BCA – 1st YEAR

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Prof. Shuvankar Kumar Singh

☙❦❧ INTRODUCTION ❧❦❧

We are living in the world that is moving from the asset based economy to knowledge based economy. Our thinking process is changing from local scope to global scope. Examining is hot an exception for paradigm shift. It is changing from modules to objects and now it is your turn for shifting from examination notes. This notes has been designed and used as a text for a second year students of B.C.A Department. It has developed form class notes for a course offered at the Magadh University to undergraduate students. This book contains many questions each questions being with a well define answers.

I had a hell of time imagining, understanding and programming these complicated Operating System, FoxPro and BASIC. I wanted that the readers of this notes should not be required to undergo that agony. And today I am satisfied that I have been able to achieve this through the CD that comes with this notes. It lets the readers experience the working of different BASIC and FoxPro through carefully prepared animations. I have pinned my hopes that the readers would appreciate this approach. I have ago tried to provide animations for most of them on the accompanying CD.

If you wish to learn more types and tricks, programming Language and other computer related from me personally then you can find my video lectures at www.MKGPgroup.com and We thank everyone at MKGP Group of industries for the help given to us while preparing this notes. Author will cordially accept the suggestions and comments for future improvement of the notes.

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2 φ I am indebted to my father for living, but to my teacher for living well. Κ δ

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– By Author –

Shuvankar Kumar Singh

Dept. of Computer Science

Kisan College, Sohsarai (Nalanda)

Contect me :- Mob no:- 7050744134, 7488412445

Q.N 1 what is M.S-DOS? Discuss some internal and external command of DOS.

Answer:- *M.S–DOS is stands for Microsoft Disk Operating System. Its Operating System is launched by BILL GETS in 1980-81 to Microsoft corporation U.S.A. It is a popular Operating System for machines based on intel processor chips. It is a single user and single tasking operating and has been used for many years. It means it can control only one computer at a time and can performs only one types of task at the same time. M.S-DOS was the first Operating System which control the micro-processor. In which screen are divided into row and columns. It has no any graphical picture, i.e cretical user interface. It performance all work at the command prompts. It has two types of command internal and external.*

All the internal command are included in one of the system files namely command.com. Once the computer is booted the command.com is loaded into main memory of the computer and remains there until the machine is turned off. All the internal commands will be executed when this file is in memory. They are the part of command.com is the executive file of M.S-DOS Date, Time, Vol, Ver, Cls, Ren, MD, RD, CD etc are the example of internal command.

External command are those types of command, which are not automatically loaded when you start the M.S-DOS. The external commands require the separate module to be read from the disk from execution and if there the module is not there the command can not be executed. All external command store in Disk, Attrib, Backup, Chkdsk, Diskcopy, Format, Deltree, Tree, Restore etc are the example of external DOS command.

Some internal DOS command is as :-

(1) dir :-

This command is used to show file and directory at the current root directories. List a directory of file name on the designated disk to the display screen. Its syntax is as –

C:\ dir

And then the enter button.

(2) date :-

This command is used to show the current system date and can be change system date. In which mm/dd/yyyy.

(3) time :-

This command is used to show the current system time and can be change system date. In which hh/mm/sec.

(4) ver :-

This command is used to the version name that means Operating System name and this command display the current version of DOS.

(5) vol :-

This command is used to display the label of the disk in the specified drive.

(6) md :-

This command is allow you to create any directory or folder. Directory is a collection of file. If you want to store a group of file in a particular place in disk. For this you will use the md command. The general syntax of this command is as :-

> *md <directory name>*

and press the enter button.

For example –

If you want to create a new directory namely Gaurav then you will press the following command :-

> *C:\ md Gaurav*

And press the enter button. You will see the Gaurav directory will be created. To check it use the dir command.

(7) cd :-

This command is used to change from one directory to another directory. Its syntax is as:-

> *cd < sub directory name >*

(8) rd :-

This command is used to remove a sub directory. Its syntax is as :-

> *rd < subdirectory name >*

for example –

If the sub directory ABC is to be removed then type in:-

> *rd ABC*

But this command will work only if the sub directory ABC is empty and the command is issued from outside the ABC subdirectory. i.e all files should be deleted before removing the subdirectory by del command and moves to its parents directory.

(9) copy con

This command is used to create a new file, we can not duplicate file of same name and same location. Its syntax is as –

> *copy con < file name >*

For example ,

To create a new file named XYZ then use the following this command

> *copy con XYZ*

now you can type in the data and to save it give the command and ctrl+z or press enter key as usual.

(10) copy command

This command is used to be create a duplicate file , we can not create both file in same name and same location. Its syntax is as-

> *copy <source file name><new file name>*

For example,

> *copy XYZ ABC*

This command duplicate XYZ file by coping it into another file called ABC. Now you can will have two files with the same name contents but different file name.

(11) ren

This command is used to change the name of saved file. Its syntax is as-

> *ren <SFN><TFN>*

(12) del

This command is used to delete any particular file a group of file entire file after deletions file will be remove permanently from disk. The general syntax is as-

> *del < file name>*

For example,

If you want to delete a file name XYZ then you will use the following command-

> *del XYZ*

(13) path

This command is used to set or reset the sequences of directories to be searched for executable file.

Some external command is as:-

(1) backup

This command is used to copy file automatically from a fixed disk to floppy disk. The target of floppy disk backup prompt. You can change disk and then to continue the process. File can be divided between floppy disk. The backup command is automatically tags each backup disk the sequence of directory to be searched for executable file.

The general form of the backup command is as-

> *backup c:\ path a:*

(2) restore

This command restore all files which were backup using backup command. The backup files from flexable disks and writes the to a fixed disk.

(3) tree

This command is display the tree structure of the specified directory and see the entire structure of the TYD learning diskette entire this command is a hierarchy of disk directory.

(4) atterib

This command is to change the attributes of a file to hidden a file i.e you can use attrib to make a file read only which prevents the file from written over or changed. Its syntax is as-

> *attrib <file name>c [+h] [-h] [+r] [-r]*

for example,

> *attrib XYZ -h*

This command causes XYZ to be hidden.

(5) chkdsk

This command is used to check a disk formatted a size and available memory space. It indicates the amount of disk space consumed by the system files, data files, and bad sectors.

(6) diskcopy

This command is used to copies entire floppy disk track by track into another disk.

> *diskcopy A: B:*

when you press the enter button all will data be copied from one to another, but before using this syntax floppy disk must be.

(7) diskcomp

The diskcomp command is used to compare the contents of two floppy disk to ensure they are identitical diskcomp available on all versions of DOS.

The general form of the diskcomp command is as-

diskcomp A: B:

where the disk in drive A: is read first and then compared to the disk in the drive B: .

(8) undelete

This command is used to recover deleted files, it is important to undelete as soon as possible , as a new files. Occupy the space formely create a new files after deleting. You may never be able to undelete the desire files when file are deleted, the first character of the file name is removed from the directory file. The undelete command either replaces the missing character with one of its own or you may be a beginning character. The parameters used with undelete control the replacement process.

(9) print command

This command is used to print a file or a group of files i.e queues from one to ten specified data files for printing. The queued files print from a special memory buffer allowing to perform other tasks on your computer during printing sometimes is called a print spooler. Its syntax is as-

print < file name >

(10) unformat

This command is allows you to restore the directory and file on a disk after it has been formatted. The general syntax is as-

unformat E drive name

Q.N 2. What is M.S-DOS? Discuss the directory structure of DOS.

Ans:- M.S-DOS is stands for Microsoft Disk Operating System. It is a popular operating system for machines based on intel processor chips. It is a single user and single tasking operating system and has been used for many years. Its operating system is launched by Bill Gets in 1980-81 to Microsoft corporation. It performance all work at the command prompts. This file is used to run programs automatically on start up. The operating system causes all the commands in this file to be executed before the start up is completed. Its main advantages control input/output devices. Enable user to load and execute programs. It maintain an

orderly system of the data on the disk. It has no any graphical picture. It has two types of command internal and external command. In which screen are divided into row and column.

The directory structure of DOS-

Dos is a memory area. It is used foe store file or folder. The size of directory is not fixed. It depends upon storage file. To make a new directory to md command used. We can not create a duplicate directory same name and same location.

File on a Dos disk are organized in a hierarchical structure of directories and subdirectories. A subdirectories is itself a file that contains a list of the subordinate file name and their locations. The directory at the top of the hierarchy is called root directory. All directory below the root is called subdirectory, with typical computer ambiguity the term directory also describe the file list displayed by the Dos dir command.

Q.N 3. What is computer? Draw a block diagram of digital computer and discuss each element of that computer.

Ans:- *A computer is very versatile electronic machine created by man. Computer have made a great impact on our everyday life. The word computer comes from word "compute" which exactly means to calculate. So a computer is normally considered to be a calculating device that can perform arthematic operations at an enormous speed.*

A device that operates upon data for calculation. computer is nothing it is only a computing tolls or machines. It calculate the arthematic as well as logical data operations. Computer is a messive electronic data processing tool which work at tremends speed.

So , we can say that computer is an electronic device which accepts and stores data process the and produce the result under the given direction step by step. It can do mathematical as wekk kogical operation, such as comparison of data alphabetical sequences e.t.c.

