we specify.
Syntax: RIGHT(text, num_chars)
Argument Type: Text, Number
Return Type: Text
Example: =RIGHT("SALES PRICE", 5)
MS-EXCEL returns PRICE
vii. TRIM: Removes all spaces from text except for single spaces between the
words..
Syntax: TRIM(text)
Argument Type: Text
Return Type: Text
Example: =TRIM("SALES PRICE   ")
MS-EXCEL returns SALES PRICE
viii. UPPER: Converts all lowercase letters in a text string to uppercase.
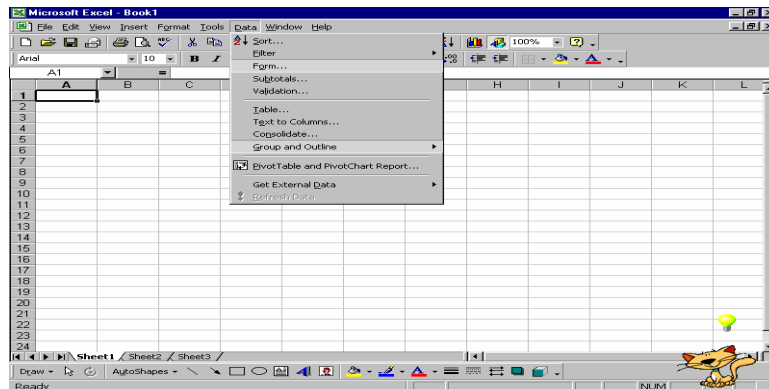**Syntax:** UPPER(text)
Argument Type: Text
Return Type: Text
Example: =UPPER("sales price")
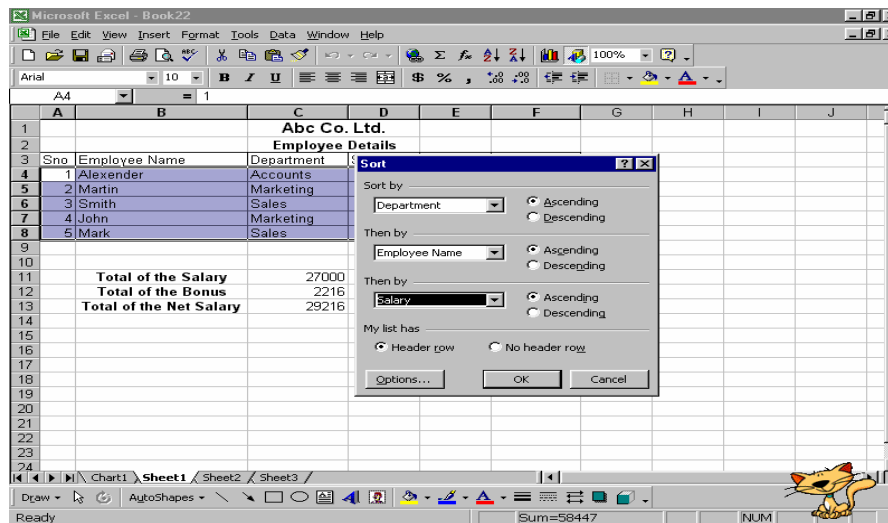**MS-EXCEL returns** SALES PRICE

Data Management
Data menu of the Excel provides various commands, which you can apply to your
data.

Sorting of Data

To sort the data you have to perform the following steps.
1. Select the columns which you want to sort.
2. Choose Sort option from Data menu. You will find out the following dialog box on the screen.

3. Choose the Column on which you want to do the sorting. You can select more than one column.
4. Select the Ascending or descending option.
5. Select the Header row if there is any header row in the table.
6. Click on the OK button.

Filtering List

Sometimes the user wants to locate some information from an extensive list. To find the information quickly, Microsoft Excel provides Filter list option. This option enables the user to display the information regarding the selected options. Microsoft Excel provides two commands for filtering lists:

AutoFilter, which includes filter by selection, for simple criteria

Advanced Filter, for more complex criteria

Using Auto Filter

You can apply filters to only one list on a worksheet at a time.

1. Click a cell in the list you want to filter.
2. On the Data menu, point to Filter, and then click AutoFilter.


3. To display only the rows that contain a specific value, click the arrow in the column that contains the data you want to display.
4. Click the value.
5. To apply an additional condition based on a value in another column, repeat steps 3 and 4 in the other column.

Filter a List by using Advanced Criteria

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

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

To filter the list by copying rows that match your criteria to another area of the worksheet, click Copy to another location, click in the Copy to box, and then click the
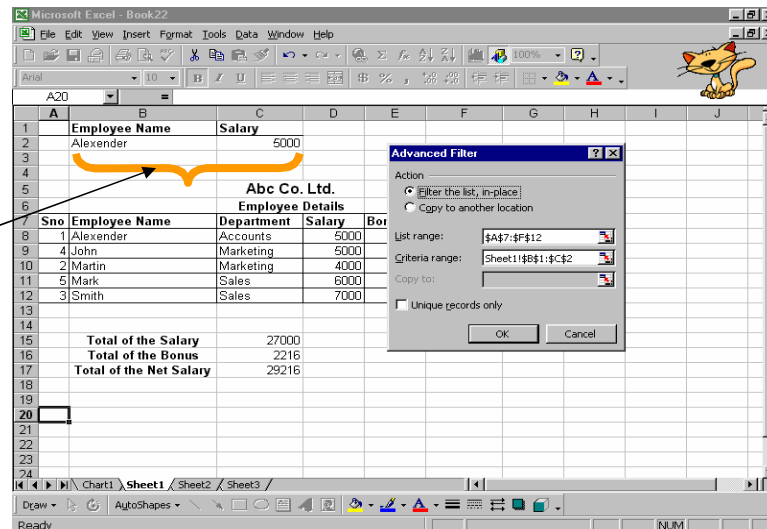
upper-left corner of the area where you want to paste the rows.

