Chapter One

Introduction to computer

1. What is Computer?

A computer is a machine that can be programmed to manipulate symbols. Its principal characteristics are:

- It responds to a specific set of instructions in a well-defined manner.
- It can execute a prerecorded list of instructions (a program).
- It can quickly store and retrieve large amounts of data.

Therefore computers can perform complex and repetitive procedures quickly, precisely and reliably. Modern computers are electronic and digital. The actual machinery (wires, transistors, and circuits) is called hardware; the instructions and data are called software. All general-purpose computers require the following hardware components:

- **Central processing unit (CPU)**: The heart of the computer, this is the component that actually executes instructions organized in programs ("software") which tell the computer what to do.
- **Memory** (fast, expensive, short-term memory): Enables a computer to store, at least temporarily, data, programs, and intermediate results.
- **Mass storage device** (slower, cheaper, long-term memory): Allows a computer to permanently retain large amounts of data and programs between jobs. Common mass storage devices include disk drives and tape drives.
- **Input device**: Usually a keyboard and mouse, the input device is the conduit through which data and instructions enter a computer.
- **Output device**: A display screen, printer, or other device that lets you see what the computer has accomplished.

In addition to these components, many others make it possible for the basic components to work together efficiently. For example, every computer requires a bus that transmits data from one part of the computer to another.

2. Advantages and Disadvantage of Computers

Because of the several computer advantages, it has become an important household item. Be it office, home, or school, it has become an indispensable device for us. A computer operated by an individual without any specific computer operator is called a personal computer (PC). A PC can be a desktop or a laptop computer, and can be used at home or at office. As per the requirement of the user, software is installed in a PC. Let's take a look at the advantages of computers.

One can write more effectively by means of a computer. There are tools like spelling and grammar checker, thesaurus and dictionary, installed in the computer. Thus, it takes less time to proofread a written document and also, there is no need to open up a dictionary book

to look for meanings of words. Typing is much faster than writing on a paper. If there is a need for reorganizing the sentences or paragraphs, one can cut and paste and make the

necessary changes. Thus, overall a computer allows the user to create documents, edit, print, and store them so that they can be retrieved later.

Using a computer, one can remain connected to the world through Internet. Internet is a network of computers that communicate via the Internet Protocol Suite (TCP/IP). The World Wide Web (WWW) or simply web is a huge resource of information that can be accessed via the Internet. To mention a few of the resources, there are electronic mail (e-mail), file transferring and sharing, online chat, and gaming. The Internet allows people from around the world to share knowledge, ideas, and experiences in any field. But, there are both advantages and disadvantages of Internet.

E-mail is a method of communication used globally, between friends, colleagues, business partners, and so on. The electronic mail is provided with a system of creating, storing, and forwarding mails. It may consist of text messages with attachments of audio-visual clips. One can also download or upload files using the Internet. There are also facilities like online chatting available on the Internet. As compared to telephonic conversation, both e-mail and online chat are cost saving. Online gaming is another important resource of the WWW. Many online games are available, which are of common interest for any age group.

Right from banking to investment, a user can accomplish the task by sitting within the comfort zone of his/her home. With this, one no longer needs to stand in the line for money withdrawing, depositing, or conducting other transactions. The same facility is available for making investments. In addition, one can read current news, check weather conditions, plan vacations, and make hotel and travel reservations, find out about diseases and treatment methods, learn about specific countries and their cultures, seek jobs, etc. via the Internet. If the computer has Internet connection, one can shop and that too in discounted rates. The purchased products will be delivered to the provided address, thus saving both time and money.

Nowadays, computers are widely used for education and training purposes. In schools, computer education has been made compulsory to spread awareness about computers. As a matter of fact, computers have become a learning tool for children. Indeed, a student can use the PC as a storage system for many books. Also, there are many universities that provide online degrees, which are very advantageous for those people staying in the remote areas and for the disabled. In fact, online education is one of the most flexible and convenient forms of learning. One can take the benefit of such online degree programs staying at home without the need of relocation. Computers are also used for training purposes. Many companies use them to train their staffs.

However, in spite of the many advantages of computers, there are some disadvantages that cannot be ignored. First and foremost, sitting for long hours in front of the PC will affect eyes and hamper the activity level. The easy access to information via Internet has made

students lazy in terms of their education since they are able to download information without exploring their topic of research. They also use computers for mathematical tables and calculations without actually solving the problems. Also, it is important for parents to keep a check on the browsing habits of their children as some websites are not meant for their viewing. Other disadvantages include identity theft and virus threat. Computers viruses are harmful to the systems and can be transferred from one computer system to another

2.1. Advantage of Computer

- ✓ Faster Communication
- ✓ Massive increase in productivity
- ✓ Multiple functions in work and entertainment
- ✓ Massive Storehouse of information
- ✓ They allow people across the globe to communicate with each other, no matter at what time, via the use of email.
- ✓ They allow people to look up information directly, instead of the use of searching through books.
- ✓ Back-up copies of work can be made easily, without having to re-write everything.
- ✓ People can work from home, and spend more time with their families because of this.
- ✓ People with disabilities, whom can't write, can get software that allows them to speak and it types it on the screen.

2.2. Disadvantage of Computer

- ✓ People sometimes spend all their time secluded in their rooms on the computer.
- ✓ Easier to copy peoples homework as you can sometimes find the sources online. Illegal downloading can ruin businesses
- ✓ Addiction
- ✓ Minor increase in cancer due to radiation (though unproven)
- ✓ Uses a lot of electricity
- ✓ Increases Child maturity at ages far below average
- ✓ Risk of credit card and ID theft.

3. History of Computer

The first computers were people! That is, electronic computers (and the earlier mechanical computers) were given this name because they performed the work that had previously been assigned to people. "Computer" was originally a job title: it was used to describe those human beings (predominantly women) whose job it was to perform the repetitive calculations required to compute such things as navigational tables, tide charts, and planetary positions for astronomical almanacs. Imagine you had a job where hour after hour, day after day, you were to do nothing but compute multiplications. Boredom would quickly set in, leading to carelessness, leading to mistakes. And even on your best days you wouldn't be producing answers very fast. Therefore, inventors have been searching for hundreds of years for a way to mechanize (that is, find a mechanism that can perform) this task.

3.1. The Abacus

The abacus was an early aid for mathematical computations. Its only value is that it aids the memory of the human performing the calculation. A skilled abacus operator can work on addition and subtraction problems at the speed of a person equipped with a hand calculator (Multiplication and division are slower). The abacus is often wrongly attributed to China. In fact, the oldest surviving abacus was used in 300 B.C. by the Babylonians. The abacus is still in use today, principally in the Far East. A modern abacus consists of rings that slide over rods, but the older one pictured below dates from the time when pebbles were used for counting (the word "calculus" comes from the Latin word for pebble).

3.2. Slide rule

Napier's invention led directly to the slide rule, first built in England in 1632 and still in use in the 1960's by the NASA engineers of the Mercury, Gemini, and Apollo programs which landed men on the moon

3.3. Pascaline

In 1642 Blaise Pascal, at age 19, invented the Pascaline as an aid for his father who was a tax collector. Pascal built 50 of this gear-driven one-function calculator (it could only add) but couldn't sell many because of their exorbitant cost and because they really weren't that accurate
(at that time it was not possible to fabricate gears with the required precision). Up until the present age when car dashboards went digital, the odometer portion of a car's speedometer used the very same mechanism as the Pascaline to increment the next wheel after each full revolution of the prior wheel. Pascal was a child prodigy. At the age of 12, he was discovered doing his version of Euclid's thirty-second proposition on the kitchen floor. Pascal went on to invent probability theory, the hydraulic press, and the syringe.

3.4. Difference Engine

By 1822 the English mathematician Charles Babbage was proposing a steam driven calculating machine the size of a room, which he called the Difference Engine. This machine would be able to compute tables of numbers, such as logarithm tables. He obtained government funding for this project due to the importance of numeric tables in ocean navigation. By promoting their commercial and military navies, the British government had managed to become the earth's greatest empire. But in that time frame the British government was publishing a seven volume set of navigation tables which came with a companion volume of corrections which showed that the set had over 1000 numerical errors. It was hoped that Babbage's machine could eliminate errors in these types of tables. But construction of Babbage's Difference Engine proved exceedingly difficult and the project soon became the most expensive government funded project up to that point in English history. Ten years later the device was still nowhere near complete, acrimony abounded between all involved, and funding dried up. The device was never finished.

3.5. ENIAC

The title of forefather of today's all-electronic digital computers is usually awarded to ENIAC, which stood for Electronic Numerical Integrator and Calculator. ENIAC was built at the University of Pennsylvania between 1943 and 1945 by two professors, John Mauchly and the 24 year old J. Presper Eckert, who got funding from the war department after promising they could build a machine that would replace all the "computers", meaning the women who were

employed calculating the firing tables for the army's artillery guns. The day that Mauchly and Eckert saw the first small piece of ENIAC work, the persons they ran to bring to their lab to

show off their progress were some of these female computers (one of whom remarked, "I was astounded that it took all this equipment to multiply 5 by 1000").

ENIAC filled a 20 by 40 foot room, weighed 30 tons, and used more than 18,000 vacuum tubes. Like the Mark I, ENIAC employed paper card readers obtained from IBM (these were a regular product for IBM, as they were a long established part of business accounting machines, IBM's forte). When operating, the ENIAC was silent but you knew it was on as the 18,000 vacuum tubes each generated waste heat like a light bulb and all this heat (174,000 watts of heat) meant that the computer could only be operated in a specially designed room with its own heavy duty air conditioning system. Only the left half of ENIAC is visible in the first picture, the right half was basically a mirror image of what's visible.

3.6. UNIVAC

By the end of the 1950's computers were no longer one-of-a-kind hand built devices owned only by universities and government research labs. Eckert and Mauchly left the University of Pennsylvania over a dispute about who owned the patents for their invention. They decided to set up their own company. Their first product was the famous UNIVAC computer, the first commercial (that is, mass produced) computer. In the 50's, UNIVAC (a contraction of "Universal Automatic Computer") was the household word for "computer" just as "Kleenex" is for "tissue". The first UNIVAC was sold, appropriately enough, to the Census bureau. UNIVAC was also the first computer to employ magnetic tape. Many people still confuse a picture of a reel-to-reel tape recorder with a picture of a mainframe computer.

ENIAC was unquestionably the origin of the U.S. commercial computer industry, but its inventors, Mauchly and Eckert, never achieved fortune from their work and their company fell into financial problems and was sold at a loss. By 1955 IBM was selling more computers than UNIVAC and by the 1960's the group of eight companies selling computers was known as "IBM and the seven dwarfs". IBM grew so dominant that the federal government pursued antitrust proceedings against them from 1969 to 1982 (notice the pace of our country's legal system). You might wonder what type of event is required to dislodge an industry heavyweight. In IBM's case it was their own decision to hire an unknown but aggressive firm called Microsoft to provide the software for their personal computer (PC). This lucrative contract allowed Microsoft to grow so dominant that by the year 2000 their market capitalization (the total value of their stock) was twice that of IBM and they were convicted in Federal Court of running an illegal monopoly.

If you learned computer programming in the 1970's, you dealt with what today are called mainframe computers, such as the IBM 7090 (shown below), IBM 360, or IBM 370.

4. Generations of Computers

Each generation of computer is characterized by a major technological development that fundamentally changed the way computers operate, resulting in increasingly smaller, cheaper, more powerful and more efficient and reliable devices.

The history of computer development is often referred to in reference to the different generations of computing devices. Each generation of computer is characterized by a major technological development that fundamentally changed the way computers operate, resulting in increasingly smaller, cheaper, more powerful and more efficient and reliable devices. Read about each generation and the developments that led to the current devices that we use today.

4.1. First Generation (1940-1956) Vacuum Tubes

The first computers used vacuum tubes for circuitry and magnetic drums for memory, and were often enormous, taking up entire rooms. They were very expensive to operate and in addition to using a great deal of electricity, generated a lot of heat, which was often the cause of malfunctions.

First generation computers relied on machine language, the lowest-level programming language understood by computers, to perform operations, and they could only solve one problem at a time. Input was based on punched cards and paper tape, and output was displayed on printouts.

The UNIVAC and ENIAC computers are examples of first-generation computing devices. The UNIVAC was the first commercial computer delivered to a business client, the U.S. Census Bureau in 1951.

4.2. Second Generation (1956-1963) Transistors

Transistors replaced vacuum tubes and ushered in the second generation of computers. The transistor was invented in 1947 but did not see widespread use in computers until the late 1950s. The transistor was far superior to the vacuum tube, allowing computers to become smaller, faster, cheaper, more energy-efficient and more reliable than their first-generation predecessors. Though the transistor still generated a great deal of heat that subjected the computer to damage, it was a vast improvement over the vacuum tube. Second-generation computers still relied on punched cards for input and printouts for output.

Second-generation computers moved from cryptic binary machine language to symbolic, or assembly, languages, which allowed programmers to specify instructions in words. High-level programming languages were also being developed at this time, such as early versions of COBOL and FORTRAN. These were also the first computers that stored their instructions in their memory, which moved from a magnetic drum to magnetic core technology.

The first computers of this generation were developed for the atomic energy industry.

4.3. Third Generation (1964-1971) Integrated Circuits

The development of the integrated circuit was the hallmark of the third generation of computers. Transistors were miniaturized and placed on silicon chips, called semiconductors, which drastically increased the speed and efficiency of computers.

Instead of punched cards and printouts, users interacted with third generation computers through keyboards and monitors and interfaced with an operating system, which allowed the device to run many different applications at one time with a central program that monitored the

memory. Computers for the first time became accessible to a mass audience because they were smaller and cheaper than their predecessors.

4.4. Fourth Generation (1971-Present) Microprocessors

The microprocessor brought the fourth generation of computers, as thousands of integrated circuits were built onto a single silicon chip. What in the first generation filled an entire room could now fit in the palm of the hand. The Intel 4004 chip, developed in 1971, located all the components of the computer—from the central processing unit and memory to input/output controls—on a single chip.

In 1981 IBM introduced its first computer for the home user, and in 1984 Apple introduced the Macintosh. Microprocessors also moved out of the realm of desktop computers and into many areas of life as more and more everyday products began to use microprocessors.

As these small computers became more powerful, they could be linked together to form networks, which eventually led to the development of the Internet. Fourth generation computers also saw the development of GUIs, the mouse and handheld devices.

4.5. Fifth Generation (Present and Beyond) Artificial Intelligence

Fifth generation computing devices, based on artificial intelligence, are still in development, though there are some applications, such as voice recognition, that are being used today. The use of parallel processing and superconductors is helping to make artificial intelligence a reality. Quantum computation and molecular and nanotechnology will radically change the face of computers in years to come. The goal of fifth-generation computing is to develop

devices that respond to natural language input and are capable of learning and self-organization.

5. Characteristics of computer

5.1. Speed (celerity)

As you know computer can work very fast. It takes only few seconds for calculations that we take hours to complete. Suppose you are asked to calculate the average monthly income of one thousand persons in your neighborhood. For this you have to add income from all sources for all persons on a day to day basis and find out the average for each one of them. How long will it take for you to do this? One day, two days or one week? Do you know your small computer can finish this work in few seconds? The weather forecasting that you see every day on TV is the results of compilation and analysis of huge amount of data on temperature, humidity, pressure, etc. of various places on computers. It takes few minutes for the computer to process this huge amount of data and give the result.

You will be surprised to know that computer can perform millions (1,000,000) of instructions and even more per second. Therefore, we determine the speed of computer in terms of microsecond (10-6 part of a second) or nano-second (10-9 part of a second). From this you can imagine how fast your computer performs work.

5.2. Accuracy (Authenticity)

Suppose someone calculates faster but commits a lot of errors in computing. Such result is useless. There is another aspect. Suppose you want to divide 15 by 7. You may work out up to 2 decimal places and say the dividend is 2.14. I may calculate up to 4 decimal places and say that the result is 2.1428. Someone else may go up to 9 decimal places and say the result is 2.142857143. Hence, in addition to speed, the computer should have accuracy or correctness in computing.
The degree of accuracy of computer is very high and every calculation is performed with the same accuracy. The accuracy level is determined on the basis of design of computer. The errors in computer are due to human and inaccurate data.

5.3. Diligence

A computer is free from tiredness, lack of concentration, fatigue, etc. It can work for hours without creating any error. If millions of calculations are to be performed, a computer will perform every calculation with the same accuracy. Due to this capability it overpowers human being in routine type of work.

5.4. Versatility (Adaptability)

It means the capacity to perform completely different type of work. You may use your computer to prepare payroll slips. Next moment you may use it for inventory management or to prepare electric bills.

5.5. Power of Remembering

Computer has the power of storing any amount of information or data. Any information can be stored and recalled as long as you require it, for any numbers of years. It depends entirely upon you how much data you want to store in a computer and when to lose or retrieve these data.

5.6. No IQ

Computer is a dumb machine and it cannot do any work without instruction from the user. It performs the instructions at tremendous speed and with accuracy. It is you to decide what you want to do and in what sequence. So a computer cannot take its own decision as you can.

5.7. No Feeling

It does not have feelings or emotion, taste, knowledge and experience. Thus it does not get tired even after long hours of work. It does not distinguish between users.

5.8. Storage

The Computer has an in-built memory where it can store a large amount of data. You can also store data in secondary storage devices such as floppies, which can be kept outside your computer and can be carried to other computers

5.9. Spontaneous (Automatic)

The computers are automatic. It may execute the process without any intervention of user once they are assigned to a work. Once the data or instruction are fetched from the secondary devices such as optical disks, hard disks etc. Immediately they get stored into RAM (primary memory) and then sequentially they get executed.

5.10. Pertinacity (Endurance)

This denotes that the computers never get tried as the humans do. If there are surplus amount of executions to be made then each and every execution will be executed at the same time period. They can perform their assigned task without taking any refreshment.

Example: Computers which are used for controlling the satellites.

5.11. Storehouse (Memory)

Secondary storage devices are the key for the data storage. They store the data for which the user wants to retrieve these data for future use. The examples for various secondary devices

are Floppy disk, Optical disks (CS and DVD), Zip drives, Thumb drives etc. The data of smaller size can be easily fetched and they can be copied to the primary memory (RAM).

Example: Data Warehousing made by IBM.

5.12. Cheaper (Reduction of cost)

Computers are short term investment in order to achieve a long term gain. Though the investment is high they reduce the cost of each and every transaction. They reduce man power and leads to an elegant and efficient way for computing various tasks.

6. Types of Computer

Computers can be generally classified by size and power as follows, though there is considerable overlap:

- **Personal computer**: A small, single-user computer based on a microprocessor.



- **Workstation**: A powerful, single-user computer. A workstation is like a personal computer, but it has a more powerful microprocessor and, in general, a higher-quality monitor.

Minicomputer: A multi-user computer capable of supporting up to hundreds of users simultaneously.

Mainframe: A powerful multi-user computer capable of supporting many hundreds or thousands of users simultaneously.

Supercomputer: An extremely fast computer that can perform hundreds of millions of instructions per second

Supercomputer and Mainframe

Supercomputer is a broad term for one of the fastest computers currently available. Supercomputers are very expensive and are employed for specialized applications that require immense amounts of mathematical calculations (number crunching). For example, weather forecasting requires a supercomputer. Other uses of supercomputers scientific simulations, (animated) graphics, fluid dynamic calculations, nuclear energy research, electronic design, and analysis of geological data (e.g. in petrochemical prospecting). Perhaps the best known supercomputer manufacturer is Cray Research.

Mainframe was a term originally referring to the cabinet containing the central processor unit or "main frame" of a room-filling Stone Age batch machine. After the emergence of smaller "minicomputer" designs in the early 1970s, the traditional big iron machines were described as "mainframe computers" and eventually just as mainframes. Nowadays a Mainframe is a very large and expensive computer capable of supporting hundreds, or even thousands, of users simultaneously. The chief difference between a supercomputer and a mainframe is that a supercomputer channels all its power into executing a few programs as fast as possible, whereas a mainframe uses its power to execute many programs concurrently. In some ways,

Mainframes are more powerful than supercomputers because they support more simultaneous programs. But supercomputers can execute a single program faster than a mainframe. The distinction between small mainframes and minicomputers is vague, depending really on how the manufacturer wants to market its machines.

Minicomputer

It is a midsize computer. In the past decade, the distinction between large minicomputers and small mainframes has blurred, however, as has the distinction between small minicomputers and workstations. But in general, a minicomputer is a multiprocessing system capable of supporting from up to 200 users simultaneously.

Workstation

It is a type of computer used for engineering applications (CAD/CAM), desktop publishing, software development, and other types of applications that require a moderate amount of computing power and relatively high quality graphics capabilities. Workstations generally come with a large, high-resolution graphics screen, at large amount of RAM, built-in network support, and a graphical user interface. Most workstations also have a mass storage device such as a disk drive, but a special type of workstation, called a diskless workstation, comes without a disk drive. The most common operating systems for workstations are UNIX and Windows NT. Like personal computers, most workstations are single-user computers. However, workstations are typically linked together to form a local-area network, although they can also be used as stand-alone systems.

N.B.: In networking, workstation refers to any computer connected to a local-area network. It could be a workstation or a personal computer.

Personal computer:

It can be defined as a small, relatively inexpensive computer designed for an individual user. In price, personal computers range anywhere from a few hundred pounds to over five thousand pounds. All are based on the microprocessor technology that enables manufacturers to put an entire CPU on one chip. Businesses use personal computers for word processing, accounting, desktop publishing, and for running spreadsheet and database management applications. At home, the most popular use for personal computers is for playing games and recently for surfing the Internet.

Personal computers first appeared in the late 1970s. One of the first and most popular personal computers was the Apple II, introduced in 1977 by Apple Computer. During the late 1970s and early 1980s, new models and competing operating systems seemed to appear daily. Then, in 1981, IBM entered the fray with its first personal computer, known as the IBM PC. The IBM PC quickly became the personal computer of choice, and most other personal computer manufacturers fell by the wayside. P.C. is short for personal computer or IBM PC. One of the

Few companies to survive IBM's onslaught was Apple Computer, which remains a major player in the personal computer marketplace. Other companies adjusted to IBM's dominance by building IBM clones, computers that were internally almost the same as the IBM PC, but that cost less. Because IBM clones used the same microprocessors as IBM PCs, they were capable of running the same software. Over the years, IBM has lost much of its influence in directing the evolution of PCs. Therefore after the release of the first PC by IBM the term PC increasingly came to mean IBM or IBM-compatible personal computers, to the exclusion of other types of personal computers, such as Macintoshes. In recent years, the term PC has become more and more difficult to pin down. In general, though, it applies to any personal computer based on an Intel microprocessor, or on an Intel-compatible microprocessor. For nearly every other component, including the operating system, there are several options, all of which fall under the rubric of PC

Today, the world of personal computers is basically divided between Apple Macintoshes and PCs. The principal characteristics of personal computers are that they are single-user systems and are based on microprocessors. However, although personal computers are designed as single-user systems, it is common to link them together to form a network. In terms of power, there is great variety. At the high end, the distinction between personal computers and workstations has faded. High-end models of the Macintosh and PC offer the same computing power and graphics capability as low-end workstations by Sun Microsystems, Hewlett-Packard, and DEC.

Personal Computer Types

Actual personal computers can be generally classified by size and chassis / case. The chassis or case is the metal frame that serves as the structural support for electronic components. Every computer system requires at least one chassis to house the circuit boards and wiring.

The chassis also contains slots for expansion boards. If you want to insert more boards than there are slots, you will need an expansion chassis, which provides additional slots. There are two basic flavors of chassis designs–desktop models and tower models–but there are many variations on these two basic types. Then come the portable computers that are computers small enough to carry. Portable computers include notebook and subnotebook computers, hand-held computers, palmtops, and PDAs.

Tower model

The term refers to a computer in which the power supply, motherboard, and mass storage devices are stacked on top of each other in a cabinet. This is in contrast to desktop models, in which these components are housed in a more compact box. The main advantage of tower models is that there are fewer space constraints, which makes installation of additional storage devices easier.

Desktop model

A computer designed to fit comfortably on top of a desk, typically with the monitor sitting on top of the computer. Desktop model computers are broad and low, whereas tower model computers are narrow and tall. Because of their shape, desktop model computers are generally limited to three internal mass storage devices. Desktop models designed to be very small are sometimes referred to as **slim line models**.

Notebook computer

- An extremely lightweight personal computer. Notebook computers typically weigh less than 6 pounds and are small enough to fit easily in a briefcase. Aside from size, the principal difference between a notebook computer and a personal computer is the display screen. Notebook computers use a variety of techniques, known as flat-panel technologies, to produce a lightweight and non-bulky display screen. The quality of notebook display screens varies considerably. In terms of computing power, modern notebook computers are nearly equivalent to personal computers. They have the same CPUs, memory capacity, and disk drives. However, all this power in a small package is expensive. Notebook computers cost about twice as much as equivalent regular-sized computers. Notebook computers come with battery packs that enable you to run them without plugging them in. However, the batteries need to be recharged every few hours.

Laptop computer

- A small, portable computer -- small enough that it can sit on your lap. Nowadays, laptop computers are more frequently called notebook computers.

Subnotebook computer

A portable computer that is slightly lighter and smaller than a full-sized notebook computer. Typically, subnotebook computers have a smaller keyboard and screen, but are otherwise equivalent to notebook computers.

Hand-held computer

A portable computer that is small enough to be held in one's hand. Although extremely convenient to carry, handheld computers have not replaced notebook computers because of their small keyboards and screens. The most popular hand-held computers are those that are specifically designed to provide PIM (personal information manager) functions,
such as a calendar and address book. Some manufacturers are trying to solve the small keyboard problem by replacing the keyboard with an electronic pen. However, these pen-based devices rely on handwriting recognition technologies, which are still in their infancy. Hand-held computers are also called PDAs, palmtops and pocket computers.

Palmtop

A small computer that literally fits in your palm. Compared to full-size computers, palmtops are severely limited, but they are practical for certain functions such as phone books and calendars. Palmtops that use a pen rather than a keyboard for input are often called hand-held computers or PDAs. Because of their small size, most palmtop computers do not include disk drives. However, many contain PCMCIA slots in which you can insert disk drives, modems, memory, and other devices. Palmtops are also called PDAs, hand-held computers and pocket computers.

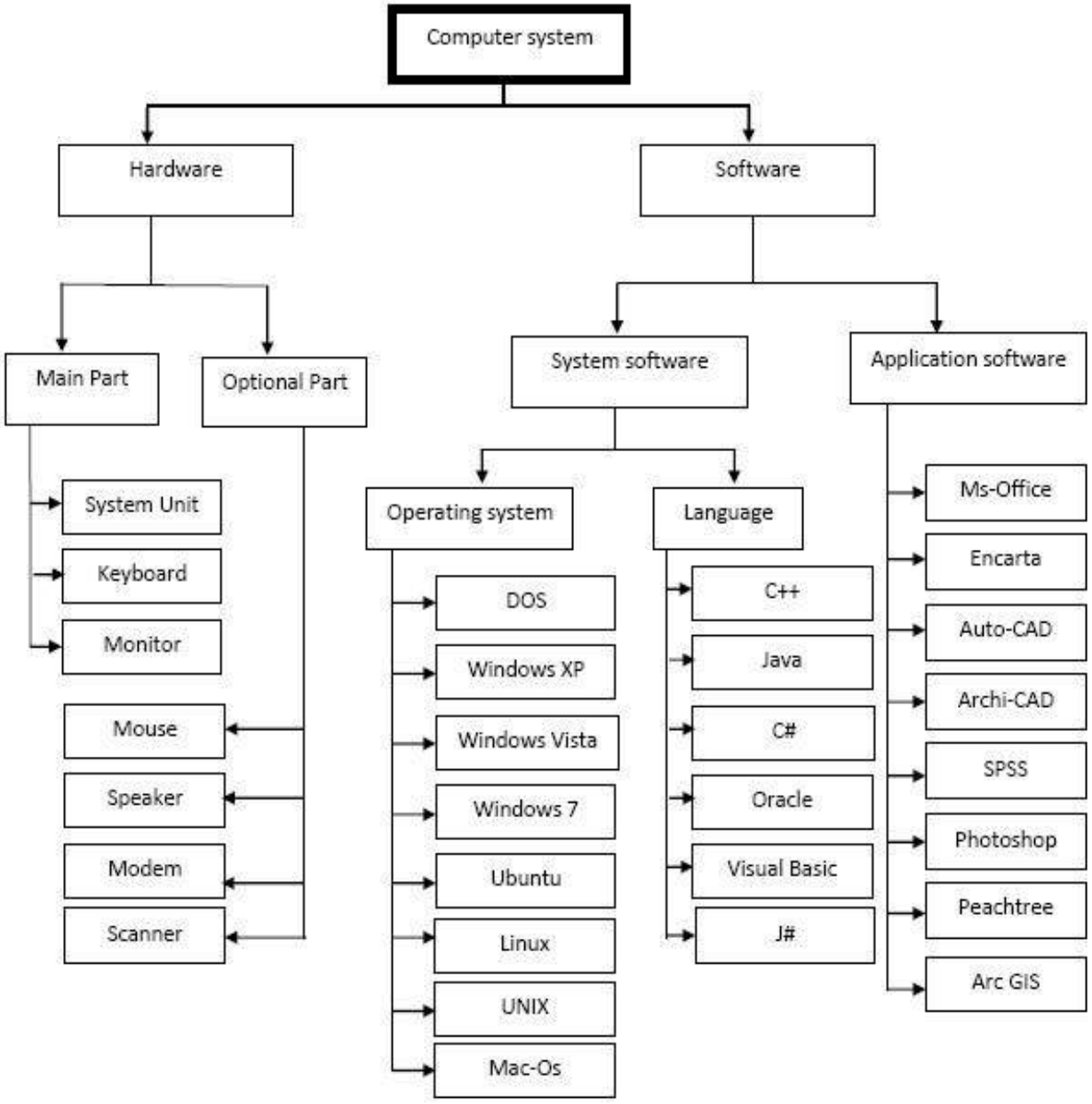
PDA

Short for personal digital assistant, a handheld device that combines computing, telephone/fax, and networking features. A typical PDA can function as a cellular phone, fax sender, and personal organizer. Unlike portable computers, most PDAs are pen-based, using a stylus rather than a keyboard for input. This means that they also incorporate handwriting recognition features. Some PDAs can also react to voice input by using voice recognition technologies. The field of PDA was pioneered by Apple Computer, which introduced the Newton Message Pad in 1993. Shortly thereafter, several other manufacturers offered similar products. To date, PDAs have had only modest success in the marketplace, due to their high price tags and limited applications. However, many experts believe that PDAs will eventually become common gadgets.

PDAs are also called palmtops, hand-held computers and pocket computers.

7. Computer system

A system of interconnected computers that share a central storage system and various peripheral devices such as a printers, scanners, or routers. Each computer connected to the system can operate independently, but has the ability to communicate with other external devices and computers.



8. Computer Hardware

Keyboard

The keyboard is used to type information into the computer or input information. There are many different keyboard layouts and sizes with the most common for Latin based languages being the QWERTY layout (named for the first 6 keys). The standard keyboard has 101 keys. Notebooks have embedded keys accessible by special keys or by pressing key combinations (CTRL or Command and P for example). Ergonomically designed keyboards are designed to make typing easier. Hand held devices have various and different keyboard configurations and touch screens.

Some of the keys have a special use. They are referred to as command keys. The 3 most common are the Control (CTRL), Alternate (Alt) and the Shift keys though there can be more (the Windows key for example or the Command key). Each key on a standard keyboard has one or two characters. Press the key to get the lower character and hold Shift to get the upper.

Mouse

Most modern computers today are run using a mouse controlled pointer. Generally if the mouse has two buttons the left one is used to **select** objects and text and the right one is used to **access menus**. If the mouse has one button (Mac for instance) it controls all the activity and a mouse with a third button can be used by specific software programs.

