Computer Fundamental

C-   Common

O-   Oprating

M- Machine

P-   Particular

U- Used for

T-   Technical

E-   Educational &

R-   Research.

What is computer?

Computer is an electronic data processing machine which takes the input store the raw data process it with the help of Arithmetic logic unit (ALU) under the supervision of control unit (CU) and give us output according to the instructions. It's save for the future use. The word computer is derived from a Latin word (compute).

Functionalities of a computer

- ◦ Takes data as input.

◦ Stores the data/instructions in its memory and use them when require

◦ Processes the data and converts it into useful information.

◦ Generates the output

◦ Father of computer-**Charles babage(1826.)** ◦

Modern father of computer-**Allen turing**.

◦ **First digital or first modern computer- ENIAC** Input:-

This is a process of entering data and program into the computer system.

Storage:-

The process of saving data and instruction permanently is known as storage.

Processing:-

The task of performing operation like arithmetic and logical operation is called processing.

Output:-

This is the process of producing result from the data or the instructions provided by the input device. The output is of three types' soft copy and hard copy.
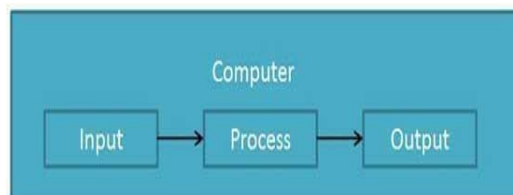
Soft Copy:-

These are the output which are being provided or displayed on screen for e.g. monitor or projector.

Hard Copy:-

These are the output which is being provided on through the printer as an output.

Voice Copy:-

These are the output which is being provided on through the Speaker as an output.

Characteristics of Computer

▶ Automatic (Plug and play)

▶ High Speed

▶ Accuracy

▶ Storage Capability

▶ Diligence

▶ Versatility

▶ Reliability

▶ Secrecy

Application of Computer

- Business

- Banking

- Education

- Health Care (Medical)

- Military (Defence)

- Entrainment

- Railway

- Communication

- Telecommunication

- Sports

- Agriculture

- In office

- In libraries

- Multimedia

- Government **Limitation of**

computer-

- No learning power

- No decision making

▸ No Self intelligence

▸ Interaction is needed

Invention	Inventor	Time	Characteristic
Abacus	China	16th century	First mechanical calculation device. Used for addition & subtraction operation.
Napier's Bones	John Napier (Scotland)	1617	Perform multiplication on numbers (0 to 9). Technology used for calculation called Rabdologia.
Sliderule	William Oughtred (Germany)	1622	It is also known as slipstick. It is used for primarily for multiplication & division.
Pascaline	Blaise Pascal (France)	1642	First mechanical adding machine.(8 digit)

Leibniz's calculating machine	Gottfried Leibnitz (Germany)	1671	It is also called Reckoning machine. The machine was capable of doing addition, subtraction, multiplication & division. It is now being used in speedometers of cars and bike.
Difference Engine	Charles Babbage (England)	1822	This machine is capable of calculating various algebraic functions accurately near 20 places after decimal.

Analytical Engine	Charles Babbage (England)	1834–71	First general purpose computer. It has 5 functions Input unit, Storage unit, mill, Control unit, Output unit. It was a decimal machine.
Tabulating Machine	Harman Hollerith (America)	1880	It was the first electromechanical machine, which was designed to process the data for census in 1890.
Mark–1	Howard Aiken (America)	1944	Main used in the war effort during world war–II
ENIAC (Electronic Numerical Integrator and Calculator)	JP Eckert and JW Mauchly (America)	1950	First electronic digital computer used for weather prediction and other scientific used.
EDSAC (Electronic Delay **Storage Automatic Calculator**	John Von Neumann (America)	1946–52	It was first computer which provided internal storage capacity. First computer program was run on machine.
EDVAC (Electronic Discrete Variable Automatic Computer.	John Von Neumann (America)	1950	This computer had almost 6000 vacuum tubes and 12000 diodes and consumed 56 kw of power. It was a binary computer and capable of storing programs.
UNIVAC (Universal Automatic computer.	JP Eckert and JW Mauchly (America)	1951	First general purpose electronic computer with large amount of input & output.

Computer Generations

▶ Generation in computer terminology is a change in technology a computer is/was being used.

First Generation (1946-1959)

The main features of first generation are:

▶ **Vacuum tube technology**

▶ Unreliable

▶ **Supported machine language only**

▶ Very costly

▶ Generated lot of heat

▶ Slow input and output devices

▶ Huge size

▶ Non-portable

▶ Consumed lot of electricity

▶ **Oprating system- Batch Oprating system.**

Some computers of this generation were:

▶ **ENIAC**   IBM-701

▶ EDVAC   IBM-650

▶ UNIVAC

Second Generation (1959-1965)

The main features of second generation are:

▶

Use of transistors

▶ Reliable in comparison to first generation computers

▶ Smaller size as compared to first generation computers

▶ Generated less heat as compared to first generation computers

▶ Consumed less electricity as compared to first generation computers

▶ Faster than first generation computers

▶ Supported machine and **assembly languages**

▶ Still very costly

▶ **Oprating system-time sharing**

Example of 2 Gen. Comp.

▶ IBM 1620   IBM 7094

▶ CDC 1604   CDC 3600

▶ UNIVAC 1108

▶

Third Generation (1965-1971)

The main features of third generation are:

- **IC (Integrated circuits(made of silicon) used**

- More reliable in comparison to previous two generations

- Smaller size

- Generated less heat

- Faster

- Lesser maintenance

  Still costly

- Consumed lesser electricity ▶ **Supported high-level**

  language ▶ Oprating system-Real time sharing.

- Some computers of this generation were:

- IBM-360 series   Honeywell-6000 series

- PDP(Personal Data Processor)   IBM-370/168

- TDC-316

Fourth Generation (1971-1980)

The main features of fourth generation are:

-
- **Very Large Scale Integrated (VLSI) circuits was used**

- Very cheap

- Portable and reliable

- Use of PC's

- Very small size

- Pipeline processing

- Concept of internet was introduced

- Great developments in the fields of networks

- Computers became easily available ▸ Oprating system-time sharing.