Fast speed of calculation and store information for future use. The ability take a variety of instructions for execution of takes. The ability to communicate with other computer system.

Block diagram of computer is as:-
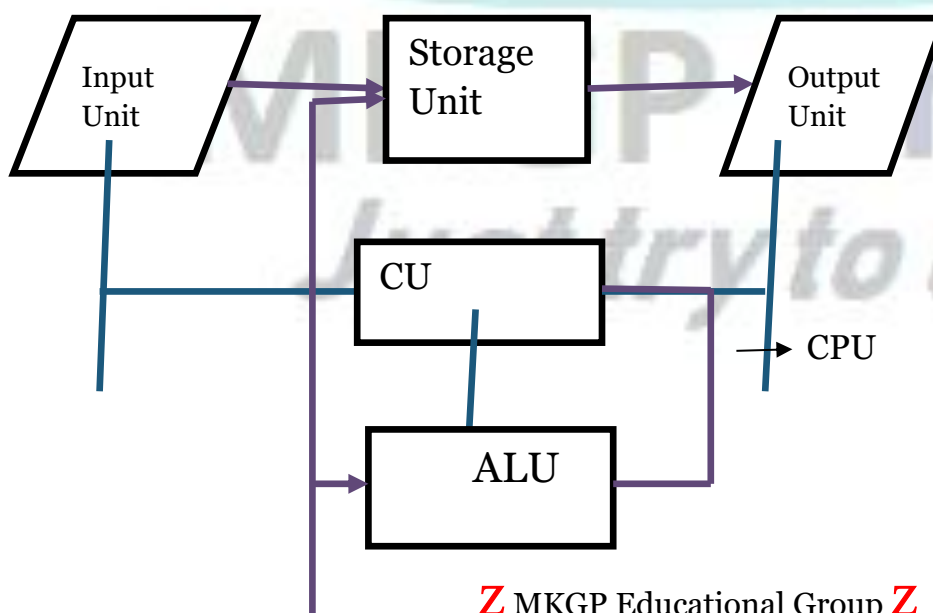
(1) Input device:- Input device are those types of device which are uses for inputing the data and information in the computer. The data and instructions are entered into a computer through the inputing device. Some commoninput devices are as :-

Keyboard, mouse, joystick, lightpen, touch screen, OMR, OCR, MICR, voice recognization, track ball.

(2) Output device:- Output device are those types of device which are uses for the outputing the data from the computers memory. Its used to transfer information stored in the computers or the result of any processing done to the outside the world. Some common output device are following:-

Monitor, printer, plotter, speaker, CRT, LCD, LED.

(3) ALU :- A computer performs all calculation and comparison operations in the ALU. During processing of a job the computer transfers data and instructions stored in its primary storage to ALU as and when needed. Almost all ALU are designed to perform the four basic arthematic operations and logical operations or comparisons such as, less than, equal to and greater than.

(4) CU:- A computer is control unit does not perform any actual processing of job but acts as the central nervous system for other components of the computer system. It manages and co-ordinates the operations of all other components.

(5) CPU:- CPU are those types of unit which are uses for processing the input data. Either you can input or output data process units are involve. It is also known as processing unit.

The CPU is the brain of a computer. Its primary function is to execute programs. The CPU of a small computer is a microprocessor. It performs all major calculations and comparisons and also activates and controls the operations of other units of the computer system.

(6) Storage Unit :- Data and instructions entered into a computer system through input units have to be stored inside the computer before actual processing starts. The function of memory is to store information. There are three types of storage unit :-

a. Primary memory- Primary memory of a computer system also known a main memory. It is a volatile and it loses the information in it as soon as the computer system switch off or reset. It is very expensive primary memory of modern computer system is made up of semiconductor device. The main memory is fast memory of the computer system.

b. Secondary storage- Secondary storage of computer system also known as auxiliary memory. It take care of the limitations of primary memory. A computer system uses secondary memory to store operating system, files, compiler, assembler, data and application program of these job on which the computer system. Secondary memory is much cheaper than primary memory. The CPU does not read information directly from the secondary memory.

c. Cache memory- Cache memory is a high speed memory built in the processor and used between the main memory and the processor.

Q.N 4. What is Printer? Discuss the different type of printer.

Ans:- *Printer are the most popular hard copy output devices used today. They provide information in a permanent readable form they produce printed outputs of result, programs and data. There are mainly three types of printer is as-*

(1)Character printer:- A character printer prints only one character of the text at a time. They are low speed printers with their speed ranging from 30-600 character per second.

(2)Line printer:- A line printer prints only one line of the text at a time.

(3)Page printer:- A page printer prints one page of the text at a time.

Character printers are divided into two parts-

(1) Impact printers:- Impact printer use an electromechanical mechanism that causes hammers or pins to strike against a ribbon and paper to print the text. Two types of impact character printers are available Dot matrix printers and letter quality printers.

(2) Non-impact printers:- Non-impact printers do not use any electromechanical printing head to strike against ribbon and paper. They use thermal , chemical, laser beam or inkjet technology for printing the text. Usually a non-impact type printer is faster than an impact type printer. The disadvantages of non impact type printer is that they produce only a single copy of the text whereas impact printers can produce multiple copies of the text.

Dot matrix printer :- A character is printed by printing the select number of dots from matrix of dots. The formation of character has been show using 7-dots rows and 5-dots columns. This pattern is called 5*7dot matrix. The print head contains a vertical array of 7,9,14,18 or even 24 pins. A character is printed in a number of steps. One dot columns are printed by the print head at a time as it moves across a line. A dot matrix printer is faster than a letter quality printer. Its printing speed lies in the range of 30-600 character per second. They are cheap in term of both initial cost and cost of operation.

Inkjet character printer:- An inkjet printer uses dot matrix approach to print text and graphics. Inkjet printer are character printers that from character and images by spraying small drop of ink on a paper. One type of an earlier inkjet printer model uses one or more nozzles in the print. The print head of an inkjet printer contains up to 64 tiny nozzles. The print head that emit a steady stream of tiny ink drops. The speed of inkjet printers lines in the range of 40-300 characters per second.

Drum Printer:-Drum printers are line printers that print an entire line at a time. The drum of a drum printer is expensive and we cannot change it often. Hence, drum printers can print a preodefined style embossed on the drum. Drum printer are impact printers because they print by hammering on a paper and inked ribbon against characters embossed on the drum. Its printing speed are in the range of 300 to 2000 lines per minute.

Chain/Band printer:-Chain/Band printer are line printers that prints one line at a time. Chain/Band printer are impact printers because they print by hammering on a paper and inked ribbon against characters embossed on the Chain/Band. Hence, they enable production of multiple copies by using carbon paper or its equivalent. Due to impact printing Chain Band printer are noisy in operation and often use a cover to reduce noise level. Printing speeds of Chain/Band printers are in the range of 400-3000 line per minute.

Laser printers:-Laser printers are page printers that print one page at a time. It is a non impact printers. Laser printers produce printed output as patterns generated by the laser beam, they can print any shape of characters that a program can describe. They use laser beam to produce an image of the page containing text/graphics on a photosensitive drum. The laser printer speed are faster I printing speed than other printers discussed earlier. Low speed laser printers can print 4 to 12 pages per minutes. High speed laser printers are also available owing to their printing quality and printing speed laser printers are more expensive than other types of printers.

Q.N 5. Discuss the various application of computer?

Ans:- *Computers have their application or utility everywhere. We find their applications in almost every sphere of life particularly fields where computations are required to be done at a very fast speed and where data is so complicated that the human brain fields in difficult to cope up with.*

As you must be aware computer now a day are being used almost in every department to do the work at a greater speed and accurency. They can keep the record of all the employ and prepare their pay bill in a minute every mouth.

Some various application of computer:-

In Tourism:- Hotel uses computers to speed up billing and checkout the availability of rooms. So is the case with railways and airline reservations for booking tickets. Architects can display their scale models on a computer and study them from various angles and perspectives. Structural problems can now be solved quickly and accurately.

In Banks:- Banks also have started using computer extensively. Terminals are provided in the branch and the main computer is located centrally. This enables the branches to use the central computer system for information on things such as current balance deposits, overdrafts, interest changes etc. MICR encoded checks can be read and sorted out with a speed of 3000 checks per minute by computer as compared to hours taken by manual sorting.

In Industry:- Computers are finding their greatest use in the factories and industries of all kinds. They have taken over the work ranging from monotonous and risky jobs like welding to highly complex job like such as process control. It more over quality control test and the manufacturing of products which require a lot of refinement are done with the help of computers. Not only this thermal power plants oil refineries and chemical industries fully depend on computerized control systems because in such industry the lag between two major events may be just a fraction of a second.

In Transporration:- Today computer have made it possible for pland to land in foggy and stormy atmosphere also. The aircraft has a variety of sensors which measure the plan"S altitude position, speed, height and direction. Computer use all this information to keep the plane flying in the right direction. Infact the auto pilot feature has made the work of pilot much easy.

In Education:- Computers have provide to be excellent teachers. They can process the knowledge given to them by the experts and teach you with all the patience in the word. You

may like to repeat a lesson hundred times, go aheade, you may get tired but the computer will keep on teaching you. Computer based instructions and computer aided learning are common tools used for teaching. Computer based encyclopedia such as Britannica provided you enormous amount of information on anything.