One type of mouse has a round ball under the bottom of the mouse that rolls and turns two wheels which control the direction of the pointer on the screen. Another type of mouse uses an optical system to track the movement of the mouse. **Laptop** computers use touch pads, buttons and other devices to control the pointer. Hand held's use a combination of devices to control the pointer, including touch screens

Monitors

The monitor shows information on the screen when you type. This is called **outputting** information. When the computer needs more information it will display a message on the screen, usually through a **dialog box**. Monitors come in many types and sizes. The resolution of the monitor determines the sharpness of the screen. The resolution can be adjusted to control the screen's display.

Most desktop computers use a monitor with a **cathode tube** or **liquid crystal display**. Most notebooks use a liquid crystal display monitor.

To get the full benefit of today's software with full color graphics and animation, computers need a color monitor with a display or **graphics card**.

LCD Monitor

CRT Monitor

Printers

The printer takes the information on your screen and transfers it to paper or a **hard copy**. There are many different types of printers with various levels of quality. The three basic types of printer are; **dot matrix**, **inkjet**, and **laser**.

- Dot matrix printers work like a typewriter transferring ink from a ribbon to paper with a series or 'matrix' of tiny pins.
- Ink jet printers work like dot matrix printers but fires a stream of ink from a cartridge directly onto the paper.
- Laser printers use the same technology as a photocopier using heat to transfer toner onto paper.

Modem

A modem is used to translate information transferred through telephone lines, cable, satellite or line-of-sight wireless.

The term stands for **modulate and demodulate** which changes the signal from **digital**, which computers use, to **analog**, which telephones use and then back again. **Digital modems** transfer digital information directly without changing to analog.

Modems are measured by the speed that the information is transferred. The measuring tool is called the **baud rate**. Originally modems worked at speeds below 2400 baud but today analog speeds of 56,000 are standard. Cable, wireless or digital subscriber lines can transfer information much faster with rates of 300,000 baud and up.

Modems also use **Error Correction** which corrects for transmission errors by constantly checking whether the information was received properly or not and **Compression** which allows for faster data transfer rates. Information is transferred in **packets**. Each packet is checked for errors and is re-sent if there is an error.

Anyone who has used the Internet has noticed that at times the information travels at different speeds. Depending on the amount of information that is being transferred, the information will arrive at it's destination at different times. The amount of information that can travel through a line is limited. This limit is called **bandwidth**.

There are many more variables involved in communication technology using computers, much of which is covered in the section on the **Internet**.

Scanners

Scanners allow you to transfer pictures and photographs to your computer. A scanner 'scans' the image from the top to the bottom, one line at a time and transfers it to the computer as a series of bits or a bitmap. You can then take that image and use it in a paint program, send it out as a fax or print it. With optional

Optical Character Recognition (OCR) software you can convert printed documents such as newspaper articles to text that can be used in your word processor. Most scanners use TWAIN software that makes the scanner accessible by other software applications.

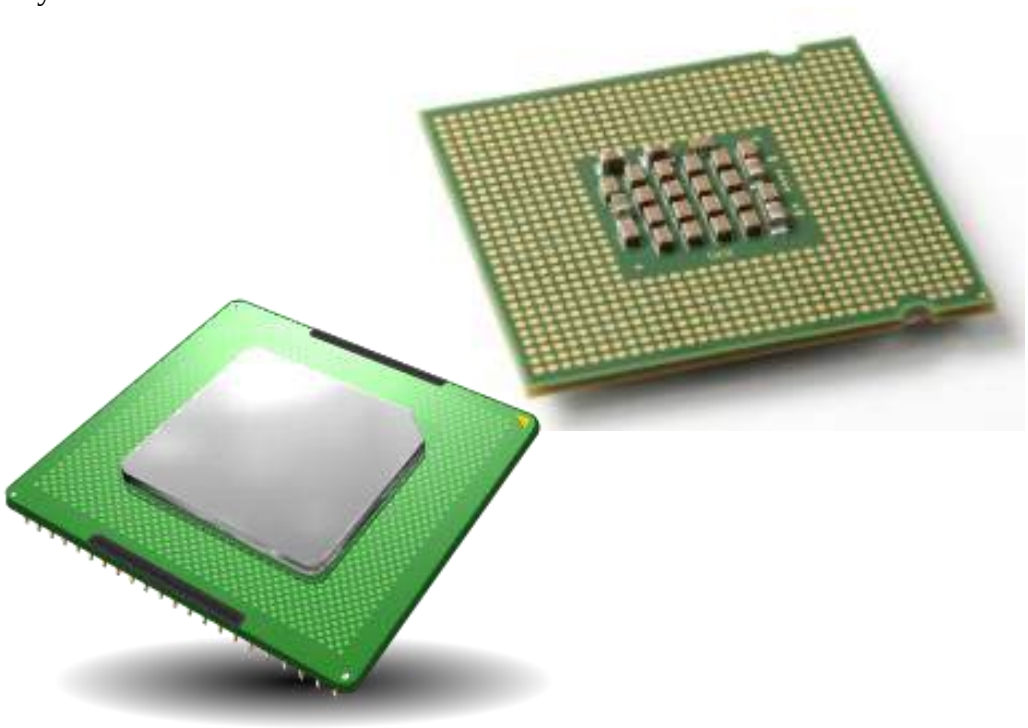
Digital cameras

Digital cameras allow you to take digital photographs. The images are stored on a memory chip or disk that can be transferred to your computer. Some cameras can also capture sound and video.

Digital flash drives

Digital flash drives work slightly differently as they use memory cards to store information so there are no moving parts. Digital cameras also use Flash memory cards to store information, in this case photographs. Hand held devices use digital drives and many also use removable or built in memory cards.

CPU



The CPU (stands for Central Processing Unit) is the brains behind your computer. The CPU is responsible for performing calculations and tasks that make programs work. The faster the CPU, the quicker programs can process computations.

RAM

A fast CPU is useless without an adequate amount of RAM (stands for Random Access Memory). RAM is usually referred to as a computer's "memory" -- meaning that it stores information that is used by running programs and applications. More memory lets you run more applications at the same time without degrading your system's performance.

RAM

Hard Disk Drive

The hard disk drive (HDD) of the computer is where permanent information is stored. Documents, databases, spreadsheets, and programs are all stored on the hard disk. The larger the hard disk, the more you can fit on the drive. The size of the HDD does not affect the speed at which a program can run, but the HDD speed can affect how fast you can access your files.

Optical Drives (CD, CD-R, CD-RW, DVD, DVD-R, DVD-RW)

Optical drives are more commonly known as CD and DVD drives. They are considered "optical" because the drive uses a laser to see the data etched onto the plastic disk. All computers now come with some form of CD drive. CD-R and CD-RW drives are becoming a new standard in portable data storage. The "R" in CD-R stands for "recordable." This type allows you to "burn" information to the CD only once. The "RW" in CD-RW stands for "rewritable." These can be rewritten several times over, allowing you to delete and add files.

Most software you buy comes on a CD-ROM, and you'll use your CD or DVD drive to read it and copy the software onto your computer.

Floppy Drive

While floppy drives can come in handy for transferring small files from one computer to another, it isn't generally a big concern if your computer has on or not. The Internet makes it quite easy to transfer files via email or some form of online storage. Quite a few computer sellers now don't even bother including a floppy drive. But because they don't really add to the overall cost of a computer, it doesn't hurt to purchase one with a floppy drive. Zip drives are a form of floppy disk that can hold hundreds of megabytes of memory, but their popularity has declined with the cheaper and higher capacity CD-RW disks mentioned above.

As opposed to the hard disk drive, the standard floppy drive reads removable diskettes. Most computers come standard with a 3.5' floppy drive, but internal Zip drives and Super Disk drives are becoming more and more commonplace. While the Internet is replacing them (much too many users' chagrin, Apple's iMac comes without a floppy drive), floppy drives are still a nice way to share a file quickly with the person next door or to backup data.

Video Card

The video card is a board that plugs into the PC motherboard to give it display capabilities. New video cards come with their own RAM and processor to help speed up the graphics display. Many computers come with video chips built-in, making it unnecessary to buy a separate video card, unless the computer is going to be used to do higher-end multimedia work or play video games.

Sound Card

Like video cards, sound cards are expansion boards used for enabling a computer to manipulate sound. Most sound cards give you the power to plug in speakers and a microphone. Some even give you the jacks for hooking your computer up to a common stereo. As with video cards, many computers come with sound chips, making it unnecessary to buy a separate card, unless you need higher sound quality for your work.

9. Software

The software is the information that the computer uses to get the job done. Software needs to be accessed before it can be used. There are many terms used for the process of accessing software including **running**, **executing**, **starting up**, **opening**, and others.

Computer **programs** allow users to complete tasks. A program can also be referred to as an **application** and the two words are used interchangeably.

Examples of software **programs** or **applications** would be the **Operating System** (DOS, Windows, UNIX, MacOS and various others), **Word processor** (typing letters), **Spreadsheet** (financial info), Database (inventory control and address book), Graphics program, Internet Browser, Email and many others.

As well any document that you create, graphic you design, sound you compose, file you make, letter you write, email you send or anything that you create on your computer is referred to as software. All software is stored in files.

Software is stored on a disk, card, tape or one of the dozens of other storage devices available.

There are millions of different pieces of software available for almost every conceivable need. Software is available commercially through stores and mail order and also available on the Internet. Software is also available through an Open Source license which allows anyone to use the Open Source software free of charge as long as the license is maintained. If you can't find the application that you need software development companies can custom designed software for you.
The largest software companies offer packages of software or suites that include many of the programs that the average person or business needs. Software packages or suites contain programs that work together and share information, making it easier to combine that information in versatile ways. For example when writing a letter you can get the mailing address from an address book, include a letterhead from a graphics program and include a financial chart from a spreadsheet and combine this collection of information in the body of the letter.

The three basic types of software are; commercial, shareware and open source software. Some software is also released into the public domain without a license.

Commercial software comes prepackaged and is available from software stores and through the Internet.

Shareware is software developed by individual and small companies that cannot afford to market their software worldwide or by a company that wants to release a demonstration version of their commercial product. You will have an evaluation period in which you can decide whether to purchase the product or not. Shareware software often is disabled in some way and has a notice attached to explain the legal requirements for using the product.

Open Source software is created by generous programmers and released into the public domain for public use. There is usually a copyright notice that must remain with the software product. Open Source software is not public domain in that the company or individual that develops the software retains ownership of the program but the software can be used freely. Many popular Open Source applications are being developed and upgraded regularly by individuals and companies that believe in the Open Source concept

Operating Systems

All computers need some sort of Operating System (OS). The majority of modern home computers use some form of Microsoft's operating systems. The original Microsoft operating system was called DOS (Disk Operating System) though most computers use. Windows comes in various versions beginning

with version 3.x then 95, 98, ME, XP, Vista, Seven and currently version 8. A few computers use IBM's O/S2. Apple's Mac use their own operating system beginning with OS 1 though to OS 10.x. In the past large companies and institutions would have an operating system design exclusively for them but as the commercial operating systems become more sophisticated the benefits of this practice is becoming less apparent. Some computer professionals**, Internet Service Providers** (ISP) and **mainframe** computer users use an operating system such as UNIX (or a variant such as Linux), Windows NT or 2000 (Win2k) or one of the other network or server based operating systems.

There are many smaller operating systems out there. The problem is that software is currently being developed only for the main operating systems and only the newest versions of these OS. Many older computers with unique operating systems have lots of software already developed for them but there is very little new software being developed for the older computers. The older operating systems are less likely to offer **technical support** than the more modern operating systems.

The operating system controls the **input and output** or directs the flow of information to and from the **CPU**. Much of this is done automatically by the system but it is possible to modify and control your system if you need to.

When you turn your computer on it first needs to load the operating system sometimes referred to a **booting up**. Basically the computer starts from scratch every time you turn the power on.

It checks all its components and will usually display a message if there is a problem. Loading the system is usually automatic.

Once the system is loaded the user can start the application or program that they are going to use.

Most computer users will run Microsoft Windows, Mac OS or Linux as their operating system. These OS are **Graphic User Interface (GUI)** which allows the user to control or run the computer using a **Mouse** and **Icons**. The user simply moves the mouse on a flat surface, rolls the trackball, or moves their hand over the touchpad to control a pointer. They then choose the option they want by pressing a button or touching the pad.

Without a GUI the user controls the computer using the keys on the keyboard. This is referred to as a **Command Line Interface (CLI)**

10. What is Computer Virus?

A virus is a program designed by a computer programmer (malicious hacker) to do a certain unwanted function. The virus program can be simply annoying like displaying a happy face on the user's screen at a certain time and date. It can also be very destructive and damage your computer's programs and files causing the computer to stop working.

The reason why hackers create viruses are open for speculation. The most quoted reason is simply to see if it can be done. Other reasons are Ludite based "smash the machine" motivations, antiestablishment/anti-corporate actions, criminal intent, and various others that range into the "conspiracy theory" realm.
Viruses take two basic forms

One is a boot sector viruses which infect the section of a disk that is first read by the computer. This type of virus infects the boot or master section of any disks that it comes in contact with. The second is a program virus that infects other programs when the infected program is run or executed. Some viruses infect both and others change themselves (polymorphic) depending on the programs they encounter.

Though viruses do not damage computer hardware there have been attempts to create programs that will do things like run the hard drive until it fails or lodge itself in the computer's clock (which has a rechargeable battery) allowing it to remain active even months after the computer has been unplugged. Other viruses affect certain microchips (BIOS chip for instance). These microchips need to be modified under normal computer use but the virus program can produce changes which cause them to fail. Other viruses will affect the characters or images displayed on the screen which may give the impression of monitor failure.

Viruses can cause a great deal of damage to the computers it infects and can cost a lot of time and money to correct it.

Computer viruses have been around for a long time, even before computers became widely used and they will likely remain with us forever. For that reason computer users will always need ways to protect themselves from virus programs. The main, common feature of a virus is that it is contagious! Their sole purpose is to spread and infect other computers.

A computer gets a virus from an infected file.

The virus might attach themselves to a game, a program (both shareware and commercial) or a file downloaded from a bulletin board or the Internet.

You cannot get a virus from a plain email message or from a simple text file! That is because the virus needs to be 'run' or executed before it can take effect. This usually happens when the user tries to open an infected program, accesses an infected disk or opens a file with an infected

macro or script attached to it. A plain email message is made up of text which does not execute or run when opened.

Modern email programs provide the ability to allow users to format email messages with HTML and attach scripts to them for various purposes and it is possible for a malicious hacker to attempt to spread a virus by building a virus script into an HTML type of email message.
When you are accepting software or scripts on Internet sites or reading mail from unknown senders it is best not to run a program from that site or sender without checking it with an antivirus program first.

11. Protect your Computer

You can take safeguards against virus infection. The first thing is to get an anti-virus program. Most reputable companies that create virus protection programs release an evaluation copy that an Internet user can download for free and use for a certain amount of time. This anti-virus program will be able to check your computer for viruses and repair damage or delete files that are infected with viruses. You may have to replace infected files that cannot be repaired.

The second thing you can do is purchase a copy of the program. The reason for this is that viruses are constantly being created. When you purchase an anti-virus program you are also purchasing periodical updates which keep your anti-virus program up-to-date and able to deal with new viruses as they are encountered. Commercial virus programs also allow the user to customize when and how the program will check the computer for viruses. You will need to renew this updating service periodically.

If you find that your computer has been infected with a virus use an anti-virus program to clean your computer and make sure to check all the disks that you use. This includes all the hard drives on your computer(s) and all your floppy disks and CDs as well as any media that you save information on. Remember that the virus can easily re-infect your computer from one infected file!

If you have to reload your computer programs, use the original program disks. You may want to check your original disks before reinstalling the software. If your original disks are infected contact the distributor to get replacements.

Always take the time to ensure that your computer is properly protected. Spending money on a good virus checking program could save you hundreds of dollars and lots of time later.

A discussion of viruses would not be complete without mentioning hoaxes. Malicious people without programming skills will send out fake virus warnings causing people to take unnecessary measures which often cause your computer harm. One example tries to get the unsuspecting computer user to delete an important system file by warning them that it is a virus. A legitimate virus warning will provide a link to a website operated by an anti-virus company with more information about that virus. Don't forward a virus warning until you have check out whether it is legitimate.

12. Care and Feeding of Your Computer

To keep your computer running smoothly and to ensure that it has a long and productive life, follow these tips.

- Keep the computer away from heat sources (like radiators and heat registers). Heat is a computer's enemy.
- There is a fan built into the back of the CPU case. Keep this unobstructed and clean. A vacuum cleaner nozzle with a brush attachment is a useful fan cleaning tool
- Don't spill liquids on any part of the computer. Liquids spilled on the keyboard or mouse might cause all kinds of electrical problems.
- Clean the keyboard with a vacuum cleaner nozzle equipped with a brush tool.
- Periodically clean the air vents on the side and back of the monitor with the vacuum brush.
- Keep the monitor screen clean with a soft cloth. Use no detergents, chemicals or soaps. It works best if you clean the monitor when it is off. Otherwise, static electricity can compete with your cloth for the dust and grime.
- Wipe off the keyboard keys with a soft cloth dampened with rubbing alcohol or other mild cleanser. Washing your hands before using the keyboard will keep it cleaner. Eating greasy finger foods while

- Using the computer is not recommended.
- About once a year, unhook the CPU case, take it outside (on a nice clear warm day), remove the case cover and take a look inside. If it has accumulated a lot of dust, cobwebs, and grit, you might want to invest in a can of compressed air and give it a good blast to clean it. Unless you know what's what, you shouldn't probe around with your fingers. Static discharges can zap sensitive electronic components.

13. Basic Computer Terminology

1. **Access time** - The performance of a hard drive or other storage device - how long it takes to locate a file.
2. **Active program or window** - The application or window at the front (foreground) on the monitor.
3. **Alert** (alert box) - a message that appears on screen, usually to tell you something went wrong.
4. **Alias** - an icon that points to a file, folder or application (System 7).
5. **Apple menu** - on the left side of the screen header. System 6 = desk accessories System 7 = up to 50 items.
6. **Application** - a program in which you do your work.
7. **Application menu** - on the right side of the screen header. Lists running applications.
8. **ASCII** (pronounced ask-key) - American Standard Code for Information Interchange. A commonly used data format for exchanging information between computers or programs.
9. **Background** - part of the multitasking capability. A program can run and perform tasks in the background while another program is being used in the foreground.
10. **Bit** - the smallest piece of information used by the computer. Derived from "binary digit". In computer language, either a one (1) or a zero (0).
11. **Backup** - a copy of a file or disk you make for archiving purposes.
12. **Boot** - to start up a computer.
13. **Bug** - a programming error that causes a program to behave in an unexpected way.
14. **Bus** - an electronic pathway through which data is transmitted between components in a computer.
15. **Byte** - a piece of computer information made up of eight bits.
16. **Card** - a printed circuit board that adds some feature to a computer.
17. **Cartridge drive** - a storage device, like a hard drive, in which the medium is a cartridge that can be removed.
18. **CD-ROM** - an acronym for Compact Disc Read-Only Memory.
19. **Chooser** - A desk accessory used to select a printer, or other external device, or to log onto a network.
20. **Clipboard** - A portion of memory where the Mac temporarily stores information. Called a Copy Buffer in many PC applications because it is used to hold information which is to be moved, as in word processing where text is "cut" and then "pasted".
21. **Clock Rate** (MHz) - The instruction processing speed of a computer measured in millions of cycles per second (i.e., 200 MHz).
22. **Command** - the act of giving an instruction to your Mac either by menu choice or keystroke.

23. **Command (apple) key** - a modifier key, the Command key used in conjunction with another keystroke to active some function on the Mac.
24. **Compiler** - a program the converts programming code into a form that can be used by a computer.
25. **Compression** - a technique that reduces the size of a saved file by elimination or encoding redundancies (i.e., JPEG, MPEG, LZW, etc.)
26. **Control key** - seldom used modifier key on the Mac.
27. **Control panel** - a program that allows you to change settings in a program or change the way a Mac looks and/or behaves.
28. **CPU** - the Central Processing Unit. The processing chip that is the "brains" of a computer.
29. **Crash** - a system malfunction in which the computer stops working and has to be restarted.
30. **Cursor** - The pointer, usually arrow or cross shaped, which is controlled by the mouse.
31. **Daisy chaining** - the act of stringing devices together in a series (such as SCSI).
32. **Database** - an electronic list of information that can be sorted and/or searched.

33. **Data** - (the plural of datum) information processed by a computer.
34. **Defragment** - (also - optimize) to concatenate fragments of data into contiguous blocks in memory or on a hard drive.
35. **Desktop** - 1. The finder. 2. The shaded or colored backdrop of the screen.
36. **Desktop file** - an invisible file in which the Finder stores a database of information about files and icons.
37. **Dialog box** - an on-screen message box that appears when the Mac requires additional information before completing a command.
38. **Digitize** - to convert linear, or analog, data into digital data which can be used by the computer.
39. **Disk** - a spinning platter made of magnetic or optically etched material on which data can be stored.
40. **Disk drive** - the machinery that writes the data from a disk and/or writes data to a disk.
41. **Disk window** - the window that displays the contents or directory of a disk.
42. **Document** - a file you create, as opposed to the application which created it.
43. **DOS** - acronym for Disk Operating System - used in IBM PCs.
44. **DPI** - acronym for Dots per Inch - a gauge of visual clarity on the printed page or on the computer screen.
45. **Download** - to transfer data from one computer to another. (If you are on the receiving end, you are downloading. If you are on the sending end, you are uploading).
46. **Drag** - to move the mouse while its button is being depressed.
47. **Drag and drop** - a feature on the Mac which allows one to drag the icon for a document on top of the icon for an application, thereby launching the application and opening the document.
48. **Driver** - a file on a computer which tells it how to communicate with an add-on piece of equipment (like a printer).
49. **Ethernet** - a protocol for fast communication and file transfer across a network.
50. **Expansion slot** - a connector inside the computer which allows one to plug in a printed circuit board that provides new or enhanced features.
51. **Extension** - a startup program that runs when you start the Mac and then enhances its function.
52. **Fiber channel** - as applied to data storage and network topology.
53. **File** - the generic word for an application, document, control panel or other computer data.
54. **Finder** - The cornerstone or home-base application in the Mac environment. The finder regulates the file management functions of the Mac (copying, renaming, deleting...)

55. **Floppy** - a 3.5 inch square rigid disk which holds data. (So named for the earlier 5.25 and 8 inch disks that were flexible).
56. **Folder** - an electronic subdirectory which contains files.
57. **Font** - a typeface that contains the characters of an alphabet or some other letterforms.
58. **Footprint** - The surface area of a desk or table which is occupied by a piece of equipment.
59. **Fragmentation** - The breaking up of a file into many separate locations in memory or on a disk.
60. **Freeze** - a system error which causes the cursor to lock in place.
61. **Get info** - a Finder File menu command that presents an information window for a selected file icon.
62. **Gig** - a gigabyte = 1024 megabytes.
63. **Hard drive** - a large capacity storage device made of multiple disks housed in a rigid case.
64. **Head crash** - a hard disk crash caused by the heads coming in contact with the spinning disk(s).
65. **High density disk** - a 1.4 MB floppy disk.
66. **Highlight** - to select by clicking once on an icon or by highlighting text in a document.
67. **Icon** - a graphic symbol for an application, file or folder.
68. **Initialize** - to format a disk for use in the computer; creates a new directory and arranges the tracks for the recording of data.
69. **Insertion point** - in word processing, the short flashing marker which indicates where your next typing will begin.
70. **Installer** - software used to install a program on your hard drive.
71. **Interrupt button** - a tool used by programmers to enter the debugging mode. The button is usually next to the reset button.
72. **K** - Short for kilobyte.
73. **Keyboard shortcut** - a combination of keystrokes that performs some function otherwise found in a pull-down menu.
74. **Kilobyte** - 1024 bytes.
75. **Landscape** - in printing from a computer, to print sideways on the page.
76. **Launch** - start an application.
77. **Measurements** (summary)

    *a bit = one binary digit (1 or 0) *"bit" is derived from the contraction b'it (binary digit) -> 8 bits = one byte

*1024 bytes = one kilobyte
*K = kilobyte
*Kb = kilobit
*MB = megabyte
*Mb = megabit
*MB/s = megabytes per second
*Mb/s = megabits per second
*bps = bits per second
i.e., 155 Mb/s = 19.38 MB/s

78. **MB** - short for megabyte.
79. **Megabyte** - 1024 kilobytes.
80. **Memory** - the temporary holding area where data is stored while it is being used or changed; the amount of RAM a computer has installed.
81. **Menu** - a list of program commands listed by topic.

82. **Menu bar** - the horizontal bar across the top of the Mac¹s screen that lists the menus.
83. **Multi finder** - a component of System 6 that allows the Mac to multi task.
84. **Multi-tasking** - running more than one application in memory at the same time.
85. **Nanosecond** - one billionth of a second. (Or, the time between the theatrical release of a Dudley Moore film and the moment it begins to play on airplanes).
86. **native mode** - using the computers original operating system; most commonly used when talking about the PowerPC can run software written for either the 80x0 systems, or the PowerPC¹s RISC code.
87. **NuBus** - expansion slots on the Mac which accept intelligent, self-configuring boards. NuBus is a different bus architecture than the newer PCI bus and the boards are not interchangeable.
88. **Operating system** - the system software that controls the computer.
89. **Optical disk** - a high-capacity storage medium that is read by a laser light.
90. **Palette** - a small floating window that contains tools used in a given application.
91. **Partition** - a subdivision of a hard drives surface that is defined and used as a separate drive.
92. **Paste** - to insert text, or other material, from the clipboard or copy buffer.
93. **PC** - acronym for personal computer commonly used to refer to an IBM or IBM clone computer which uses DOS.
94. **PCI** - acronym for Peripheral Component Interchange - the newer, faster bus architecture.
95. **Peripheral** - an add-on component to your computer.
96. **Point** - (1/72") 12 points = one pica in printing.
97. **Pop-up menu** - any menu that does not appear at the top of the screen in the menu bar. (may pop up or down)
98. **Port** - a connection socket, or jack on the Mac.
99. **Power PC** - a processing chip designed by Apple, IBM and Motorola (RISC based). 100. **Power Mac** - a family of Macs built around the PowerPC chip.
101. **Print spooler** - a program that stores documents to be printed on the hard drive, thereby freeing the memory up and allowing other functions to be performed while printing goes on in the background.
102. **QuickTime** - the Apple system extension that gives one the ability to compress, edit and play animation, movies and sound on the Mac.
103. **RAM** - acronym for Random-Access Memory.
104. **Reset switch** - a switch on the Mac that restarts the computer in the event of a crash or freeze.
105. **Resize box** - the small square at the lower right corner of a window which, when dragged, resizes the window.
106. **RISC** - acronym for Reduced Instruction Set Computing; the smaller set of commands used by the PowerPC and Power Mac.
107. **ROM** - acronym for Read Only Memory; memory that can only be read from and not written to.
108. **Root directory** - the main hard drive window.
109. **Save** - to write a file onto a disk.
110. **Save as** - (a File menu item) to save a previously saved file in a new location and/or with a new name.
111. **Scroll** - to shift the contents of a window to bring hidden items into view.
112. **Scroll bar** - a bar at the bottom or right side of a window that contains the scroll box and allows scrolling.

113. **Scroll box** - the box in a scroll bar that is used to navigate through a window.
114. **SCSI** - acronym for Small Computer System Interface.
115. **SCSI address** - a number between zero and seven that must be unique to each device in a SCSI chain. Fast and Wide SCSI devices will allow up to 15 SCSI Ids (hexadecimal); however, the length restriction (3 meters) is such that it is virtually impossible to link 15 devices together.
116. **SCSI port** - a 25 pin connector on the back of a Mac (native SCSI port); used to connect SCSI devices to the CPU. Some SCSI cards (like the ATTO) have a 68 pin connector.
117. **SCSI terminator** - a device placed at the end of a SCSI chain to complete the circuit. (some SCSI devices are self-terminating, or have active termination and do not require this plug).
118. **Serial port** - a port that allows data to be transmitted in a series (one after the other), such as the printer and modem ports on a Mac.
119. **Server** - a central computer dedicated to sending and receiving data from other computers (on a network).
120. **Shut down** - the command from the Special menu that shuts down the Mac safely.
121. **Software** - files on disk that contain instructions for a computer.
122. **Spreadsheet** - a program designed to look like an electronic ledger.
123. **Startup disk** - the disk containing system software and is designated to be used to start the computer.
124. **Surge suppressor** - a power strip that has circuits designed to reduce the effects of surge in electrical power. (not the same as a UPS)
125. **System file** - a file in the System folder that allows your Mac to start and run.
126. **System folder** - an all-important folder that contains at least the System file and the Finder.
127. **32 bit addressing** - a feature that allows the Mac to recognize and use more than 8MB of memory.
128. **Title bar** - the horizontal bar at the top of a window which has the name of the file or folder it represents.
129. **Upload** - to send a file from one computer to another through a network.
130. **Uninterruptible Power Source** (UPS)- a constantly charging battery pack which powers the computer. A UPS should have enough charge to power your computer for several minutes in the event of a total power failure, giving you time to save your work and safely shut down. 131. **UPS** - acronym for Uninterruptible Power Source.
132. **Vaporware** - "software" advertised, and sometimes sold, that does not yet exist in a releasable for.
133. **Virtual memory** - using part of your hard drive as though it were "RAM".

Chapter Two
Microsoft Windows

2. Introduction to Microsoft Windows

The **Windows 7** operating system lets you use your computer. Windows 7 shares many features with other Windows programs, so once you learn how to work with Windows 7, you will find it easier to use the programs that run on your computer. In this Learning guide, you learn to start Windows 7 and work with windows and other screen objects. You work with icons that represent programs and files, and you move and resize windows. As you use your computer, you will often have more than one window on your screen, so it's important that you learn how to manage them.

2.1. Starting Windows 7

Windows 7 is an **operating system**, which is a program that lets you run your computer. A **program** is a set of instructions written for a computer. When you turn on your computer, the Windows 7 operating system starts automatically. If your computer did not have an operating system, you wouldn't see anything on the screen when you turn it on.
For each user, the operating system can reserve a special area called a **user account** where each user can keep his or her own files. If your computer is set up for more than one user, you might need to log in, or select your user account name when the computer starts. If you are the only user on your computer, you won't have to select an account. You might also need to enter a password, a special sequence of numbers and letters each user can create. A **password** allows you to enter and use the files in your user account area. Users cannot see each others' account areas without their passwords, so passwords help keep your computer information secure. After you log in, you see a welcome message, and then the Windows 7 desktop.

How to Start / Open Windows 7

1. Push your computer's **power button**, which might look like or, then if the monitor is not turned on, press its power button to turn it on. On a desktop computer, the power button is probably on the front panel. On a laptop computer it's most likely at the top of the keys on your keyboard. After a few moments, a Starting Windows message appears. Then you might see a screen that lets you choose a user account, as shown in Figure 1.

2. Click a **user name** if necessary

The name you click represents your user account that lets you use the computer. The user account may have your name assigned to it, or it might have a general name, like Student, or Lab User. A password screen may appear. If necessary, ask your instructor or technical support person which user account and password you should use.

3. Type your **password** if necessary, using uppercase and lowercase letters as necessary, as shown in Figure 2

Passwords are **case sensitive**, which means that if you type any letter using capital letters when lowercase letters are needed, Windows will not allow you to access your account. For example, if your password is "book", typing "Book" or "BOOK" will not let you enter your account. As you type your password, its characters appear as a series of dots on the screen. This makes it more difficult for anyone watching you to see your password, giving you additional security.