Some computers of this generation were:

- DEC 10   STAR 1000

- PDP 11   CRAY-1(Super Computer) CRAY-X-MP(Super Computer)

Fifth Generation (1980-till)

The main features of fifth generation are:

- **ULSI (Ultra Large Scale Integration) technology**

- Development of true artificial intelligence

- Development of Natural language processing

- Advancement in Parallel Processing

- Advancement in Superconductor technology

- ‣

- ‣ More user friendly interfaces with multimedia features

- ‣ Availability of very powerful and compact computers at cheaper rates

- ‣ **Used natural language.**

Some computer types of this generation are:

- ‣ Desktop   Laptop

- ‣ Notebook Ultra Book

- ‣ Chrome book

DEVICES Input Unit (Device)

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

List of some input device

- ▶ Keyboard

- ▶ Mouse

- ▶ Joy Stick

- ▶ Light pen

- ▶ Track Ball

- ▶ Scanner

- ▶ Camera or Webcam

- ▶ Microphone

- ▶ Magnetic Ink Card Reader(MICR)

- ▶ Optical Character Reader(OCR)

- ▶ Bar Code Reader

- ▶ Optical Mark Reader(OMR)

- ▶ Touch Screen

- ▶ Digitizer

Keyboard

```
                        USB-4Pin
              ┌─Wired<
keyboard      │       PS2-6Pin
              └─Wireless.
```
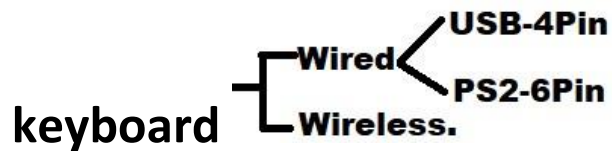
▸ Keyboard is the most common and very popular input device which helps in inputting data to the computer

▸ Keyboards are of two sizes 84 keys or 101/102 keys, but now keyboards with **104 keys or 108 keys** are also available for Windows and Internet. ▸ **Inventor-Christopher Latham sholes.(American inventor)**

▸ **The keyboard started being since 3rd Genration.**

▸ **Types of keys on keyboard.**

▸ **1-Alphanumeric keys**. **Indicate Letters & Numbers**. **Ex- A-Z ,0-9**

▸ **2-Function keys.**   **Ex-F1-F12**

▸ **3-Punctution keys.   Ex-Comma , Brackets({,[],())   Semicolon ;**

▸ **4-Special keys.   Control keys   Arrow keys   Caps lock   Delete keys**   **Mouse**

```
                         USB-4Pin
               ┌─Wired<
               │       PS2-6Pin
Mouse-         └─Wireless.
```

▸ Mouse is most popular **pointing device** to make selection on screen.

▸ Generally it has **two buttons** called left and right button and **a wheel** is present between the buttons. Mouse can be used to control the position of cursor on screen, but it cannot be used to enter text into the computer.

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- **Who is known as father of computer- Douglas Engelbart.**

  Or

- 4 Types of mouse-1-**Mechanical mouse.**

  2-Optical mouse.

  3-Wireless Mouse.

  4-Laser mouse.

Joystick

- Joystick is also a **pointing** device which is used to move cursor position on a monitor screen.

- The function of joystick is similar to that of a mouse. It is mainly used in **Computer Aided Designing** (CAD) and playing computer games.

Light Pen

- Light pen is a pointing device which is similar to a pen. It is used to select a displayed menu item or draw pictures on the monitor screen.

Track Ball

- Track ball is an input device that is mostly used in notebook or laptop computer, instead of a mouse.

Scanner

▶ Scanner is an input device which works more like a photocopy machine. It is used when some information is available on a paper and it is to be transferred to the hard disc of the computer for further manipulation.

Digitizer

▶ Digitizer is an input device which converts analog information into digital form. Digitizer can convert a signal from the television or camera into a series of numbers that could be stored in a computer. They can be used by the computer to create a picture of whatever the camera had been pointed at.

Microphone

Microphone is an input device to input sound that is then stored in digital form. The microphone is used for various applications like adding sound to a multimedia presentation or for mixing music.

Magnetic Ink Card Reader (MICR)

▶ MICR input device is generally used in banks because of a large number of cheques to be processed every day. The bank's code number and cheque number are printed on the cheques with a special type of ink that contains particles of magnetic material that are machine readable. This reading process is called Magnetic Ink Character Recognition (MICR).

Optical Character Reader (OCR)

▶ OCR is an input device used to read a printed text. OCR scans text optically character by character, converts them into a machine readable code and stores the text on the system memory.

Bar Code Readers

▶ Bar Code Reader is a device used for reading bar coded data (data in form of light and dark lines). Bar coded data is generally used in labelling goods, numbering the books etc.

Optical Mark Reader (OMR)

▶ OMR is a special type of optical scanner used to recognize the type of mark make by pen or pencil. It is used where one out of a few alternatives is to be selected and marked. It is specially used for checking the answer sheets of examinations having multiple choice questions.

Output Unit (Device)

Output devices return processed data that is information, back to the user. Some of the commonly used output devices are.

List of Some Output devices

▶ Monitors (visual display unit)

▶ Plotter

▶ Printer

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▶ Speaker ▶ Projector

Monitors

Monitors, commonly called as Visual Display Unit (VDU), are the main output device of a computer.

There are two kinds of viewing screen used for monitors.

▶ Cathode-Ray Tube (CRT)

▶ Flat- Panel Display

◦ LED(Light-Emitting Diodes)

◦ LCD(Liquid-Crystal Device)

◦ TFT(Thin Film Transistor)

◦ 3-D Monitor

Printers

Printer is an output device, which is used to print information on paper.

There are two types of printers

▶ Impact Printers ▶

Non-Impact Printers

Impact Printers

▶ The impact printers print the characters by striking them on the ribbon which is then pressed on the paper.

Characteristics of Impact Printer

- Very low consumable costs

- Very noisy

- Useful for bulk printing due to low cost

- There is physical contact with the paper to produce an image

These printers are of two types

- Character printers (Dot Matrix Printer(DMP) ,Daisy Wheel)

- Line printers (Drum Printer, Chain Printer)

Non-impact Printers

▸ Non-impact printers print the characters without using ribbon. These printers print a complete page at a time so they are also called as Page Printers.
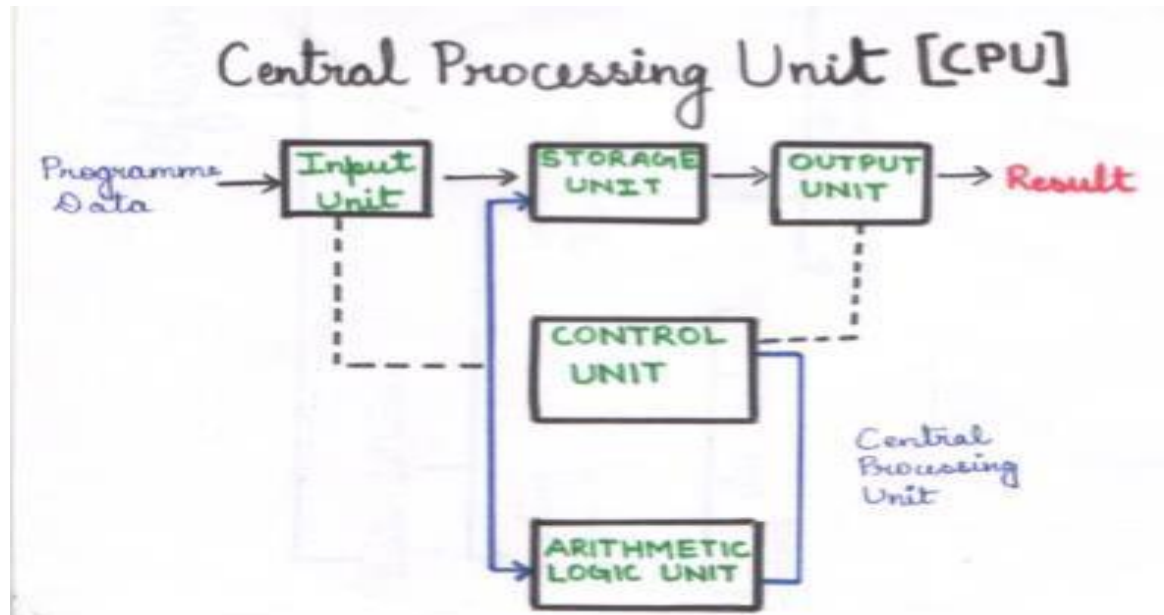
These printers are ▸