7. In the Criteria range box, enter the reference for the criteria range, including the criteria labels.

To move the Advanced Filter dialog box out of the way temporarily while you select the criteria range, click Collapse Dialog.

About importing data

By importing data, you don't have to retype the data you want to analyze in Microsoft Excel. You can also update your Excel reports and summaries automatically from the original source database whenever the database is updated with new information.

Importing data: You can import data to Excel from most data sources by pointing to **Import External Data** on the **Data** menu, clicking **Import Data**, and then choosing the data you want to import in the **Select Data Source** dialog box. The Data Connection Wizard, available when you click **New Source** in the **Select Data Source** dialog box, makes it possible to import data from external data connections not available from the **Select Data Source** dialog box.

Graphics on Spreadsheet:

Inserting Images, Auto shapes and Word Art

Inserting Images from Clip Gallery

To insert an image from Clip Gallery you have to follow these steps:

1. Move the cursor on the cell where you want to insert the image.
2. Select Clip art option from Insert->Picture menu.
3. Click the picture category from which you want to insert the picture.
4. If you know what type of image you are looking for, type a descriptive word or two in the Search for Clips text box, and press Enter. Excel displays the images that most closely match your keywords.
5. When you find out the image that you want to use, click it.
6. Clicking on image will display a small toolbar, from that toolbar click the insert button.

This will insert a clipart in your worksheet.

WordArt

WordArt lets you add flair to your text itself. It provides a different look to your text as well worksheet. It is perfect for creating flashy headings and titles. To insert a word art in your worksheet do the following steps.

1. Click the place on the worksheet where you want the WordArt image to be placed.
2. Choose Insert, Picture, WordArt or click on icon. This will open the WordArt Gallery dialog box.
3. Choose the desired format and press Ok button.
4. Then the figure given below will appear.
5. Write the desired text instead of Write your Text Here.
6. Select the desired Font and Font size.
7. Press Ok button.

Insert Objects

Excel provides you the facility to link or embed the objects of other software's in your worksheet and work on the linked or embedded objects as you are working on that software itself.

To embed an object you have to follow these steps.

1. Click in the document where you want to place the embedded object.
2. On the Insert menu, click Object, and then click the Create New tab.
3. In the Object type box, click the type of object you want to create.
4. To display the embedded object as an icon — for example, if others are going to view the worksheet online — select the Display as icon check box.

Note:

Only programs that are installed on your computer and that support linked and embedded objects appear in the Object type box. When you click Microsoft Word Document in the Object type box, an entire document is inserted into your worksheet. The document displays only one page at a time. To display a different page, double- click the Microsoft Word object, and then click a page down button.

Insert Chart

Pictures are more understandable than words. Charts are visually appealing and make it easy for users to see comparisons, patterns, and trends in data. For instance, rather than having to analyze several columns of worksheet numbers, you can see at a glance whether sales are falling or rising over quarterly periods, or how the actual sales compare to the projected sales.

You can create a chart on its own sheet or as an embedded object on a worksheet. You can also publish a chart on a Web page. To create a chart, you must first enter the data for the chart on the worksheet. Then select that data and use the Chart Wizard to step through the process of choosing the chart type and the various chart options.