4. Click the Go button
   You see a welcome message, and then the Windows 7 desktop.

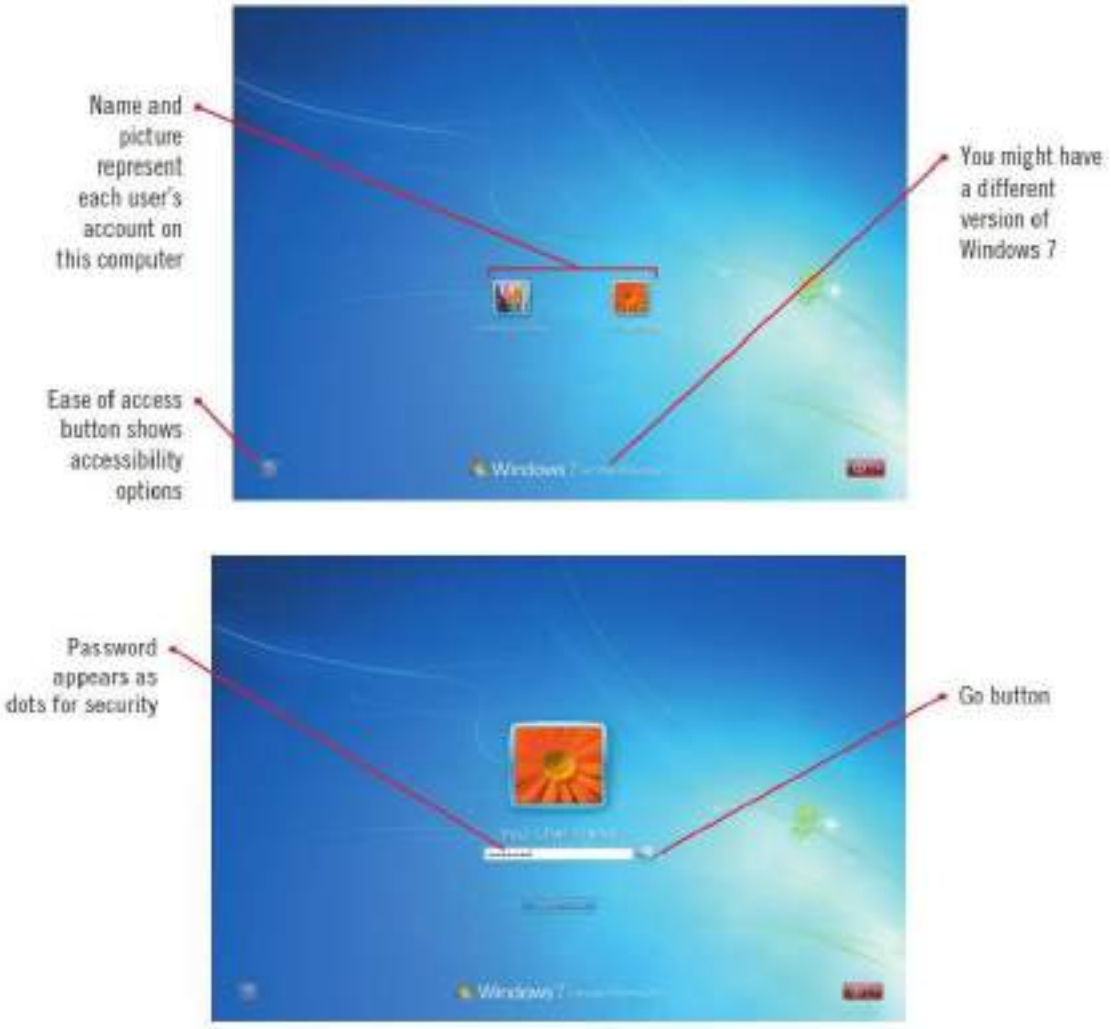


Figure 2. Password

Figure 3. Windows Desktop Screen

2.2. Learning the Windows 7 Desktop

After Windows 7 starts up, you see the Windows 7 desktop. The **desktop** consists of a shaded or picture background with small graphics called icons. **Icons** are small images that represent items such as the Recycle Bin on your computer. You can rearrange, add, and delete desktop icons. Like an actual desktop, the Windows 7 desktop acts as your work area. You can use the desktop to manage the files and folders on your computer. A **file** is a collection of stored information, such as a letter, video, or program. A **folder** is a container that helps you organize your files, just like a cardboard folder on your desk. If you're using a new installation of Windows, the desktop might show only a Recycle Bin icon in the upper-left corner and the taskbar, the horizontal bar at the bottom of your screen.

Windows 7 computers show these desktop elements. Refer to Figure 4.

- **Start button**

  The ***Start button*** is your launching point when you want to communicate with your computer. You can use the Start button to start programs, to open windows that show you the contents of your computer, and to end your Windows session and turn off your computer.

- **Taskbar**

  The ***taskbar*** is the horizontal bar at the bottom of the desktop. The taskbar contains the Start button as well as other buttons representing programs, folders, and files. You can use these buttons to immediately open programs or view files and programs that are on your computer.

- **Notification area**

  The ***notification area*** at the right side of the taskbar contains icons that represent informational messages and programs you might find useful. It also contains information about the current date and time. Some programs automatically place icons

here so they are easily available to you. The notification area also displays pop-up messages when something on your computer needs your attention.

Recycle Bin

Like the wastepaper basket in your office, the ***Recycle Bin*** is where you place the files and folders that you don't need any more and want to delete. All objects you place in the Recycle Bin stay there until you empty it. If you put an object there by mistake, you can easily retrieve it, as long as you haven't emptied the bin.

Desktop Background

The ***desktop background*** is the shaded area behind your desktop objects. You can change the desktop background to show different colors or even pictures. You might see the following on your desktop:

Icons and shortcuts

On the desktop background, you can place icons called shortcuts, which you can DoubleClick to access pro- grams, files, folders, and devices that you use frequently. That way, they are immediately available to you.

Gadgets

Gadgets are optional programs that present helpful or entertaining information on your desktop. They include items such as clocks, current news headlines, calendars, picture albums, and weather reports. Some gadgets come with Windows 7 and you can easily place them on your desktop.

Figure 4. Windows 7 Desktop after a new windows installation

Figure 5. Windows 7 Desktop with shortcut, Gadgets, and a Picture background

2.3. Pointing and Clicking

After you start Windows 7 and see the desktop, you can communicate with Windows using a pointing device. A **pointing device** controls the movement of the mouse pointer on your computer screen. The **mouse pointer** is a small arrow or other symbol that moves on the screen. The mouse pointer's shape changes depending on where you point and on the options available to you when you point. Your pointing device could be a mouse, trackball, touchpad, pointing stick, on-screen touch pointer, or a tablet.

There are five basic pointing device actions you use to communicate with your computer: ***Pointing, clicking, double-clicking, dragging, and right-clicking***. Table

Action	How to	Use for
Pointing	Move the pointing device to position the tip of the pointer over an object, option, or item	Highlighting objects or options, or displaying informational boxes called ScreenTips
Double-clicking	Quickly press and release the left mouse button twice	Opening programs, folders, or files represented by desktop icons
Dragging	Point to an object, press and hold down the left mouse button, move the object to a new location, then release the mouse button	Moving objects, such as icons on the desktop
Right clicking	Point to an object, then press and release the right mouse button	Displaying a shortcut menu containing options specific to the object

2.4. Starting a Windows Program

The Windows 7 operating system lets you operate your computer and see the programs and files it contains. But to do your work, you'll need application programs. **Application programs** let you create letters, financial summaries, and other useful documents as well as view Web pages on the Internet and send and receive e-mail. Some application programs, called **accessories**, come with Windows 7. To use an application program, you must start (or open) it so you can see and use its tools. With Windows 7 you start application programs using the Start menu. A **menu** is a list of related commands. You use the Start menu to open the All Programs menu, which contains all the application programs on your computer. You can see some programs on the All Programs menu; some are in folders you have to click first. To start a program, you click its name on the All Programs menu.

Example of Starting a Windows program

1. Click the **Start button** on the taskbar in the lower-left corner of screen.
The Start menu opens, showing frequently used programs on the left side. The gray area on the right contains links to folders and other locations you are likely to use frequently. It also lets you get help and shut down your computer. See Figure A-10. Not all the programs available on your computer are shown.

2. Point to **All Programs**
This menu shows programs installed on your computer. Your program list will differ, depending on what you (or your lab) have installed on your machine. Some program names are immediately available, and others are inside folders.

3. Click the **Accessories folder**

A list of Windows accessory programs appears, as shown in Figure A-11. The program names are indented to the right from the Accessories folder, meaning that they are inside that folder.

4. Move the pointer over **Paint** and click once

The Paint program window opens on your screen, as shown in Figure A-12. When Windows opens an application program, it starts the program from your computer's hard disk, where it's permanently stored. Then it places the program in your computer's memory so you can use it.

5. If your Paint window fills the screen completely, click the **Restore Down button** in the upper-right corner of the window.

Figure 6. Start menu Figure 7. Accessories folder on All programs menu

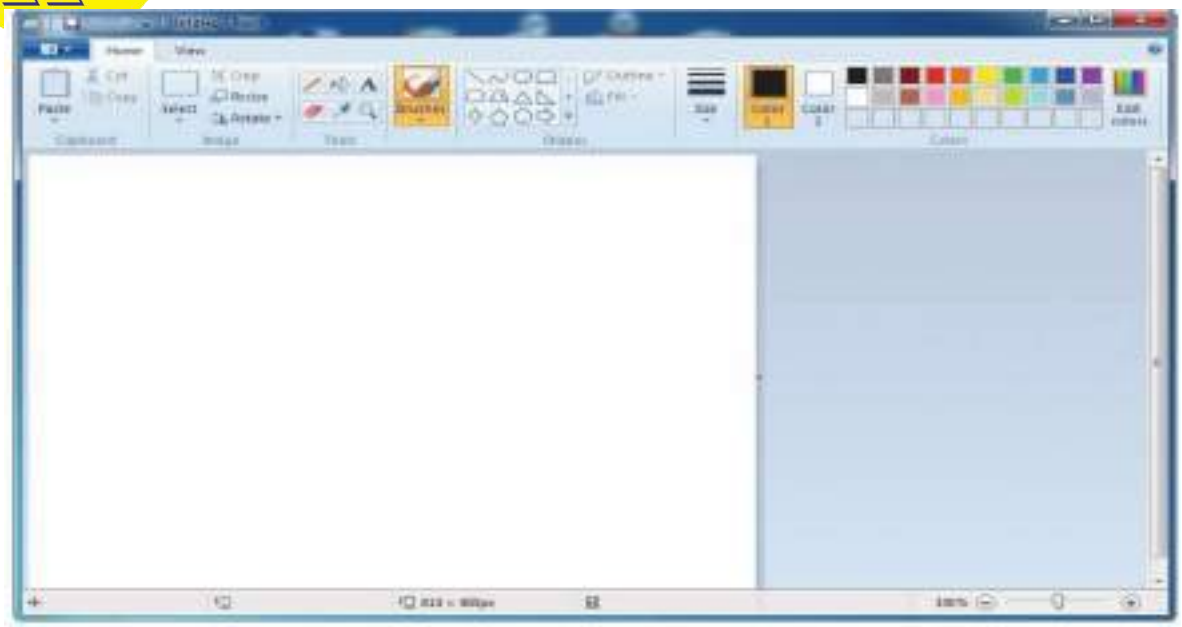


Figure 8. Paint Program Window

2.5. Exiting Windows 7

When you finish working on your computer, save and close any open files, close any open programs, close any open windows, and exit (or **shut down**) Windows 7. Table A-7 shows several options for ending your Windows 7 sessions. Whichever option you choose, it's important to shut down your computer in an orderly way. If you turn off or unplug the computer while Windows 7 is running, you could lose data or damage Windows 7 and your computer. If you are working in a computer lab, follow your instructor's directions and your lab's policies for ending your Windows 7 session.

Steps

1. Click the **Start button** on the taskbar
   The lower-right corner of the Start menu lets you shut down your computer. It also displays a menu with other options for ending a Windows 7 session.

2. Point to the **Power button list arrow** , as shown in Figure A-21 The Power button menu lists other shutdown options.

3. If you are working in a computer lab, follow the instructions provided by your instructor or technical support person for ending your Windows 7 session. If you are working on your own computer, click **Shutdown** or the option you prefer for ending your Windows 7 session.

4. After you shut down your computer, you may also need to turn off your monitor and other hardware devices, such as a printer, to conserve energy.

Figure 9. Shutting down your Computer

Option	Description	Click
Shut down	Completely turns off your computer	***Start button, Shut down***
Switch user	Locks your user account and displays the Welcome screen so another user can log on	***Start button, Power button list, Switch user***
Log off	Closes all windows, programs, and documents, then displays Log in screen	***Start button, Power button list arrow, Log off***
Lock	Locks computer so only current user (or administrator) can use it	***Start button, Power button list arrow, Lock***
Restart	Shuts down your computer, then restarts it	***Start button, Power button list arrow, Restart***
Sleep	Puts computer in a low-power state while preserving your session in the computer's memory	***Start button, Power button list arrow, Sleep***
Hibernate	Turns off computer drives and screens but saves image of your work; when you turn machine on, it starts where you left off	***Start button, Power button list arrow, Hibernate***

2.6. Introduction to File and Folder Management:

To work with the folders and files on your computer, you need to understand how your computer stores them. You should also know how to organize them so you can always find the information you need. These skills are called **file management** skills. When you create a document and save it as a file, it is important that you save the file in a place where you can find it later. To keep your computer files organized, you will need to copy, move, and rename them. When you have files you don't need any more, it's a good idea to move or delete them so your computer has only current files.

2.6.1. Understanding Folders and Files

As you work with your computer programs, you create and save files, such as letters, drawings, or budgets. When you save files, you usually save them inside folders, which are storage areas on your computer. You use folders to group related files, as with paper folders in a file cabinet. The files and folders on your computer are organized in a **file hierarchy**, a system that arranges files and folders in different levels, like the branches of a tree.

2.6.2. File vs Folder

File and folder are commonly used terms in computer terminology. One comes across these terms a lot when using a Windows based system. Often people, mainly beginners are confused when using these terms. Basically all the data in a hard drive is contained in either files or folders. The most basic difference between a file and a folder is that while files store data, whether text, music or film, folders store files and other files. Folders are normally bigger is size as they hold many files and other folders.

2.6.2.1. Files

A **file** is a collection of data on a single unit. It can be anything from a word file to a music, video, or photo file. Text files normally contain written text and are called word documents. Other examples of txt files are PDF, RTF and web pages. Picture files are in different formats known as JPEG, GIF, BMP and layered image files (Photo shop documents). Audio files are also in various formats called as MP3, WAV, WMV, and AIF etc. There are many formats of video files such as MPEG, WMV, and MOV to name a few.

2.6.2.2. Folders

Like in real world, there are folders in virtual world also. These folders are places where files are stored. Folders can even contain folders inside them. Folders are of great help in organizing files. For example a person can store all photos in a folder named photos, while he can store videos in another similarly named folder. He can then place all such folders in a folder called My Documents.

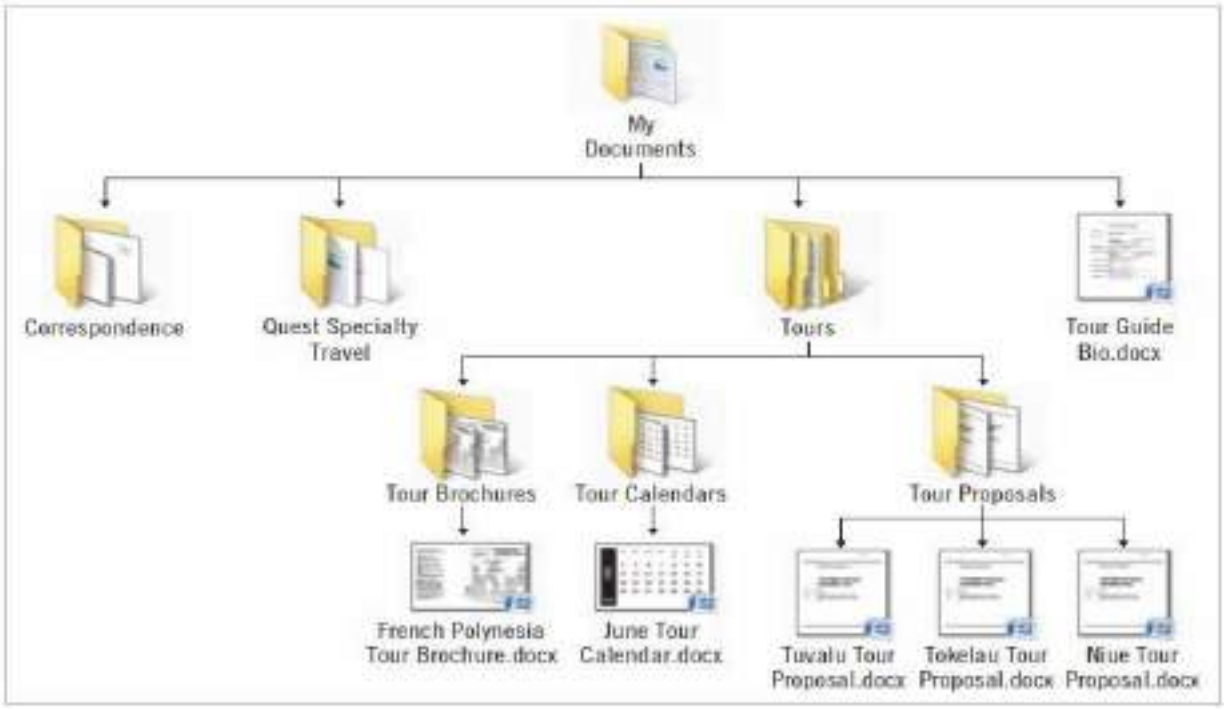


Figure 10. Sample folder and file hierarchy

2.6.3. Creating and Saving a File

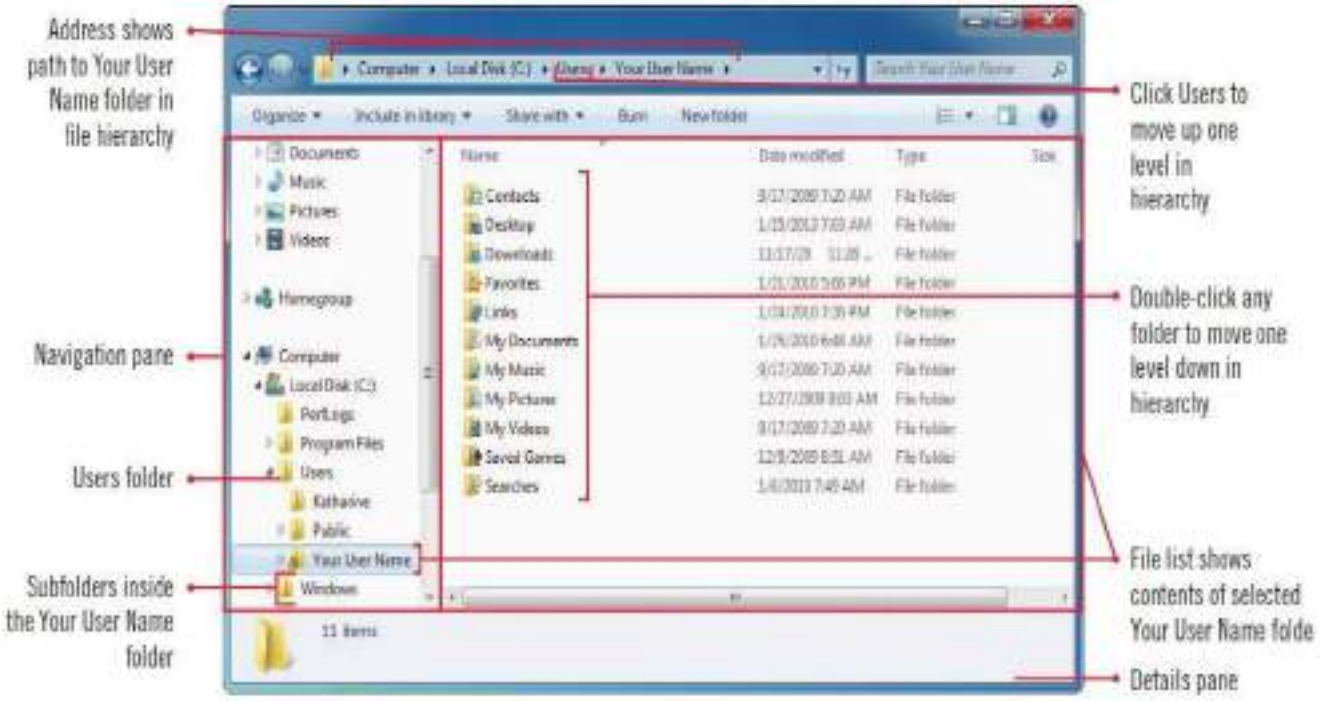


Figure 11. Windows Explorer windows

After you start a program and create a new file, the file exists only in your computer's **random access memory (RAM)**, which is a temporary storage location. RAM only contains information when your computer is on. When you turn off your computer, it automatically clears the contents of RAM. So you need to save a new file onto a storage device that permanently stores the file so that you can open, change, and use it later. One important storage device is your computer's hard disk built into your computer. Another popular option is a **USB flash drive**, a small, portable storage device.

Exploring the Files and Folders in Your Computer

In this lesson, you will navigate to your My Computer. In that way, you'll know where to save files as you work with Windows application programs. In a Windows Explorer window, you can navigate through your computer contents using the File list, the Address bar, and the Navigation pane.

Steps

1. **Click the Start button on the taskbar, then click Computer**

Your computer's storage devices appear in a window, as shown in Figure B-6, including hard drives; devices with removable storage, such as CD and DVD drives or USB flash drives; and portable devices such as personal digital assistants (PDAs).

A colored bar shows you how much space has been taken up on your hard drive. You decide to move down a level in your computer's hierarchy and see what is on your USB flash drive.

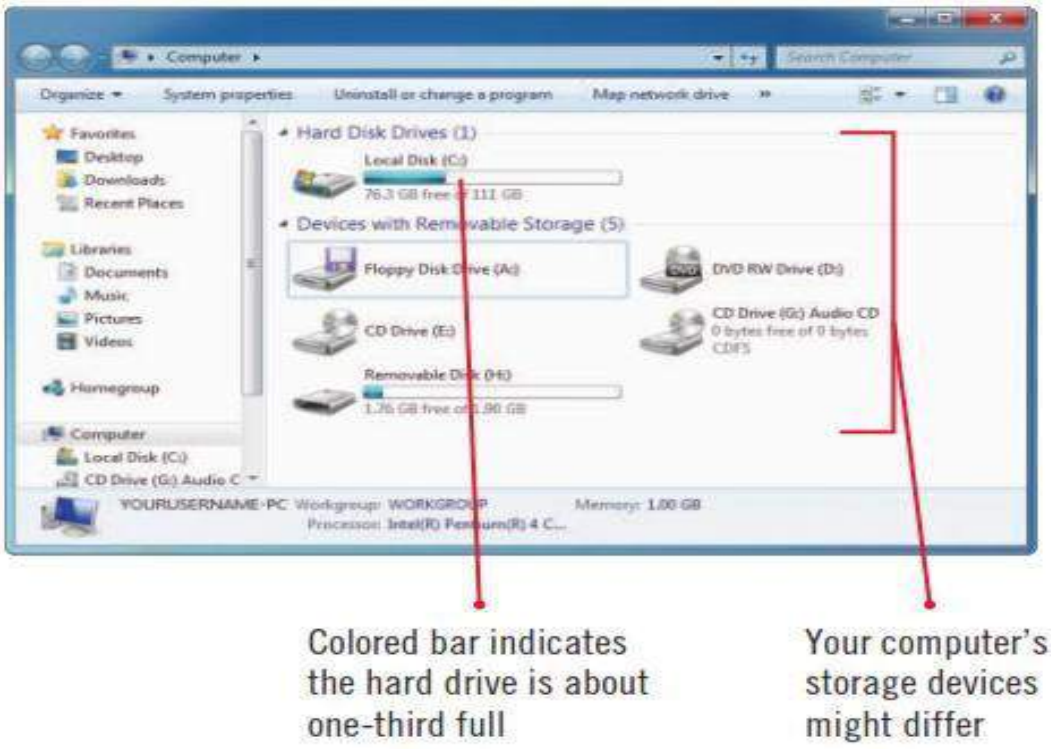


Figure 12. Computer Windows Showing Storage Devices

2. In the File list, double-click Local Disk (D:) (or the drive name and letter for your Drive). You can see there the contents of your drive, including the files and folders. You decide to navigate one level up in the file hierarchy.

3. In the **Address bar**, click **Computer**.
You return to the Computer window showing your storage devices. You decide to look at the contents of your hard drive.

4. In the **Navigation pane**, click **Local Disk (C:)**
The contents of your hard drive appear in the File list. The Users folder contains a subfolder for each user who has a user account on this computer. Recall that you

DoubleClick items in the File list to open them. In the Address bar and in the Navigation pane, you only need to single-click.

5. In the **File list**, double-click the **Users** folder

   You see folders for each user registered on your computer. You might see a folder with your user account name on it. Each user's folder contains that person's documents. User folder names are the log-in names that were entered when your computer was set up. When a user logs in, the computer allows that user access to the folder with the same user name. If you are using a computer with more than one user, you might not have permission to view other users' folders. There is also a Public folder that any user can open.

6. **Double-click the folder with your user name on it**

   Depending on how your computer is set up, this folder might be labeled with your name; however, if you are using a computer in a lab or a public location, your folder might be called Student or Computer User or something similar. You see a list of folders, such as My Documents, My Music, and others.

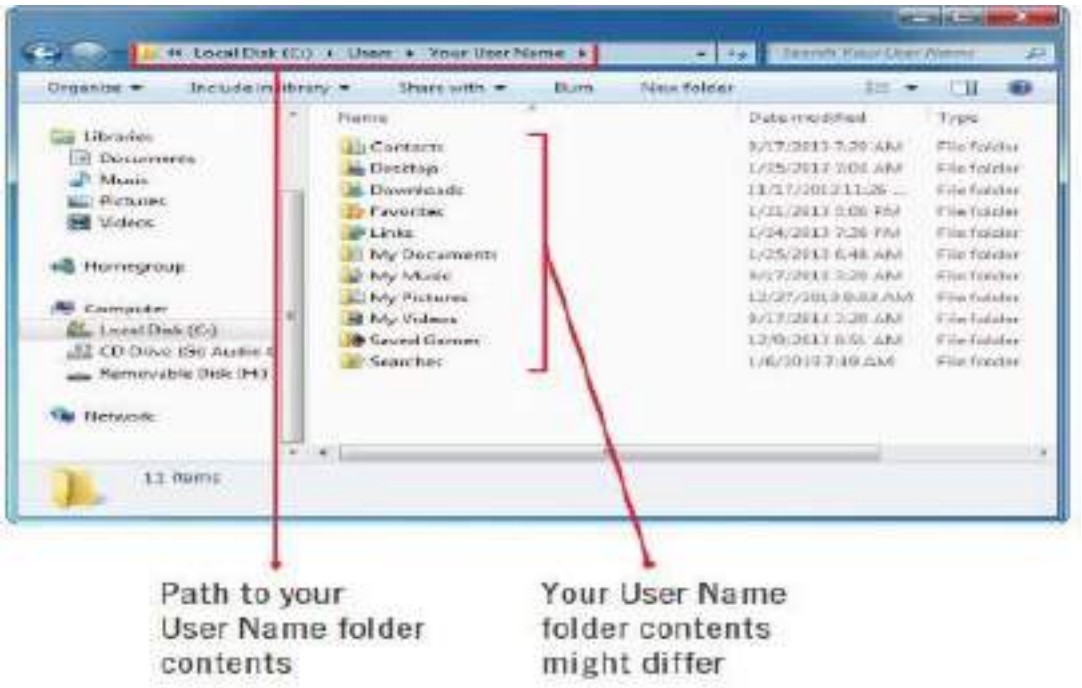


Figure 13. List of Folder

7. Double-click **My Documents**
   You see the folders and documents you can open and work with. In the Address bar, the path to the My Documents folder is Computer ▸ Local Disk (C:) ▸ Users ▸ Your User Name ▸ My Documents. You decide to return to the Computer window.

8. In the Navigation pane, click **Computer.**

2.6.4. Changing File and Folder Views

As you view your folders and files, you might want to see as many items as possible in a window. At other times, you might want to see details about each item. Windows 7 lets you choose from eight different views, which are appearance choices for your folder contents. Each view provides different information about the files and folders in different ways. You can list your folders and files by using several different-sized icons or in lists. You can also **sort** them to change the order in which the folders and files are listed. If you want to see what a file looks like, but don't want to open the file, you can see a preview of it in the window.

Steps

1. In the Navigation pane, under Libraries, click **Pictures**, then in the File list, double-click the Sample Pictures folder. You opened the Sample Pictures folder, which is inside your Pictures library.

2. In the toolbar, click the **More options list arrow** next to the Change your view icon . The list of available views appears in a shortcut menu. See Figure B-9.

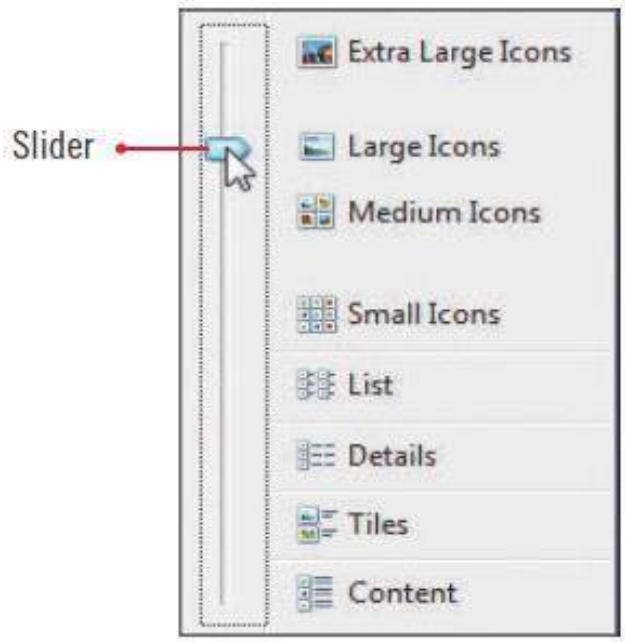


Figure 14. More Option Shortcut menu showing views

3. Click **Large Icons**
   In this view, the pictures appear as large-sized icons in the File list, as shown in Figure B-10. For image files, this view is very helpful. You can click any view name or you can drag a slider control to move through each of the available views.

4. Click the **Change your view More options list arrow** again, point to the **slider** , then drag it so it's next to **Details**
   As you drag, Live Preview shows you how each view looks in your folder. In Details view, you can see filenames, the date that files were created or modified, and other information. In Details view, you can also control the order in which the folders and files appear. In the Name column heading, you see a small triangle ^. This indicates that the sample pictures are in alphabetical order (A, B, C,…).

5. Click the **Name column heading** The items now appear in descending (Z, Y, X,…) order. The icon in the column header changes to **v.**

6. Click the Show the preview pane button in the toolbar.
   The Preview pane opens on the right side of the screen. The Preview pane is an area on

The right side of a window that shows you what a selected file looks like without opening it. It is especially useful for document files so you can see the first few paragraphs of a large document.

7. Click the Hide the preview pane button 
8. Click the window's Close button 

2.6.5. Copying Files

You might want to copy a file in Windows 7 for any number of reasons. You may want to copy files to replace corrupted or missing ones or maybe to provide a backup of a file while you make changes to the original file. The basic concept of a file copy, however, is to ***create an exact duplicate of the file.*** The original file is not deleted.

The ability to copy files is a basic function of any operating system including Windows7. There are several ways to copy a file in Windows 7 but the one describe below is easiest. Copying any file in Windows 7 should take less than a few minutes unless the file is very large.

Steps

1. Click on the Start button  and then **Computer.**

2. Locate the hard drive, network location, or other storage device that the original file you want to copy is located on and double-click to open the contents of the drive.

3. Continue to navigate down through whatever drives and folders are necessary until you find the file you want to copy.

4. Highlight the file you want to copy by clicking on it once. Do not open the file.

   Tip: Want to copy more than one file (or folder)? Hold down the **Ctrl** key on your keyboard and select any files and folders you want to copy. Release the **Ctrl** key when you're complete. All highlighted files and folders will be copied.