Laser Printers

▸ Inkjet Printers

▸ Thermal Printer

▸ Electromagnetic Printer

▸ Electrostatic Printer Characteristics of Non-impact Printers ◦ Faster than impact printers.

- They are not noisy.

- High quality.

- Support many fonts and different character size.

CPU–

Central Processing Unit

▸ **CPU is considered as the brain of the computer**.

▸ CPU performs all types of data processing operations.

▸ It stores data, intermediate results and instructions (program).

▸ It controls the operation of all parts of computer.

CPU itself has following three components.

○ **Memory or Storage Unit:**

○ **Control Unit**

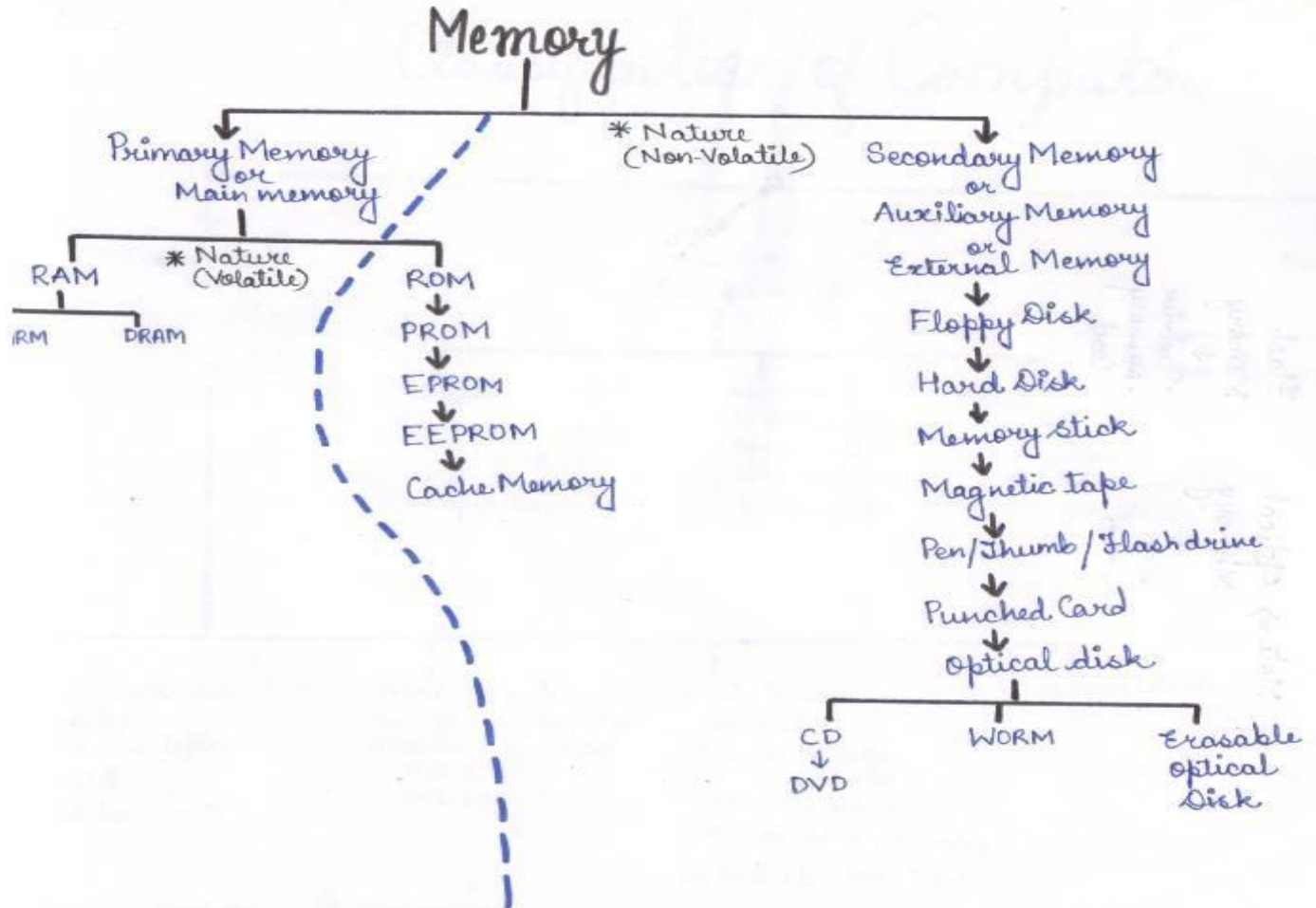○ **ALU(Arithmetic Logic Unit)**

Memory or Storage Unit:

▸ This unit can store instructions, data and intermediate results. This unit supplies information to the other units of the computer when needed.

Memory is primarily of two types

▸ **Primary Memory/Main Memory**

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▶ **Secondary Memory**

Memory

Primary Memory or Main memory

* Nature (Non-Volatile)

Secondary Memory or Auxiliary Memory or External Memory

RAM

* Nature (Volatile)

ROM
↓
PROM
↓
EPROM
↓
EEPROM
↓
Cache Memory

RM   DRAM

Floppy Disk
↓
Hard Disk
↓
Memory Stick
↓
Magnetic Tape
↓
Pen/Thumb/Flash drive
↓
Punched Card
↓
Optical disk

CD
↓
DVD

WORM

Erasable optical Disk

Primary Memory (Main Memory)

▶ Primary memory holds only those data and instructions on which computer is currently working. It has limited capacity and data is lost when power is switched off. It is generally made up of semiconductor device.

▶ It is divided into two subcategories RAM and ROM.

Random Access Memory

▶ RAM (Random Access Memory) is the internal memory of the CPU for storing data, program and program result. It is read/write memory which stores data until the machine is working. As soon as the machine is switched off, data is erased.