In Entertainment:- Computers are also great entertainment many computer games are available which are like the traditional games like chess, football, cricket etc. dungeons and dragons provide the opportunity to test your memory and ability to think. Other games like Braino and Volcano test your knowledge.

Q.N 6 What are the different type of computers? Discuss the advantages of using Minicomputer over Microcomputer.

Ans:- *Computers is mainly four types:-*

(1) Micro computer

(2)Mini computer

(3) Mainframe computer

(4) Super computer

(1) Micro computer:- The smallest among them are micro computer. They are small in physical size. Most of them are desktop system however notebook micro computers that can fit into a briefcase are also available. They economical in terms of costs and are wiedly in use personal computer fall into this category.

These computers can be used for small data processing job of bigger companies or serve as complete computer system for small firms pc can also be connected with bigger computers and be used as an intelligent regarding their applications in business are included in the last section of this book.

(2)Minicomputer:- The minicomputer are very popular among medium size companies. Minicomputers offer facilities for faster processing of voluminous information. Minicomputer of cause bigger than micro computers but smaller than most of their elders called mainframes.

They cost some where b/w R.S 5 to 15 lac depending upon the configuration. However these prices are only indicative and are subject to substantial changes aver time. The minicomputer like VAX 8000 from digital equipment corporation series and AS/400 series from IBM have been quite popular in computer aided manufacturing as well as departmental computers.

They have also been used extensively as gateways b/w mainframe networks and as main servers for local area networks lf microcomputers.

(3)Mainframe computer:- Mainframe computer are bigger computers capable of handling data processing needs of say head office of bank or a big multination company or may be a public utility office. Mainframe computer systems have larger storage and the speed of processing is also very high.

They also offer the advantages of wider choice with regards to up gradation of the system in future. They offer features such as parallel processing. The parallel processing involves combining a large number of processors that break down an application into many separate port in order to enhance processing speed. The mainframe popularity has fallen due to emergence of microcomputer and popularity of client server technology. Super computer on the higher end of mainframe computer. They offer tremendous computing power and are being used priemarly in scientific research and forecasting.

(4) Super computer:- Super computer have a speed of b/w 100 to 900 MIPS. They are quit expensive and cost some where around 10-30 million doller depending upon the configuration. The other competitors of crazy super computer are machines from NEC of Japan. Its main features- (a) The primary storage capacity (b) Speed of processing data (c) Ability to support different i/o and mass storage devices such as printer type drives.

These features are inter dependent and faster computers will ordinary have large memory size and small have facilities to use or large number of sophisticated i/o device.

Advantages of minicomputer over microcomputer:-

One difference b/w microcomputers and minicomputers is their relative size, a minicomputer would describe a server class machine, meaning a computer with possibly several processors working intandem, while a microcomputer would describe your average desktop or laptop with a single processor.

Another possible point of comparison would be performance. A minicomputer could be describe a very high end system capable of doing highly specific and complex tasks whiles, a microcomputer would describe your basic calculator or pc, which would probably gag at the thought if doing the task of a minicomputer, but would be able to process several high level language and turn them into machine language for execution, unlike a majority of minicomputer which is created such that there is a very tight integration b/w hardware and software.

Q.N 7 Explain the storage organization of magnetic tape. What its advantages and disadvantages?

Ans:- Magnetic tape is commonly used to record and store computer and video data. Before the CD and DVD came along, magnetic tape was widely used by consumers. Today magnetic tape is mainly used by large companies and organizations that require massive data storage. We must amount a magnetic tape on a tape drive before we can use it for R/W of information. A tape controller controls a tape drive connected. It interprets the commands for operating the tape drive.

The advantages of magnetic tape:-

(1) Storage capacity of magnetic tape storage is virtually unlimited because as many tapes as required can be used for storing large data sets.

(2) Data collection can go on without interruption overnight or for an entire weekend.

(3) Magnetic tape can be recorded over and reused repeatedly.

(4) Large amounts of information is storing.

(5) Magnetic tape is inexpensive and budget friendly.

(6) A single magnetic tape cartridge can store large amounts of data up to 1TB. Large cartridges are used by big companies and institution that require continuous recording and backup of data.

(7) Tape reels and cartridges are easy to handle and store because they are compact and light in weight. They enable storage of huge amount of data in a small storage space.

The disadvantages of magnetic tape:-

(1) Magnetic tapes are not suitable for storage of those data that we need to access randomly because of their sequential access nature.

(2) Special equipment must be purchased at a set up to recording and storing data. The data can only be read on the special equipment.

(3) If the data is stored near a strong magnetic fields or a large speaker, the tape can be damaged.

(4) Magnetic tape has a lifespan of 15 Years. Data quality gradually erodes over time.

(5) It necessary to keep older tape equipment just to be able to read the stored data.

(6) We must label magnetic tapes properly and logically to remember, what data is on which tape and to prevent erasure of useful data by mistake.

Q.N 8 What do you mean by hard copy and soft copy?

Ans:- Hard Copy – The term hard copy itself describes something touchable, physical and tangible and copy means the result of production or information. So the collective meaning of hard copy is production of any record or information in a physical object or form. Printed book, newspaper, magazines and document, etc all are kind of hard copy. So hard copy generally accepted as the authentic medium of information.

Soft Copy- The term soft copy means a data or information which can be stored in any kind of digital memory. It is an intangible form of preserving the material. You can see the record but can cot touchable it. Monitors or other display screens are used to see the soft copy result. Soft copy is a latest form of preserving the material and information in a digital form, with the invention of computer concept of soft copy came into existence.

Difference:-

(1) Producing soft copy is less expensive than producing hard copy. Compiling a single book in hard format will be more expensive than producing an ebook on any word processing software.

(2) Soft copy has no weight. Weight is just of the media on which it is stored. Hard copy carries some weight having bulk of pages of hard copy means large amount of weight as well.

(3) Hard copy cannot be preserved for a long time chances of termite becomes even more high in case of old files and documents.

(4) Soft copy requires no physical space as compares to hard copy required a special record from or portion of cabinet.

(5) Hard copy is beneficial in the sense that it is touchable and can be read out easily. While soft copy some time requires special software to read and access.

(6) Soft copy is beneficial for environment as it cuts the cost of papers, ink and printing. Hard copy requires all this material to get the shape.

(7) Although soft copy is becoming more popular than hard copy but sill hard copy is used as a medium of evidence in case of legal disputes.

(8) Manipulating with the material of soft copy is easy than that of hard copy.

(9) Soft copy is a digital and electronic form of material, while hard copy is a physical and tangible form of material.

(10) Hard copy is printed while soft copy is an unpaired digital document.

(11) A soft copy can be shared with other by way to transferring via USB external disk drive or attaching via e-mail or by way of cloud sharing. Hard copy can be shared with others by the way of getting another photocopy.

(12) You can make as many copies of soft copy as you can. This requires simple copy and paste and requires to additional cost. A copy of hard copy means another print out of the same document that requires additional cost.

(13) Hard copy requires to extra gadgets for reading purpose except the paper on which it is printed while soft copy cannot be read out without any word processing, database or presentation program subject to the format of files or data.

(14) Parceling hare copy to another country requires time and cost while soft copy can be shared easily by simply attach with e-mail or through cloud sharing.

(15) Although digital signature system for soft copy has been introducing but still the signatures on hard copy are accepted as authentic.

Q.N 9 Difference b/w uniprocessor and multiprocessor.

Ans:- *Uniprocessor:-*

(1) If a system contains only one process for processing that it is called uniprocessor or single processor system.

(2) Single processor users multiple controls that are designed to handle special task and can execute limited instruction set.

(3) Though put of single processor system is less than multiprocessor system, because each and every task is performed by the same processor.

(4) Single processor system cost more because each processor requires separate resources i.e mass storage.

(5) It is easy to design single processor system.

(6) Less reliable because failure in one processor will result in failure of entire system.

 Multiprocessor:-

(1) If a system contains two or more than two processors for processing than it is called multiprocessor system.

(2) In multiprocessor system two types of approaches are used (a) Symmetric multiprocessing (b) Asymmetric multiprocessing.

(3) Thought of multiprocessor system is greater than single processor system.

(4) Multiprocessor system cost less than equivalent multiple single processor systems because they uses same resources on sharing base.

(5) It is difficult to design multiprocessor system because synchronization must be maintained b/w processor otherwise it may result in overloading of one processor and another idle on same time.

(6) More reliable because failure of one processor dose not halt the entire system, but only speed will be slow down.

Q.N 10 Difference b/w compute and human brain.

Ans:-

(1) Brain are analogue, but computer are digital.

(2) Computer access information in memory by polling a memory address brains search memory using cues.

(3) The brain is a massively parallel machine, computers are modular and serial.

(4) Processing speed is not fixed in the brain, there is no system clock.

(5) Short term memory is not like RAM.

(6) Computers are hardware that runs software there is no mind software sunning on brain.

(7) Synapses are far more complex than computer logical gates.

(8) Computers use processors and memory for different functions, there is no such distinction in the brain.

(9) Computers are designed, built and are of fixed architecture, the brain is self organizing system.

(10) Computers have no body, brain do.