5. Choose **Organize** and then **Cop**y from the menu at the top of the folder's window. A copy of the file is now stored in your computer's memory.

6. Navigate to the location where you want to copy the file to. Once you've found the folder, click on it once to highlight it.
7. Choose Organize and then Paste from the folder window's menu.

Note: If you're prompted to provide administrator permissions to copy to the folder, click Continue. This means that the folder you're copying to is considered a system or other important folder by Windows 7.

8. The file you selected in Step 4 will now be copied to the folder that you chose in Step6. The original file will be left unchanged and an exact copy will be created in the location you specified.

2.6.6. Moving and Renaming Files

As you work with files, you might need to move files or folders to another location. You can move one or more files or folders. You might move them to a different folder on the same drive or a different drive. When you move a file, the file is transferred to the new location and no longer exists in its original location. You can move a file using the Cut and Paste commands. After you create a file, you might find that the original name you gave the file isn't clear anymore, so you can rename it to make it more descriptive or accurate.

Steps

1. Click on the Start button  and then **Computer.**

2. Locate the hard drive, network location, or other storage device that the original file you want to copy is located on and double-click to open the contents of the drive.

3. Continue to navigate down through whatever drives and folders are necessary until you find the file you want to move/cut.

4. Highlight the file you want to move /cut by clicking on it once. Do not open the file.
   Tip: Want to move / cut more than one file (or folder)? Hold down the **Ctrl** key on your keyboard and select any files and folders you want to move / cut. Release the **Ctrl** key when you're complete. All highlighted files and folders will be move / cut.

5. Choose **Organize** and then **Cut** from the menu at the top of the folder's window.

6. Navigate to the location where you want to move/cut the file to. Once you've found the folder, click on it once to highlight it.

7. Choose Organize and then Paste from the folder window's menu.

Note: If you're prompted to provide administrator permissions to move to the folder, click Continue. This means that the folder you're moving to is considered a system or other important folder by Windows 7.

8. The file you selected in Step 4 will now be move/cut to the folder that you chose in Step6. The original file will be removed.

You can also use the mouse to copy a file and place the copy in a new location. Drag and drop is a technique in which you use your pointing device to drag a file or folder into a different folder and then drop it, or let go of the mouse button, to place it in that folder. Using drag and drop does not copy your file to the clipboard. If you drag and drop a file to a folder on another drive, Windows copies the file. See Figure B-20. However, if you drag and drop a file to a folder on the same drive, Windows 7 moves the file into that folder instead. If you want to move a file to another drive, hold down [Shift] while you drag and drop. If you want to copy a file to another folder on the same drive, hold down [Ctrl] while you drag and drop.

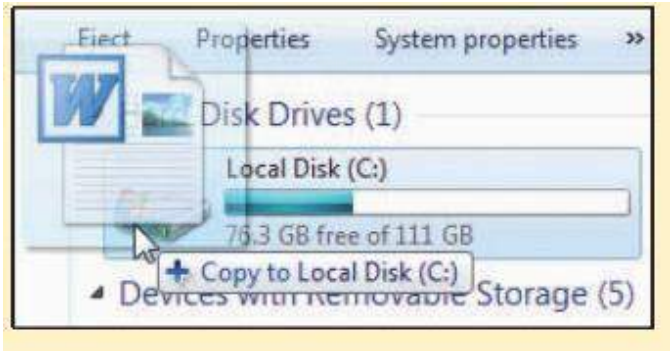


Figure 15. Copying a file using drag and drop

2.6.7. Searching for Files, Folders, and Programs

After copying or moving folders and files, you might forget where you stored a particular folder or file, its name, or both. Or you might need help finding a program on your computer. **Windows Search** helps you quickly find any file, folder, or program. You must type one or more letter sequences or words that help Windows 7 identify the item you want. The search text you type is called your **search criteria**. Your search criteria can be a filename, part of a filename, or any other characters you choose. Windows 7 will find files with that information in its name or with that information inside the file. For example, if you type "word," Windows 7 will find the program Microsoft Word, any documents with "word" in its title, or any document with "word" inside the file. To search your entire computer, including its attached drives, you can use the Search box on the Start menu. To search within a particular folder, you can use the Search box in a Windows Explorer window.

Steps

1. Click the Start button on the taskbar

The Search programs and files box at the bottom of the Start menu already contains the insertion point, ready for you to type search criteria. You begin your search by typing a part of a word that is in the filename.

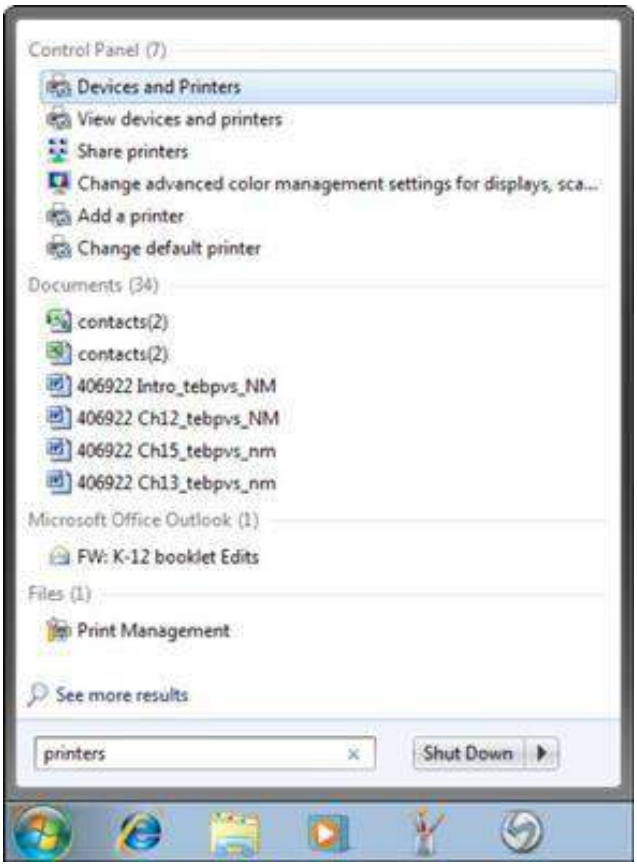


Figure 16. A list of search results appears divided by the location of the results.

2. Click the See More Results link.

Figure 17. The Search Results in Indexed Locations window appears.
Click View to cycle through the various options of icon sizes or text listings.

3. When you locate the file you wanted, double-click it to open it.

   If you don't see what you're looking for, choose the Folder and Search Options command from the Organize menu to modify Search settings. You can alter the locations to search, indicate whether to find partial matches for search terms, and more.

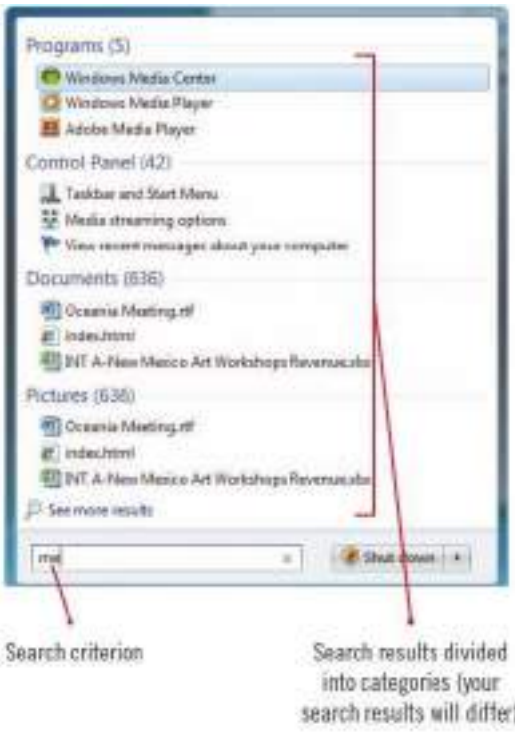


Figure 18. Searching on criterion "me"

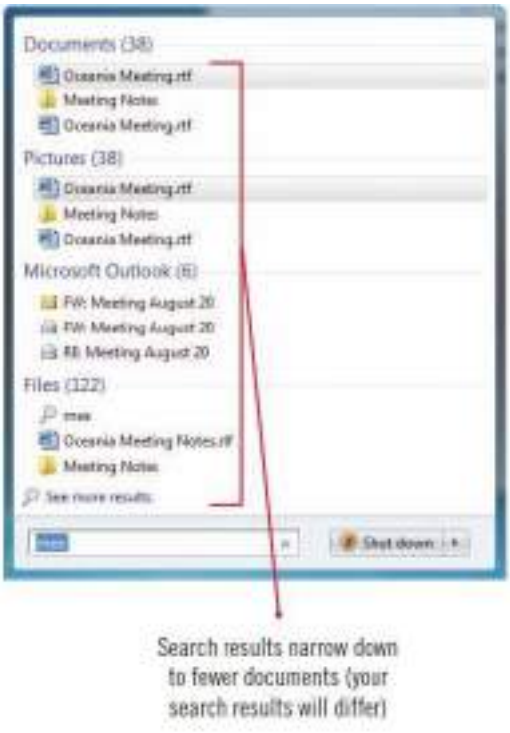
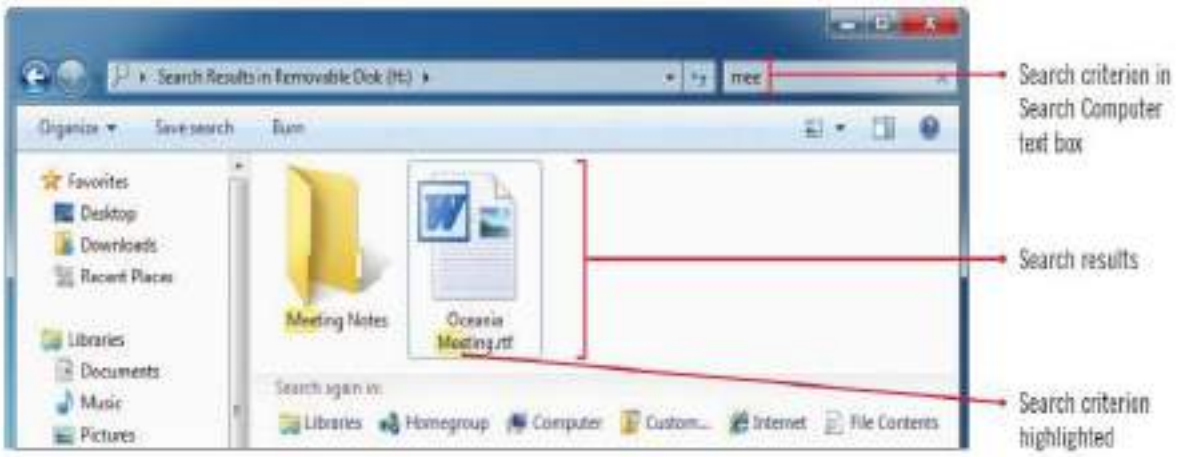


Figure 19. Searching on criterion "mee"



2.6.8. Deleting and Restoring Files

If you no longer need a folder or file, you can delete (or remove) it from the storage device. By regularly deleting files and folders you no longer need and emptying the Recycle Bin, you free up valuable storage space on your computer. This also keeps your computer uncluttered. Windows 7 places folders and files you delete from your hard drive in the Recycle Bin. If you delete a folder, Windows 7 removes the folder as well as all files and subfolders stored in it. If you later discover that you need a deleted file or folder, you can restore it to its original location, but only if you have not yet emptied the Recycle Bin. Emptying the Recycle Bin permanently removes the deleted folders and files from your computer. However, files and folders you delete from a removable drive, such as a USB flash drive, do not go to the Recycle Bin. They are immediately and permanently deleted and cannot be restored.

Steps

1. Locate the file or folder you want to delete.

2. Press **Delete** key.

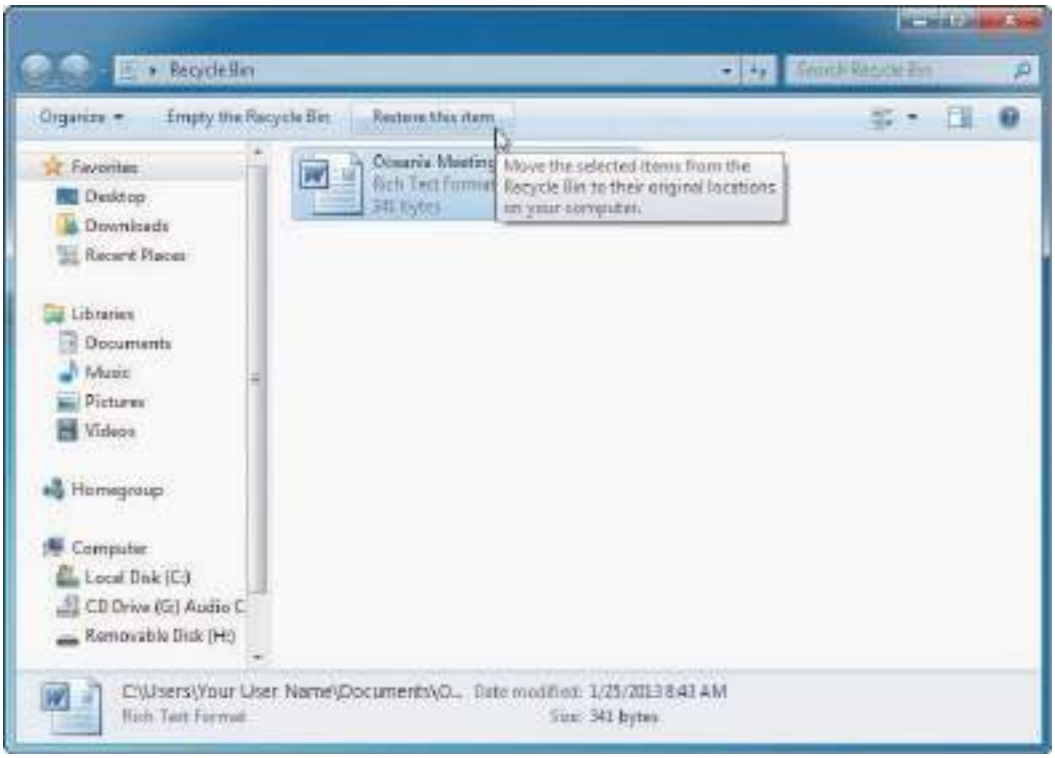
3. Click YES

Figure 20. Delete Confirmation dialog box

2.6.9. Restoring a file from the Recycle Bin

Steps

1. Open the recycle bin
2. Right click on the file or folder you want to restore.
3. **Click on restore** key.
4. Click YES



Chapter Three
Microsoft Office Word

3. Introduction

3.1. What is Microsoft word?

Microsoft office word 2010 helps users develop those skills as well as help you with your own writing needs. It is a full featured word processing program designed to help the user in using the computer for any word related task for any word related tasks like create high quality documents such as announcements, letters, resumes, advertisement, newsletters, brochures, reports, and revised them easily. It can do more than this like editing, formatting and printing documents. Word processor can also offer facilitates for check spelling, find synonyms, incorporate graphics created with another programs.

Microsoft word 2010 makes it easy to save your documents to the web or send them through email.

Microsoft Office Word 2010 helps you produce professional-looking documents by providing a comprehensive set of tools for creating and formatting your document in a new interface. Rich review, commenting, and comparison capabilities help you quickly gather and manage feedback from colleagues. Advanced data integration ensures that documents stay connected to important sources of business information.

3.2. What's new in Microsoft Office Word 2010?

Microsoft Office Word 2010 helps you produce professional-looking documents by providing a comprehensive set of tools for creating and formatting your document in a new interface. Rich review, commenting, and comparison capabilities help you quickly gather and manage feedback from colleagues. Advanced data integration ensures that documents stay connected to important sources of business information.

3.3. What do you want to do?

- **Create professional-looking documents**

Office Word 2010 provides editing and reviewing tools for creating polished documents more easily than ever before.

Spend more time writing, less time formatting

A new, results-oriented interface presents tools to you when you need them, in a clear and organized fashion:
Save time and get more out of the powerful Word capabilities by selecting from galleries of predefined styles, table formats, list formats, graphical effects, and more.

Word eliminates the guesswork when you apply formatting to your document. The galleries of formatting choices give you a live visual preview of the formatting in your document before you commit to making a change.

- **Add preformatted elements with just a few clicks**

Office Word 2010 introduces building blocks for adding preformatted content to your documents:

When you are working on a document from a particular template type, such as a report, you can select from a gallery of preformatted cover pages, pull quotes, and headers and footers to make your document look more polished.

If you want to customize the preformatted content, or if your organization often uses the same piece of content, such as legal disclaimer text or customer contact information, you can create your own building blocks that you select from the gallery with a single click.

- **Communicate more effectively with high-impact graphics**

New charting and diagramming features include three-dimensional shapes, transparency, drop shadows, and other effects.

- **Instantly apply a new look and feel to your documents**

When your company updates its look, you can instantly follow suit in your documents. By using Quick Styles and Document Themes, you can quickly change the appearance of text, tables, and graphics throughout your document to match your preferred style or color scheme.

- **Easily avoid spelling errors**

The following are some new features of the spelling checker:

The spelling checker has been made more consistent across the 2010 Microsoft Office system programs. Examples of this change include:

Several spelling checker options are now global. If you change one of these options in one Office program, that option is also changed for all the other Office programs. For more information, see Change the way spelling and grammar checking work.

In addition to sharing the same custom dictionaries, all programs can manage them using the same dialog box. For more information, see Use custom dictionaries to add words to the spelling checker.
The 2010 Microsoft Office system spelling checker includes the post-reform French dictionary. In Microsoft Office 2003, this was an add-in that had to be separately installed. For more information, see Change the way spelling and grammar checking work.

An exclusion dictionary is automatically created for a language the first time that language is used. Exclusion dictionaries let you force the spelling checker flag words you want to avoid using. They are handy for avoiding words that are obscene or that don't match your style guide. For more information, see Use exclusion dictionaries to specify a preferred spelling for a word.

The spelling checker can find and flag some contextual spelling errors. Have you ever typed a mistake similar to the following? I will see you their. In Office Word 2010, you can enable the Use contextual spelling option to get help with finding and fixing this type of mistake. This option is available when checking the spelling of documents in English, German or Spanish. For more information, see Choose how spelling and grammar checking work.

You can disable spelling and grammar checking for a document or for all documents you create.

- **Quickly compare two versions of a document**

Office Word 2010 makes it easy to find out what changes were made to a document. When you compare and combine documents, you can see both versions of the document — with the deleted, inserted, and moved text clearly marked in a third version of the document.

Find and remove hidden metadata and personal information in documents

Before you share your document with other people, you can use the Document Inspector to check the document for hidden metadata, personal information, or content that may be stored in the document. The Document Inspector can find and remove information like comments, versions, tracked changes, ink annotations, document properties, document management server information, hidden text, custom XML data, and information in headers and footers. The Document Inspector can help you ensure that the documents you share with other people do not contain any hidden personal information or any hidden content that your organization might not want distributed. Additionally, your organization can customize the Document Inspector to add checks for additional types of hidden content.

3.4. Getting started

3.4.1. Starting Microsoft office word 2010

Follow these steps to open Microsoft office word program

Click on start button Click on all programs| clicks on Microsoft office| Click on Microsoft word

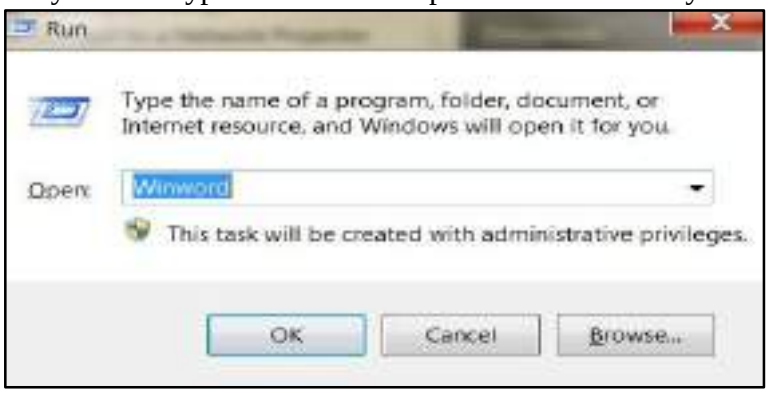
Starting a word from a task bar

Note: to start Microsoft office word program you can use run dialog box

- To open run dialog box

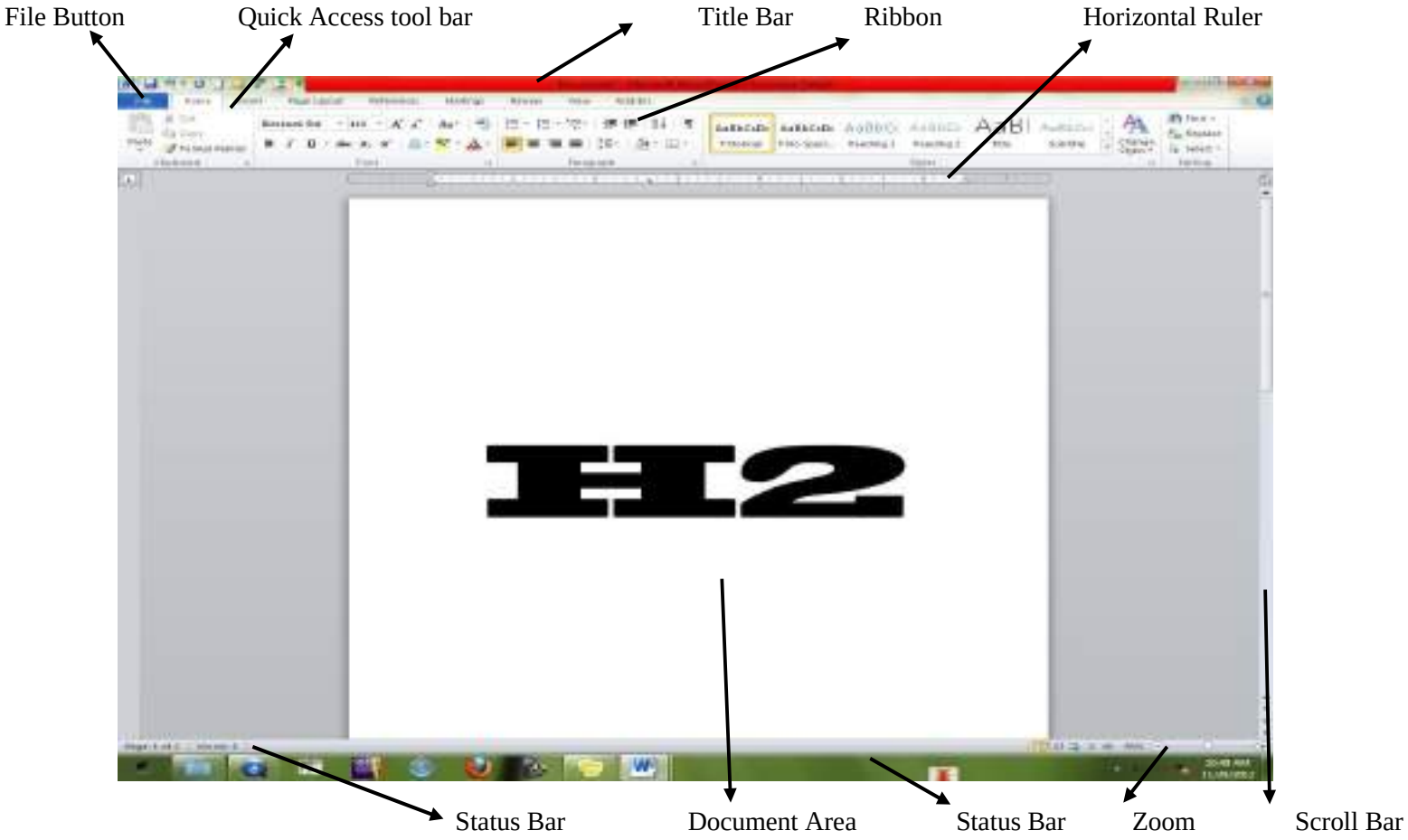
Click on start button| Click on all programs| Click on accessories| Click on Run

Or press window key+ R and type WinWord and press ok or Enter key



Run Dialog Box

3.4.2. Exploring Word 2010 Document window (Window environment)



Microsoft Word 2010 Screen Element

3.4.2.1. The title bar: -

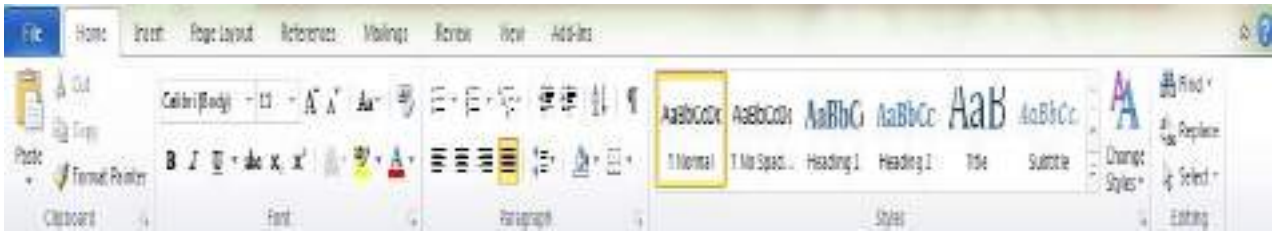
Appears at the top of the window and displays the name of the
Opened documents as well as the name of the office program. At the right side of the screen contains Minimize, restore and close button

3.4.2.2. The Quick access tool bar: -

This tool bar contains button that is used to frequently commands or tools. These tools bars sometimes called command buttons.

3.4.2.3. Ribbon: -

The ribbon consists of a series tab each tab on the ribbon contains a specific set of tools related to general tasks found below the title bar which contain all of the tools that are used to work with program, these include Home, Insert, Page layout etc…



3.4.2.4. File button

File button is found at the top left corner of the ribbon has file menu which contains command to work with documents such as opening, saving and printing files.

3.4.2.4.1. Exploring the file button

Most office programs contain the file menu, which enables you to work with files associated with the program. This menu is accessible by clicking the office button in the top left corner of the ribbon.

The left side of the menu contains a list of options which are also referred to as commands. Each commands also represented by icons.

The right side of the menu lists the documents that have been opened recently. This area provides a quick way to open a document the two buttons in the lower right corner of the menu enables you to customize some features in, words as well as close the word program

3.4.3. Navigating through the document

Moving Using the Keyboard

Using the keyboard to move around in Word may not be the easiest method to learn as it requires remembering key combinations, but for many people it is the quickest method,

Since you spend most of your time in Word with your hands already on the keyboard. Don't worry if you don't remember all of these. A list of these shortcuts can be found at the end of this section and you will begin to remember them with regular use. Note that all of the keyboard methods also move the insertion point.

1) Press the [End] key to move to the end of the current line.

2) Press the [Home] key to move to the beginning of the current line.

3) Hold down the [Ctrl] key and press the [End] key. This will take you to the end of the document.

4) Press [Ctrl] [Home] to move to the beginning of the document.

5) Hold down [Ctrl] and press the down arrow key. This will move down one paragraph at a time.

6) Press [Ctrl ↑] to move up one paragraph at a time.

7) Press [Ctrl →] to move right one word at a time.

8) Press [Ctrl ←] to move left one word at a time.

9) Press [Page Down] to move down one screen at a time.

10) Press [Page Up] to move up one screen at a time.

11) Press [Ctrl] [Page Down] to move to the top of the next page.

12) Press [Ctrl] [Page Up] to move to the top of the previous page.

13) Return to the beginning of the document when you have tried each of these keyboard shortcuts.

3.4.4. Working Area

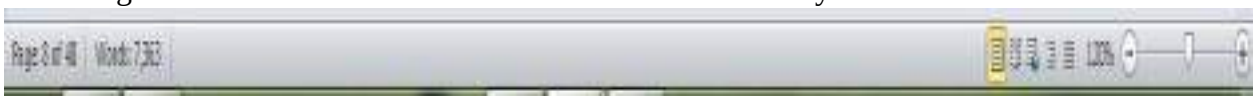
The center of the windows which contains the opened document. Only a part of your document is visible in the work area. If a document is too large to display fully the vertical scroll bar on the right side of the working area enables you to view others areas of the document. If the document is too wide, a horizontal scroll bar appears at the bottom of the working area. To view the rest of the document you can use the scroll bar. By dragging the scroll box, clicking the up or down button or use page up or down on your key board.

3.4.5. The insertion point

Is a blinking vertical line in the document screen that indicates where text will be inserted as you type. As you type, the insertion point moves to the right and, when you reach the end of a line, it moves downward to

3.4.6. Status Bar

The bar at the bottom of the window is called the status bar. Left side displays information about the current document such as the number of the pages it contains and number of words. At the right side offer tools to view the window in different ways and screen zoom



3.4.7. Scrollbar

Word is preset to use standard 8.5 by 11 inch paper, with 1.25 inch left and right margins and one inch top and bottom margins. Only a portion of a document, however, displays on the screen at one time. There are horizontal and vertical bars on the bottom and right side of the screen that allow you to see more of a document. You use the scroll bars to display different portion of your document in the document window. At the right edge of the document window is the vertical scroll bar, and at the bottom of scroll bars, the scroll box indicates your current location in the document.

3.4.8. Ruler

Below the formatting toolbar is horizontal ruler. You use the horizontal ruler sometimes simply called ruler used to set the tab stop position, indent paragraphs, and adjust column width , and change page margins. It also show margins and tab setting for the selected paragraphs. You can drag icons for margins and tabs to change these settings directly. An additional ruler, called the vertical ruler. Display at the left edge of the window when you are performing certain tasks.

The ruler is generally found below the main toolbars. The ruler is used to change the formant of your document quickly.

To display or hide the ruler:

Click on View from the ribbon| Click on ruler check box or click on show/ hide button

Note: The vertical ruler will not appear if it is turned off. To turn on the vertical ruler, do the following:

1. Click the Microsoft file menu, and then click Word Options.
2. Click Advanced.
3. Under Display, select the Show vertical ruler in Print Layout view check box.

3.5. Working with Files

3.5.1. Creating, Opening, and saving documents

With Microsoft office word 2010, you can create and modify the various types of documents you use in your application quickly, edit and format your documents in interesting and dramatic ways, and save documents as templates for future use.

3.5.2. Creating a new document

Click on office button| click on new| click on blank document click on create

Note: if you want to create a document from a template you can

click on installed template from new option

3.5.3. Saving a document

When you are creating a document in word the computers stores it in memory. If the computer is turned off or if you lose electrical power, the document is lost, hence is mandatory to save on disk. You can save the active document you are working, whether it is new or existed previously. You can save all open documents at the same time. And you can save a copy of the active document with a different name or in a different location.

Saving a new, unnamed document

- Click on office button and click on save as and save as dialog box will appear

- Specify the place or location you want to save your file
  - Type the file name and click on save button

You can click on save button from quick access toolbar or you can press Ctrl+S

3.5.4. Opening Saved document

Once you have created and saved a document, you often will have reason to retrieve it from the disk. For example, you might want to continue working on a file you previous saved or revise the document.

The following 78 steps illustrate how to open the file you saved earlier.

- ✓ Click on office button and click on open
- ✓ Specify the place or location where you saved your file
- ✓ Type the file name and click on open button

Note: - To open a document you have used recently, click the file name from the office button

3.5.5. Close an open document

After you finished your activity you may expected to close the existing document in order to close the existing document you may use the following procedure

- Click on office button and click on exit word/close
- Use Alt + F4

3.6. Working with text

3.6.1.1. Correcting errors

After creating q document, you often will find you must make changes to the document. Changes can be requires because the document contains an error or because of new circumstances.