RAM is of two types

  ◦ Static RAM (SRAM)

  ◦ Dynamic RAM (DRAM)

Read Only Memory

▶ ROM stands for Read Only Memory. The memory from which we can only read but cannot write on it. This type of memory is non-volatile. The information is stored permanently in such memories during manufacture. A ROM, stores such instructions that are required to start a computer.

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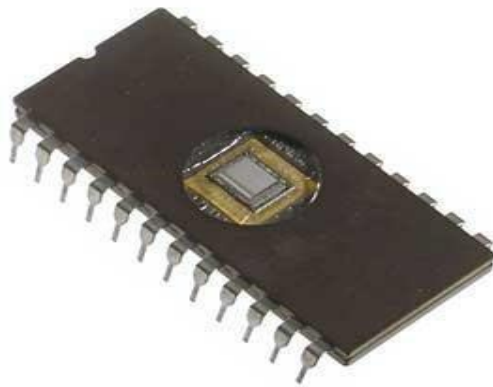
▶ Types of ROM

◦ PROM (Programmable Read only Memory)

◦ EPROM(Erasable and Programmable Read Only Memory)

◦ EEPROM(Electrically Erasable and Programmable Read Only Memory)

Characteristics of Main Memory

▶ These are semiconductor memories.

▶ It is known as main memory.

▶ Usually volatile memory.

▶ Data is lost in case power is switched off.

▶ It is working memory of the computer.

▶ Faster than secondary memories.

▶ A computer cannot run without primary memory.

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Secondary Memory

This type of memory is also known as external memory or nonvolatile. It is slower than main memory. These are used for storing data/Information permanently. CPU directly does not access these memories instead they are accessed via input-output routines. Contents of secondary memories are first transferred to main memory, and then

CPU can access it. There are many secondary storage devices available

- ‣ Magnetic tape
- ‣ Magnetic Disk
- ‣ Floppy Disk
- ‣ Hard Disks
- ‣ CD (Compact Disk)
- ‣ DVD (Digital Video Disk)
- ‣ USB Thumb Drive (or) Pen Drive (or) Flash Drive

Characteristic of Secondary Memory

- ‣ These are magnetic and optical memories.

- ‣ It is known as backup memory.

- ‣ It is non-volatile memory.

- ‣ Data is permanently stored even if power is switched off.

- ‣ It is used for storage of data in a computer.

- ‣ Computer may run without secondary memory.

- ‣ Slower than primary memories.

Cache Memory

▶ Cache memory is a very high speed semiconductor memory which can speed up CPU. It acts as a buffer between the CPU and main memory. It is used to hold those parts of data and program which are most frequently used by CPU

Advantages

- ◦ Cache memory is faster than main memory.

- ◦ It consumes less access time as compared to main memory.

- ◦ It stores the program that can be executed within a short period of time.

- ◦ It stores data for temporary use.

Control Unit

▶ This unit controls the operations of all parts of computer but does not carry out any actual data processing operations.

Functions of this unit are:

- ◦ It is responsible for controlling the transfer of data and instructions among other units of a computer.

- ◦ It manages and coordinates all the units of the computer.

- ◦ It obtains the instructions from the memory, interprets them, and directs the operation of the computer.

- ◦ It communicates with Input/output devices for transfer of data or results from storage.

- ◦ It does not process or store data.

ALU (Arithmetic Logic Unit)

▶ This unit consists of two subsections namely

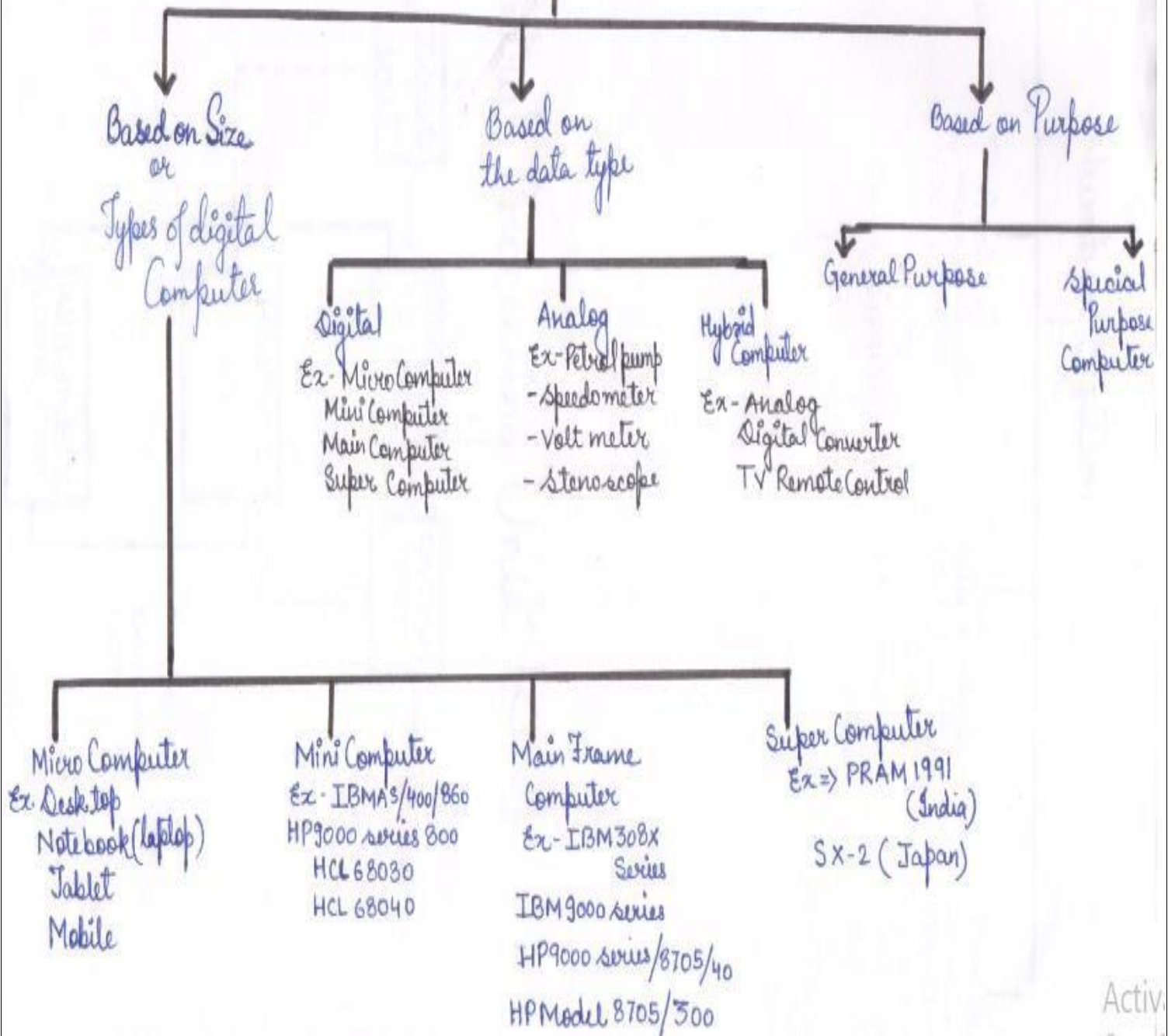◦ Arithmetic section

◦ Logic Section

Arithmetic Section

▶ Function of arithmetic section is to perform arithmetic operations like addition, subtraction, multiplication and division. All complex operations are done by making repetitive use of above operations.