Using chart wizard

One of the easiest ways to generate a chart from data you enter in a worksheet is by using Chart wizard. Chart wizard is a simple process of making selections to produce a finished chart.
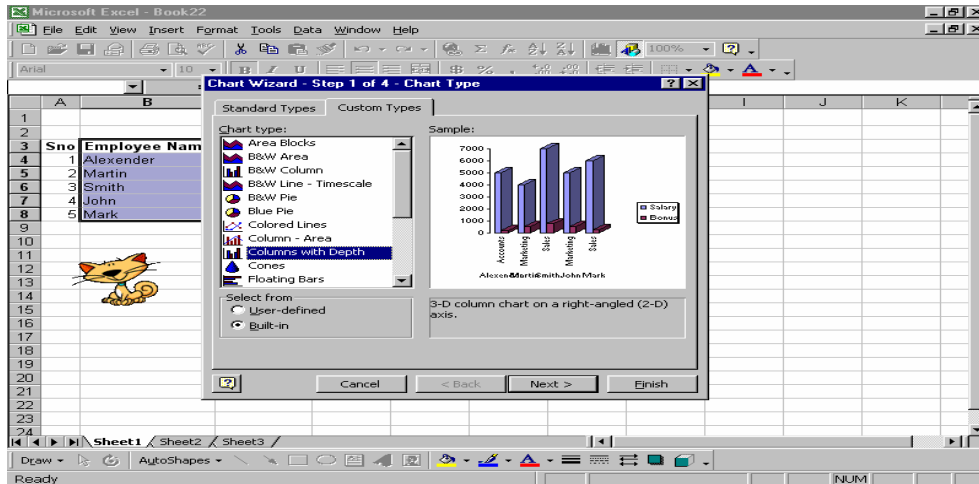
1. Select the range of data on which you want to make a chart.
2. Select the option chart from insert menu following dialog box will appear.
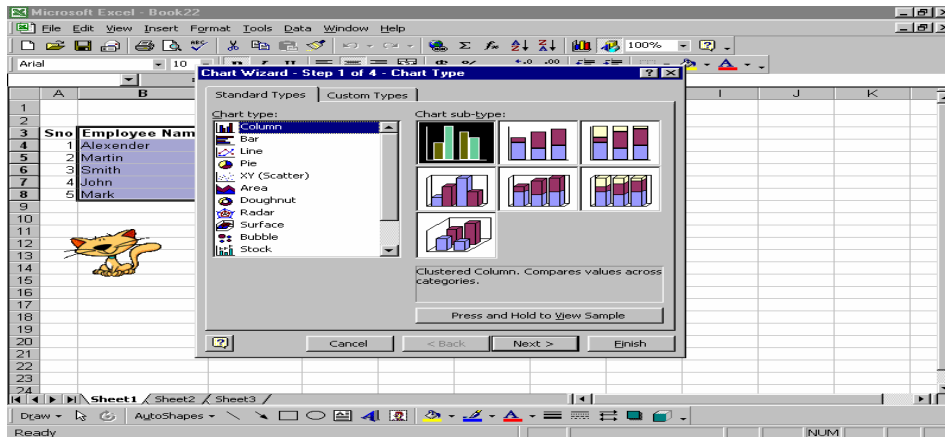
3. Select the type of chart you want.
4. Click on the Press and Hold to view Sample button to preview your chart.
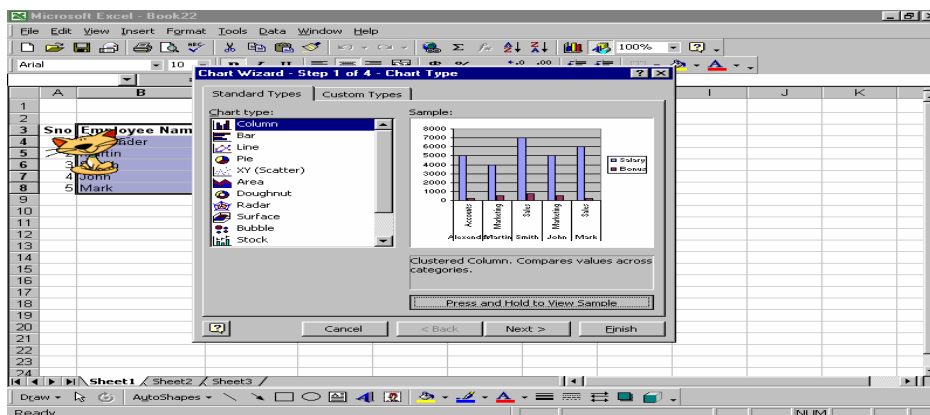
5. If the given charts are not of your choice then click on the Custom Type tab.

6. Select the graph type and Click on the Next button.
7. If you have forgotten to select the data range or you want to change the data range then you can select the data range from here by clicking the button next to Data range combo box.
8. Click on the Series tab. Following dialog box will appear.
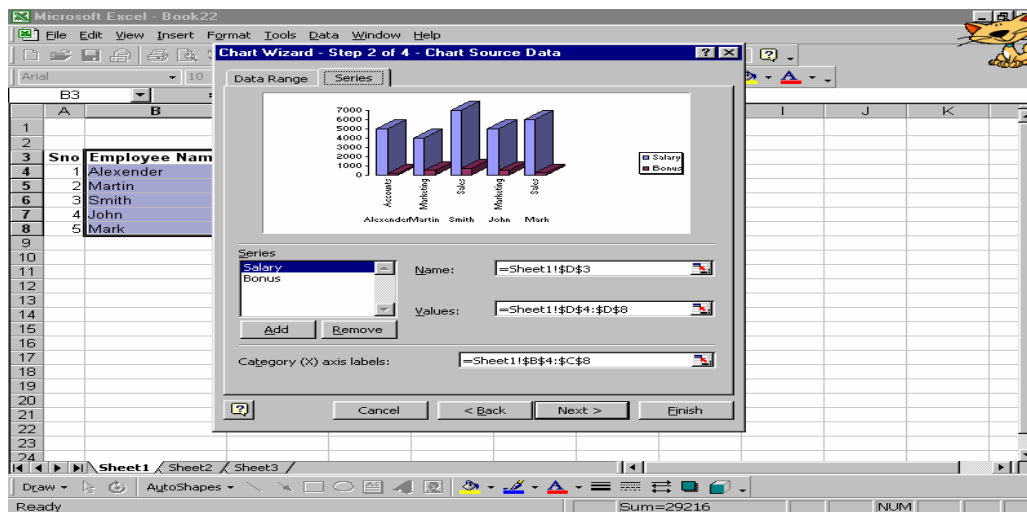
9. You can add or remove the series (Columns) from the series list box by clicking add or remove button.