3.6.1.2. Types of changes made to document

The types of change made to documents normally fail in to one of the three following categories:

- **Additions**: addition words, sentences, or paragraphs may be requires in the document. Addition occurs when you omit text from a document and are required to add it later.
- **Deletion**: - sometimes, text in a document is incorrect or is no longer needed.
- **Modification**: if an error is made in a document, you might have to revise the word(s) in the text

3.6.2. Check your spelling and grammar

As a deadline approaches, often there is not enough time to check a document for spelling and grammar mistakes. Your Microsoft Office program provides tools that can help you correct these mistakes faster. You decide if you want to set up the Microsoft Office program so that

You can easily see potential mistakes while you work. Or, if you find the wavy red and green lines distracting, you can just check your document when you are ready to finish it.

How automatic spelling checking works

When you check spelling automatically while you type, you can be more confident that you won't have to correct a lot of spelling mistakes when you are ready to deliver your document. Your Microsoft Office program can flag misspelled words while you work so that you can easily spot them, as in the following example.

Sometimes I mak mistakes.

You can right-click the misspelled word to see suggested corrections.

Example

Ethiopiaa → Spelling Error

ethiopia

What is this → Grammar Error

Selling and grammar

✓ To check your spelling and grammar you need to follow the following procedures

✓ Click on Review from the ribbon

✓ Click on spelling & Grammar and the spelling and grammar dialog box will appear as shown below

Spelling and grammar Dialog box

Select the word you want to correct and select any option from the dialog box

Options: - you can click on spelling & Grammar tool box from the quick access toolbar or you can press F7 from function

3.7. Printing your files

- ✓ Click on office button and click on print
- ✓ From the quick access tool bar click on print button or press Ctrl + P
- ✓ Select any and click on print

Changing the view of the window

Each group of the view tab enables you to work with different view elements of the displayed document work area, or window.

Print Layout: view the document as it will appear on the printed page.

Draft: display only the document text, graphics, header, footers, margins, and other layout features are not displayed.

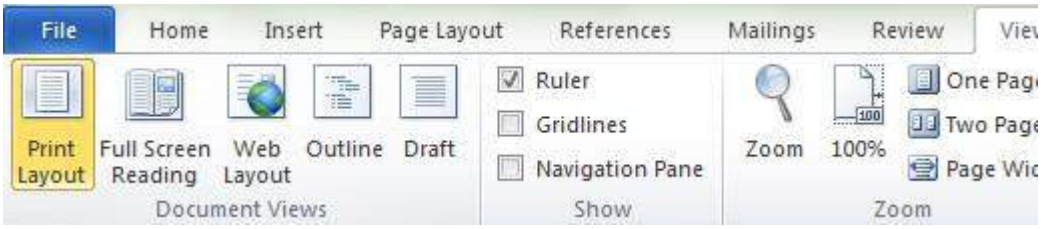
Outline view: - is similar to draft view as it displays only the document texts. However the text is displaying in the hierarchal format. This view is helpful when creating hierarchical document that contains heading and subheading.

Web layout view: - view the document as it would look as a web page.

Full screen reading view: - display the document s a page in the book. Note that the title bar, ribbon and status bar are no longer displayed.

Zoom: in addition to the view option word offer a zoom tool on the status bar or from View option from the ribbon so that you can increase or decrease the display size on the screen.

- ✓ To change the view of your document, follow the following procedures
- ✓ Click on view from the ribbon
- ✓ From document view options select your any option



View option selected

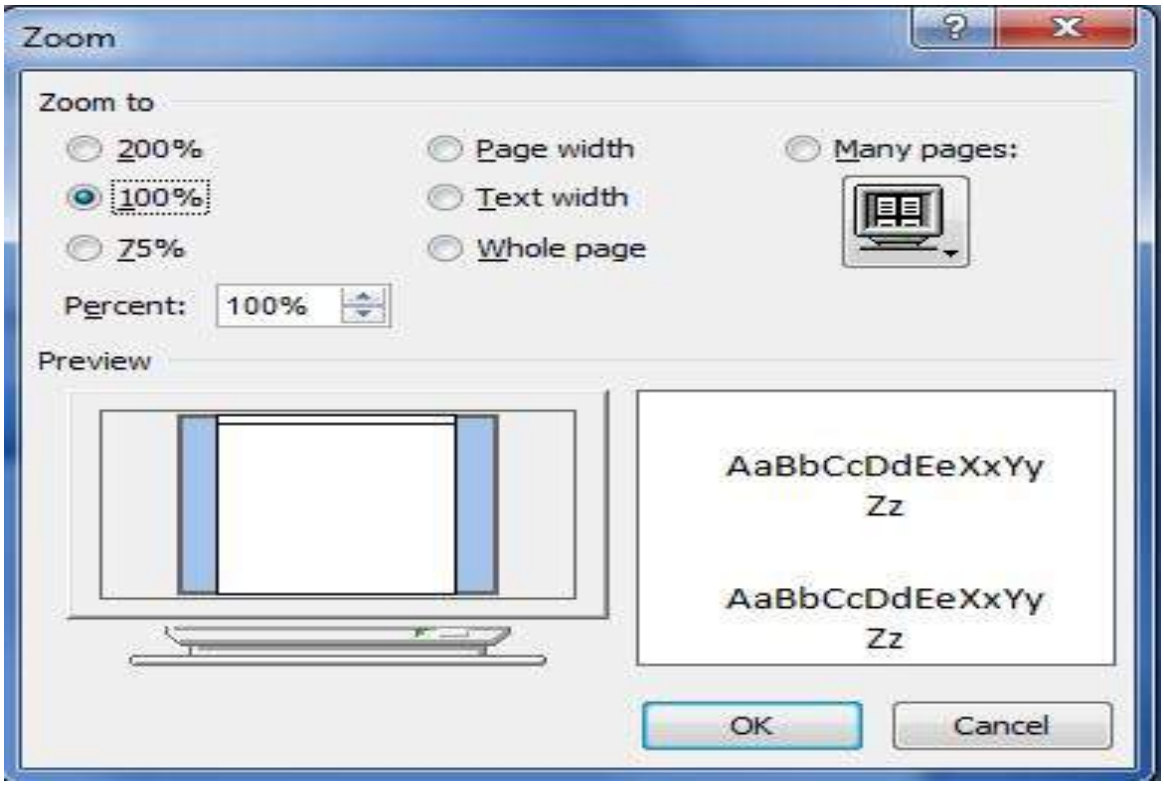
3.8. Working with screen Zoom

You can zoom in to get a close-up view of your document or zoom out to see more of the page at a reduced size. You can also save a particular zoom setting with a document or template.

Increasing or decreasing the screen zoom

To crease or increase the screen zoom first click on view and click on zoom from Zoom options

and then the zoom dialog box will be appear as shown below Set any zoom size and click on ok



3.9. Editing Documents

3.9.1. Selecting text

To change any attributes of text it must be heighted (selected) firs. To move, copy, delete, or change the formatting of the text, select the text you want to edit. It will appear as light type on dark background on your screen, the reverse of the unselected text

Selection	**Techniques**
Any amount of the text	Drag lover the text
A word	Double-click on the word
A line of a text	Move the pointer to the left of the line until it changes to right- pointing arrows, and then drag up or down.
A sentence	Hold down CTRL, and then click anywhere in the sentence
A Paragraph	Move the pointer to the paragraph until it changes to a right pointing arrow and then double click anywhere in the paragraph
Multiple paragraphs	Move the pointer to the left of the paragraphs until it changes to right pointing arrows, and then double click and drag up or down.
A large block of text	Click at the start of the selection, scroll to the end of the selection, and then hold down HHIFT and click.
An Entire Document	Press CTRL +A or move the pointer to the left of any document text until it changes to a right pointing arrows and then triple click

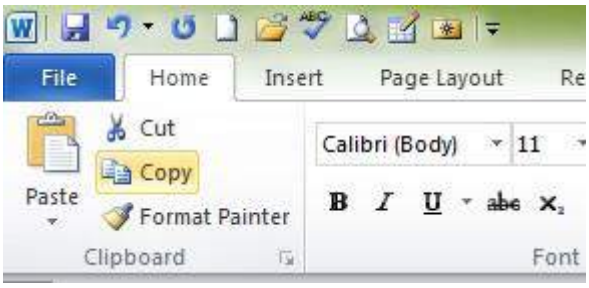
3.10. Cut, Copy and paste command

Cut: - command is used to move text or selected documents from one place and move to the other place.

Copy: command is used to copy the document from one place and put on another place. It is used to make a duplicate document

Step

- ✓ Select the text you want to copy or move
- ✓ Click on home from the ribbon
- ✓ From clipboard option select cut/copy
- ✓ Specify the cursor you want to move or duplicate
- ✓ Click on paste from clip board option



Clipboard

3.11. Undo and Redo command

- ✓ **Undo** command is used to move one step backward or previous section of action or task
- ✓ **Redo** command is used to move one step forward

Step: - click on undo or redo command from the quick access tool bar

✓ Ctrl +Z = undo ✓ Ctrl + Y = Redo

3.12. Find, Replace and Go to command

The find command is used to find a specific document by the given set of criteria. This command is used to find a specific word or phrase from the given document

The replace command is used to replace the selected phrase or word with the new one

Step

✓ Click on home and click on find or replace from editing option

✓ In the find what text box, you can type words or phrases and then click on find next button. In the replace box type the new word or phrase and click on replace or replace all buttons.

- The go to command is used to go (navigate) a specific section of the document.
- Step: click on Home from editing option| select find option button and click on go to then set any

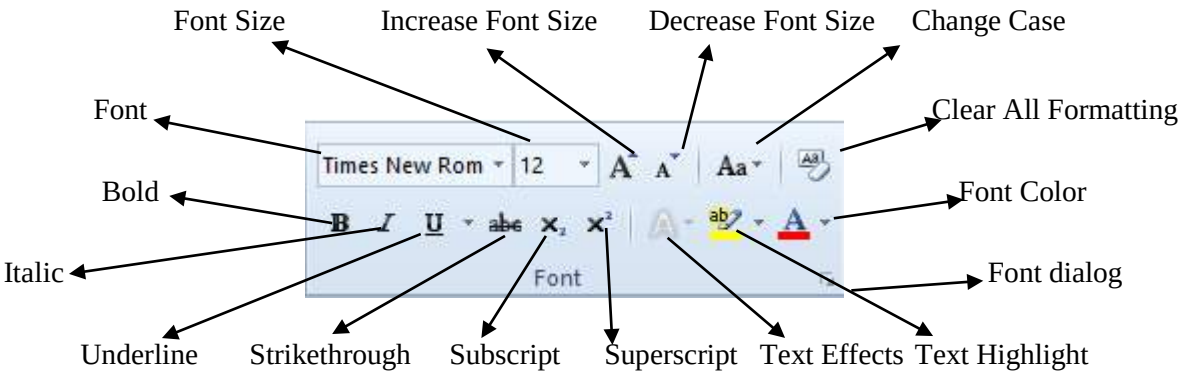
3.13. Formatting Text

3.13.1. Character formatting

Formatting is changing the appearance of the text. There are three types of formatting in word includes character, paragraph and document formatting

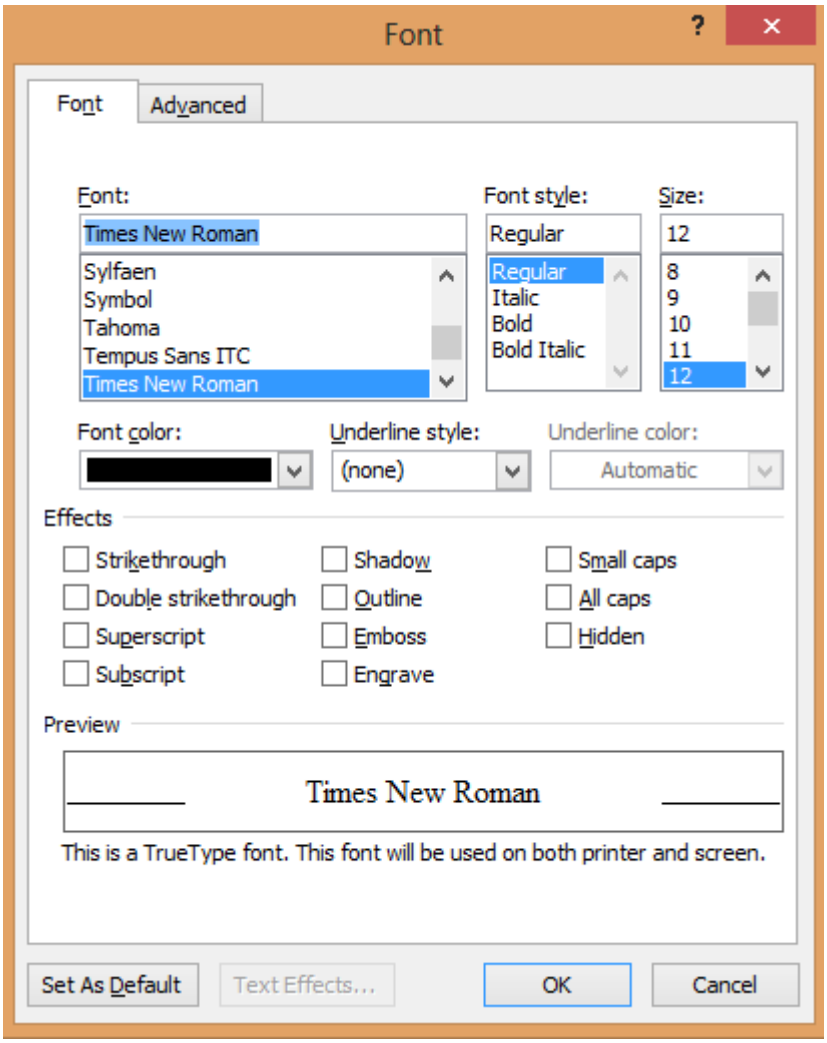
Character formatting includes

- Change the font of text or numbers
- Change the size of text and numbers
- Underline text or numbers
- Apply bold formatting or to text or numbers
- Apply italic formatting to text or numbers
- Apply strikethrough formatting text or number
- Change the color text or number and etc…



Font Group

- ✓ To change different font
- ✓ Select the text you want to change
- ✓ Click on show font dialog box



The Font dialog box

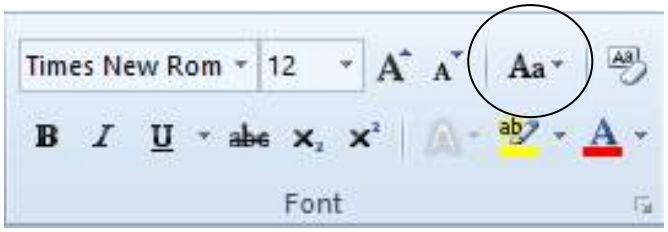
3.13.2. Change case command

Change case change is used to change the selected document or text in to the following format

- **Sentence:** - convert the selected document in to sentence format
- **Lower case:** - change the selected text in to the lower case
- **Uppercase:** - CHANGE THE ALL THE SELECTED TEXT IN TO THE UPPER CASE
- **Capitalize each word/Title case:** - Change The Selected Text Initial Character To Be Upper
- **Toggle case:** tHE oPPOSITE oF tITLE cASE

Step to change the case

- Click on Home and click on Change case from font option
- Then select any



Change case command selected

3.13.3. Character spacing

Character spacing command is set the space between the characters in the selected document. There are three different spacing called….

1. **Expand**: help to set a greater space between characters
2. **Condensed**:- help to set a greater space between characters
3. **Normal**:- is used to set the space between the characters

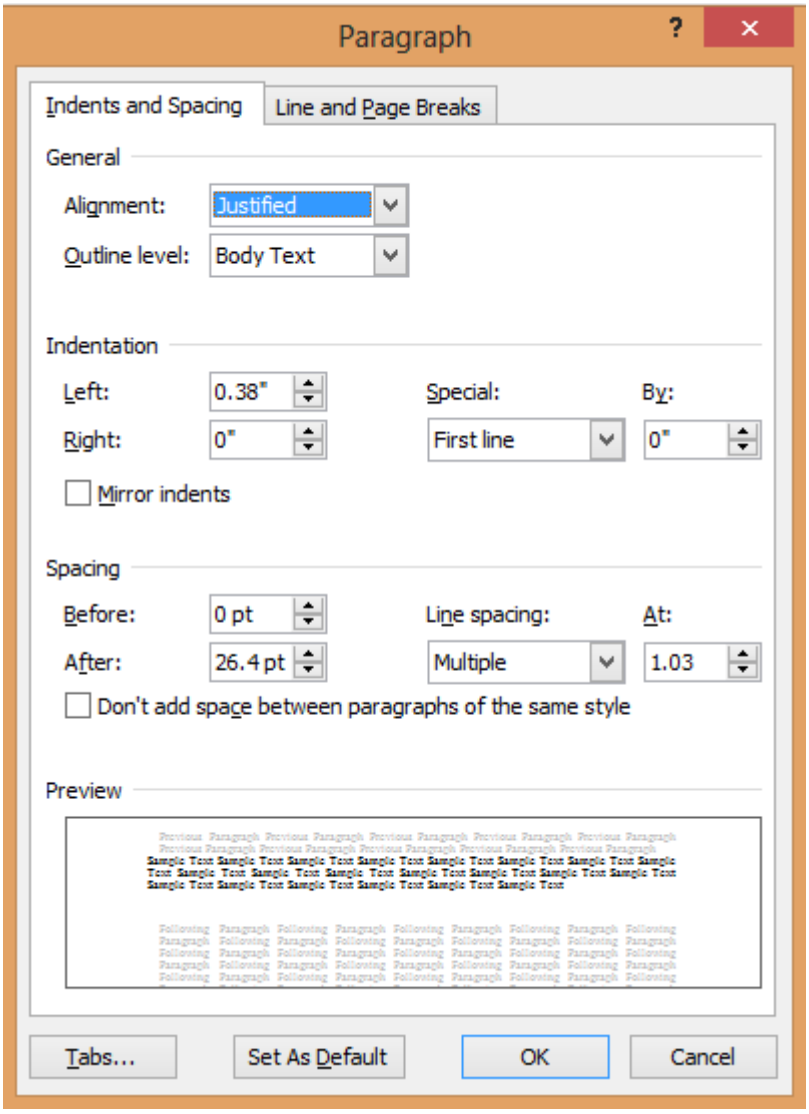
Step to change character spacing

- Select the text you want to change the spacing
- Click on show font dialog box
- Click on character and spacing tab
- From spacing from spacing option select any

Character and spacing tab selected

3.14. Paragraph formatting

Paragraph formatting is the process of changing the appearance of a paragraph. For example, just you can center or indent paragraphs.



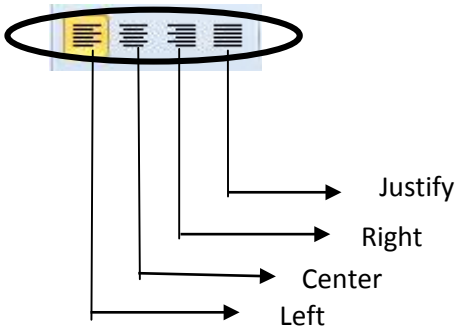
Paragraph dialog box

3.14.1. Align text within the document

Alignment: - text can be aligned to the left, center, or right side of the page or it can be justified across the page.

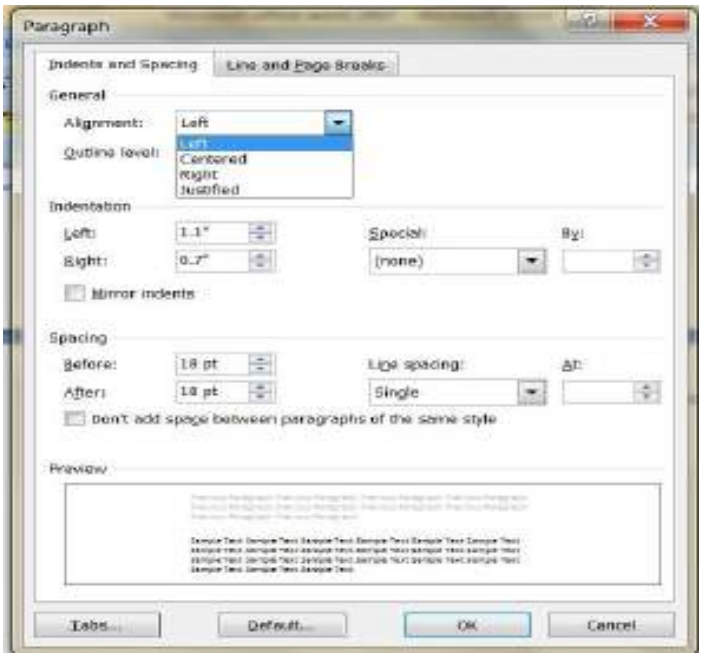
Aligning arranges the text to line up at one or both margins or center it across the page. Alignment is usually applied to an entire paragraph or document. Microsoft word gives you a choice of several types of alignment.

- **Left Alignment**: - align the text to left side
- **Right Alignment**: - Alignment the text to right side
- **Center**: - Center the text
- **Justified**: - when the document aligned to be justified as much as possible left and right side will be equal



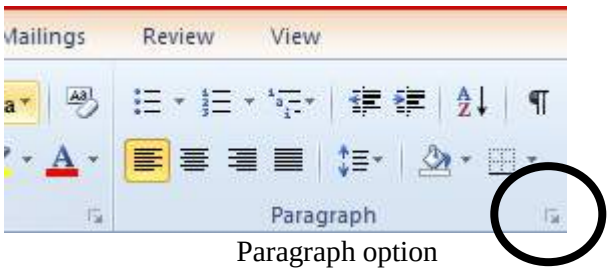
Step

✓ Select the text and click on show paragraph dialog box from paragraph option
✓ Select any alignment from general option



Paragraph Dialog box

Note: - You can use Paragraph alignment from paragraph options



Paragraph option

Keyboard shortcuts

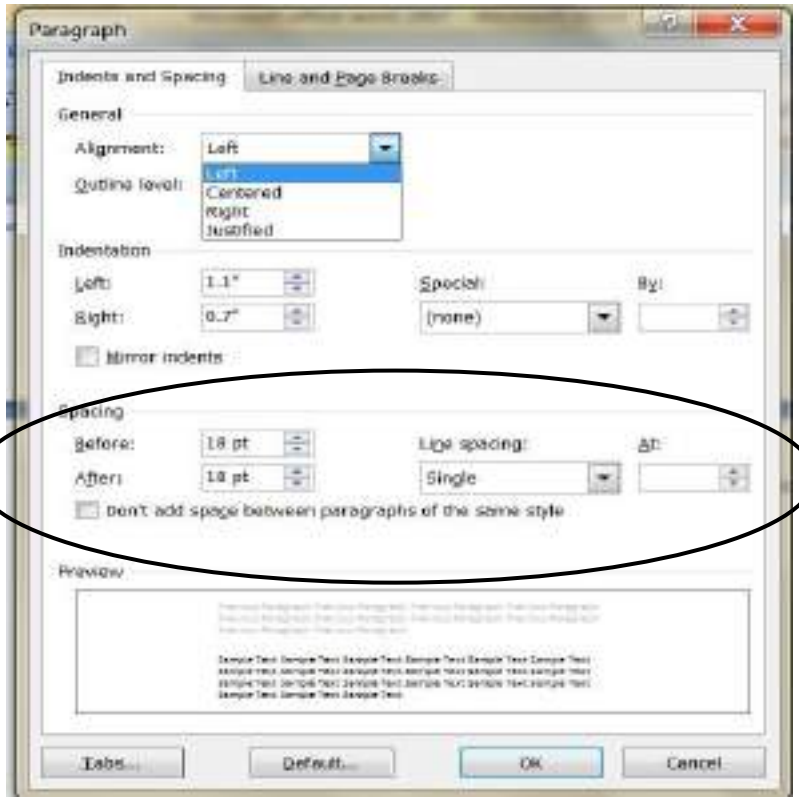
- Ctrl +L =Left
- Ctrl+ E= Center
- Ctrl +R Right ➢ Ctrl +J= Justify

3.14.2. Line spacing

This command is used to set the space between the lines in a paragraph. The space can be single, double, and others

Step: -

- Select the text you want to set the space between the lines
- From the line and spacing option set any



Paragraph dialog box (Line spacing command selected)

3.14.3. Indentation

Indentation determines the distance of the paragraph from either the left or the right margin. Within the margins, you can increase or decrease indentation of the paragraph or group of paragraphs.

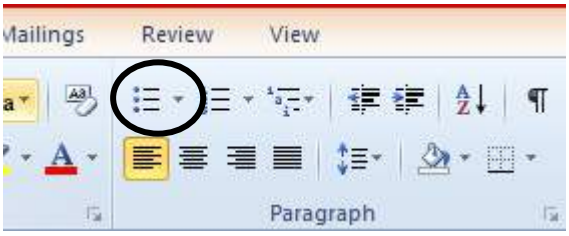
- ✓ Select the paragraph and click on show paragraph dialog box
- ✓ From the indentation option set any

3.14.4. Bullet and numbering

The bullet and numbering format is used to apply number and bullets for the document so that you will have organized document

Bullets

Bullets are set of symbols which help to outline or symbolize your document by using different symbols or pictures.



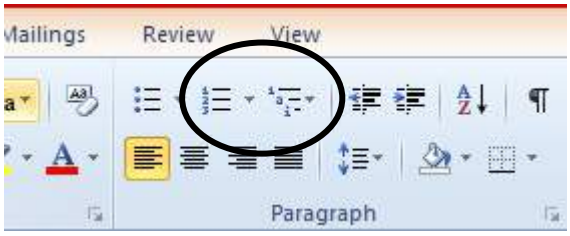
The bullet option selected

- ✓ Select the text you want to add bulleting style
- ✓ From paragraph option select bullets and select any

Numbered

Number is used to set the document by the number.

You may use different number style and starting points.



Numbering Option

Step

- ✓ Position the cursor where to start the number
- ✓ In the home tab in paragraph option click on the number
- ✓ Select any

Multilevel list (Outline number)

Multilevel list shows the list items at different level rather than at one level.

Example

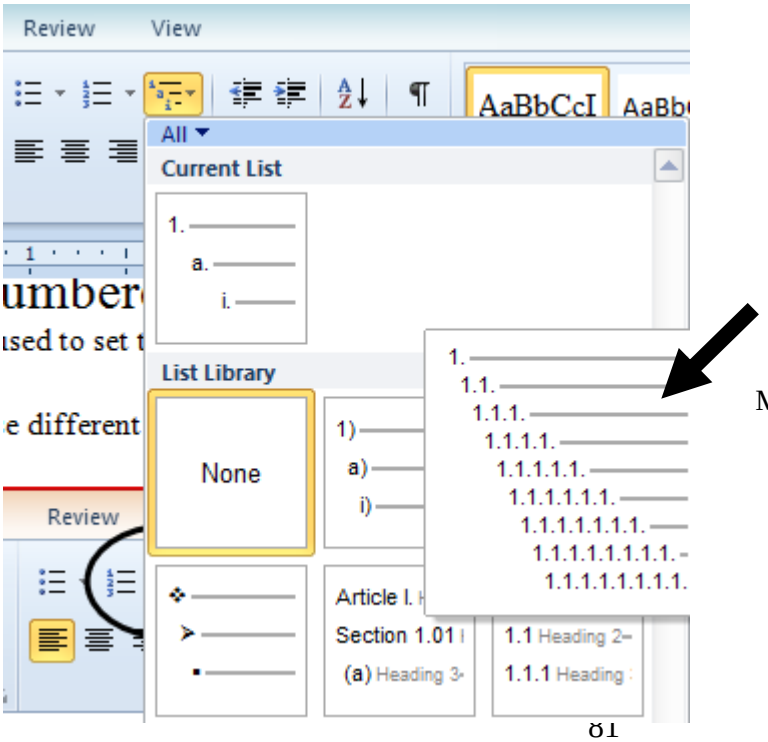
Course in H2 computer and language school

1. Computer Course
   - 1.1. Basic computer
   - 1.2. Programming
     - 1.2.1. C++
     - 1.2.2. Java
     - 1.2.3. C#
     - 1.2.4. Visual Basic
   - 1.3. Professional course
     - 1.3.1. Adobe Photoshop
     - 1.3.2. Corel Draw
     - 1.3.3. AutoCAD
     - 1.3.4. ArchiCAD
2. Language Course
   - 2.1. English
   - 2.2. French

Step:

✓ Position the cursor where to start the number

✓ In the home tab in paragraph option click on the multilevel list ✓ Select any



Multilevel list selected

To remove the bulleting or numbering style:

- ✓ Highlight the list again
- ✓ Click on bullet or numbering icon and click on none option

3.14.5. Boarder and shading

In Microsoft word document, you can add a boarder to any or all sides of a table, a paragraph, or selected text in a document. You can add boarder, including a picture boarder (such as a row of trees) to any or all sides of each page in a document. You can also add a boarder or line to a drawing object including a text box, an auto shape, a Picture, or imported art.

Boarder and shading command is used to increase the appearance of the document of the document.

Boarder is outer bounder of the document

Shading is background of the document

To use the boarder and shading command you may use the following steps

➢ Select text and from the home tab in the paragraph group click on outside boarder ➢
For more option click on the down arrow and set any boarder style

Adding Page boarder

- ✓ Click on boarder and shading from paragraph option click on pager boarder tab
- ✓ From page boarder option select any

Note: you can add different Art for your page by clicking art list box

To set different shading style

- ➢ Select text and from the home tab in the paragraph group click on outside boarder
- ➢ click on boarder and shading

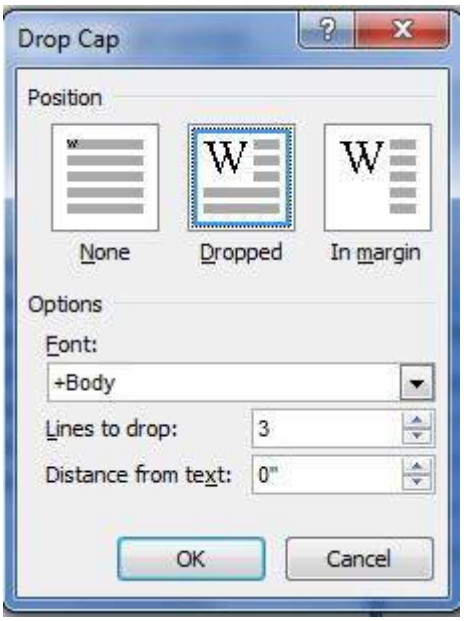
3.14.6. Using the Tabs Command

Tabs are basically used for aligning your paragraphs. If you press the tab key to move across page, you will notice that Microsoft word moves the cursor by half an inch, which is a default tab set.

Setting the tab stop position

- Click on show paragraph dialog box
- Click on tabs button
- In the tab stop position box set any and if you want to set the leader style set any click on set button then click on ok

3.14.7. Drop caps



A drop caps is a large letter that begins a paragraph and drops through several lines of text.

Add a drop caps to a paragraph by the following three steps:

- Select the first character to be dropped
- Click on insert and click on insert and click on drop caps and select any drop caps

of the drop caps, the font, and the number of lines to drop, he Drop caps dialog box allows you to select the position and the distance from the body text. Click ok when all selections have been made. To modify a drop cap select the drop cap character and from the drop caps dialog box select any

T

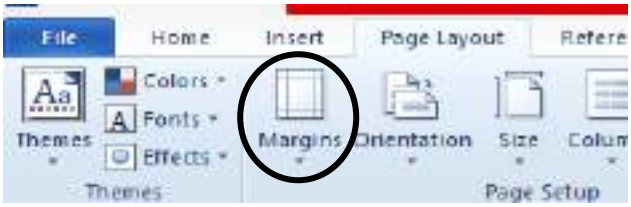
3.14.8. Page layout

3.14.8.1. Page margins

The page margins are the black space around the edge of the page. In general you insert text and graphics in the printable area between the margins. However, you can poison some item in the margins, for example headers, footers, and page margins.

Change or set page margins

1. On the Page Layout tab, in the Page Setup group, click Margins.
2. Click the margin type that you want. For the most common margin width, click Normal



When you click the margin type that you want, your entire document automatically changes to the margin type that you have selected.