(11) Unlike computers processing and memory are performed by the same components in the brain.

(12) Computer relay on electricity, where as human rely on food.

(13) Computers have the potential to increase the speed of their impulse transmission exponentially as opposite to humans.

(14) Computers are good at computation and logic, while humans are exemplary in reasoning and imagination.

Q.N 11 Explain the RISC and CISC architecture?

Ans:- Central processing unit architecture operates the capacity to work from instruction set architecture to where it was designed. The architecture designs of CPU are RISC and CISC. Apple hardware is reduced instruction set of computer (RISC). Hardware of intel is termed as complex instruction set computer (CISC).

RISC architecture:-RICS is stands for Reduced Instruction Set Computer. It is used in portable devices sue to its power efficiency. RISC does the opposite reducing the cycles per instruction at the cost of the number lf instructions per program pipelining is one of the unique features of RISC. It is performed by overlapping the execution of several instructions in a pipeline fashion. It has a high performance advantage over CISC. RISC processors take simple instructions and are executed with is a clock cycle. The aim of employing RISC design is to increase the computing speed by the reducing the execution time lf instructions. It is seen that usually 80% of a computer instruction are used to less frequently for 20% of the time. Usually a RISC machin is 5to 10 times faster than the CISC machine.

Advantages of RISC:-(1) RISC architecture has a set of instruction so high level language compilers can produce more efficient code.

(2) It allows freedom of using the space on microprocessors because of its simplicity.

(3) Many RISC processors use the resisters for palling arguments and holding the local variables.

(4) RISC functions use only a few parameters, and the RISC processors cannot use the call instructions and therefore use a fixed length instruction which is easy to pipeline.

(5) The speed of the operation can be maximized and the execution time can be minimized.

(6) RISC helps and supports few simple data type and synthesize complex data type.

(7) RISC utilizes simple addressing mode and fixed length instruction for pipelining.

(8) RISC permits any resister to use in any context and in which one cycle execution time.

(9) Te amount of work that a computer can perform is reduced by separating load and store instruction.

(10) In RISC pipelining is easy as the execution of all instruction will be dome in a uniform interval of time. In which more RAM is required to store assembly level instruction.

Disadvantages:- (1) Mostly the performance of the RISC processors depends on the programmer or compiler as the knowledge if the compiler plays a vital role while changing the CISC code to a RISC code.

(2) While rearranging the CISC code termed as a code expansion, will increase the size and the quality of this code expansion will again depend on the compiler and also on the machines instruction set.

(3) The first level cache of the RISC processors is also a disadvantage of the RISC in which these processors have large memory caches on the chip itself for feeding the instruction, they require very fast memory system.

CISC architecture:-

CISC is stands for complex set instructions computer. The CISC machine use microprogramming with the help for microprogram highly complex instruction set is generated complex instruction lead to a number lf complication in both hardware and software design. In scientific computation if there are more floating point operations CISC machines are likely to give better performance. CISC machines are more complex and less efficient.

The CISC approach attempts to minimize the number of instruction per program, sacrificing the number of cycles per instruction. Computer based on the CISC architecture are designed to decrease the memory cost. Because the large programs need more storage thus increasing the memory cost and large memory because more expensive.

Advantages:- (1) CISC uses minimum possible instructions by implementing hardware and executes operations.

(2) Microprogramming is easy assembly language to implement and less expensive than hard wiring a control unit.

(3) The ease of micro coding new instructions allowed design to make CISC machines upwardly compatible.

(4) As each instruction become more accomplished fewer instruction could be used to implement a given task.

Disadvantages:- (1) The performance of the machine slow down due to the amount of clock time taken by different instructions will be dissimilar.

(2) Only 20% of the existing instruction is used in a typical programming event even though there are various specialized instructions in reality which are not even use frequently.

(3) The conditional codes are set by the CISC instructions as a side effect of each instruction which takes time for this setting and as the subsequent instruction changes the condition code bit, so compiler has to examine the condition code bits before this happens.