10. Click on the Next button the option dialog box will appear on the screen.
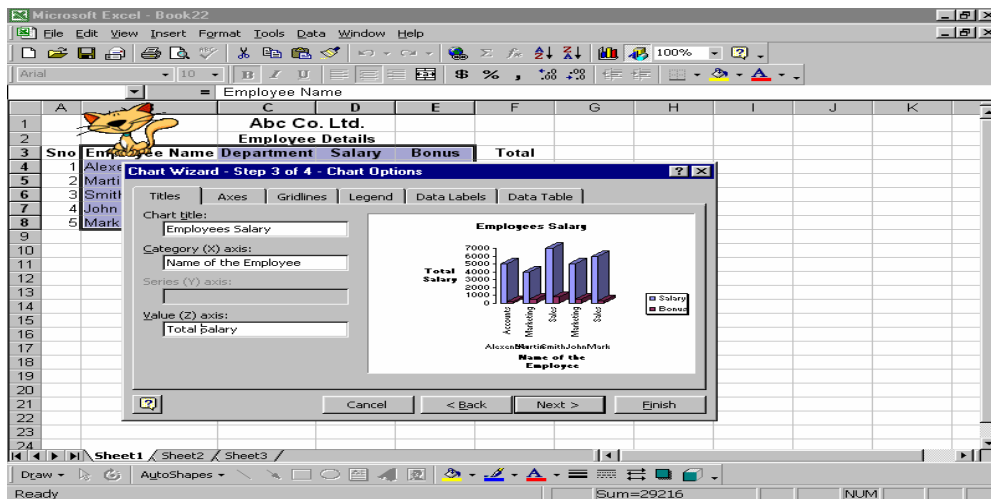
11. Fill up the entries as Heading of the chart, (x) axis category heading, (Z) axis values heading.
12. Click on the Legend tab
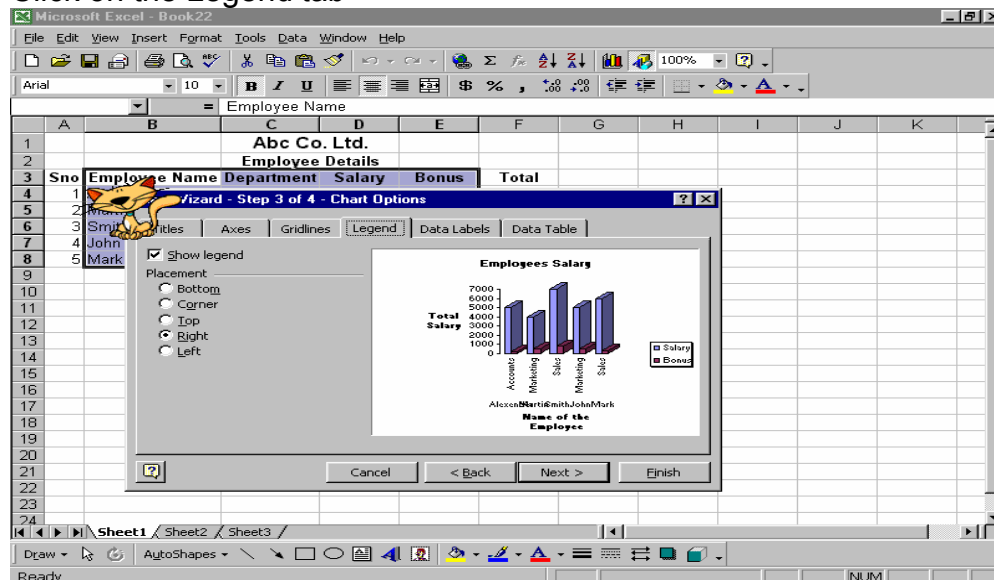
13. Legend dialog box will be displayed on the screen
14. Check mark the Show legend check box to show the legends
15. Select the Placement position.
16. Click on the Data Labels Tab.

17. Choose the type of labels you want to see in your graph.
18. Click on the Next button.

19. Select the destination of the Chart on new sheet or in the current sheet.
20. Select New Sheet and click on the Finish button.

Some future trends for spreadsheets

To a large extent, the future trends for the software industry are now available as part of "Office Suites" that package several programs like spreadsheet, word processor, drawing or presentation graphics and a database management program together and also offer a common interface. Group computing is another trend. As more companies create networks for their computers to share information, there is need to allow more than one person at a time to work on a

file. Finally, it is always desired to make it easier for use of the software.

For the future, one can expect spreadsheets to offer more special features for the advanced user while simplifying frequently used tasks for beginning and advanced users alike.

COMPUTERIZED ACCOUNTING:

An accounting system is a collection of processes, procedures and controls designed to collect, record, classify and summarize financial data for interpretation and management decision-making. Whether the accounting system is simple or complex, it must meet certain objectives to keep the business running smoothly. It is difficult to make informed business decisions without accurate accounting information that helps the managers to see where the business is, where it has been and (based upon trends) foresee where it is headed. Thus, an accounting system should be devised as an effective tool that provides information which is easy to understand.

While some firms still do their book-keeping by hand, most firms generally have too many transactions to sustain a manual accounting system. The more complicated the financial activities of a business are, the more likely it will need a computerized accounting system to ensure effective financial reporting. Computerized accounting systems involve making use of computers and accounting software to record, store and analyze financial data. These are software programs that are stored on a company's computer, a network server, or remotely accessible via Internet.

Computerized Accounting represents a technological advancement in the field of business accounting which allows the user(s) to set up income and expense accounts, such as rental or sales income, salaries, advertising expenses, and material costs. They also can be used to manage bank accounts, to pay bills, and prepare budgets. Also, depending upon the program, some accounting systems also allow users to prepare tax documents, handle payroll, and manage project costing.

DIFFERENCE BETWEEN MANUAL AND COMPUTERISED ACCOUNTING SYSTEM

BASIS	MANUAL ACCOUNTING	COMPUTERIZED ACCOUNTING
1. Definition `	Manual accounting is the system in which we keep physical register of journal and ledger for keeping the records of each transaction.	In this system of accounting, we make use of a computer and different accounting software for maintaining a digital record of every transaction.
Ledger Accounts	We check the journal and then we transfer figures to related accounts debit or credit side by manually posting it.	Computerized Accounting System will automatically process the system and will make all the accounts' ledgers since the voucher entries under its respective ledger account have already been passed.