3. You can also specify your own margin settings. Click Margins, click Custom Margins, and then in the Top, Bottom, Left, and Right boxes, enter new values for the margins.

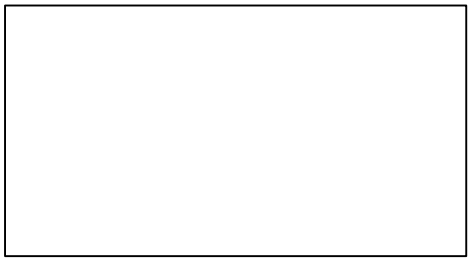
Note: To change the default margins, click Margins after you select a new margin, and then click Custom Margins. In the Page Setup dialog box, click the Default button, and then click yes. The new default settings are saved in the template on which the document is based. Each new document based on that template automatically uses the new margin settings.

3.14.8.2. Orientation

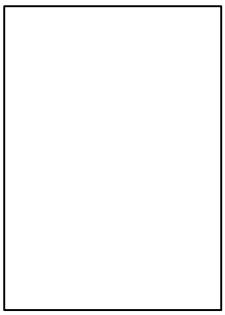
You can choose either portrait (vertical) or landscape (horizontal) orientation for all or part of your document. When you change the orientation, the galleries of predesigned page and cover page options also change to offer pages that have the orientation that you choose.

1. Select the pages or paragraphs that you want to change to portrait or landscape orientation
2. On the Page Layout tab, in the Page Setup group, click Orientation.

3. Click Portrait or Landscape.



Landscape layout



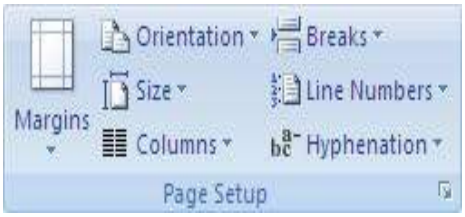
Portrait layout

Use portrait and landscape orientation in the same document

1. Select the pages or paragraphs that you want to change to portrait or landscape orientation.

Note If you select some but not all of the text on a page to change to portrait or landscape orientation, Word places the selected text on its own page, and the surrounding text on separate pages.

2. On the Page Layout tab, in the Page Setup group, click Margins.
3. Click Custom Margins.
4. On the Margins tab, click Portrait or Landscape.
5. In the Apply to list, click selected text.



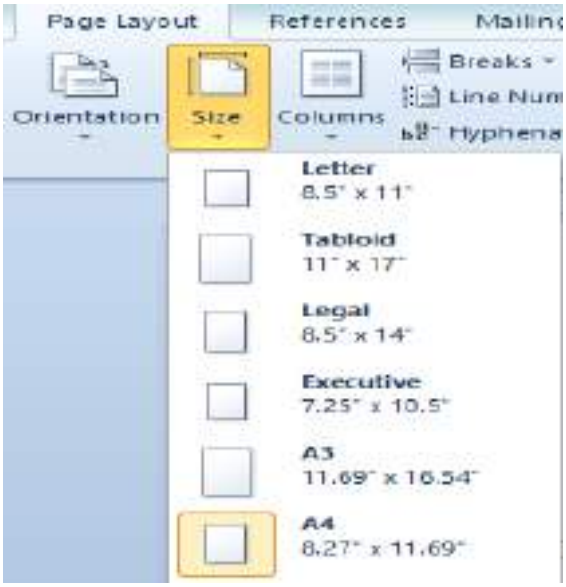
Page setup

3.14.8.3. Paper Size

Many printers have an upper and lower tray that contains different sizes of paper. Matching a form to a paper source ensures that your files are always printed on the correct paper size when you select the form within a program.

Do the following in Microsoft office word 2010 program

1. Click on page layout tab
2. In the page set up option click on size
3. Under paper source, click the paper source that you want



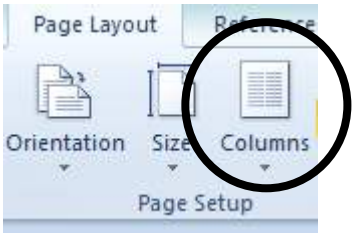
3.14.9. Columns command

Columns command is used to make columns of the paragraph. We can divide the paragraph in to one or more columns.

- Columns is used to split text into two or more columns

Step: -

- Click on page layout
- Click on columns



To break the column

- **Click on page layout and click on breaks then click on column break**

3.14.10. Inserting symbols

You can use the Symbol dialog box to insert symbols, such as ¼ and ©,≤ or special characters, such as an em dash (—) or ellipsis (…) that are not on your keyboard, as well as Unicode (Unicode: A character encoding standard developed by the Unicode Consortium. By using more than one byte to represent each character, Unicode enables almost all of the written languages in the world to be represented by using a single character set.) Characters.

The types of symbols and characters that you can insert depend on the font that you choose. For example, some fonts may include fractions (¼), international characters (Ç, ë), and international monetary symbols (£, ¥). The built-in Symbol font includes arrows, bullets, and scientific symbols. You might also have additional symbol fonts, such as Wingdings, that include decorative symbols.

Note You can increase or decrease the size of the Symbol dialog box. Move the pointer to the lower-right corner of the dialog box until it changes into a double-headed arrow, and then drag to the size that you want.

To inset symbol, you may follow the following procedures

Click on insert and click on symbol and select any option from the list

Sample symbols

3.14.11. Inserting cover page

Click on insert and click cover page from pages option and select any coverage

3.14.12. Styles

Styles defines the appearance of any text elements of your document, such as heading, captions, and body text when you apply a style to a paragraph or word, you can apply whole group of character or paragraph format or both in one simple operation. The use of styles in word will allow you to quickly format a document with a consistent and professional look.

Word 2010also includes these style features:

- ✓ It automatically creates a style for you when apply new formatting to text
- ✓ It can automatically redefine styles to reflect recently applied changes
- ✓ It gives you an instant preview of each style from the style list on home option style group.

Advantages of using style are:

- ✓ It is quick and easy to format a document
- ✓ Formatting is consistent within a document
- ✓ You can make global formatting changes by changing the formatting instructions in a single style.
- ✓ Styles can be used more than one document.

Applying different style

- ✓ Select the text you want to change the style
- ✓ Click on home and from styles options select any

Sample style text

3.14.13. Working with background

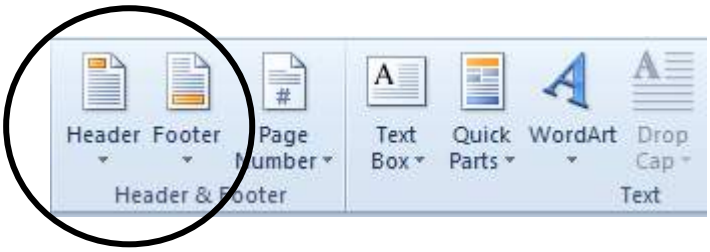
Changing different page color

- ✓ Click on page layout
- ✓ From page background options click on page colors and select any

Note: if you want to apply different fill effects color you can click on fill effects option from page color options

3.14.14. Header and Footer

A header is a text that appears within the top margins on each page of a document or section. Footer appears in the bottom margins in the bottom margins of each page header and footers normally include descriptive text such as chapter titles, volume or page numbers, and dates. Each section in the document can have on own header.



To insert header and footer

- ✓ Click on insert from the ribbon
- ✓ From header and footer option select any and type you header and footer text

To edit the header of footer, click on design from the ribbon and set any

Note: - To close the header and footer ribbon click on close header and footer from design option or press Esc key

3.14.15. Inserting page number

Click on insert and click on page number and select the page number position (top of the page, bottom of the page, page margins or current position) and select any from the options.

Note: if you want to format the page number click on page number and click on format page numbers

3.14.16. Working with Graphics

In word 2010, apart from working with text, you can insert graphics images in your document too. There are two basic type of then you can use to enhance your word 2010 document: Drawing objects and pictures.

Drawing objects include Auto shapes, curves, lines, and word Art. Use the format from the ribbon to change and enhance these objects with colors, patterns, boarders, and other effects.

Picture include bitmaps, scanned pictures and photographs, and clip art. You can change and enhance pictures by using the options on the format from the ribbon.

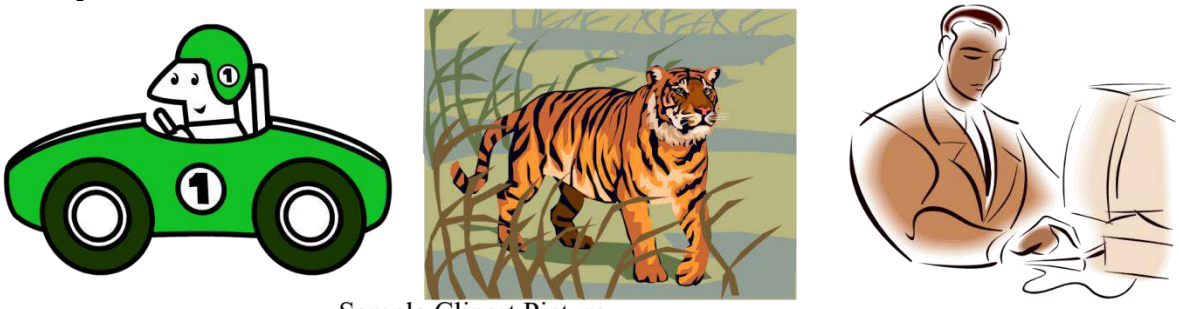
3.14.17. Adding clipart

Graphics file are available from a variety of sources. Word 2010 includes a series of predefined graphics files called clip art that you can insert in to a word document.

To add a clip art images from the Microsoft library to a word document, follow these steps:

Click on insert from the ribbon

- ✓ Click on clip art
- ✓ At the right side of the screen in search for box type the name you to search and click on go button or press enter key and from the listed image click on any to insert and the picture will be inserted to word document.



Sample Clipart Picture

Add an image from a file

- ✓ Click where you want to insert the picture
- ✓ On the insert menu click on the picture option
- ✓ Picture library will open and select any image and click on insert button and picture will be inserted

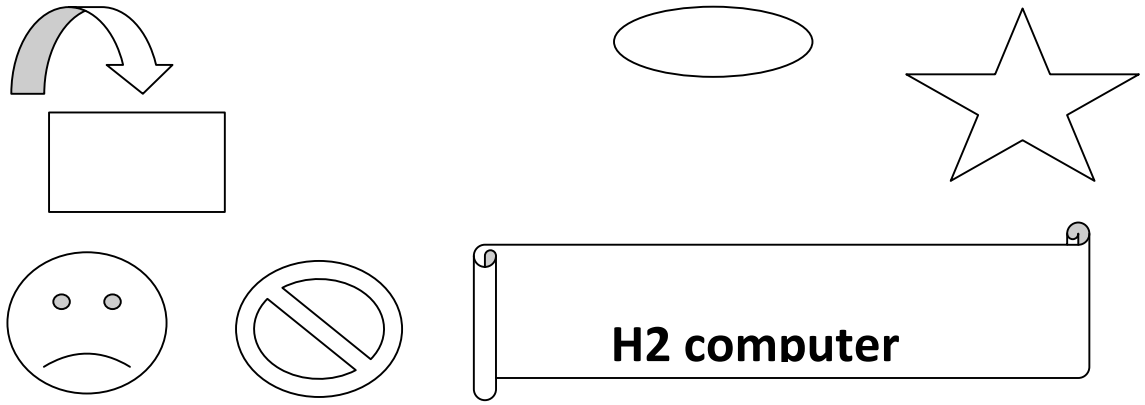
Editing a graphics

✓ Activate the image you wish to edit by clicking on it once with the mouse ✓ From the ribbon click on format
✓ Select an from the ribbon

3.14.18. Draw your own graphics

In word 2010, apart from working with text, you can draw shapes like line, rectangle, Block arrows, star and banner etc…

To draw any shape, click on insert and click on shapes and select any shapes from the options and draw to your document area.



To edit the shape first select the shape and click on format and set formatting and editing

3.14.19. Inserting WordArt

WordArt is a gallery of text styles that you can add to your 2010 Microsoft Office system documents to create decorative effects, such as shadowed or mirrored (reflected) text. In Microsoft Office PowerPoint 2010, you can also convert existing text into WordArt.

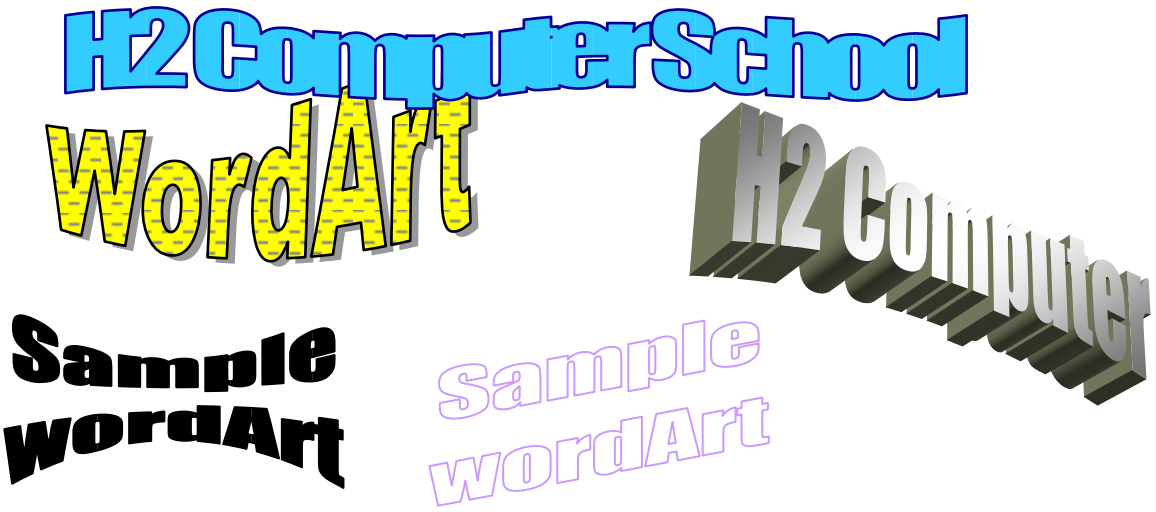
Adding WordArt

1.Select the text that you want to add WordArt.
2.On the Insert tab, in the Text group, click WordArt, and then click the WordArt that you want.

Note: -you can insert the word art without selecting the text by click insert word art select any word art from the option and type your text and click on ok

Note You can customize the shape surrounding the WordArt as well as the text in the WordArt.

- To Modify the word art
- Select the word art
- From format option select any



3.14.20. Working with table

A table is a grid of rows and columns on the page, like a spreadsheet. The area where a row and column intersect is called a cell tables are a great tool for organizing information. If you need to compare data or follow information across several columns, it's easier if the information is displayed in table. A table can be useful for enhancing the presentation of in form letters.

Inserting table

- Place your pointer in the text where you want into insert the table
- Click on insert and from tables option click on table
- Click on insert table
- Set the number of rows and number of columns
- Click on okay button

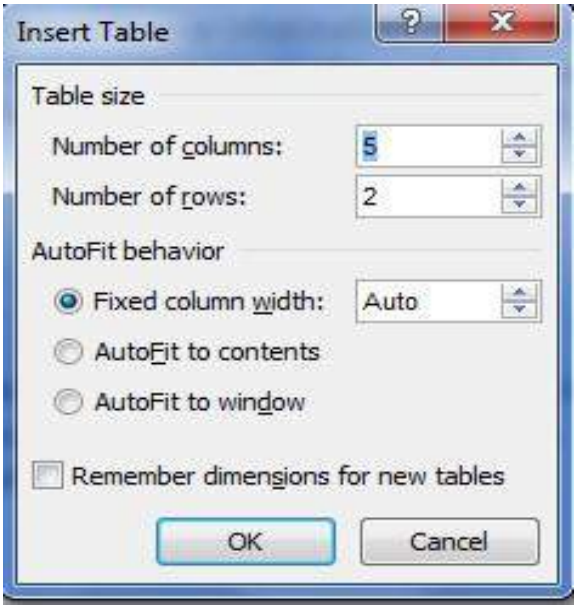


Table dialog box

Creating table with a table button

- A table inserts a simple table from the table option
- Begin by placing the cursor where you want the table to appear in the document. Point the mouse on the table button and press the mouse button

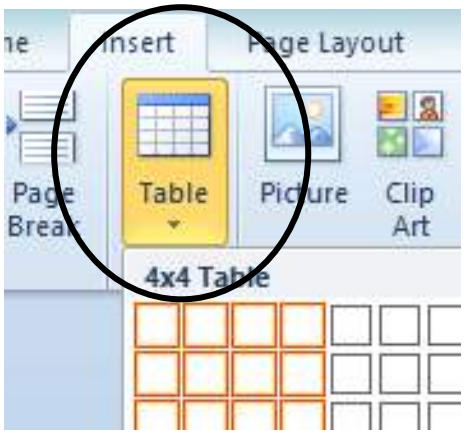


Table insert option

Draw table

You can also use Draw table to create nested tables, tables inside other tables. Nested tables are particularly useful when you use a table to layout a page and then want to use another table to present information. For example, you could use a table to layout a math test, and nested table to present information a particular story problem.

Adding new row or column

- ✓ Click on layout from the ribbon
- ✓ Click on insert above, below, left, right from rows or columns

Deleting rows or columns

- ✓ Select the cell you want to delete
- ✓ From the layout option select delete and click on any

Merging cell

Merging cell is used to combines the contents of the selected adjacent cells into a single cell.

- ✓ Select the cell you want to merge
- ✓ From layout option select merge cell

H2 Computer School Quarter year student registration status

Sex	Jan	Feb	Mar	Total
Male	120	145	415	680
Female	96	165	265	526
Total	216	310	680	1206

Sample table

Chapter Four
Microsoft Office Excel

4. Introduction to Microsoft Excel 2010

4.1. What is MS Excel

Microsoft Excel is a powerful spreadsheet program that allows you to organize data , complete calculations, make decisions, graph data, develop professional looking reports, convert excel files for use on the web, and access the web. Entering data onto a spreadsheet (or worksheet as they are worksheet, excel) is quick and easy. Once data has been entered in a worksheet, Excel can instantly perform any type of calculations on it Excel can also make your information look sharp and professional. Microsoft Excel 2010 is an application program commonly used for budgets, for casting, and other financial related tasks.

In a spreadsheet program, data and formulas to calculate those data are entered into ledger like forms (spreadsheet or worksheet) for analysis, tracking, planning, or "what-if" evaluations of the impacts or real or proposed changes on an economic strategy. Spreadsheet program use rows and columns of cells each cell can hold text or numeric data or a formula that uses values in other cells to calculate a desired result. To easy computation, these programs include built in functions that perform standard calculations.

If you have complex calculations to figure out, Excel can and handle with easy. Even if your calculations are simple, Excel will make working with numbers fun and easy. The great thing about excel is that you can present your data in way that it has impact. You can create color charts, print transparencies or hardcopy reports; add clipart and your company logo and more

4.2. The major parts of excel are: -

Workbook: An Excel file is called a workbook. Workbook contains sheet such as worksheets, chart sheets etc

Worksheet: A work sheet is a large planning form made up of columns and rows. Each page in a workbook is a separate worksheet and each worksheet contains a grid consisting of alphabetized columns and numbered rows. Where a row and a column intersect, they form a box called a call. Each cell has an address that consists of the column letter and row number (A1, B3, C4, and so on). You can store, manipulate, calculate, and analyze data on a worksheet. The Tabs at the bottom of the workbook (labeled sheet 1, sheet 2 and so on)let you flip through the worksheets by clicking them with the mouse.

Databases mange data: For Example, once you enter data onto a worksheet, Excel can sort the data, search for specific data, and select data that meet the criteria

Chart: is graphical or pictorial representation of worksheet data. Excel can draw a variety of two dimensional and three dimensions charts.

4.3. Starting Excel

1. From the windows desktop, click on start⇨all programs and click on Microsoft office

2. Click on Microsoft Excel and a blank workbook labeled Book1 will open

Window key (⊞) +R then run dialog box will appear and type Excel in the text box and click on ok button

4.4. Exploring Ms-Excel Screen Elements

♦**Formula bar** is located above the row name; it displays the address and the contents of the active cell. You can also use the formula bar to enter or edit values and formula in a cell. When activated. The formula bar displays cancel box, enter box and insert function button.

♦ **Sheet tab**: are the tabs that appear at the bottom of each workbook, which are used to name and select a sheet

♦**Scroll bar**: the bare (vertical and horizontal) found at the right and the bottom of the workbook window. Scroll bars are used to display the difference parts of the active sheet.

Mouth pointer: a symbol that indicates your position on-screen as you move the mouse. The mouse pointer has various to indicate a change in the action when you use different features.

Workbook windows: Each Excel file is a workbook that consists of one or more worksheets. You can open several files (workbooks) at a time, each in its own windows.

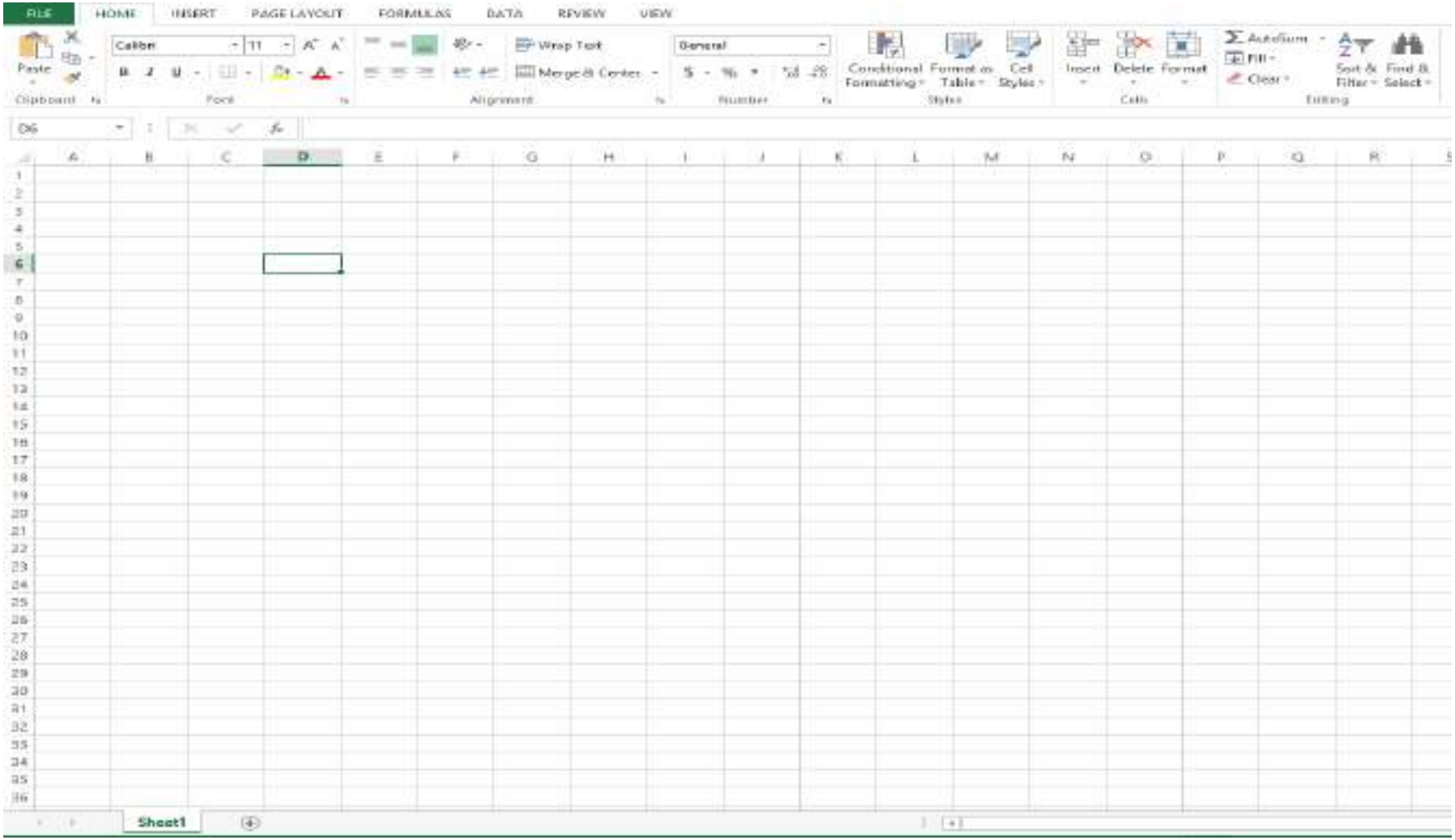
♦**Status bar** displays messages such as page layout, or short description of the menu option you have chosen, and it indicates any active modes, such as CAPs or Nun when you press the caps lock or num lock keys, calculations like sum, max, average etc…

♦**Row:** - the horizontal part of the work sheet .this is named as 1, 2, 3…..up to 1,048,576.

♦**Column**: the vertical part of the work sheet which is named as A, B, C…up to XFD

♦**Cell**: is the intersection of row and column which is named by column name followed by row name. For example A1, A2…one excel sheet has

Ribbon: The Ribbon is designed to help you quickly find the commands that you need to complete a task. Commands are organized in logical groups, which are collected together under tabs. Each tab relates to a type of activity, such as writing or laying out a page. To reduce clutter, some tabs are shown only when needed. For example, the Picture Tools tab is shown only when a picture is selected.



Microsoft Excel Screen

4.5. Creating a new workbook

1. Click Microsoft File Button and then click New.

Keyboard shortcut you can also press CTRL+N.

2. Under Templates, click New from existing.
3. In the New from Existing Workbook dialog box, browse to the drive, folder, or Internet location that contains the workbook that you want to open.
4. Click the workbook, and then click Create New.

4.6. Saving a workbook

When you finish a session with Microsoft Excel, save your workbook before you close it. You should also save periodically while you work so that you don't lose your work in the event of a power interruption or hardware problem.

To save a new workbook or Existing workbook as a new

1. click on File button→save as
2. choose the drive and/or folder where you want to save your workbook
3. If you want to save the document under a name different for the one proposed, type the name for the workbook and click save button.

To save quickly under the same Name and location

Click on office button →save (or click the save button from quick access toolbar)

4.7. Opening Existing workbook

To open an existing workbook

- Click the File Button and then click Open.

Keyboard shortcut to display the Open dialog box, press CTRL+O.

- In the Look in list, click the folder, drive, or Internet location that contains the file that you want to open.
- In the folder list, locate and open the folder that contains the file.

Note By default, the files that you see in the Open dialog box are only those files that are created by the program that you are using. For example, if you are using Microsoft Office Excel, you do not see files that are created by using Microsoft Office Word unless you click All Files in the Files of type box.

- Click the file, and then click Open.

4.8. Entering a Record

When you need to enter in a call you just click on the cell so that a particular cell will be active. Then you may type in directly or if you need to add more recorded in the existing cell and existing record you may double click on the cell so that the insertion point will be active on the side of the data and you may add your data.

4.9. Close book

In order to close a book, you may use different option like

- ❖ click on office button and click on close
- ❖ Or click on X from the tab right corner.

4.10. Exiting Microsoft Excel

- Click on office button and Exit Excel OR
- Click the close button at the right end of the title bar OR
- Press Alt +F4

If you make changes the work book in any way without saving the file, Excel displays a prompt asking if you want to save the changes before exiting. Select the desired option.

4.11. WORKING WITH WORKBOOKS

Because each workbook can contain many sheets, you can organize various kind of related information in a single file. A workbook can have different types of sheets, such as worksheets, chart sheets and macro sheets.

4.11.1. Managing worksheets

A workbook is like a ledger pad containing multiple worksheets. On can use only a single worksheet, but sometimes it is conviction to place several related worksheets (also called sheets) together in a work book. By default a new workbook opens with 3 sheets named sheet I through sheet 3.you can do any of the following to arrange your workbook the way you want

4.11.2. Inserting worksheets

When you create a new workbook, it contains three worksheets. You can easily add additional worksheets to a workbook.

To insert a new worksheet:

- To insert a worksheet click on insert work sheet tab. or use shift+F11

4.11.3. Deleting worksheets

To delete worksheet:

1. Select the worksheet(s) you want to delete.
2. Right click on the sheet tab and click on delete.

4.11.4. Changing worksheet tab names

By default, all worksheets are named “sheet 1, sheet 2 etc”, to have a better idea of the information each sheet contains, you can change the names that appear on the tabs. To rename a sheet

1. Double-click the tab of the worksheet you want to rename (Or Right click on it).
2. Type a descriptive name of up to 31 characters and press Enter button

4.11.5. Moving and copying a worksheet

To move/copy a sheet to another workbook:

1. Select the worksheet you want to move.
2. Right click on the sheet tab and click on move or copy
3. Select the destination workbook and where you want your sheet placed then click on Ok

4.11.6. To arrange the windows for the active workbook:

✓ Click on the view from the ribbon →click on arrange all from window group ✓ Choose one of arrangements. Tiled, Horizontal, vertical or cascade.

✓ Select windows of active workbook check box.

✓ Select the ok button

4.11.7. Magnifying and shrinking the display

To enlarge or reduce your view of the current worksheet, use the zoom feature. Open the zoom button(on view tab in zoom group)and select the zoom percentage you want to use, such as 25% or 200%.you can enlarge a specific area of the worksheet by selecting it first, opening the zoom group on the selection.

4.12. EDITING A WORKSHEET

After creating any worksheet, it is possible to modify (edit) the worksheet. For instance, it is possible to copy, move, delete and modify formulas and values that you entered in your worksheet.

4.13. Navigating within a worksheet

After the worksheet you want to work on is displayed, you'll need some way of moving to the various cells within the worksheet. To move around the worksheet with your keyboard, use the keys listed in the following table.

	Press this….	**To move**
1.	↑←↓→	One cell in the direction of arrow.
2.	Ctrl+ 	To the top or bottom of a data region (the area of a worksheet that contains Data or the first or last cell in the column if the column is empty
3.	Pgup/pgDn	up one screen/Down one screen
4.	Home	left-most cell in a row
5.	Ctrl+Home	upper-left corner of worksheet.
6.	Ctrl + End	Lower-right comer of the data area

Note: you can also use the scroll bars to scroll to the area of the screen that contains the cell with which you want to work using mouse. Then click the cell to make it active. Also you can use the Go to command of the edit group to move the cell pointer to a specific location within a worksheet.

4.14. Editing cell

After you have entered data into a call, you may edit it in either the formula bar or in the cell itself.

To edit an entry of a cell:

1. Click the cell in which you want to edit data.

2. To begin editing, click the formula bar or double-click the cell. Make changes and click the enter button on the formula bar or press enter on the keyboard to accept your changes.

4.15. Entering data

To create a worksheet you must enter data into the cells that make up the worksheet. You can enter text, numbers, dates, times, formulas and functions. **3.3.1. Entering Text**

Text is any combination of letters, numbers, and spaces. By default text is automatically left aligned in a cell. A cell can hold up to 255 characters of text.

To enter text into a cell

1. Click the cell into which you want to enter text & type the text.
2. Press enter. Or click the enter box of the formula bar. If you have made a mistake you want to an done your entry, press Esc

Entering numbers

Valid numbers can include numeric characters 0-9 and any of the following special characters: + -/. ,() ,$,% To enter numbers:

1. Click the cell in to which you want to enter a number.
2. Type the number

a. to enter negative number, precede it which a minus sinus sign or surround it with parentheses

b. to enter a fraction, precede it with a 0,as in 1/2 .(otherwise excel interprets it as a date)and then press enter

Note: if you enter a number and it appears in the cell as pound sign (########) or in scientific notation (such as 7.78E+06), the cell just isn't wide enough to display the entire number. To fix it move column headings at the top of the worksheet and double-click

The right border of the column. The column expands to fit the largest entry

Entering Date and time

After you enter a data or time into a cell, Excel converts it into a number that reflects the number of days January 1, 1990, and that date

To enter a date or time

1. click the cell in to which you want to enter a date or time
2. to enter a date ,use the format MM/DD/YY or the format MM-DD-YY.to enter a time

, be sure to specify Am or Pm as in 7:30 Pm and press enter

Entering series with auto fill

Entering a series (such as January, February, March or 1998, 1999, 2000) is similar to coping a as you drag the fill handle of the original cell auto fill does all the work for you interpreting the first entry and creating a series of entries based on it.