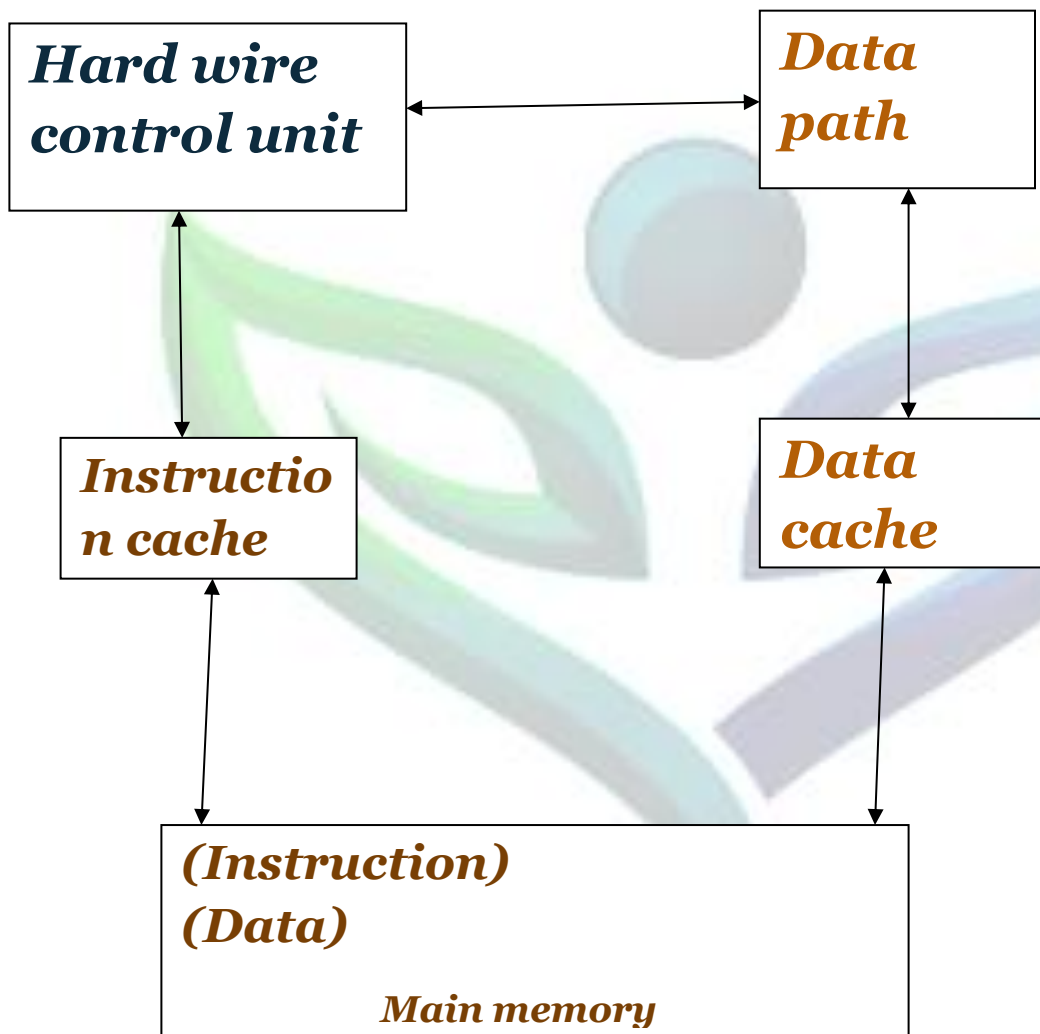| Hard wire control unit		Data path

Instruction cache		Data cache

(Instruction) (Data)
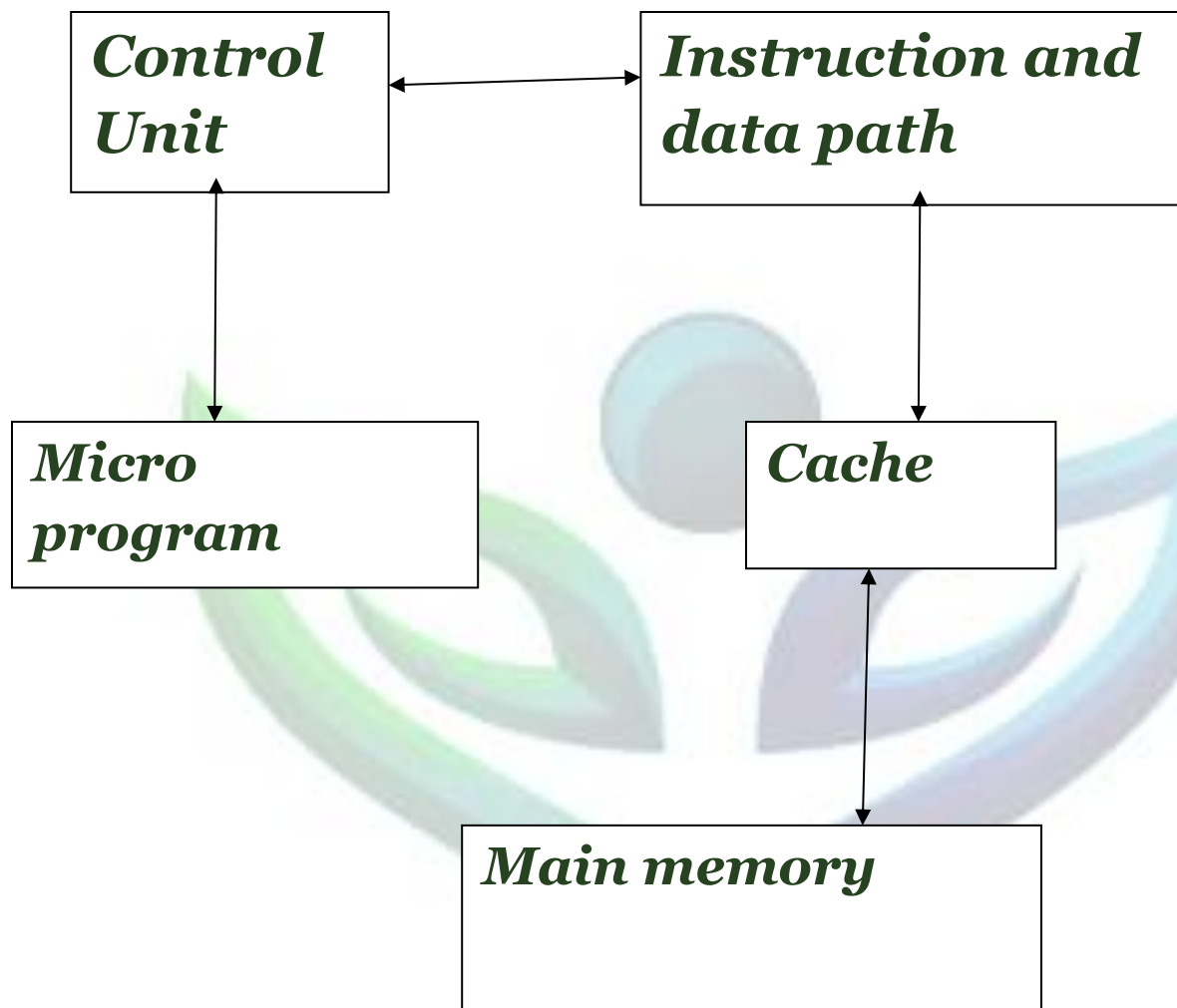
Main memory

Fig:- RISC Architecture

Fig :- CISC architecture

Q.N 12 Explain 8085 or 8086 architecture of intel processor?

Ans:- *8085 Intel processor-*

8085 is an 8-bit processor created in 1997 and it has 8-bit data bus. It is manufactured using NMOS technology and this processor IC consists of about 6200 transistors. 8085 has a 16-bit address bus and is able to access 2^6=64KB memory locations. In which number of flags of 5. Pipelining concepts are not used in 8085. Instruction queue does not exist in 8085 and sequentially executed instructions. In which only four types of addressing modes are available. 8085 has less instruction than 8086. Direct multiplication divide string byte block movements and loop instructions are not available in 8085. Its cost is low 8085 can address 2^8=256 I/O statement.

8086 Intel Processor:-

8086 is a 16-bit processor developed in 1987 and it has a 16-bit data bus. It is fabricated based on HMOS technology and this processor IC consists of approximately 29000

transistors. It has a 20-bit address bus and is able to access 2^20= 1MB memory locations. In which number of flags are 9. 8086 Intel processor is uses concept of pipelining 8086 has a 6 byte instructions queue in BIU. There are four segment resisters CS, DE, ES, SS in 8086. In which eight types of addressing models are available 8086 has more instructions than 8085direct multiplication, divide, string byte block movement and loop instructions are available in 8085. 8086 is multiprocessing is always support because in which 16-bit data bus. It support integer, decimal and ASCII arthematic code and operates in two modes. In I/O can be access 2^16= 65536 statement. 8086 is a typical external hardware. Its cost is high and memory space is segmented.

Q.N 13 What do you mean by Language Translator? Discuss the difference between Compiler and Interpreter.

Ans:- *Language is the media in which we can write our program for special purpose with the help of certain command. A computer understands information composed of only 0 and 1. A program written in term of 0 and 1 is called a machine language program. A computer instructions are written in Binary codes. A machine language is a very difficult and very boring jobs. More ever it is error prone. To over come this difficulty a program can be written in alpha numeric symbol called 0 and 1. Meaningful symbol called numeric are used for this purpose. For ex- ADD is used for addition, SUB for subtraction, CMP for comparison etc. A language which is use memory numeric is called an assembly language. A program written in assembly language is called an assembly language.*

When a program is written in a language other than machine language. The computer will not understand this, therefore a program written in other language must be translated into machine language before it is executed. The task of translation is done by software. A program which translate an assembly language program into a machine language program is called an assembler.

A language in which each statement or an assembly language to directly a single machine code is known as a low level language. Each memory numeric of an assembly language has a unique machine code. An assembly language is a low level language. A machine language as also a low level language. An assembly language depends on the internal architecture a processor. Each processor has its own assembly language. An assembly language of one processor cannot be used for another processor. in other words it is not portable.

A computer can execute only machine language programs directly. We must convert a high level language program into its equivalent machine language program before , we can execute it on a computer. We do not translation with the help of a translator program called compiler.

A program which translate a high level language program into a machine language is called a compiler. An interpreter is also a program which translate a high level language program. it reads onestatement at a time translate it into machine codes execute it and then goes to the next statements of the program on the other hand a compiler reads on entire

program at once and then translate it. A compiler is faster and more powerful than an interpreter. A compiler is a larger program and occupies more memory space.

So, we can say that compiler and interpreter both are known as language translator which translate high level to low level and low level to high level, but both programs there work differently . it means in comparison of interpreter a compiler can perform task quickly. But in error debugging is easier by the interpreter comparison of an compiler. Compiler reads whole program at a time while interpreter reads line by line. An interpreter is a smaller program as compaired to the compiler. Interpreter occupies less memory space and used in smaller system which has limited memory space in comparison of compiler.

Q.N 14 What is BASIC ? Discuss the following commands:-

(1) edit (2) delete (3) save (4) kill (5) system (6) swap

Ans:- BASIC is stands for Beginner All-Purpose Symbolic Instruction Code. It was introduce in Prof. John Kemeny and Thomas Kurtz developed in 1964 at Darmouth college in the united states. It is a very simple and easy programming language. Its main purpose to learning programming for schooling students. It should be interactive language permiting direct communication between the user and computer during the preparation and use of programs. It must be easy for non science students to learn and use the language.

When personal computer were introduced, BASIC was the first High level language to be implemented on them. Today BASIC is available in almost all PC and even in some pocket calculator. This fact makes it one of the most widely installed computer language in the world.

Through simple and easy to learn BASIC is quite flexible and reasonable powerful programmers can use it for programming both business and scientific applications. Users of BASIC range from school students of scientists, engineers, and business managers. It is also to teach programming concepts to beginners. They designed it with very few statements and grammatical rules so that beginner programmers could easily learn and use it. BASIC language compilers are also available for this system.

Command of BASIC:-

(1) edit :- This BASIC command allow you to display a line no. for the purpose of editing. The general syntax of this command is as-

edit line no.

for ex-   edit 100

This syntax display the contains of 100th line for the purpose of edit and we can edit this line of the editing save them by using F4 button.

(2) delete:- This BASIC command is allow you to delete any program lines. It has a features you can delete any particular line or a group of line. Its syntax is as :-

> delete line no.

for ex:-   delete 100 :- line 100 is erase

> delete 60-80 :- line 60-80 are erase

> delete -30 :- All lines up to including 30 are erase

> delete 50- :- Will delete lines from up to the end

(3) Save :- This command is used to save a BASIC program file on to the disk. The program can be stored on the disk only under a file name. For example:-

> Save "Gaurav.bas"

This will save the program under the file name Gaurav.bas.

(4) Kill:- This command is allow you to any particular file for permanently file. This command should be followed with the file name include with in the quots.

> Kill "Gaurav.bas"

> Kill "*.bas"

> Kill "*.*"

First syntax delete any particular file.

Second syntax delete a group of file.

While, third syntax delete all file from the current working directory.

(5) System:-This command is used to return the control to DOS to BASIC. All open files are closed by the system command prior to the return to the DOS. For example:-

> System

And when you press the enter button.

(6) Swap:- This BASIC command is used to exchange value between two variable. For example:-

> 10 cls

> 20 A$= "GAURAV"

> 30 B$= "MAHAK"

40 PRINT A$, B$

50   SWAP   A$,   B$
60 PRINT A$, B$

70 end

Run,   GAURAV   MAHAK

           MAHAK   GAURAV

Q.N 15. *What do you mean by Algorithm and Flowchart?*

Ans:- *Algorithm is nothing but it is a produced for solving any problem. As a computer cannot think on its own the programmers has to provides a method to solving a problem. After defining the problem the programmer writes the procudec how to solve the problem. The procudec must be written in a form of series of the step in a logical sequence. A precise statements of the procudec reduced the solving the problem is called an algorithem.*

It'S main characteristics:-

(1) Each instruction should be precies and unambiguous.

(2) Each instruction should be executed in a finite time.

(3) No instruction should be repeat infinitely. This ensures that the algorithm terminates.

(4) After execution the instructions the desired result are obtained.