3. Trial Balance	We collect the information of all the balances of all accounts in our ledger, and on this basis we manually prepare the trial balance.	The computerized accounting system will automatically produce the Trial Balance.
Adjustment Entries Record	Both, the adjustment journal entries and its posting in the ledger accounts will be done manually, one after another.	Only adjustment entries will be passed in the computerized accounting software, these will then be automatically posted to respective ledger accounts.

Advantages of Computerized Accounting

There are many advantages of computerized Accounting System. Let us discuss few of them in detail.

1. **Automation**: As all the calculations are handled by the software, computerized accounting eliminates many of the mundane and time-consuming processes associated with manual accounting. For example, once issued, invoices are processed automatically thus saving time.

2. **Accuracy**: This accounting system is designed to be accurate to the minutest detail. Once the data is entered into the system, all the calculations, including additions and subtractions, are done automatically by software.

3. **Data Access**: Using accounting software, it becomes much easier for different individuals to access accounting data outside the office, securely. This is particularly true if an online accounting solution is being used.

4. **Easy representation of data in various formats**: Viewing the accounts using a computer allows the users to take advantage of the option to view the data in different formats i.e. one can view data in tables and using different types of charts.

5. **Reliability**: Since the calculations are very accurate, the financial statements prepared by computers are highly reliable.

6. **Scalable**: When a company grows, the number of transactions entered into the system increases, as a result of which the need for accounting not only increases but also becomes more complex. With computerized accounting, everything is kept straight forward because shifting data using software is easier than sifting through a bunch of papers.

7. **Speed**: Using accounting software, the entire process of preparing accounts becomes faster. Furthermore, statements and reports can be generated instantly at the click of a button. Managers do not have to wait for hours, even days, to lay their hands on an important report.

8. **Security**: The latest data can be saved and stored in offsite locations so it is safe from natural and man-made disasters like earthquakes, fires, floods and terrorist attacks. In case of disasters, the system can be quickly restored on other computers. This level of precaution is taken by Computerized Accounting.

9. **Cost-effective:** Since using computerized accounting is more efficient than paper-based accounting, than naturally, work will be done faster and time will be saved.
Disadvantages of Computerized Accounting

Computerized Accounting suffers from many limitations. Let us discuss those limitations one by one.

Cost of Software: In case of computerized accounting, you must buy the software. Some software requires you to purchase upgrades or updates for additional features. You must also ensure your computer is capable of running the software. If not, you'll need to upgrade your computer as well.

Most accounting software requires you to have additional software in order to view reports. For instance, some programs allow you to export data as a PDF file or an Excel spreadsheet. This allows users without the accounting program to view the data. However, the viewing software may pose an additional expense to the user.

2. **Reliance on Computers:** If your computer crashes or data is corrupted by a virus, you won't be able to use your accounting software until the problem is fixed. This also means you won't have access to any entered data until the computer is running again. Your data can also be corrupted. It means you will have to re-enter information unless you've backed up your files. In addition, if there's a power failure, your software will be unusable unless you're on a battery-powered laptop.

3. **Fraud:** Accounting software data requires extra levels of security to prevent fraud and embezzlement. Software makes it easier for users to alter data, making fraud easier to accomplish. As a result, there is an increased need for internal auditors to check for any data inaccuracies. Security measures must also be taken to limit the amount of control users have over any accounting software's features.

4. **Human Error:** While it is easy to write down numbers incorrectly, it is even easier to mistype a number. Entering data into accounting software too quickly may result in serious errors. With the program performing calculations, it can be more difficult to trace the cause of the problem. Spreadsheets, digital ledgers or written ledgers make tracking simpler and faster.

5. **Training:** Accounting software requires you to take the time to learn how to use it. While you may be an experienced accountant, you'll still need to learn what each button and menu command does in order to use accounting software effectively. This learning curve can result in costly affairs. In some cases, paid training may be necessary to learn how to perform certain tasks. If you're not tech savvy, the process could be even more difficult.

6. **Time:** Many accountants find that it takes more time to enter data into accounting software than it does to write it or type it into a spreadsheet. Due to step-by-step screens, the process often takes longer, especially for those who don't use the software

often or are still new to using the program. If the software requires numerous steps to enter basic data, the time requirements may outweigh the benefits of automatic calculations.

ACCOUNTING SOFTWARES IN INDIA:

In a computerized accounting system, the framework of storage and processing of data is called operating environment that consists of hardware as well as software in which the accounting system works. The type of accounting system used determines the operating environment.

Some of the most prevalent business accounting software systems are:

1. **Tally ERP.9:** Tally ERP.9 is a business accounting software for the purposes of accounting, inventory and payroll. Tally has been one of the dominating accounting software for almost two decades. The software has been developed by Tally Solutions Pvt Ltd. It is the most user-friendly for accounting software and thus, employers prefer Tally for easy availability of trained professionals for this specific software. Almost all accounting activities like inventory, purchase, sales, cost, payroll and statutory year end processes can be easily handled by Tally.

2. **Profitbooks:** This is an Online accounting software developed for small enterprises. It can only be operated on the internet as it is cloud based. The data can be securely placed in a cloud and can be accessed anywhere.

3. **Marg:** Accounting Software is developed by Marg Compusoft Pvt Ltd and is well accepted in small and medium enterprises of India. The software is marketed for the last two decades in the Indian market.

4. **Wave:** Wave's accounting tools are 100% free, secure, and very popular in accounting community. It is one of the best web based accounting software solution available at present.