Entering a custom series

Follow these steps to create your own series:

Enter the first value in the series in one cell.

1. Enter the second value in the series the next cell and select both cells.
2. Drag the fill handle

Entering the same data over and over with Auto complete when you type the first few letters of an entry, auto complete intelligently completes the entry for you based on the entries you've already made in that particular column.

4.16. Selecting cells

To copy, move or delete the data in several cells at one time, you must select those cells first. Then you can perform the appropriate action.

- To select single cell, click on it
- To select adjacent cells (a range), click the upper-left cell in the group and draw down to the lower-right cell to select additional cell.
- To select nonadjacent cells, press and hold the ctrl key as you click individual cells.
- To select an entire row or column of cells, click the row or column header. To select adjacent rows or columns, drag over their headers. To select nonadjacent rows or columns, press Ctrl and click each header that you want to select.
- To select the entire worksheet click on the select all button

4.17. Copying Data

1. select the cell(s)
2. Click the copy button the home tab or click on Ctrl + C
3. select the first cell in the destination area &click the paste button or click on ctrl + v

4.18. Moving data

Moving data is similar to coping except the data is removed from its original place and placed in the new location.

1. Select the cell(s) you want to move & click the cut button.

2. Select the first cell in the destination area. To move the data to another worksheet, change to that worksheet and click paste.

✓ To move data using drag-and-Drop method simply drag the data without pressing the

4.19. Clearing and deleting Cells, Rows and columns

Clearing and deleting are two ways two remove data from a Microsoft excel document. Clearing a cell clears the contents, formats, or comments but leaves the cell in the cell and its notes from the worksheet, and moves adjacent cells to close up the space that was occupied by the deleted cells.

- Select the data in a cell or range of cell
- From edit option from home tab, point to clear
- To clear contents, formats and comments, selects, select the appropriate option.

4.20. Formatting the worksheet

The text, numeric entries, and functions for the worksheet now are complete. The next step is to format the worksheet. You format a worksheet to emphasize certain entries and make the worksheet easier to read and understand

Change the font in a worksheet

Font Select the font type for the text in selected cells. The default font is Calibri.

Font style Select the font style for the text in selected cells. The default font style is regular.

Size Select the font size for the text in selected cells. You can type any number between 1 and 1638. The default font size is 11.

Note The sizes in the Size list depend on the selected font and active printer.

Underline Select the type of underlining that you want to use for text in selected cells. The default underline is none.

Color Select the color that you want to use for selected cells or text. The default color is Automatic.

Normal font Select the Normal font check box to reset the font, font style, size, and effects to the Normal (default) style.

Effects Allows you to select one of the following formatting effects.

Strikethrough Select this check box to display the text in selected cells as strikethrough.

Superscript Select this check box to display the text selected cells or text as superscript.

Subscript Select this check box to display the text in selected cells as subscript.

Preview See a sample of text that is displayed with the formatting options that you select.

➢ Step to change the font

- ✓ Select the cell, range of cells, text, or characters that you want to format.
- ✓ On the Home tab, in the Font group, do the following:

To change the font, click the font that you want in the Font box.

To change the font size, click the font size that you want in the Font Size box, or click Increase Font Size or Decrease Font Size until the size you want is displayed in the Font Size box.

Notes

- Small-caps (small caps: A format that makes lowercase text appears as capital letters in a reduced font size. A small cap formatting does not affect numbers, punctuation, non alphabetic characters, or uppercase letters.) And all-caps font options are not available in Microsoft Office Excel. For a similar effect, you can choose a font that includes only capital letters, or you can press CAPS LOCK and choose a small-sized font.
- If some of the data that you entered in a cell isn't visible, and you want to display that data without specifying a different font size, you can wrap the text in the cell. If only a small amount isn't visible, you may be able to shrink the text so that it fits.

Changing the number style

Number Category Click an option in the Category box, and then select the options that you want to specify a number format. The Sample box shows how the selected cells will look with the formatting that you choose. Click Custom if you want to create your own custom formats for numbers, such as product codes.

Step to change number style

✓ Select the cell, range of cells, text, or characters that you want to format.
✓ On the Home tab, in the Font group click on show number dialog box and from the dialog options select and category and apply

➢ Available number formats

General this is the default number format that Excel applies when you type a number. For the most part, numbers that are formatted with the General format are displayed just the way you type them. However, if the cell is not wide enough to show the entire number, the General format rounds the numbers with decimals. The General number format also uses scientific (exponential) notation for large numbers (12 or more digits).

Number This format is used for the general display of numbers. You can specify the number of decimal places that you want to use, whether you want to use a thousand separators, and how you want to display negative numbers.

Currency This format is used for general monetary values and displays the default currency symbol with numbers. You can specify the number of decimal places that you want to use, whether you want to use a thousand separators, and how you want to display negative numbers.

Accounting This format is also used for monetary values, but it aligns the currency symbols and decimal points of numbers in a column.

Date This format displays date and time serial numbers as date values, according to the type and locale (location) that you specify. Date formats that begin with an asterisk (*) respond to changes in regional date and time settings that are specified in Windows Control Panel. Formats without an asterisk are not affected by Control Panel settings.

Time This format displays date and time serial numbers as time values, according to the type and locale (location) that you specify. Time formats that begin with an asterisk (*) respond to changes in regional date and time settings that are specified in Windows Control Panel. Formats without an asterisk are not affected by Control Panel settings.

Percentage This format multiplies the cell value by 100 and displays the result with a percent symbol. You can specify the number of decimal places that you want to use.

Fraction This format display a number as a fraction, according to the type of fraction that you specify.

Scientific This format displays a number in exponential notation, replacing part of the number with E+n, where E (which stands for Exponent) multiplies the preceding number by 10 to the nth power. For example, a 2-decimal scientific format displays 12345678901 as 1.23E+10, which is 1.23 times 10 to the 10th power. You can specify the number of decimal places that you want to use.

Text This format treats the content of a cell as text and displays the content exactly as you type it, even when numbers are typed.

Special This format displays a number as a postal code (ZIP Code), phone number, or Social Security number.

Custom This format allows you to modify a copy of an existing number format code. This creates a custom number format that is added to the list of number format codes. You can add between 200 and 250 custom number formats, depending on the language version of Excel that you have installed.

4.21. Changing the Alignment

Use these options to change the alignment of text in text boxes on selected chart elements. Availability of text box options depends on the chart element that you select

Text layout

Vertical alignment to specify the vertical position of the text in a shape, select an option from the list.

Text direction to specify the orientation of the text in a shape, select an option from the list.

Internal margin

The internal margin is the distance between the text and the outer border of a chart element. You can increase or decrease the amount of this space by using the following options.

Left to specify the distance between the left border of the selected chart element and the text, enter the margin number that you want in the Left box.

Right To specify the distance between the right border of the selected chart element and the text; enter the margin number that you want in the Right box.

Top To specify the distance between the top border of the selected chart element and the text; enter the margin number that you want in the Top box.

Bottom To specify the distance between the bottom border of the selected chart element and the text; enter the margin number that you want in the Bottom box.

Step to change the alignment option

- Click on show alignment option form the home tab
- From the paragraph option select merge cell check box and click on ok button

Merging cells

You can merge one cell with other cells to form a big cell that is easier to use

To create merge cell

- Select the range in which you want to merge
- Click on merge cells from alignment option

4.22. Adding boarder and shading

By default, the gridlines do not print; and even if you choose to print them, they may appear washed out. To have more well defined lines appearance the printout (and on screen, for that matter) you can add boarders to selected cells or entire cell ranges.

To add boarders to a cell or range:

- Select the cell you want to add boarder
- Click on show alignment dialog box
- Click on boarder tab
- Set any

4.23. Apply or remove cell shading

You can add shading to cells by filling them with solid colors or specific patterns. You can remove cell shading if you no longer need it.

Step t fill cells with solid colors

1. Select the cells that you want to apply shading to or remove shading from.
2. On the Home tab, in the Font group, do one of the following:

A. To fill cells with a solid color, click the arrow next to Fill Color in the Font group on the Home tab, and then click the color on the palette that you want.

B. To apply the most recently selected color, click Fill Color

4.24. Fill cells with patterns

1. Select the cells that you want to fill with a pattern.
2. On the Home tab, click the Dialog Box Launcher next to Font, and then click the Fill tab.
3. Under Background Color, click the background color that you want to use.
4. Do one of the following:

o To use a pattern with two colors, click another color in the Pattern Color box, and then click a pattern style in the Pattern Style box.

 To use a pattern with special effects, click Fill Effects, and then click the options that you want on the Gradient tab

4.25. Remove cell shading

1. Select the cells that contain a fill color or fill pattern.
2. On the Home tab, in the Font group, click the arrow next to Fill Color, and then click No Fill.

4.26. Using auto format

Auto format provides you with pre designed table formats that you can apply to a worksheet.

1. Select the cell(s) that contain the data you want to format.
2. From style option in the home group click on format as table or Cell styles
3. Select any

Fig. 12 Style Selected

4.27. Freezing section of worksheet

You can view two areas of a worksheet and lock rows or columns in one area by freezing or splitting panes (pane: A portion of the document window bounded by and separated from other portions by vertical or horizontal bars.). When you freeze panes, you select specific rows or columns that remain visible when scrolling in the worksheet.

For example, you would freeze panes to keep row and column labels visible as you scroll, as shown in the following example.

1. On the worksheet, do one of the following:

- To lock rows, select the row below where you want the split to appear.
- To lock columns, select the column to the right of where you want the split to appear.
- To lock both rows and columns, click the cell below and to the right of where you want the split to appear.

2. On the View tab, in the Window group, click Freeze Panes, and then click the option that you want.

Note: - When you freeze panes, the Freeze Panes option changes to Unfreeze Panes so that you can unlock frozen rows or columns.

4.28. Changing the column width and row Height

On a worksheet, you can specify a column width of 0 (zero) to 255. This value represents the number of characters that can be displayed in a cell that is formatted with the standard font (standard font: The default text font for worksheets. The standard font determines the default font for the Normal cell style.). The default column width is 8.43 characters. If the column width is set to 0, the column is hidden.

You can specify a row height of 0 (zero) to 409. This value represents the height measurement in points (1 point equals approximately 1/72 inch). The default row height is 12.75 points. If the row height is set to 0, the row is hidden.

Set a column to a specific width

1. Select the column or columns that you want to change.
2. On the Home tab, in the Cells group, click Format.
3. Under Cell Size, click Column Width.
4. In the Column width box, type the value that you want.

Set a row to a specific height

1. Select the row or rows that you want to change.
2. On the Home tab, in the Cells group, click Format.
3. Under Cell Size, click Row Height.
4. In the Row height box, type the value that you want.

➢ Change the height of rows by using the mouse

Drag the boundary below the row or column heading until the row is the height that you want.

4.29. Hiding workbook, Worksheet, Row and Column

You can hide workbooks, worksheets, columns, or rows from prying eyes. When data is hidden, it cannot be viewed, printed, or changed.

Step

- Click on home and from cells option click on format
- Click on hide &unhide select any

4.30. Performing Calculations

4.30.1. Formulas and Functions

The distinguishing feature of a spreadsheet program such as Excel is that it allows you to create mathematical formulas and execute functions. Otherwise, it is not much more than a large table for displaying text. This page will show you how to create thee calculations.

4.30.2. Formulas

•Formulas are entered in the worksheet cell and must begin with an equal sign "=". The formula then includes the address of the cell whose values will be manipulated with appropriate operands placed in between. After the formula is typed in to the cell, the calculation executes immediately and the formula itself is visible in the formula bar. See the example below to view the formula itself is visible in the formula bar. See the example below to view the formula for calculating the subtotal for a number or textbooks, the formula multiplies the quantity and price of each textbook and adds the subtotal for each book.

•Formulas are equations that perform calculations on values in your worksheet. A formula starts with an equal sign (=). For example, the following formula multiplies 2 by 3 and then adds 5 to the result.

=5+2*3

4.30.3. Entering a formula

You can create a single formula in a single cell, which add two numbers together first, make that that active cell is empty and located where you want the result of the formula to appear.

- Type the equal sign(=)
- Click on cell which contains the first number you want to use in the calculation. The number will added to the formula
- Type the plus sign(+)

- Click on cell, which contains the second number you use I your formula
- In the formula bar you will see the calculation that has been created. Press enter key. The formula will perform the calculation, and the result will appear in the active cell

4.30.4. Linking worksheet

You may want to use the value from a cell I another worksheet within the same workbook in a formula. For example, the value of cell A1 in the current worksheet and cell A2 in the second worksheet can be added using the format "sheet name! Cell address: The formula for this example would **be "=A1+sheet2! A2"** where the value of cell A1 in the current worksheet is added to the value of cell A2 in the worksheet named "sheet2" .

4.30.5. Relative, Absolute, and Mixed referencing

Calling cells by just their column and row labels (such as "A1") is called relative referencing. When a formula contains relative referencing and it is copied from one cell to another, Excel does not create an exact copy of the formula. It will change cell address relative to the row and column they are moved to. For example, if a simple addition formula in cell C1 "= ($A$1+SBS1)" if the value of C2 should be the sum of cells A1 and B1. Both the column and row of both cells are absolute and will not change when copied.

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

4.30.6. Basic functions

Function can be a more efficient way of performing mathematical operations than formulas. For example, if you wanted to add formula =A1+A2+A3+A4+A5+A6…." A shorter way would be to use the SUM function and simply type "=SUM (D1:D2)".

Several other functions and examples are given in the table below:

Function	Example	Description
SUM	=Sum(Al:A10)	Finds the sum of cells A1 through A10
Average	=Average(B1:B10)	Find the average of cell B1 through B10

Max	=Max(C1:C10)	Return the highest number from cell C1 through C 10
Min	=Min (D1:D10)	Return the lowest number from cell D1 through D10
Product	=Product(E1:E10)	Find the product of cell E1 through E10
Rank	=RANK(A1,$A$1:$A$4)	Find the rank of a number from A1 up to A4

Rank function

Returns the rank of a number in a list of numbers. The rank of a number is its size relative to other values in a list. (If you were to sort the list, the rank of the number would be its position.) Syntax

RANK (number,ref,order)

- ✓ **Number** is the number whose rank you want to find.
- ✓ **Ref** is an array of, or a reference to, a list of numbers. Nonnumeric values in ref are ignored.
- ✓ **Order** is a number specifying how to rank number.

 If order is 0 (zero) or omitted, Microsoft Excel ranks number as if ref were a list sorted in descending order. If order is any nonzero value, Microsoft Excel ranks number as if ref were a list sorted in ascending order.

Logical function

The if function

If function Returns one value if a condition you specify evaluates to TRUE and another value if it evaluates to FALSE.

Use IF to conduct conditional tests on values and formulas.

Syntax

IF (logical test, value if true, value if false)

Logical test is any value or expression that can be evaluated to TRUE or FALSE. For example, A10=100 is a logical expression; if the value in cell A10 is equal to 100, the expression evaluates to TRUE. Otherwise, the expression evaluates to FALSE. This argument can use any comparison calculation operator.

Value if true is the value that is returned if logical test is TRUE. For example, if this argument is the text string "Within budget" and the logical test argument evaluates to TRUE, then the IF function

displays the text "Within budget". If logical test is TRUE and value if true is blank, this argument returns 0 (zero). To display the word TRUE, use the logical value TRUE for this argument. Value if true can be another formula.

Value if false is the value that is returned if logical test is FALSE. For example, if this argument is the text string "Over budget" and the logical test argument evaluates to FALSE, then the IF function displays the text "Over budget". If logical test is FALSE and value if false is omitted, (that is, after value if true, there is no comma), then the logical value FALSE is returned. If logical test is FALSE and value if false is blank (that is, after value if true, there is a comma followed by the closing parenthesis), then the value 0 (zero) is returned. Value if false can be another formula.

Function wizard

 View all the functions available in Excel by using the function wizard. Activate the cell where the function will be placed and click the function wizard button f_x on the formula bar or click on insert function from Formulas option

Insert function from the formula options

- From the category option select any category
- Select any function from select a function option
- Click on ok to select a function

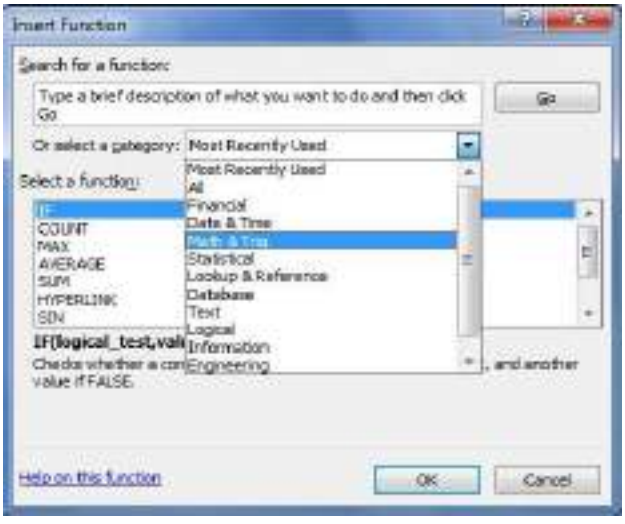


Fig. 18 Insert Function wizard selected

The next window allows you to choose the cells that will be included in the function. In the example below, Excel automatically selected cell A and E for the sum function

Fig. 19 The sum function selected

- Click OK when all the cells for the function have been selected

Auto sum Σ

Use the auto sum function to add the contents of a cluster of adjacent cells select the cell that the sum will appear in that is outside the cluster of cells whose values will be added.

Step

1. Click a cell below the column of numbers or to the right of the row of numbers.
2. On the Home tab, in the Editing group, click AutoSum Σ, and then press ENTER.

4.30.7. Using list to organize data

The data in an excel worksheet is often referred to as a list or a database. A list is a series of worksheet rows that contain related data, such as an invoice database on a set of client names and phone numbers. A list can be used as a database, in which rows are records and columns are fields. The row of the list has labels for the columns and known as filed name

4.30.7.1. Sorting data

Sorting data is an integral part of data analysis. You might want to put a list of names in alphabetical order, compile a list of product inventory levels from highest to lowest, or order rows by colors or icons. Sorting data helps you quickly visualize and understand your data

better, organize and find the data that you want, and ultimately make more effective decisions.

You can sort data by text (A to Z or Z to A), numbers (smallest to largest or largest to smallest), and dates and times (oldest to newest and newest to oldest) in one or more columns. You can also sort by a custom list (such as Large, Medium, and Small)

To sort the data

1. Select any data
2. Click on data and click on sort form sort and filter option
3. Set any

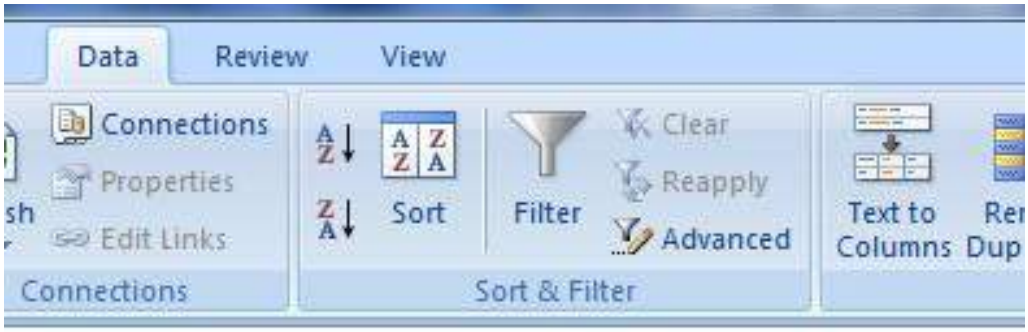


Fig. 21 Data Selected

4.30.7.2. Filtering data

Filtered data displays only the rows that meet criteria (criteria: Conditions you specify to limit which records are included in the result set of a query or filter.) That you specify and hides rows that you do not want displayed. After you filter data, you can copy, find, edit, format, chart, and print the subset of filtered data without rearranging or moving it.

You can also filter by more than one column. Filters are additive, which means that each additional filter is based on the current filter and further reduces the subset of data.

Using AutoFilter, you can create three types of filters: by a list values, by a format, or by criteria. Each of these filter types is mutually exclusive for each range of cells or column table. For example, you can filter by cell color or by a list of numbers, but not by both; you can filter by icon or by a custom filter, but not by both.

Step

1. Select a range of cells containing numeric data.
2. On the Home tab, in the Editing group, click Sort & Filter, and then click Filter.

Fig. 22 Editing Option Selected

Make sure that the active cell is in a table column that contains numeric data.

1. Click the arrow in the column header.
2. Do one of the following:

Select from a list of numbers

In the list of numbers, select or clear one or more numbers to filter by.

The list of numbers can be up to 10,000. If the list is large, clear (Select All) at the top, and then select the specific numbers to filter by.

To make the AutoFilter menu wider or longer, click and drag the grip handle at the bottom.

Filter by using advanced criteria

To filter a range of cells by using complex criteria (criteria: Conditions you specify to limit which records are included in the result set of a query. For example, the following criterion selects records for which the value for the Order Amount field is greater than 30,000: Order Amount > 30000.), use the Advanced command in the Sort & Filter group on the Data tab. The Advanced command works differently from the Filter command in several important ways.

- ✓ It displays the Advanced Filter dialog box instead of the AutoFilter menu.
- ✓ You type the advanced criteria in a separate criteria range on the worksheet and above the range of cells or table you want to filter. Microsoft Office Excel uses the separate criteria range in the Advanced Filter dialog box as the source for the advanced criteria.

Step

1. Insert at least three blank rows above the range that can be used as a criteria range. The criteria range must have column labels. Make sure that there is at least one blank row between the criteria values and the range.
2. In the rows below the column labels, type the criteria that you want to match.
3. Click a cell in the range.
3. On the Data tab, in the Sort & Filter group, click Advanced.

Fig. 23 Sort & Filter Selected 

4. To filter the range by hiding rows that don't match your criteria, click Filter the list, in-place.

✓ To filter the range 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.

5. In the Criteria range box, enter the reference for the criteria range, including the criteria labels.
6. To change how the data is filtered, change the values in the criteria range and filter the data again.

Criteria examples

✓ Because the equal sign (=) is used to indicate a formula when you type text or a value in a cell, Excel evaluates what you type; however, this may cause unexpected filter results. To indicate an equality comparison operator for either text or a value, type the criteria as a string expression in the appropriate cell in the criteria range:

="=entry"

Where entry is the text or value you want to find. For example:

What you type in the cell	What Excel evaluates and displays
="=Davolio"	=Davo
="=3000"	=3000

Subtotal

Microsoft excel can automatically summarize data by calculating subtotal and grand total values in a database. To use automatic subtotals, your database must contain labeled columns and the database must be sorted on the columns for which you want subtotal.

Syntax

SUBTOTAL (function_num, ref1, ref2,)

Function_num is the number 1 to 11 (includes hidden values) or 101 to 111 (ignores hidden values) that specifies which function to use in calculating subtotals within a list.

Function_num (includes hidden values)	Function_num (ignores hidden values)	Function
1	101	AVERAGE
2	102	COUNT
3	103	COUNTA
4	104	MAX
5	105	MIN
6	106	PRODUCT
7	107	STDEV
8	108	STDEVP
9	109	SUM
10	110	VAR
11	111	VARP

Ref1, ref2 are 1 to 254 ranges or references for which you want the subtotal.

Example

A
Data
120
10
150
23

Formula	Description (Result)
=SUBTOTAL(9,A2:A5)	Subtotal of the column above using the SUM function (303)
=SUBTOTAL(1,A2:A5)	Subtotal of the column above using the AVERAGE function (75.75)

To determine subtotals based on upon a particular column:

1. Sort the data based on that column and click on Data and click on subtotal from outlined group

2. Select the field upon which the database is sorted in the top dropdown database. Excel calculates subtotals each time the value of the field is changed
3. Choose a function from the use function list box
4. Choose the filed in which you want display the subtotal in the add subtotals to list box and finally ok.

4.30.7.3. Overview of PivotTable reports

Use a PivotTable report to summarize, analyze, explore, and present summary data. Use a PivotChart report to visualize this summary data in a PivotTable report, and to easily see comparisons, patterns, and trends. Both a PivotTable report and a PivotChart report enable you to make informed decisions about critical data in your enterprise. The following sections provide an overview of PivotTable reports and PivotChart reports.

A PivotTable report is an interactive way to quickly summarize large amounts of data. Use a PivotTable report to analyze numerical data in depth and to answer unanticipated questions about your data. A PivotTable report is especially designed for:

- ✓ Querying large amounts of data in many user-friendly ways.

- ✓ Subtotaling and aggregating numeric data, summarizing data by categories and subcategories, and creating custom calculations and formulas.
- ✓ Expanding and collapsing levels of data to focus your results, and drilling down to details from the summary data for areas of interest.
- ✓ Moving rows to column or columns to rows (or "pivoting") to see different summaries of the source data.
- ✓ Filtering, sorting, grouping, and conditionally formatting the most useful and interesting subset of data to enable you to focus on the information that you want.
- ✓ Presenting concise, attractive, and annotated online or printed reports.

➢ Ways to work with a PivotTable report

After you create the initial PivotTable report by defining the data source, arranging fields in the PivotTable field List, and choosing an initial layout, you often do the following tasks when working with a PivotTable report:

Explore the data by doing the following:

- ✓ Expand and collapse data, and show underlying details of values.
- ✓ Sort, filter, and group fields and items.
- ✓ Change summary functions, and add custom calculations and formulas.

Change the layout by doing the following:

- ✓ Change the PivotTable report form: compact, outline, or tabular.
- ✓ Display subtotals above or below their rows.
- ✓ Move a column field to the row area or a row field to the column area.
- ✓ Change how errors and empty cells are displayed, and change how items and labels with no data are show.
- ✓ Change the order of fields or items, and add, rearrange, and remove fields.
- ✓ Adjust column widths on refresh.
- ✓ Turn column and row field headers on or off, or display or hide blank lines.

4.30.7.4. Chart

4.30.7.4.1. What is Chart?

A chart is graphical representation of worksheet data. When you create a chart a chart, values from worksheet cells (or data points) are displays as bars, lines, columns, pie slides, or other shapes in the chart.

4.30.7.4.2. Chart types

Excel can create various types of chart. The chart type you choose depends on your data and on how you want to present that data. These are the major chart types and their purpose:

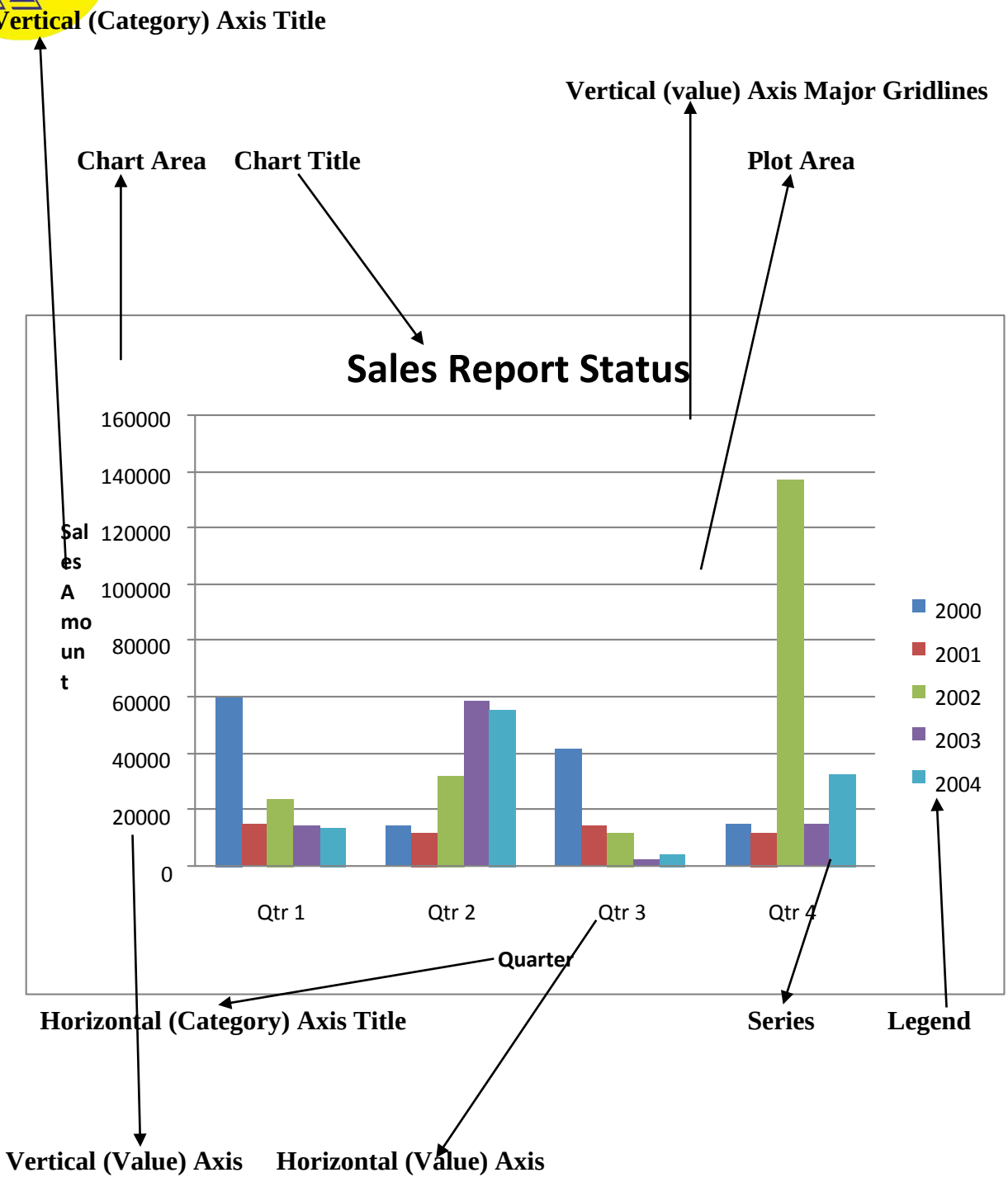
- Pie: - use this chart to show the relationship among parts of whole.
- Bars: - use this charts to compare values at a given point in time
- Column: - use this cart to emphasize the difference between items.
- Line: - use this chart to emphasize trends and change vales over time.
- Scatter: - use to emphasize the difference between two sets of values.
- Area: - similar to the line chart; use this change values over time.

Microsoft Excel offers deferent types of chart to choose from two dimensional chart types. You can select a number of built-in formats for each chart type, or you can add your own custom formatting.

4.30.7.4.3. Chart terminology

Before you start creating charts, familiarize yourself with the following terminology:

- **Data series**: the bars, pie wedges, lines or other elements that represent plotted values I a chart
- **Categories:** - Categories reflect the number of elements in a series.
- **Axis**: one side of a chart. A two dimensional chart has an X- axis(horizontal) and a Y-axis (Vertical) .A three- dimensional c hart has the Z-axis in addition to X and Y axis .
- **Legend:** - defines the separate series of a chart.
- **Gridlines**: help you determine a point's exact value.



Parts of the Chart

Creating a chart

1. On the worksheet, arrange the data that you want to plot in a chart.

2. Select the cells that contain the data that you want to use for the chart.
3. On the Insert tab, in the Charts group, do one of the following:
   - ✓ Click the chart type, and then click a chart subtype that you want to use.
   - ✓ To see all available chart types, click a chart type, and then click All Chart Types to display the Insert Chart dialog box, click the arrows to scroll through all available chart types and chart subtypes, and then clicks the ones that you want to use.