For example:- If you want to prepare an algorithm to input name, roll, marks of five subjects calculate total and average marks and print them also the use the following step in algorithm:-

Step 1: Input name to n$

Step 2: Input roll to roll

Step 3: Input five marks to m1, m2, m3, m4, m5

Step 4: Total= m1+m2+m3+m4+m5

Step 5: Average= Total/5

Step 6: Clear the screen

Step 7: Print n$

Step 8: Print roll

Step 9: Print marks m1, m2, m3, m4, m5

Step 10: Print Total, Average
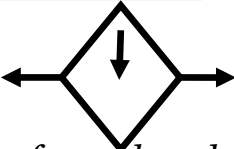
Step 11: end the program

Flowchart:-

A flowchart is a principle representation of an algorithm. Programmer often use it as a program planning tool for visually organizing a sequence of steps necessary to solve a problem using a computer. It uses boxes of different shape to denoted different types of instructions. Programmers write actual instruction with in these boxes using clear and concise statement. Directed solid lines connecting these boxes indicate flow of operations sequences in which to execute the instructions. The process of drawing a flowchart for an algorithm is known as flowcharting. It is a very useful during the testing of the program and while incorporating further modifications in the program.

Flowcharts need only a few basic symbols to indicate necessary operations in algorithms. The basic flowchart symbols standardized by the American National Standered Instruction (ANSI). There function are describe below:-
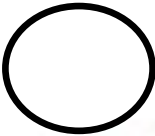
(1) *Terminal:- It indicates the beginning or end of the solution procedure.*

(2) *Processing:- It indicates arithmetic operation.*

(3) *Input/output:- It indicates an operations of reading or writing.*

(4) *Decision box:- It indicates a decision point. A test*
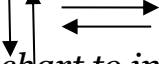
Is performed and the program flow continues on each outgoing path conditional to the answer to the test.
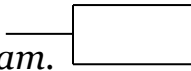
(5) *On page connector:- It indicates reference to*

another point in the flowchart on a same page.

(6) *Off page connector:- It indicates reference to another point in the flowchart on the difference page.*

(7) *Predefined process:- It indicates a number of processing steps whose detail concern at this point.*

(8) *Flow lines:- The different flowchart symbols shown above are connected by flowchart to indicate the sequence in which the different steps are performed.*

(9) *Annotation symbol:- It indicates a comment or a remark about the program.*

Normally it is used:-

```
            ┌──────────┐
            (   sta    )
            └────┬─────┘
         ┌───────┴────────┐
         │   Count=0      │
         └───────┬────────┘
                 │
      ┌─────────▶ ▼
     /      Read input data    /
    └────────────┬─────────────┘
          ┌──────┴───────┐
          │ Add marks of all │
          │ subject giving total │
          └──────┬───────┘
                 ▼
          ┌──────────────┐
          │ Percentage=  │
          │ total/10     │
          └──────┬───────┘
                 ▼
        /   Write output data   /
       └────────────┬───────────┘
          ┌─────────┴────────┐
          │  Add 1 to count  │
          └─────────┬────────┘
                    ▼
                  ◇ Is
                    count= ◇
                    │
                 ┌──┴───┐
                 ( Stop )
                 └──────┘
```
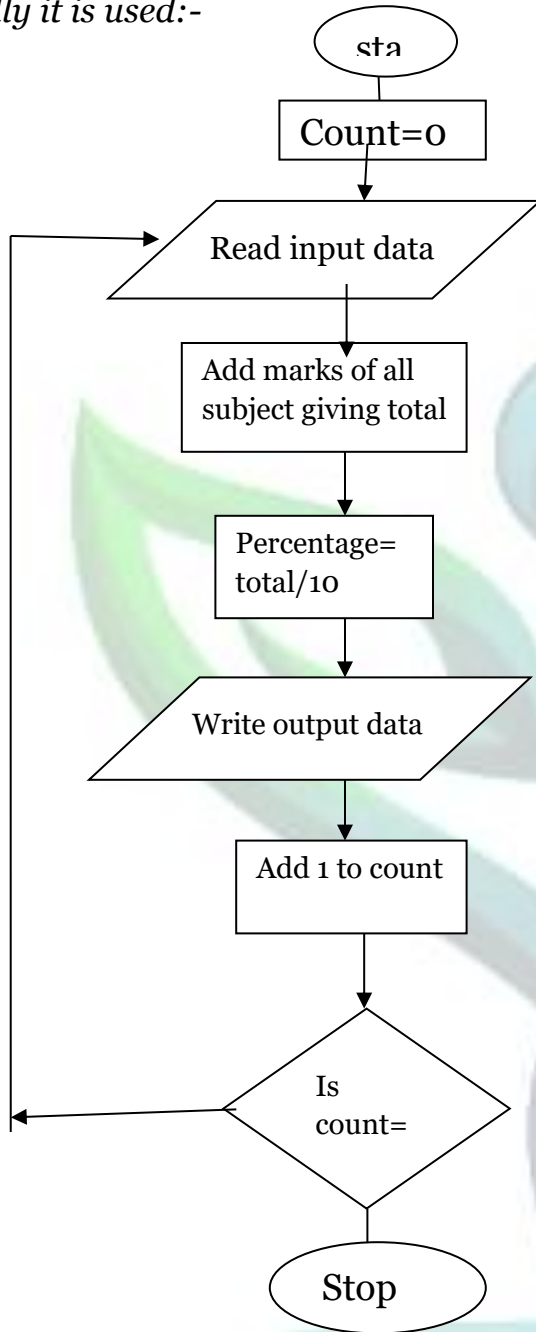
Q.N 16 What do you mean by Programming language? Discuss the some High Level Language.

Ans:- *Computer language or programming language is a language acceptable to a computer system and the process to writing instructions in such a language is called programming or coding.*

Language is a mean of communication.

It is divided into three parts:-

(1) Machine language

(2) Assembly language

(3) High level language

(1) Machine Language:- We can design a computer to make it understand many different computer language every computer understands only one language without using a translation program. This language is called machine language of the computer. Normally the machine language of a computer is written as strings of binary 1s and 0s. The circurity of a computer can recognize the machine language instruction immediately. It coverts them into electrical signal needed to executed them.

(2) Assembly language:- A language that allows use of letter and symbol instead of number for representing instructions and storage locations is called assembly language. A program written in assembly language. A program written in a assembly language is called assembly language program.

An assembly language program also enjoy the efficiency of its corresponding machine language program because there is one-to-one correspondence between the instruction of an assembly language program and its corresponding machine language program.

(3) High level language:-

*   A programming language whose structure is application oriented and is independent of the structure of any computer. It has enabled even non expert users to use computers to solve problems. High level language are easier to learn because they are very similar to the natural languages used by us in our day-to-day life. They are also easier to use because a programmer need not know, the internal details of a computer for programming in a high level language. In which lower efficiency and less flexibility.*

Some high level language is as:-

(1) FORTRAN:-

*   FORTRAN is stands for FORmula TRANlation. It is one of the oldest high level language. It was designed to solve scientific and engineering problem and is currently the most popular language among scientists and engineers John Backus and his team at IBM corporation developed it originally for its 704 computer in 1957.*

*   As FORTRAN language is oriented towards solving problems of a mathematical nature. It is an algebra based programming language. Any algebraic expression or mathematical relationship can be expressed easily as a FORTRAN instruction.*

*   That a FORTRAN program consists of a series of statements for input and output, calculation, do, continue, stop, end etc in the statements mean exactly what one would expect.*

(2) COBOL:-

COBOL is stands for Common Business Oriented Language. As its name implies it was designed for business data processing applications business data processapplications deal with strong, retrieving and processing corporate accounting information and they automate such functions as inventory control, billing and payroll.

COBOL Language was started in 1959 under the leadership of retired Navy Commodore and mathematician Grace Hopper. COBOL has the appearance and structure of business report written in English. Hence, a COBOL program consists of sentences, paragraphs, sections and division. The nature of COBOL program with the help of the simple COBOL program to complete and print the sum of given numbers.

(3) BASIC:-

BASIC is stands for Beginner All-purpose Symbolic Instruction Code. It is developed by Thomas E. Kertz in 1964 in Darmouth college in USA. Its main purpose to learn programming language for schooling students. It should be an interactive language permitting direct communication between the user and computer during the preparation and use of programs. It must be easy for non-science students to learn and use the language.

(4) PASCAL:-

This language is named after the famous seventeenth century French mathematician Blaise Pascal. Prof Nicklous Wirth of federal institute of Technology in Zurich, Switzerland first developed it in1971. His main object was to developed a language that allows beginners to learn good problem solving and programming practices. PASCAL is widely recognized as a language that encourages programmers to write well-structured, modular programs and instills good programming practices in them. Hence it is recognized as an educational language and is used to teach programming to beginners.

(5) C:-

Dennis Ritchie and Brian Kernighan developed C language in 1972 at AT & T Bell laboratories USA.

C soon because the language of choice of systems programmers who wanted to write portable system software and commercial compilers, spreadsheet, word processing and DBMS. Although conciseness and flexible use of pointers make C a very powerful language they also make C a difficult language to learn and comprehend. Beginner programmers often find it difficult to understand and use the flexibility offered by pointers in programming a solution. It supports user defined data type for greater flexibility for programming.