5. **Xero: D**eveloped by Xero, it is an award winning web based accounting software for small business owners and accountants. The user interface is nicely designed and is easy to use for online bookkeeping.

6. **Reach:** Reach Accounting Software is developed by Reach Accountant. It is an online Accounting Software aimed at Small & Medium Businesses. The significant part of Reach is that all the business operations are bundled in single software and it ensures that the business owner is able to track every aspect of the business.

About Tally Software

Tally ERP.9, developed by Tally Solutions Ltd., is one of the most popular and widely used business management software available in India and other countries. It can be

used by small to large business organization. It is available with two types of licensing system:

1. **Silver Edition Mode (Single user):** It is for single use PC. It can be activated online or offline. It can be accessed from the system on which

it is installed by only a single user.

How to Start Tally ERP.9

Go to start button, click 'all programs'. With in 'All Program', go to Tally ERP.9 or installation of Tally icon on the desktop. If you double click on Tally icon, Tally will open and you can start working on it.

Components of Tally

The gateway of Tally displays menus, screens, reports and options that you select. The components of Tally ERP.9 are:

- **Top Horizontal Button Bar:** This is a collection of buttons that are fixed and provide quick interaction
- **Close Button:** This helps in moving out of Tally application.
- **Screen Name:** It shows the name of the current screen.
- **Right Pane:** In right pane menus are displayed. The red letter in each menu represents short cut and by pressing that alphabet from keyboard one can open the menu.
- **Left Pane:** It shows current period, current date and name of companies with last date of voucher entry done in each company.
- **Vertical Panel Bar:** It is used for quick interaction.

- **Calculator:** It can be used for calculation work and figures can be computed. (Ctrl +


GATEWAY OF TALLY
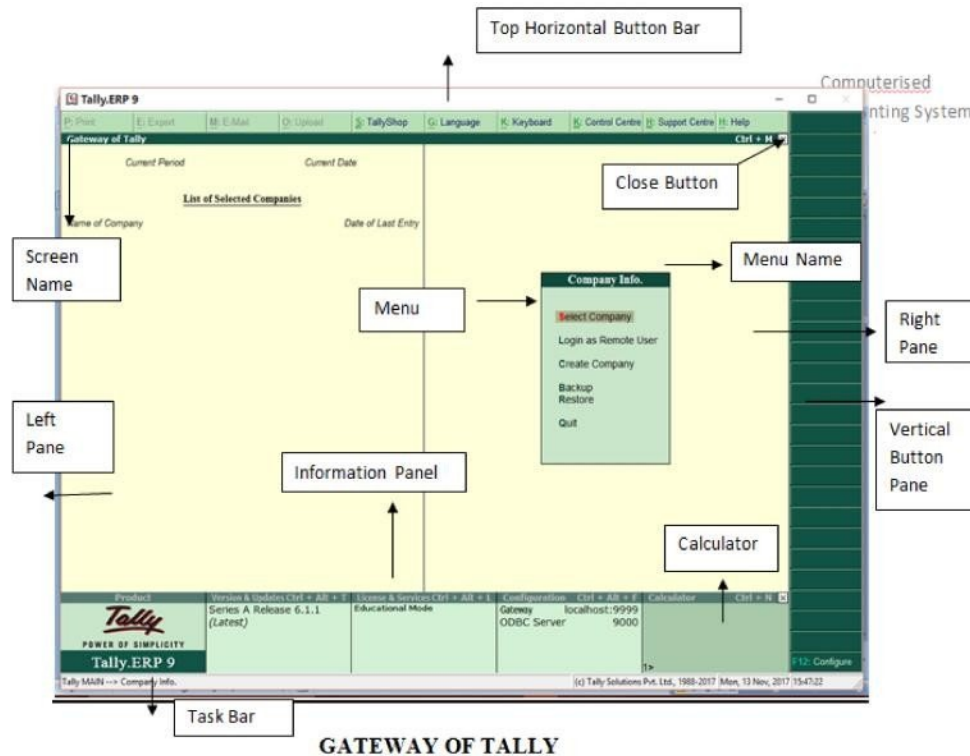
- **Information Panel:** This displays details of product, version, license and configurations.
- **Task Bar:** It shows the complete navigation path of the current menu or screen selected.

Procedure of Creating a Company

To create a company, click on the 'create company' in 'Company Info'. Alternatively, one can press ALT+ F3 and the company info screen will appear as appeared in Fig. 18.2.

The various fields appearing in company creation in Fig. 18.3 are explained below:

- **Directory:** It will display the path where your company data is stored. By default, it would automatically be stored in Tally ERP.9 data folder, but
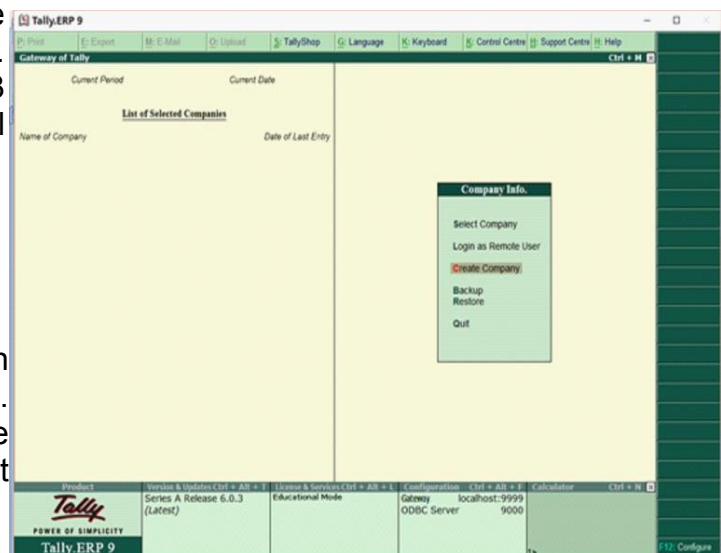
you can change its path and can specify any location where you want to store the data relating to the company by pressing backspace key

- **Name:** It means providing a name to the company. Example: Surbhi Ltd.