Logic Section

▶ Function of logic section is to perform logic operations such as comparing, selecting, matching and merging of data.

Classification of Computer

Based on Size
or
Types of digital Computer

Based on the data type

Based on Purpose

Based on the data type:

Digital
Ex- Micro Computer
Mini Computer
Main Computer
Super Computer

Analog
Ex- Petrol pump
- Speedometer
- Volt meter
- Steno-scope

Hybrid Computer
Ex- Analog Digital Converter
TV Remote Control

Based on Purpose:

General Purpose

Special Purpose Computer

Types of digital Computer:

Micro Computer
Ex. Desk top
Notebook (laptop)
Tablet
Mobile

Mini Computer
Ex- IBMAS/400/860
HP9000 series 800
HCL 68030
HCL 68040

Main Frame Computer
Ex- IBM308X Series
IBM 9000 series
HP9000 series/8705/40
HP Model 8705/300

Super Computer
Ex => PRAM 1991 (India)
SX-2 (Japan)

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Classification of computers

Computers can be classification the basic of different factor, computer can be divided into these major classes based on the made of data representation .they are as follow

▶ Analog computer

The computer which uses the analog single or data represent the data are known analog computer.

▶ Digital computer

The computer which uses digital signal to represent the data is known as digital computer.

▶ Hybrid computer

The computers which are able to work with analog single as well as digital signal are known as hybrid computer.

On the basic of size

▶ Micro computers

A microcomputer is the smallest general- purpose processing system that can execute program instruction to perform a wide variety of task. Ex - Desktop Computer, Notebook, Handheld computer, Tablet etc.

▶ Mini computer

It is a multi-user computer larger size and processing power fast as compared to microcomputer. It uses at enhanced .instruction said facilitate scientific and business application.

Ex - IBMAS/400/B60, HP 900 series 800 etc.

▶ Main frame computers

It is a large powerful operating system. Operating at a very high speed used in large business, scientific and government organization while processing the ,if the amount of data is very large to be processed by the processor combination of two or more processor is used to process the data .such type of computer is known as main frame computer.
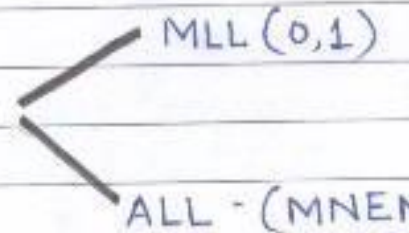
Ex - IBM 308X series, IBM 900 series etc.

▶ Super computer

Super computer are the most powerful system operating at very high .They are   capable of handling hundreds of millions of instruction per second .It is the fastest computer introduced the most accurate result in fastest response time.

Ex - Cray-MP, Crayz, SX-2, SX-3R etc.

Computer Language

1) LLL ⟨ MLL (0,1)

ALL - (MNEMONICS) Code के form में अगर लिखा
जाये तो

2) HLL
* FORTRAN - It is the first Programming language
scientific area.

* COBOL - for business Purpose

* Basic - पहला Programming language था जो Non Professional
programming के लिए बनाया गया था।

* PASCAL - Teaching tool के लिए बनाया गया पहला Programming
language.

* SIMULA - * First object oriented language | * OOPL - object oriented
programming
language

Important

* RUBY, SMALT, DELPHI, FIFFLE
(Programming language)
* SC → Source Code → जो Input लेता है।
* OC → Object Code → जो Output मिलता है।
* वैसी language जो Programme से नजदीक But machine से काफी
दूर HLL. (High level language)
* वैसी language जो Machine से नजदीक But Programme से काफी दूर
LLL. (Low level Language)

1) Compiler

$$HLL \xrightarrow{\text{Compiler}} MLL$$

- Compiler HLL को MLL में change करता है।
- Completely Programme change one time
- Compiler is faster

2) Assembler

$$ALL \xrightarrow{\text{Assembler}} MLL$$
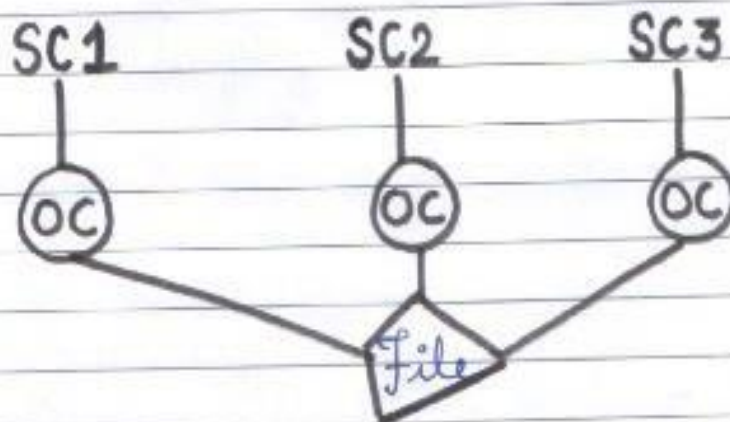
3) Interpreter

$$HLL \xrightarrow{\text{Interpreter}} MLL$$

- Line by line conversion
- Slower

4) Linker

एक से अधिक file को एक में करने के लिए linker का use करते हैं।

SC1   SC2   SC3

OC   OC   OC

File

5) Loader

Loader

object file   RAM   Processor
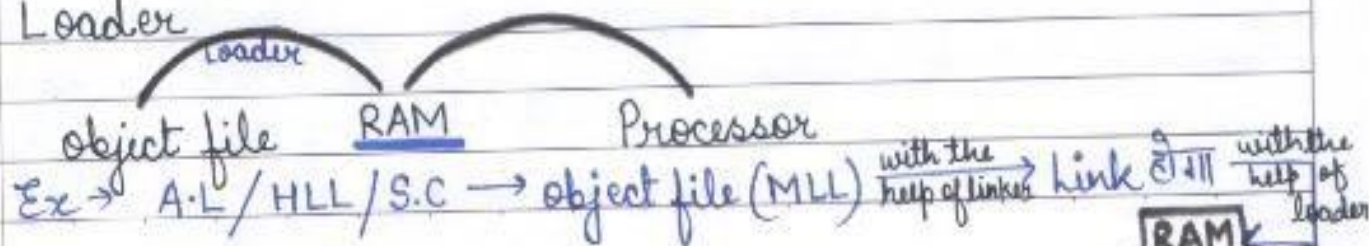
Ex → A.L / HLL / S.C → object file (MLL) with the help of linker → Link होगा with the help of loader → RAM में पहुँच जाता है।

COMPUTER LANGUAGE

Languages are a means of communication. Just as every language like English, Hindi has its grammatical rules; every computer language is bound by rules known as SYNTAX of that language. The user is bound by that syntax while communicating with the computer system. Computer languages are broadly classified as

1.-Low Level Language

The term low level means closeness to the way in which machine understand. The low level languages are:

A.-Machine Language

This is the language (in the form of 0,s and 1,s, called binary numbers) understood directly by the computer. It is machine dependent. It is difficult to learn and even more difficult to write programs.