Tip: A ScreenTip displays the chart type name when you rest the mouse pointer over any chart type or chart subtype

Change the layout or style of a chart

After you create a chart, you can instantly change its look. Instead of manually adding or changing chart elements or formatting the chart, you can quickly apply a predefined layout and style to your chart. Microsoft Office Excel provides a variety of useful predefined layouts and styles (or quick layouts and quick styles) that you can choose from, but you can customize a layout or style further if needed by manually changing the layout and style of individual chart elements.

Select a predefined chart layout

1. Click the chart that you want to format.

Tip: - This displays the Chart Tools, adding the Design, Layout, and Format tabs.

2. On the Design tab, in the Chart Layouts group, click the chart layout that you want to use.

Chart Layout

Note When the Excel window is reduced in size, chart layouts will be available in the Quick Layout gallery in the Chart Layouts group.

Tip To see all available layouts, click more.

Select a predefined chart style

1. Click the chart that you want to format.

Tip: - This displays the Chart Tools, adding the Design, Layout, and Format tabs.

2. On the Design tab, in the Chart Styles group, click the chart style that you want to use.

Note When the Excel window is reduced in size, chart styles will be available in the Chart Quick Styles gallery in the Chart Styles group.

Tip: - To see all predefined chart styles, click more  .

Change the style of chart elements manually

1. Click the chart.

Tip: - This displays the Chart Tools, adding the Design, Layout, and Format tabs.

2. On the Format tab, in the Current Selection group, click the arrow in the Chart Elements box, and then select the chart element that you want to format.
3. In the Current Selection group, click Format Selection, and then select the formatting options that you want.

Tip: - You can also apply a quick style to individual elements, or click Shape Fill, Shape Outline, and Shape Effects in the Shape Quick Styles group on the Format tab, and then select the formatting options that you want.

4.30.7.5. Page Properties and Printing

Preparing to print

Microsoft excel provides lots of optional setting that let you adjust the final appearance of the printed page to suit your needs. To make sure you've checked everything likely that affects your print layout; follows the steps that ate listed to the left in the order show.

Viewing how your worksheet will print Microsoft Excel Provides there ways to see and adjust how the worksheet will look.

- ✓ **Normal views**: - it's best for on screen viewing and working.
- ✓ **Print preview**: - shows you the printed page and lets you easily and just columns and margins. To preview a print job, click on office button→ Print preview
- ✓ **Page break preview**: - shows you what data will go on each page and lets you quickly adjust the print area and page breaks.

As you make settings that affect how your worksheet will print, you can switch between the different views to see the effects before you send the data to the printer.

Add, delete, or move page breaks

To print the exact number of pages that you want, you can use Page Break Preview view to quickly adjust page breaks (page break: Divider that breaks a worksheet into separate pages for printing. Excel inserts automatic page breaks based on the paper size, margin settings, scaling options, and the positions of any manual page breaks that you insert.). In this view, manually inserted page breaks appear as solid lines. Dashed lines indicate where Microsoft Office Excel will break pages automatically.

Page Break Preview view is especially useful for seeing how other changes that you make (such as page orientation and formatting changes) affect the automatic page breaks. For example, changing the row height and column width can affect the placement of the automatic page breaks. You can also make changes to the page breaks that are affected by the margin settings of the current printer driver.

1. On the View tab, in the Workbook Views group, click Page Break Preview.

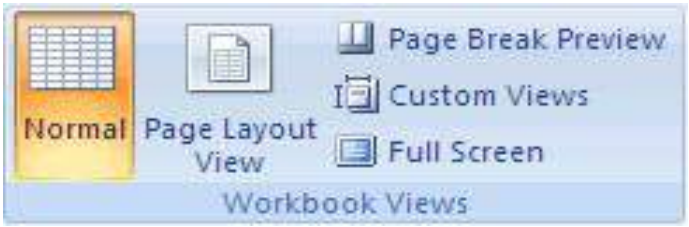


Fig. 30 Workbook view

Tip:-You can also click Page Break Preview  **on the status bar.**

2. Do one of the following:

- ✓ To move a page break, drag the page break to a new location.
  Note Moving an automatic page break changes it to a manual page break.
- ✓ To insert a vertical page break or a horizontal page break, select a row or column below or to the right of where you want to insert the page break, right-click, and then click Insert Page Break on the shortcut menu.
- ✓ To remove a manual page break, drag the page break outside of the page break preview area.
- ✓ To remove all manual page breaks, right-click any cell on the worksheet and then click Reset All Page Breaks on the shortcut menu.

3. To return to Normal view after you finish working with the page breaks, on the View tab, in the Workbook Views group, click Normal.

Tip: - You can also click Normal  on the status bar.

4.30.7.6. Page setup

Changing the page margin

A workbook is a collection of many worksheets, which are like pages in a notebook. You can print the whole notebook at once or just one or more pages at a time. Before you print a worksheet, you should make sure that the page is set up correctly for printing/ to do this,

Click on Page layout→ from the page set up option the following list outlines the page set up settings, grouped according to the tab on which they appear

Page tab

- **Orientation**: portrait to print across the short edge of a paper;
- **Landscape**: to print across the long edge of a page
- **Scaling** you can reduce and enlarge your workbook or force it to fit within a specific page size.
- **Paper size** this is 8 ½ by 11 inches by default, but you can choose a different size from the list.
- **Print quality** you can print your spreadsheet in draft quality to print quickly and save ware and tear on your printer or you can print in high quality for a final copy.

First page number you can set the staring page umber to something other than 1. The auto option (Default) tells Excel to set the starting page number to be 1 if is the first page in the print job, or to set the first page number at the next sequential number if it is not the first page in the print job.

Margins tab

- Top, bottom, left right you can adjust the size of the top, bottom, left, and right margins.
- Header, footer you can specify how far you want a header of footer printed from the edge of the page.
- Center on page you can center your workbook and between the top and bottom margins (Vertically)

Sheet tab

Print area click the print area box to select a worksheet range to print, and then drag through the worksheet areas that you want to print. The collapse dialog button at the right end of this

box temporary moves the dialog box so that you enter the range by selecting cells in the worksheet. When you finish, you can click the button again to display the entire dialog box.

Print titles select an option under print titles to print the same column or rows as titles on every page of a printed worksheet. Select rows to repeat at top if you want specify rows as your horizontal title for each page. Then on the worksheet, select a cell in the title column or rows you want. The collapse dialog button at the right end of this box temporarily moves the dialog box so that you enter the range by selecting cells in the worksheet. When you finish, you can click the button again to display the entire dialog box.

Print specifies what is printed from your worksheet, whether printout is in color or black and white, and what the print quality is. Page order click down, then over or over, then down to control the order in which data is numbered and printed when it does not fit on one page. The sample picture previews the direction you documents will print when you choose one of these options.

Add or remove a sheet background

1. Click the worksheet that you want to display with a sheet background. Make sure that only one worksheet is selected.
2. On the Page Layout tab, in the Page Setup group, click Background.
3. Select the picture that you want to use for the sheet background, and then click Insert.

Printing

After setting the page setup and previewing your data, it is time to print; you can print selected data, selected sheet, or entire workbook.

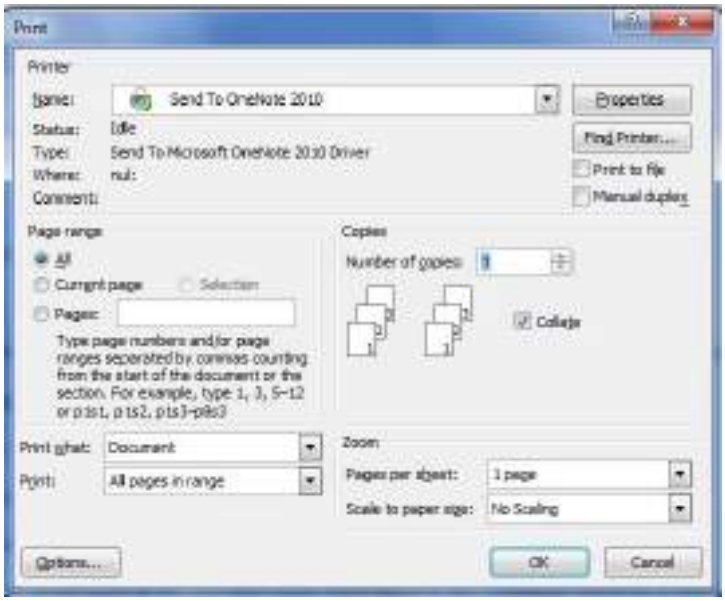


Fig. 31 Print Dialog box

To print:

Click on file (or office button on 2007)→ Print (or press Ctrl+P).

The following are the buttons and other options in the Print dialog box:

- **Name** In the list, click a printer that you have installed and want to use.
- **Status** For the selected printer, tells the status of the printer, such as idle, busy, or the number of files before your print job.
- **Type** For the selected printer, tells the type of printer that you selected, such as laser.
- **Where** For the selected printer, tells the location of the printer or which port that the printer is connected to.
- **Comment** For the selected printer, tells any additional information that you might need to know about the printer.
- **Properties** Click this button when you want to change the properties, such as paper type, for the printer that you are using.
- **Find Printer** Click this button to find a printer that you have access to.
- **Print to file** Select this check box to create a file from the document instead of routing it directly to a printer. The file is saved with print formatting, such as font selection and color specification, in a .prn file that can be printed to another printer.
- **Number of copies** In this list, click the number of copies that you want printed.
- **Collate** Select this check box if you want your print job to be kept in the order that you created in your document when printed. This check box is available if you are printing multiple copies.
- **Selection** Click this option to print only what you have selected.
- **Active sheet**(s) click this option to print only the active worksheets.
- **Entire workbook** Click this option to print the entire workbook, including all the worksheets in the workbook.
- **Table** Click this option to print only the table in the worksheet.
- **Ignore print areas Select this check box to ignore any print areas that you might have specified.**
- **All** Click this option if you want to print all pages in your file.
- **Pages** Click this option and add the page numbers or page ranges in the box.

- **Preview** Click this button to preview your worksheet before printing it and select other printing options, such as page setup.
- **OK** Click this button to send your document to the printer.
- **Cancel** Click this button to go back to your document without printing it.

Chapter Five
Microsoft Office PowerPoint

5. Introduction to PowerPoint

Microsoft PowerPoint is a slide show presentation program currently developed by Microsoft. PowerPoint initially named "Presenter", was created by Forethought Inc.. Microsoft's version of PowerPoint was officially launched on May 22, 1990, as a part of the Microsoft Office suite. PowerPoint is useful for helping develop the slide-based presentation format, and is currently one of the most commonly-used presentation programs available.

5.1. Definitions and terms of PowerPoint

Slide

Each individual page you design is a slide. The slide metaphor is a natural one since one of the most common output products of programs like PowerPoint is a 35mm slide.

Slide Show

When you group several slides together, you have a presentation. This presentation can be output on screen as an electronic slide show, as overhead transparencies, or as hardcopy (paper).

Handouts

Miniature versions of your slides printed on paper. Two, three, four, six, or nine slides can be printed on one page for audience and/or review copies.

Notes page (Speaker's notes)

You can prepare a notes page for every slide. When printed, the notes display a reduced slide image with speaker's notes just below. Speaker's notes can be referenced from printed copy or from a computer.

Template

A template contains all the formatting for a slide, just none of the information. Templates are handy for creating slides quickly and for maintaining consistency throughout your presentation. There are three types of templates: design templates, content templates (located on the Presentations tab), and a Blank Presentation template.

Design Templates

Presentation Designs are professional layouts that you can apply to your slides. They contain the color scheme, borders, background, graphics, etc. for your presentation.

Presentations

These content templates contain design elements plus suggested content for specific subjects. They are available when creating a new presentation through the Presentations tab in the New Presentation dialog box. Choose AutoContent Wizard for a fill-in-the blank process for creating a presentation or select one of the many presentation templates.

Master

A Master is similar to a template but contains text or graphics that you want included on every slide such as the date, company name, or page number. There are masters for the title slides (the first slide in a show), normal slides, speaker's notes, and handouts.

User-defined template

If you make similar presentations again and again, you can create a template that includes a basic set of slides, with the design elements you want.

5.2. Opening PowerPoint

Step (option 1)

- Click on start button
- Click on all programs
- Click on Microsoft PowerPoint 2010P

Step (option 2)

- Press windows key+ R (+ R)
- And type powerpnt then press on Ok button

5.3. Creating a Presentation

You can create a slide show or presentation in a variety of ways. You can use a blank presentation, a presentation design template, or a presentation template.

- **Blank Presentation**: This option creates a presentation with no predefined design. New slides will have black text on a white background. This is a good choice if you want to define your own colors, fonts, and background images from scratch.
- **From Sample Template**: This method uses one of a variety of design templates to create a new slide show. These templates, if used, determine .look. of the presentation that is, the colors, fonts, backgrounds, bullets and/or numbering, and so on that are used in the presentation.
- **New from an existing presentation**: Use this method to base a new presentation on a previously created slide show.
- **New from My template**. Similar to .From Design Template,. This allows you to choose from a set of predefined presentation templates, and even download additional templates from Microsoft.

Step (Option 1)

- Click the Start button and select All Programs,
- Then from the sub-menu, select Microsoft Office, ➢ then select Microsoft Office PowerPoint 2010.

5.4. Choosing and Applying a Template

Templates are design tools that you can use to add color and style to your presentations. If you create a new presentation using a template, all of the slides in the presentation will

have the same look as the template you chose the same fonts, colors, background images, bullets, and so on.

You can preview the templates available before you apply them to your presentation, or choose and apply a different template later. Also, any template can be edited if you don't like the entire design (the color or font choices, for instance).

To preview a different template, click the template icon or name on the left side of the window; the preview slide will be displayed to the right. When you have chosen the template you want to use for this presentation, click OK to apply it to your presentation.

5.5. Applying a template to an existing presentation

You can apply a design to all your slides using one of the many design templates available or you can create your own graphics and text on a Master slide. (Any text and graphics that appear on the Master Slide automatically display on all slides.

Step

- Click the Format menu, then click Slide Design..
- Choose a template from those listed in the right panel.
- Click template to apply the design to all the slides in your presentation.
- Review the formatting of your slides, since applying some designs may reformat text or reposition graphics.

5.6. Slide Layouts

The Slide Layout feature is another design tool provided in PowerPoint. Slide Layouts set up the slide for you, adding placeholders for titles, text boxes, tables, organization charts, clipart, charts, and other types of objects.

The default choice for the first slide in a presentation is the **Title Slide** Layout; the default choice for all other new slides is the **Title and Text** layout, which creates a title and bulleted list.

Step

- Click the **Home from the ribbon** and then click **Slide Layout.**.
- Click on your layout choice to apply it to the current slide.

5.7. Adding a Slide

There are several ways to add a new slide to your presentation, including:

- Click the **Home**, then click **New Slide**.
- Place your cursor in the last text box of the current slide and press **Ctrl-**

5.8. Deleteing a Slide

- To delete a slide, click on the slide you want to delete and press Delete key from your keyboard.
- Or right click on the slide you want to delete and click on delete.

Note: If you accidentally delete the wrong slide, you can click on the Undo button to bring it back.

5.9. Adding Text to a Slide

When you select a layout, you select a slide that has positioned text boxes. To enter text:

1. Click in the text placeholder.
2. Type text or edit existing text as you in any word processor.
3. When finished entering text, click outside of the slide with your mouse, select another text box on the same slide with the mouse, or press Ctrl-Enter (hold down the Ctrl key while you press Enter) to make a new slide or move to the next text placeholder.

4. To make a bulleted list item into a sub-list item, increase the indent for that item by placing the cursor in the text and clicking the Increase Indent button on the Outline toolbar.
5. To make a sub-list item into a main list item, decrease the indent for that item by placing the cursor in the text and clicking the Decrease Indent button on the outline toolbar.

5.10. Adding a New Text Box

You can add additional text boxes using the text box tool from the **Drawing Toolbar**.

1. Select the text box tool from insert option.
2. Position your mouse over the slide and click and drag while drawing a box shape.

5.11. Adding Pictures

You can add pictures to your PowerPoint presentation from clip art (pictures included with Microsoft Office), from files (on the hard drive, a disk, or CD), or directly from a scanner or digital camera connected to your computer. You can also create simple pictures with drawing tools in PowerPoint.

- In Placeholders

Some Auto layouts contain special placeholders for pictures,
Providing a quick way to add pictures that fit into the slides layout.
First apply one of those Auto layouts, then add the picture by clicking on the picture placeholder, and selecting the image you want to insert.

- From Clip Art

To insert a picture from clip art,

1. Click the **Insert O**ption, choose **Clip Art**
2. In the In right, you can.

- Search for a picture by keyword
- Browse available clips by clicking clip organizer
- Search for additional clips online at Microsoft web site clicking clips online.

- Insert Picture from a File

- Click the insert option and choose picture
- In the insert picture dialog box browse to the picture you want to insert, Click it to select it, and the click the insert button.

5.12. Drawing in PowerPoint

To draw a simple picture in PowerPoint using shapes,

Click the **Shapes**, select a category, and click the shape you want to draw, On the slide, click and drag the mouse pointer to draw the shape.

Formatting Pictures

To resize or move pictures,

Click the image to select it and then drag the handlebars to resize or drag the image (using the four-headed arrow) to reposition.

Some slide graphics may appear as one graphic but consist of many images .grouped. Together. To see if a graphic is composed of several images, select the graphic, position the mouse over the graphic, and click the right mouse button. Select **Grouping** and if **Ungroup** is an option, then the graphic is composed of several graphics. It is possible to ungroup and regroup a graphic to make changes.

5.13. Views in PowerPoint

PowerPoint provides different ways to view your presentation. You can switch between these views using one of the view buttons, located at the bottom of the screen next to the horizontal scroll bar. You can also access the Normal, Slide Sorter, Slide Show, and Notes Page views under the View option.

The Normal view: is a combination display; the outline or slide miniatures appear in the top middle panel, the speaker notes appear in the lower middle panel, and design and editing tools appear in the right panel.

Slide Sorter View: displays a thumbnail of each slide in the same window. Use this view to organize and rearrange your slides. You can also add slide transitions and other effects using this view. A special toolbar displays under the standard toolbar to help you add slide transitions and control other slide show properties.

Reading View: view the presentation as a slide show that fits within the window.

Working in Slide Sorter View

Slide sorter view provides an easy way to rearrange the order of the slides in your presentation.

Step:

- Access the slide sorter view using one of the methods described above.
- Using your mouse, click and drag the slide you want to move.
- Use the large I-beam to reposition the slide.

Working in the Outline

The Outline provides an easy way to add, edit, and organize slides and slide text in your presentation.

To work in the outline, click the outline tab in the left panel of the PowerPoint window

In this view, the presentation is organized in a multilevel outline format. You can move items from one level to another.

- To increase the indent for an item place the cursor in the text and press the Tab key or the Increase Indent button on the Outline
- To **decrease the indent** for an item, place the cursor in the text and press Shift Tab or the Decrease Indent button on the outline toolbar.

- To move an item up the outline select the item and click the move up button or drag the paragraph to the appropriate location
- To move a topic down in the outline, select the topic and click the move down button or drag the paragraph to the appropriate location.

Using the Slide Master

The Slide Master allows you to make changes to formatting in one place that will be applied to your entire presentation. Common uses for the feature include:

Changing the font, font size, and font style for every slide title or every bulleted list item;

- Changing the background color or adding a background image to every slide;
- Changing the size and shape of the title and text areas for each slide ➢ Adding an object such as a text box, image, or button to every slide.

To make formatting changes to your entire presentation:

1. Access the Slide Master. To do this, click the **View** option, and then click **Slide Master**.
2. Select any object on the slide (text or graphics) and reformat as needed.
3. When finished, return to the Normal view by clicking the **Close Master View** button, or by clicking the **View** menu, then clicking **Normal**.

5.14. Formatting Text

Formatting text works the same way in PowerPoint as it does in other Office programs:

- Select the text you wish to format.
- Make the formatting changes to the text by using either the Formatting toolbar, or by clicking the Home option and select any from font group,

5.15. Adding date, page numbers, and footers to slides

Footer areas appear on the Slide Master, but do not contain any data unless you select **Header and Footer** from the **insert option** and enter text or graphics into the header and Footer areas.

- Click on insert
- Click on header and footer option
- Set any

5.16. Saving Your Presentation

To save your presentation:

1. Click the File menu, then click Save.

2. Enter a name and format for your presentation. The default format, Presentation (.ppt), requires PowerPoint be installed on the computer in which you want to display the slide show. Other formats are also available, including

Outline/RTF: This format allows you to save the text of your slide show so that you can read it in any word processor as an outline.

Design Template: To save your current presentation as a template, select the .pot Format. If you save the template in the default template directory (C:\Windows\Application Data\Microsoft\Templates), it will display on the general tab when creating a new skide show.

Web Page: You can also save your presentation as an HTML document for display on the Web using **Save as Web Page.** or **Save As.** under the **File** menu. If using **Save As.** be sure to change the **Save as type:** option to Web page. (Saving the PowerPoint file as an HTML document is covered in the Intermediate PowerPoint class.)

PowerPoint Show: If you save a PowerPoint presentation as a PowerPoint Show (.pps) file to your desktop, when you open the slide show it will automatically start. When the show ends, you return to the desktop.

5.17. Printing

You can print your presentation slides, outline, speaker's notes, or audience handouts.

1. Click the **File** menu, then click **Print**.
2. Important: In the Print what: menu, select the type of printout you want. You can rint the presentation slides (which prints each slide as a full page), handouts, notes pages, or outline.
3. Make any changes to the remaining printing options.
4. Click OK to print.

Handouts

Handouts (the most commonly only used type of PowerPoint printout) can display two, three, four, six, or nine slides per page.

To headers and footer information to your handout, go to the handout Master view (Click the view option, then choose master and Handout Master.)

5.18. Viewing the Slide Show

You can preview your slide presentation in the Slide Show view. There are several ways to get to the Slide Show view:

- Click the slide show button from slide show option and click on from beginning or from current slide
- Or press F5 key on your keyboard

Navigating Keys

To do this task:	Press:
Advance to the next slide	N, <Enter>, mouse click, SPACEBAR, right arrow, PageDN
Return to the previous slide	P, <Backspace>, left arrow, PageUP
Go to first slide	HOME, press both mouse buttons for two seconds
Go to last slide	END
Go to slide <number>	<number> - <Enter>
Display a black/white screen	B or W

5.19. Add transitions between slides

Slide transitions are motion effects that occur in Slide Show view when you move from one slide to the next during a presentation. You can control the speed, add sound, and even customize the properties of transition effects.

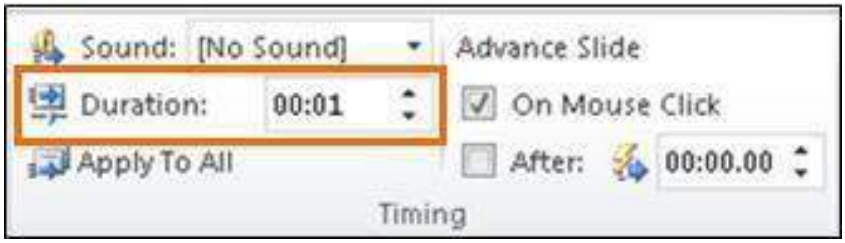
Step

- In the pane that contains the Outline and Slides tabs, click the Slides tab.
- Select the slide thumbnail of the slide that you want to apply a transition to.
- On the Transitions tab, in the Transition To This Slide group, click the slide transition effect that you want for that slide.

- Note To see more transition effects, click the more button
- To apply the same slide transition to all the slides in your presentation click Apply to all in timing group.

To set the duration of the transition between the previous slide and the current slide, do the following:

On the **Transitions** tab, in the **Timing** group, in the **Duration** box, type or select the speed that you want.



To specify how long before the current slide advances to the next, use one of the following procedures:

- ✓ To advance the slide when you click the mouse, on the **Transitions** tab, in the **Timing** group, select the **On Mouse Click** check box.
- ✓ To advance the slide after a specified time, on the **Transitions** tab, in the **Timing** group, in the **after** box, enter the number of seconds that you want.

- Add sound to slide transitions

1. In the pane that contains the Outline and Slides tabs, click the Slides tab.
2. Select slide thumbnail of the slide that you want to add a sound to.
3. On the Transitions tab, in the Timing group, click the arrow next to Sound, and then do one of the following:

- ✓ To add a sound from the list, select the sound that you want.
- ✓ To add a sound not found on the list, select Other Sound, locate the sound file that you want to add, and then click OK.

- Remove a transition

1. In the pane that contains the Slides and Outline tabs, select the **Slides** tab.
2. On the **Slides** tab in Normal view, click the thumbnail of the slide that you want to remove the transition from.

3. On the **Transitions** tab, in the **Transition to This Slide** group, click **None**.

> Note To remove the slide transitions from all the slides in your presentation**:** Repeat steps 2 through 3 above, and then on the **Transitions** option, in the **Timing** group, click **Apply To All**.

Animate text or objects

You can animate (animate: To add a special visual or sound effect to text or an object. For example, you can have your text bullet points fly in from the left, one word at a time, or hear the sound of applause when a picture is uncovered.) the text, pictures, shapes, tables, SmartArt graphics, and other objects in your Microsoft PowerPoint 2010 presentation to give them visual effects, including entrances, exits, changes in size or color, and even movement.

Animation is a great way to focus on important points, to control the flow of information, and to increase viewer interest in your presentation. You can apply animation effects to text or objects on individual slides, to text and objects on the slide master (slide master: The main slide that stores information about the theme and layouts of a presentation, including the background, color, fonts, effects, placeholder sizes, and positions.), or to placeholders on custom slide layouts (layout: The arrangement of elements, such as title and subtitle text, lists, pictures, tables, charts, shapes, and movies, on a slide.).

There are four different kinds of animation effects in PowerPoint 2010:

Entrance effects. For example, you can make an object fade gradually into focus, fly onto the slide from an edge, or bounce into view.

Exit effects. These effects include making an object fly off of the slide, disappear from view, or spiral off of the slide.

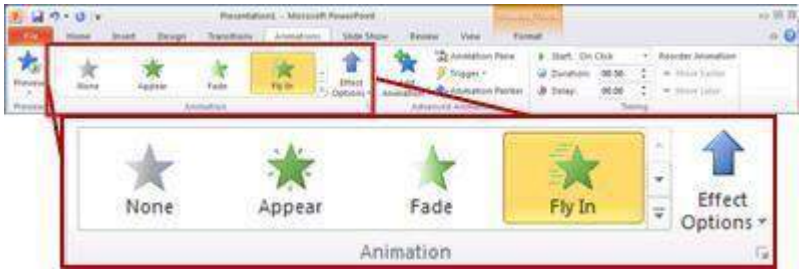
Emphasis effects. Examples of these effects include making an object shrink or grow in size, change color, or spin on its center.

Motion Paths (motion path: The path that a specified object or text will follow as part of an animation sequence for a slide.). You can use these effects to make an object move up or down, left or right, or in a star or circular pattern (among other effects).

Add animation to an object

To add an animation effect to an object, do the following:

1. Select the object that you want to animate.
2. On the **Animations** tab, in the **Animation** group, click the **more** button, and then select the animation effect that you want.



View a list of animations currently on the slide

You can view the list of all the animations on the slide in the Animation task pane (task pane: A window within an Office program that provides commonly used commands. Its location and small size allow you to use these commands while still working on your files.). The Animation task pane shows important information about an animation effect, such as the type of effect, the order of multiple effects in relation to one another, the name of the object affected, and the duration of the effect.

To open the Animation task pane, on the Animations tab, in the Advanced Animation group, click Animation Pane.

1. In the task pane, numbers indicate the order in which the animation effects play. The numbers in the task pane correspond to the non-printing numbered tags that are displayed on the slide.
2. Timelines represent the duration of the effects.

- There are several types of icons that indicate the start timing of animation effects. Choices include the following:
- **Start on Click** (mouse icon, shown here): The animation begins when you click the mouse.
- **Start With Previous** (no icon): The animation effect starts playing at the same time as the previous effect in the list. This setting combines multiple effects at the same time.
- **Start after Previous** (clock icon): The animation effect begins immediately after the previous effect in the list finishes playing.

Test your animation effect

After you add one or more animation effects, to validate that they work, do the following:

- On the **Animations** tab, in the **Preview** group, click **Preview**.

Set the animation effect options

To set the animation effect options, do the following:

1. Select the SmartArt graphic that has the animation that you want to modify.
2. On the **Animations** tab, in the **Advanced Animations** group, click **Animation Pane**.
3. In the **Animation Pane** list, click the arrow to the right of the animation that you want to modify, and then select **Effect Options**.
4. In the dialog box, on the **SmartArt Animation** tab, in the **Group graphic** list, select one of the following options:

Option	Description
As one object	The animation is applied as if the whole SmartArt graphic is one large picture or object.
All at once	All of the shapes in the SmartArt graphic are animated at the same time. The difference between this animation and As one object is most notable in animations where the shapes rotate or grow. With All at once, each shape rotates or grows individually. With As one object, the whole SmartArt graphic rotates or grows.
One by one	Each shape is animated individually, one after the other. By
By branch one by one	All of the shapes in the same branch are animated at the same time. This animation works well with branches of an organization chart or a hierarchy layout and is like One by one.
By level at once	All shapes at the same level are animated at the same time. For example, if you have a layout with three shapes that contain Level 1 text and three shapes that contain Level 2 text, the three shapes that contain Level 1 text are animated together first, and then the three shapes that contain Level 2 text are animated together.
By level one by one	The shapes in the SmartArt graphic are animated first by level and then individually within that level. For example, if you have a layout with four shapes that contain Level 1 text and three shapes that contain Level 2 text, each of the four shapes that contain Level 1 text are animated individually first, and then each of the three shapes that contain Level 2 text are animated individually.

Remove an animation

1. Click the SmartArt graphic with the animation that you want to remove.
2. On the **Animations** tab, in the **Animation** group, click **None**.

Turn your presentation into a video

Why turn your presentation into a video?

When you want to give a high-fidelity version of your presentation to colleagues or customers (either as an e-mail attachment, published to the web, on a CD or DVD), save it and let it play as a video.

In PowerPoint 2010, you can now save your presentation as a Windows Media Video (.wmv) file, and distribute it confidently, knowing that your animated, narrated, multimedia presentation will play without a glitch. If you do not want to use the .wmv file format, you can use a preferred third party utility to convert your file to another format (.avi, .mov, etc).

Some tips to remember when recording your presentation as a video:

- You can record and time voice narration and laser pointer movements in your video.
- You can control the size of the multimedia file and the quality of your video.
- You can include animations and transitions in your movie.
- Viewers do not need to have PowerPoint installed on their computers to watch it.
- If your presentation contains an embedded video, the video will play correctly without your needing to control it.
- Depending on the size your presentation, creating a video can take a long time to create. The longer the presentation and the more animations, transitions, and other media that you include, the longer it will take. However, you can continue to use PowerPoint while you wait.

Step

1. On the File menu, click Save & Send.
2. Under Save & Send, click Create a video.
3. To display all video quality and size options, under Create a video, click the Computer & HD Displays down arrow.
4. Do one of the following:
   - To create a video with very high quality, yet a large file size, click Computer & HD Displays.
   - To create a video with a moderate file size and medium quality, click Internet & DVD.
   - To create a video with the smallest file size, yet low quality, click Portable Devices.
5. Click the Don't Use Recorded Timings and Narrations down arrow and then, do one of the following:
   - If you did not record and time voice narration and laser pointer movements , click Don't Use Recorded Timings and Narration.
   - If you recorded and timed narration and pointer movements, click Use Recorded Timings and Narrations.
6. Click Create Video.
7. In the File name box, enter a file name for the video, browse for folder that will contain this file, and then click Save. You can track the progress of the video creation by looking at the status bar at the bottom of your screen. The video creation process can take up to several hours depending on the length of the video and the complexity of the presentation.
8. To play your newly-created video, go to the designated folder location, and then double-click the file.