- Primary Mailing Details:

Mailing Name: You can specify any other name if you want for mailing purpose. By default, it will always show the name which you have entered in the Name field earlier

Address: Provide the address of the company in this field

Statutory Compliance: Choose the country in which the company is located. For example, we have selected India.

State: Choose the state in which the company is located. For example, we have selected Delhi.

Pin-code: Provide the Pin code for the company where it is located.

- Contact Details
- Provide telephone number, mobile number and Fax number (if any) of the company. Also, provide the official email address of the company which would be further used for emailing of reports and statements.

- **Auto-Back up:** Putting 'Yes' to enable auto backup will result in automatically creating backup of the data of the company in the company data folder.

- Company Details:

Currency Symbol: Once country is selected, Tally will automatically choose the currency of the country. In this example, we have selected India, so currency symbol would be of 'Rupee'.

Maintain: If company maintains inventory with them, select accounts with inventory otherwise accounts only. Selecting accounts with inventory would combine both financial accounts and inventory books.

Financial Year: Financial year is a period of 12 months starting from 1st April. The accounting period in this example, will begin from 1st April, 2017.

Books beginning from: Provide a date at which you started maintaining your books. It can be a date later than 1st April, 2017. By default, it would automatically take date mentioned in previous field.

- Security Control:

Tally Vault Password: Entering this password will require, opening the company with password each time. The name of the company having tally vault password will be shown with asterisk '*' mark.

Repeat Password: Password entered in various field has to re-enter for confirmation.

Use Security Control: Enabling this field as 'Yes' will allow to define access administrator user name and password. Every time you open a company, it would ask for name of administrator and password.

☐ Base Currency Information:

Base Currency Symbol: The selection of country will define base currency symbol. In this example, we have selected India, so currency symbol would be of 'Rupee'

Formal Name: The formal name of the currency like INR (Indian Rupee) will be displayed.

Suffix Symbol to amount: This will allow putting symbol of currency after the amount.

Add space between amount and symbol: This will allow space between amount and symbol.

Show amounts in millions: This will allow the values of amount to be expressed in millions i.e. international system of numeration.

Number of Decimal Places: By default, it will be set to 2 places only and Indian currency has 2 decimal places whereas some currency has 3 decimal places. It can go upto 4 decimal places.

Words representing amount after decimal: By default, it will be automatically set according to currency.
Accounting Features

The **accounting features** consists of general, outstanding management, cost/ profit centres management, invoicing, budgeting and scenario management, banking features and other features as shown in Fig. 18.17:
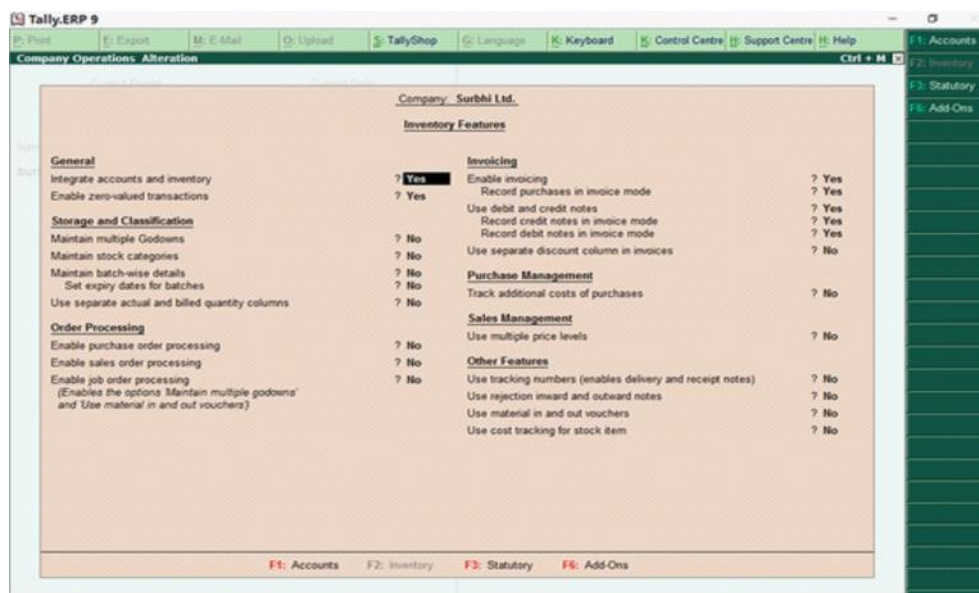
☐ General: If you have chosen accounts with inventory while creating company, maintain accounts only option will be set as 'No' and integrate accounts with inventory option as 'Yes'. If you have chosen accounts only while creating company, maintain accounts only option will be set as 'Yes' and integrate accounts with inventory option will not be highlighted and will be grey in color. If you wish to have income and expenditure account in place of Profit and loss account (Like for NPO) you can enable this as 'Yes'.

☐ Outstanding Management: This will help maintain bill wise details and also, calculate interest on outstanding.

☐ Cost/Profit Centres Management: It helps in maintaining payroll and cost centres.