B.-Assembly language

This is the language where the machine codes comprising of 0,s and 1,s are substituted by symbolic codes (called mnemonics) to improve their understanding. It is the first step to improve programming structure.

2. High Level Language

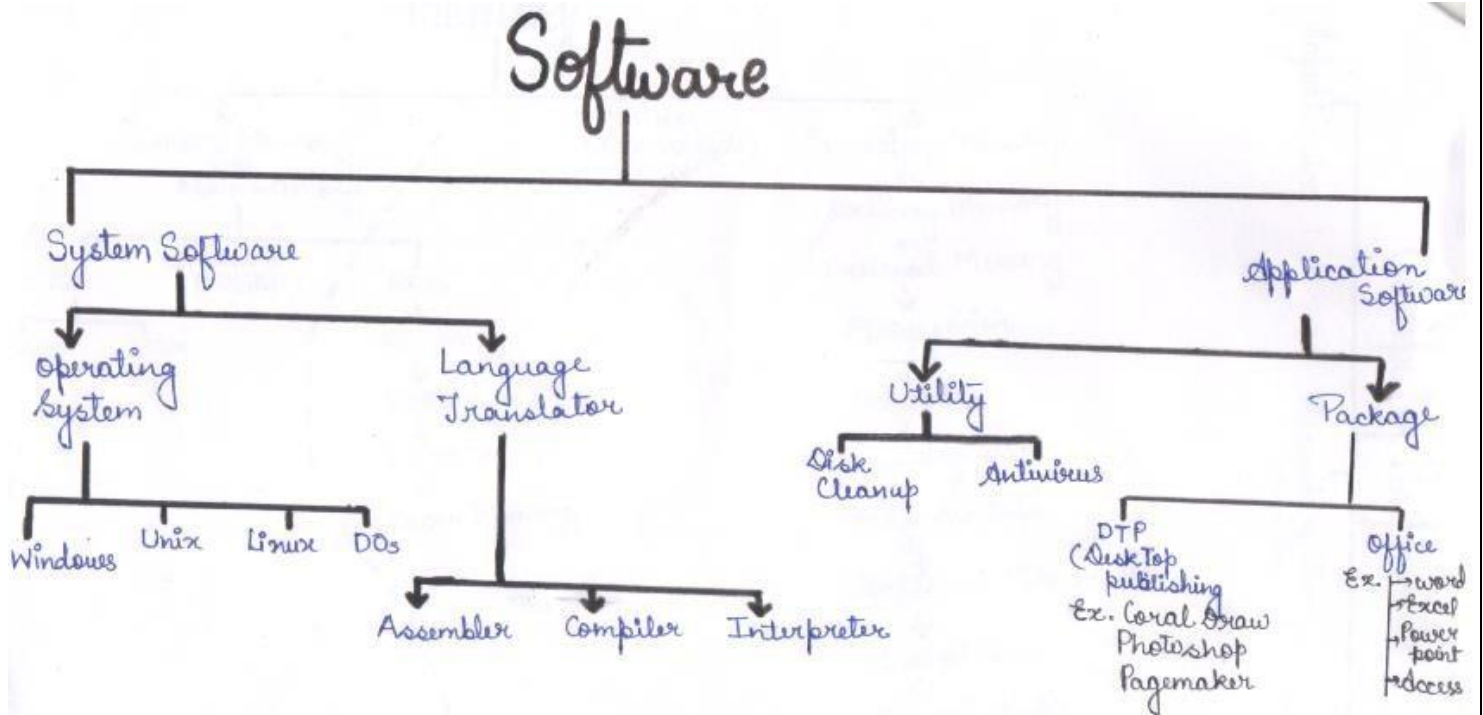You know that low level language requires extensive knowledge of the hardware since it is machine dependent. To overcome the limitation, high level language has been evolved which uses normal English like, easy to understand statements to solve any problems. Higher level languages are computer independent and programming becomes quite easy and simple.

Various high level languages are given below:

- **BASIC-** (Beginner all-purpose symbolic Instruction code): it is widely used, easy general purpose language. Mainly used in earlier days.
- **COBOL-** (common business oriented language): A standardized language used for commercial applications.

- **FORTRAN-**(Formula Translation):-Developed for solving mathematical and scientific problems. One of the most popular languages among scientific community.
- **C-**Structured Programming Language used for all purpose such as scientific application, commercial application, developing games etc.
- **C++ -**Popular object oriented programming language, used for general purpose.

Relationship between Hardware and Software

- Hardware and software are mutually dependent on each other. Both of them must work together to make a computer produce a useful output.

- Software cannot be utilized without supporting hardware.

- Hardware without set of programs to operate upon cannot be utilized and is useless.

- To get a particular job done on the computer, relevant software should be loaded into the hardware

- A software act as an interface between the user and the hardware.

- If hardware is the 'heart' of a computer system, then software is its 'soul'. Both are complimentary to each other.

Software

System Software — Application Software

System Software:
- Operating System
- Language Translator

Operating System:
- Windows
- Unix
- Linux
- DOs

Language Translator:
- Assembler
- Compiler
- Interpreter

Application Software:
- Utility
- Package

Utility:
- Disk Cleanup
- Antivirus

Package:
- DTP (Desk Top publishing) Ex. Coral Draw Photoshop Pagemaker
- Office Ex. → word → Excel → Power point → Access

Software

▶ Software is a set of programs, which is designed
  to perform a well-defined function. A program is
  a sequence of instructions written to solve a
  particular problem.

There are two types of software

▶ System Software ▶ Application Software

System Software

▶ The system software is collection of programs designed to operate, control,
  and extend the processing capabilities of the computer itself.

▶ System software serves as the interface between hardware and the end
  users.
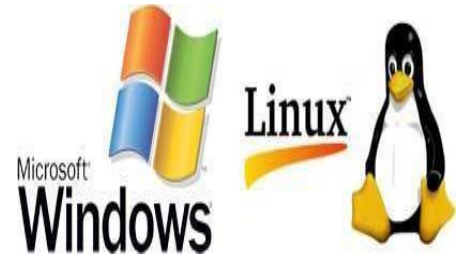
Application Software

▶ Application software products are designed to satisfy a particular need of a particular environment. All software applications prepared in the computer lab can come under the category of Application software. Application software can be broadly classified into two types

1. Generalized package
2. Customized package

1. Generalized Packages

These are user friendly software create for user, s very general needs such as preparing documents drawing pictures database to manage data/information preparing presentations, play games etc.