(6) C++:-

A new version of C named C++ was developed by Bjarne Stroustrup at Bell Labs in the early 1980. C language is incremented to its next level with C++. C++ contains all elements of the basic C language but has been expended to include numerous object oriented programming

features. The most essential part of support for OOP is the class/object mechanism i.e. the central feature of C++. C++ provide a collection of predefines classes along with the capability to define and use user defined classes.

C++ may be more difficult to learn then C because learning C++ language means learning everything about C and than learning object oriented design and its implementing OOP. It has become a very popular language and more C programmers are migrating to C++, Xo it is powerful language.

(7) Java :- Java is a language primarily used for internet based applications. Its development started at Sun Microsystems in 1991 by a team led by James Gosling. It is a first commercial application.

Before innovations of Java, internet application were static in nature because they offered visually static pages of information. The advent of Java and its use in internet applications enable the use of dynamic pages allowing the users to intract with what appears on the screen. Hence Java brought animation and interactivity to internet based application.

Use of jobs is not only limited to internet based applications. Programmers can also use it to develop anything from spreadsheets to embedded system such as in consumer electronic products like hand held device, telephone and VCRs.

(8) C#:-

C# (Read as C sharp) is an OOP language developed by Anders Hejlsberg and released by Microsoft. It is a part of Microsoft.NET technology initiative. It is standered by ECMA and ISO. Its design was motivated by following design goals.

(a) Simple, modern, general purpose, OOL.

(b) Support for software engineers principals such as strong type checking garbage collection band checking

(c) Easy development of components for distributed environment.

(d) Portability of source code and support for internationalization.

(e) Suitable for writing applications for hosted, embedded, sophisticated environments.

(f) Economical in memory and processing requirements.

C# is synatically and semantically very close to C++ and adopts various object oriented features from both C++and Java. C# compilers target the common language infrastructure(CLI) provided as runtime in .NET framework. The common language runtime(CLR) that implement the CLI provides an environment similar to application virtual machine. A programmer need not be concerned about target computer system but can write programs targeting the CLR. CLR also providers important service such as memory

management, exception handling and security. The class library and the CLR together compose the .NET framework.

(9) RPG:l-

RPG is stands for Report Program Generation. It is a language to generate output reports resulting from processing of common business application/ IBM launched it in 1961 for use on IBM 1401 computer.

RPG is considered different from other programming languages.

Q.N 17 Explain Volatile and non-Volatile memory?4

Ans:- Volatile storage is a type of computer memory that needs power to preserve stored data. If the computer is switched off, anything stored in the volatile memory is removed or deleted.

All random access memory (RAM) other than the CMOS RAM used in the BIOS is volatile. RAM is typically used as a primary storage or main memory in computer systems. Since the primary storage demands extreme speed, it mainly uses volatile memory. Due to the volatile nature of RAM, users often need to save their work to a nonvolatile permanent medium, such as a hard drive, in order to avoid data loss.

Volatile storage is also known as volatile memory or temporary memory.

There are two kinds of volatile RAM: dynamic and static. Even though both types need continuous electrical current for proper functioning, there are some important differences as well.

Dynamic RAM (DRAM) is very popular due to its cost effectiveness. If a computer has 1 gigabyte or 512 megabytes of RAM, the specification describes dynamic RAM (DRAM). DRAM stores each bit of information in a different capacitor within the integrated circuit. DRAM chips need just one single capacitor and one transistor to store each bit of information. This makes it space efficient and inexpensive.

The main advantage of static RAM (SRAM) is that it is much faster than dynamic RAM. Its disadvantage is its high price. SRAM does not need continuous electrical refreshes, but it still requires constant current to sustain the difference in voltage. In general, SRAM needs less power than DRAM, even though the power requirements differ based on the computer's clock speed. At moderate speeds SRAM usually requires just a fraction of the power used by DRAM. When idle, the power requirements of static RAM are low. Every single bit in a static RAM chip needs a cell of six transistors, whereas dynamic RAM requires only one capacitor and one transistor. As a result, SRAM is unable to accomplish the storage capabilities of the DRAM family.

SRAM is most commonly used in networking devices, like switches, routers, cable modems, etc., for buffering the transmitted information.

The physical structure and electronic properties of volatile memory makes it faster compared to electro-mechanical storage devices such as hard drives, which makes it an ideal candidate as the computer's main form of memory.

In terms of security, volatile memory is very secure since it does not retain any record at all after power is removed, so no data can be salvaged. However, this is a double-edged sword since all data is lost if there is power interruption.

Non-volatile memory is a type of computer memory that has the capability to hold saved data even if the power is turned off. Unlike volatile memory, NVM does not require its memory data to be periodically refreshed. It is commonly used for secondary storage or long-term consistent storage.

Non-volatile memory is highly popular among digital media; it is widely used in memory chips for USB memory sticks and digital cameras. Non-volatile memory eradicates the need for relatively slow types of secondary storage systems, including hard disks.

Non-volatile memory is also known as non-volatile storage.

Non-volatile data storage can be classified into two types:

Mechanically addressed systems

Electrically addressed systems

Mechanically addressed systems make use of a contact structure to write and read on a selected storage medium. The amount of data stored this way is much larger than what's possible in electrically addressed systems. A few examples of mechanically addressed systems are optical disks, hard disks, holographic memory and magnetic tapes.

Electrically addressed systems are categorized based on the write mechanism. They are costly but faster than mechanically addressed systems, which are affordable but slow. A few examples of electrically addressed systems are flash memory, FRAM and MRAM.

Q.N 18 Define Generation of Computer.

Ans:- Generation of Computer:-

1940 – 1956: First Generation – Vacuum Tubes

These early computers used vacuum tubes as circuitry and magnetic drums for memory. As a result they were enormous, literally taking up entire rooms and costing a fortune to run. These were inefficient materials which generated a lot of heat, sucked huge electricity and subsequently generated a lot of heat which caused ongoing breakdowns.

These first generation computers relied on 'machine language' (which is the most basic programming language that can be understood by computers). These computers were limited to solving one problem at a time. Input was based on punched cards and paper tape. Output came out on print-outs. The two notable machines of this era were the UNIVAC and ENIAC machines – the UNIVAC is the first every commercial computer which was purchased in 1951 by a business – the US Census Bureau.

1956 – 1963: Second Generation – Transistors

The replacement of vacuum tubes by transistors saw the advent of the second generation of computing. Although first invented in 1947, transistors weren't used significantly in computers until the end of the 1950s. They were a big improvement over the vacuum tube, despite still subjecting computers to damaging levels of heat. However they were hugely superior to the vacuum tubes, making computers smaller, faster, cheaper and less heavy on electricity use. They still relied on punched card for input/printouts.

The language evolved from cryptic binary language to symbolic ('assembly') languages. This meant programmers could create instructions in words. About the same time high level programming languages were being developed (early versions of COBOL and FORTRAN). Transistor-driven machines were the first computers to store instructions into their memories – moving from magnetic drum to magnetic core 'technology'. The early versions of these machines were developed for the atomic energy industry.

1964 – 1971: Third Generation – Integrated Circuits

By this phase, transistors were now being miniaturised and put on silicon chips (called semiconductors). This led to a massive increase in speed and efficiency of these machines. These were the first computers where users interacted using keyboards and monitors which interfaced with an operating system, a significant leap up from the punch cards and printouts. This enabled these machines to run several applications at once using a central program which functioned to monitor memory.

As a result of these advances which again made machines cheaper and smaller, a new mass market of users emerged during the '60s.

1972 – 2010: Fourth Generation – Microprocessors

This revolution can be summed in one word: Intel. The chip-maker developed the Intel 4004 chip in 1971, which positioned all computer components (CPU, memory, input/output controls) onto a single chip. What filled a room in the 1940s now fit in the palm of the hand. The Intel chip housed thousands of integrated circuits. The year 1981 saw the first ever computer (IBM) specifically designed for home use and 1984 saw the MacIntosh introduced by Apple. Microprocessors even moved beyond the realm of computers and into an increasing number of everyday products.

The increased power of these small computers meant they could be linked, creating networks. Which ultimately led to the development, birth and rapid evolution of the Internet. Other major advances during this period have been the Graphical user interface (GUI), the mouse and more recently the astounding advances in lap-top capability and hand-held devices.

2010- : Fifth Generation – Artificial Intelligence

Computer devices with artificial intelligence are still in development, but some of these technologies are beginning to emerge and be used such as voice recognition.

AI is a reality made possible by using parallel processing and superconductors. Leaning to the future, computers will be radically transformed again by quantum computation, molecular and nano technology.

The essence of fifth generation will be using these technologies to ultimately create machines which can process and respond to natural language, and have capability to learn and organise themselves.

Q.N 18 Write Short note on:-

(a)management information system

:- management information system is short for management information system or management information services. Management information system, or MIS, broadly refers to a computer-based system that provides managers with the tools to organize, evaluate and efficiently manage departments within an organization. In order to provide past, present and prediction information, a management information system can include software that helps in decision making, data resources such as databases, the hardware resources of a system, decision support systems, people management and project management applications, and any computerized processes that enable the department to run efficiently.

The role of the management information system (MIS) manager is to focus on the organization's information and technology systems. The MIS manager typically analyzes business problems and then designs and maintains computer applications to solve the organization's problems.