☐ Invoicing: To enable recording purchase in invoice mode, type 'Yes'. To record sales and purchase return, debit and credit note is used. Set Debit and credit note as 'Yes'

☐ Budgeting and scenario management: To maintain budget, enable the option as "Yes".

☐ Banking Features: To enable cheque printing, enable cheque option as 'Yes'.

☐ Other Features: To enable zero valued transactions while recording transactions, enable this option as 'Yes'.

After carrying out all requisite changes in accounting features, Accept 'yes' or 'No'. The tally screen will appear as follows as shown in Fig. 18.18:

Inventory Features

The **inventory features** consists of general, storage and classification, order processing, invoicing, purchase and sales management and other features. You can open inventory feature by clicking it or pressing 'I' or pressing F2 or by clicking F2: inventory on the vertical button bar on right pane. Once you do so, the following screen will appear as shown in Fig. 18.19:


In general, integrate accounts and inventory will be set as 'Yes' if you have selected accounts with inventory while creating company. If you want to enable zero valued transactions, set this option as 'Yes'.

In storage and classification, if you want to maintain stock according to location or warehouse, enable maintain multiple godowns/locations as 'Yes'. To maintain stock category wise, enable maintain stock categories as 'Yes'.

Set invoicing as 'Yes' and use debit and credit notes in invoice mode as 'Yes'. To record discount in invoice in separate column, enable this option as 'Yes'.

After all settings, the screen will appear as follows as shown in Fig. 18.20:

and accept 'Yes' to proceed further:
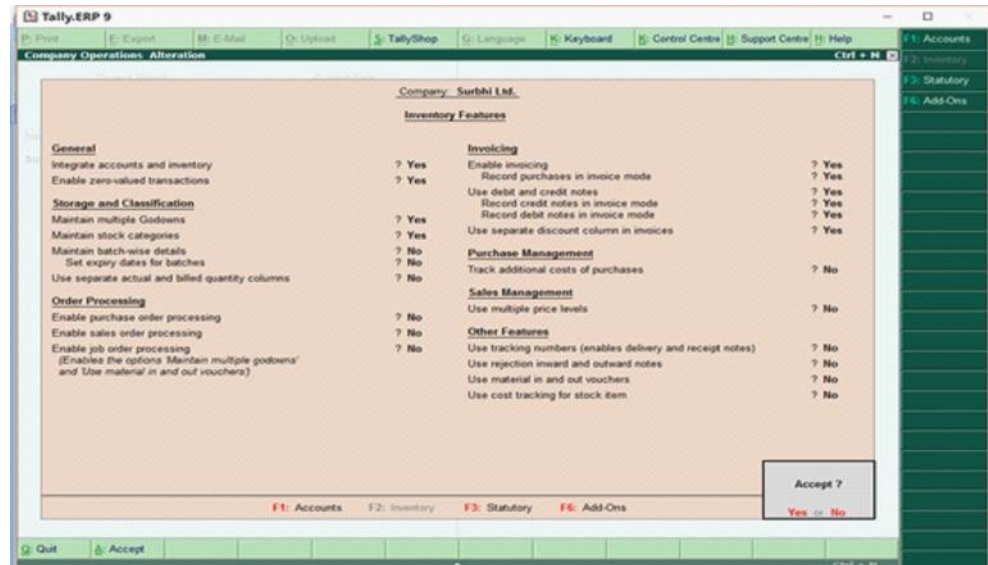
18.8.1.3   Statutory and Taxation Features

Next feature is **Statutory and taxation**. You can open inventory feature by clicking it or pressing 'S' or pressing 'F3' or by clicking 'F3': statutory on the vertical button bar on

right pane. Once you do so, the following screen will appear as shown in Fig. 18.21:
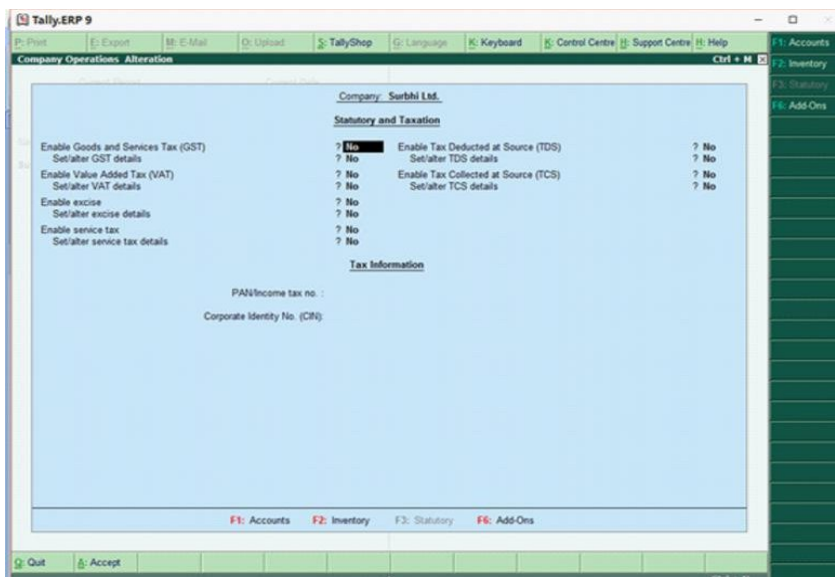
Please note statutory compliance is country specific. Since we have selected India as option statutory compliance for, therefore the displayed statutory and taxation features are those that are relevant to India. One can set these according to business specific requirement. To enable GST, VAT, Service Tax, TDS & TCS enable option as 'Yes' along with set/alter details option. Suppose, GST is relevant to our business, then setting GST as 'Yes' .