It is a group of programs that provide general purpose tools to solve specific problems. Some of the generalized packages are listed below

▶ Word Processing Software
   - o   Word Perfect, MS Words, WordStar ▶

Spread sheet (Data Analysis)
   - o   Lotus123, smart suites, Ms-excel

▶ Presentations
   - o   Presentation graphics, MS-Power Point

▶ Database Management System
   - o   MS-Access, Open Office.org Base, MS-SQL Server, ORACLE

▶ Graphics Tools

- ○ Paint, shop pro, adobe Photoshop

2. Customized packages

These are the applications that are customized (or developed) to meet the specific requirements of an organization/institution. For

Example: Student information details, Payroll packages, inventory control etc.

These packages are developed using high-level computer language.

Note ⟹ Optical
Memory
↓
• CD
• DVD

Flash
Memory
↓
• Pendrive
• Memory
Card
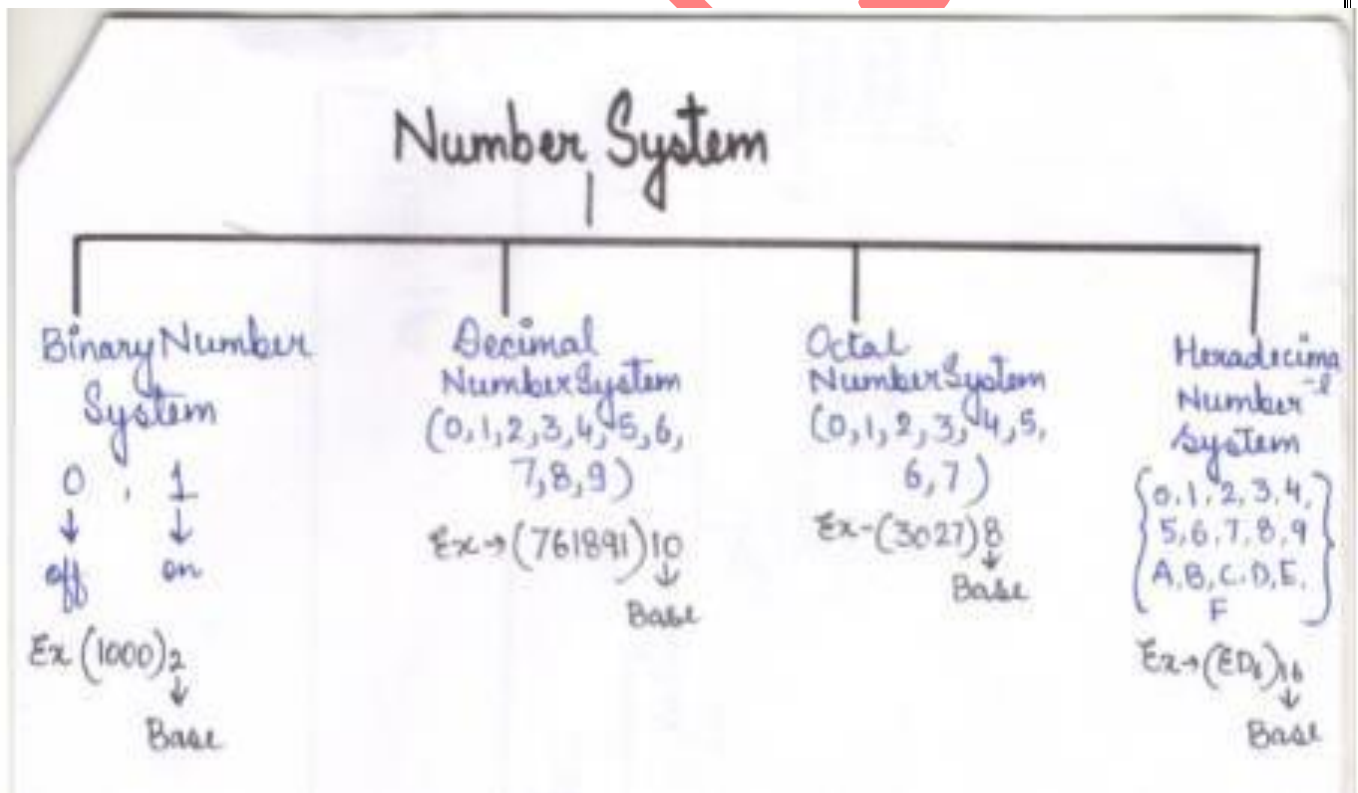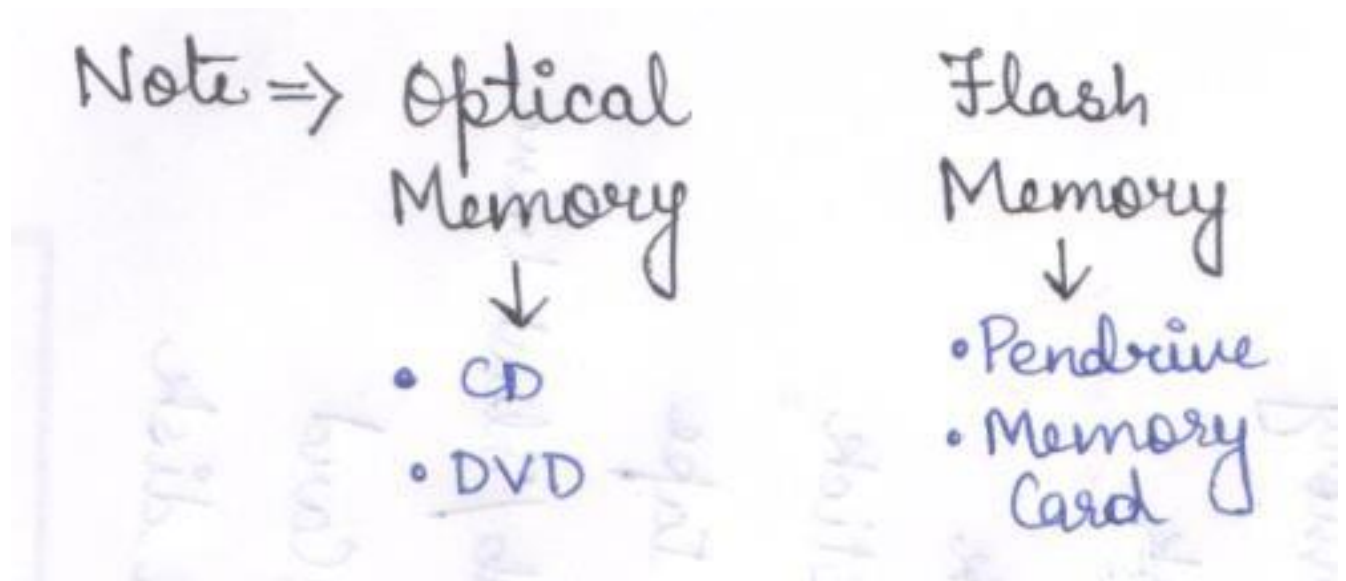
1. The brain of any computer system is