(b) E-mail:-

Short for electronic mail, email (or e-mail) is defined as the transmission of messages over communications networks. Typically the messages are notes entered from the keyboard or electronic files stored on disk. Most mainframes, minicomputers, and computer networks have an email system. Some electronic mail systems are confined to a single computer system or network, but others have gateways to other computer systems, enabling users to send electronic mail anywhere in the world. Companies that are fully computerized make extensive use of e-mail because it is fast, flexible, and reliable.

Each user of email is assigned a unique name for his email account. This name is known as E-mail address. Different users can send and receive messages according to the e-mail address.

E-mail is generally of the form username@domainname. For example, gauravkumargmail.com is an e-mail address where webmaster is username and tutorialspoint.com is domain name. The username and the domain name are separated by @ (at) symbol.

(c)External storage:-

External storage, in computing terms, refers to all of the addressable data that is not stored on a drive internal to the system. It can be used as a backup, to store achieved information or to transport data. External storage is not part of a computer's main memory or storage, hence it is called secondary or auxiliary storage.

External storage devices are commonly available in the form of flash drives, USB drives, CDs and DVDs. External storage is often used as a form of a backup or for transportation of data from one system to another. External storage allows the user to store information, especially data that is not used frequently, outside the computer's main memory without much additional cost, since the cost per bit of semiconductors is higher than any external storage device's price.

(d) super Computer and mainframe computer:-

A supercomputer is a type of computer that has the architecture, resources and components to achieve massive computing power. Today's supercomputers consists of tens of thousands of processors that are able to perform billions and trillions of calculations or computations per second.

Supercomputers are primarily are designed to be used in enterprises and organizations that require massive computing power. A supercomputer incorporates architectural and operational principles from parallel and grid processing, where a process is simultaneously executed on thousands of processors or is distributed among them. Although supercomputers houses thousands of processors and require substantial floor space, they contain most of the key components of a typical computer, including a processor(s), peripheral devices, connectors, an operating system and applications.

Mainframe Computer:- Mainframes are a type of computer that generally are known for their large size, amount of storage, processing power and high level of reliability. They are primarily used by large organizations for mission-critical applications requiring high volumes of data processing. In general, there are a few characteristics of mainframes that are common among all mainframe vendors: Nearly all mainframes have the ability to run (or host) multiple operating systems. Mainframes can add or hot swap system capacity without disruption. Mainframes are designed to handle very high volume input and output (I/O) and emphasize

throughput computing. A single mainframe can replace dozens or even hundreds of smaller servers.

(d) Batch Processing:-

Batch processing is the grouping together of several processing jobs to be executed one after another by a computer, without any user interaction. This is achieved by placing a list of the commands to start the required jobs into a BATCH FILE that can be executed as if it were a single program: hence batch processing is most often used in operating systems that have a COMMAND LINE user interface. Indeed, batch processing was the normal mode of working in the early days of mainframe computers, but modern personal computer applications typically require frequent user interaction, making them unsuitable for batch execution.

Running a batch file is one example of batch processing, but there are plenty of others. When you select several documents from the same application and print them all in one step (if the application allows you to do that), you are "batch printing," which is a form of batch processing. Or let's say that you want to send a whole group of files to someone else via your modem-if your communications software permits batch processing, you can choose all the files you want to send, and have the software send them off in a batch while you go to the kitchen for a snack. Batch processing is a good feature to have in most applications.

(e) Batch File and Cofiguration File:-

. A batch file is a text file that contains a sequence of commands for a computer operating system. It's called a batch file because it batches (bundles or packages) into a single file a set of commands that would otherwise have to be presented to the system interactively from a keyboard one at a time. A batch file is usually created for command sequences for which a user has a repeated need. Commonly needed batch files are often delivered as part of an operating system. You initiate the sequence of commands in the batch file by simply entering the name of the batch file on a command line.

Cofiguration File:- In computer science, configuration files provide the parameters and initial settings for the operating system and some computer applications. Configuration files are usually written in ASCII encoding and contain all necessary data about the specific application, computer, user or file. Configuration files can be used for a wide range of reasons, though they are mostly used by operating systems and applications to customize the environment. Configuration files are used for operation system settings, server processes or software applications. Configuration files are also known as config files.

ଔThe Endଔ

ABBREVIATIONS

Z MKGP Educational Group Z

ALGOL:- ALGOrithemic Language

BCPL:- Basic Combined Pogramming Language

ANSI:- American National Standards Institute

BCD:- Binary Coded Decimal

ASCII:- American Standards Code for Information Interchange

OCR:- Optical Character Reader/Recognition

MICR:- Magnetic Ink Character Reader

OMR:- Optical Mark Reader

LED:- Light Emitting Diode

LCD:- Liquid Crystal Display

CRT:- Cathode Ray Tube

LSI:- Large Scale of Integrated

DBMS:- Database management System

RDBMS:- Relational Database Management System

SQl:- Structured Query Language

COBOL:- Common Business Oriented Language

FORTRAN:- Formula translation

VB:- Visual Basic

BASIC:- Beginner All-purpose Symbolic Instruction Code

ENIAC:-Electronic Numerical Integrator And Calculator

UNIVAC:- Universal Automatic Computer

EDSAC:- Electronic Delay Storage Automatic Calculator

MIPS:- Micro Inch Per Second

BPS:- Bits Per Second

CPU:- Central Processing Unit

AI:- Artificial Intelligence

OS:- Operating System

CU:- Control Unit

ALU:- Arithmetic and Logical Unit

RAM:- Random Access Memory

ROM:- Read Only Memory

IR:- Internal Resister

CISC:- Complex Integrated Set Computer

RISC:- Reduced Integrated Set Computer

VDU:- Visual Display Unit

VLSI:- Very Large Scale of Integrated

POST:- Power on Self Test

EPROM:- Erasable Programmable Read Only Memory

CD-ROM:- Compact Disk Read Only Memory

EEPROM:- Erasable Programmable Read only Memory

EBCDIC:- External Binary Coded Decimal Interchange Code

BIOS:- Basic Input/Output System

CP\M:- Control Program for Microcomputer

UNICS:- Uniplax Information Computing Services

DDL:- Data Definition Language

PL\SQL:- Programming Language\Structured Query Language

DML:- Data Manipulation Language

DCL:- Data Control Language

UTP:- Unshielded Twisted Pair

STP:- Shielded Twisted Pair

OSI:- Open System Interconnection

ISP:- Internet Service Provider

CAD:- Computer Added Design/Drafting

TCP/IP:- Transfer control Protocol/ Internet Protocol

HTML:- Hyper Text Markup Language

HTTP:- Hyper Text Transfer Protocol

WAN:- Wide Area Network

MAN:- Metropolitan Area Network

LAN:- Local Area Network

PAN:- Personal Area Network

VAN:- Value Added Network

CAN:- Campus Area Network

SAN:- Social Area Network

OSS:- Open Source Software

MNP:-Microcom Network Protocol

ABC:- Atnasoff Berry Computer

ATM:- Automatic Teller Machine, Asynchronous Transfer Mode

BARC:- Bhabha Atomic Research Centre

BSNL:- Bharat Sanchar Nigam Limited

ISP:-Internet Service Provider

HP:- Hewlett Packard

VCR:- Video Cassette Recorder

WWW:- World Wide Web

WAP:- Wireless Application Protocol

VSNL:- Videsh Sanchar Nigam Limited

USB:- Universal Serial Bus

PDP:-Programmed Data Processor

NOS:- Network Operating System

PVM:- Parallel Virtual Machine

QIC:- Quarter Inch Cartridge

SD:- Secure Digital

SDK:- Software Development Kit

RPG:- Report Program Fenerator

LISP:- LISt Processing

JPEG:- Joint Photographic Experts Group

JSP:- Java Server Pages

GUI:- Graphical User Interface

GPRS:- General Packet Radio Service

MPEG:- Moving Picture Expert Group

MTNL:- Mahanagar Telephone Nigam Variable

ACM:- Association for Computing Machinery

A/D:- Analog to Digital

FLOPS:- Floating Point Operations Per Second

FMS:- File Management System

GSM:-Global System for Mobile communication

DDS:- Digital Data Storage

DNA:- Digital Network Architecture

MVT:- Multiprogramming with Variable Tasks

MSI:- Medium Scale Integrator

PDF:- Portable Document Format

NTSE:-National Television System Committee

TCO:-Total Cost of Ownership

SSI:- Small Scale Integrator

SDLC:- Software Development Life Cycle

CAD:- Computer Added Design

CAE:- Computer Added Engineering

CAM:- Computer Added Manufacturing

CASE:- Computer Added Software Engineer

C-DAC:- Centre for Development of Advanced Computing

CLR:- Common Language Runtime

CLI:- Common Language Infrastructure; Command Line Interface

CPPM:- Content Protection for Pre-recorded Media

CSCW:- Computer Supported Cooperative Working

ERNET:- Education and Research NETwork

EPIC:-Explicitly Parallel Instruction Computing

EDVAC:- Electronic Discrete Variable Automatic Computer

ECMA:- European Computer Manufacturers Association

ISDN:- Integrated Services Digital Network

INSAT:- Indian National Satellite

SUBHANKAR KUMAR SINHA

MKGP-

PUBLICATION