A) ALU   B) Memory   C) CPU   D) Control unit

Answer : C

2. What difference does the 5th generation computer have from other generation computers?

A) Technological advancement   B) Scientific code

C) Object Oriented Programming   D) All of the above

Answer : A

3. Which of the following computer language is used for artificial intelligence?

A) FORTRAN   B) PROLOG   C) C   D) COBOL

Answer : B

4. The tracks on a disk which can be accessed without repositioning the R/W heads is

A) Surface   B) Cylinder   C) Cluster   D) All of the above

Answer : B

5. Which of the following is the 1's complement of 10?

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A) 01   B) 110   C) 11   D) 10

Answer : A

6. A section of code to which control is transferred when a processor is interrupted is known as

A) M   B) SVC   C) IP   D) MDR

Answer : A

7. Which part interprets program instructions and initiate control operations.

A) Input   B) Storage unit   C) Logic unit   D) Control unit

Answer : D

8. The binary system uses powers of

A) 2   B) 10   C) 8   D) 16

Answer : A

9. In order to tell Excel that we are entering a formula in cell, we must begin with an operator such

A) $ B) @   C) +   D) =   Answer : D

10. In how many generations a computer can be classified?

A) 3   B) 4   C) 5   D) 6   Answer : C

11. UNIVAC is

A) Universal Automatic Computer   B) Universal Array Computer

C) Unique Automatic Computer   D) Unvalued Automatic Computer
Answer : A

12. The basic operations performed by a computer are

A) Arithmetic operation   B) Logical operation

C) Storage and relative   D) All the above

Answer : D

13. The two major types of computer chips are

A) External memory chip   B) Primary memory chip

C) Microprocessor chip   D) Both b and c

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Answer : D

14. Microprocessors as switching devices are for which generation computers

A) First Generation
B) Second Generation
C) Third Generation
D) Fourth Generation

Answer : D

15. What is the main difference between a mainframe and a super computer?

A) Super computer is much larger than mainframe computers

B) Super computers are much smaller than mainframe computers

C) Supercomputers are focused to execute few programs as fast as possible while mainframe uses its power to execute as many programs concurrently

D) Supercomputers are focused to execute as many programs as possible while mainframe uses its power to execute few programs as fast as possible.

Answer : C

16. ASCII and EBCDIC are the popular character coding systems. What does EBCDIC stand for?

A) Extended Binary Coded Decimal Interchange Code

B) Extended Bit Code Decimal Interchange Code

C) Extended Bit Case Decimal Interchange Code

D) Extended Binary Case Decimal Interchange Code

Answer : A

17. Storage capacity of magnetic disk depends on

A) tracks per inch of surface
B) bits per inch of tracks

C) disk pack in disk surface
D) All of above

Answer : D

18. The two kinds of main memory are:

A) Primary and secondary
B) Random and sequential

C) ROM and RAM
D) All of above

Answer : C

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19. A storage area used to store data to a compensate for the difference in speed at which the different units can handle data is

A) Memory

B) Buffer

C) Accumulator

D) Address

Answer : B

20. Computer is free from tiresome and boardoom. We call it

A) Accuracy

B) Reliability

C) Diligence

D) Versatility

Answer : C

21. Integrated Circuits (Ics) are related to which generation of computers?

A) First generation

B) Second generation

C) Third generation

D) Fourth generation

Answer : C

22. CD-ROM is a

A) Semiconductor memory

B) Memory register

C) Magnetic memory

D) None of above   Answer : D

23. A hybrid computer

A) Resembles digital computer

B) Resembles analogue computer

C) Resembles both a digital and analogue computer   D) None of the above

Answer : C

24. Which type of computers uses the 8-bit code called EBCDIC?

A) Minicomputers

B) Microcomputers

C) Mainframe computers

D) Super computer

Answer : C

25. The ALU of a computer responds to the commands coming from

A) Primary memory

B) Control section

C) External memory

D) Cache memory

Answer : B

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26. Chief component of first generation computer was
A) Transistors   B) Vacuum Tubes and Valves
C) Integrated Circuits   D) None of above
Answer : B

27. To produce high quality graphics (hardcopy) in color, you would want to use a/n

 A) RGB monitor   B) Plotter

C) Ink-jet printer   D) Laser printer

Answer : B

 28. What are the stages in the compilation process?

A) Feasibility study, system design and testing   B) Implementation and documentation
C) Lexical Analysis, syntax analysis, and code generation   D) None of the above
Answer : C

29. Which of the following IC was used in third generation of computers?

A) SSI   B) MSI   C) LSI   D) Both a and b   Answer : D

30. The main electronic component used in first generation computers was

A) Transistors   B) Vacuum Tubes and Valves

C) Integrated Circuits   D) None of above

 Answer : B

31. A dumb terminal has

 A) an embedded microprocessor   B) extensive memory

C) independent processing capability   D) a keyboard and screen

Answer : D

32. One millisecond is

A) 1 second   B) 10th of a seconds

 C) 1000th of a seconds   D) 10000th of a seconds   Answer : C

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33. The output quality of a printer is measured by

A) Dot per sq. inch   B) Dot per inch

C) Dots printed per unit time   D) All of the above

Answer : A

34. Which of the following was a special purpose computer?

A) ABC   B) ENIAC

C) EDVAC   D) All of the above   Answer : A

35. What was the computer invented by Attanasoff and Clifford?

A) Mark I   B) ABC

 C) Z3   D) None of above   Answer : B

36. Which of the following storage devices can store maximum amount of data?

A) Floppy Disk   B) Hard Disk

C) Compact Disk   D) Magneto Optic Disk   Answer : B

37. Which computer was considered the first electronic computer until 1973 when court invalidated the patent?

A) ENIAC   B) MARK I

C) Z3   D) ABC   Answer : A

38. A physical connection between the microprocessor memory and other parts of the microcomputer is known as

A) Path   B) Address bus

C) Route   D) All of the above   Answer : B

39. High density double sided floppy disks could store _____ of data

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A) 1.40 MB   B) 1.44 GB   C) 1.40 GB   D) 1.44 MB Answer

: D

40. A high quality CAD system uses the following for printing drawing and graphs

A) Dot matrix printer   B) Digital plotter
C) Line printer   D) All of the above   Answer : B

41. Which of the following is not an input device?

A) OCR   B) Optical scanners

C) Voice recognition device   D) COM (Computer Output to Microfilm)

Answer : D

42. The accuracy of the floating-point numbers representable in two 16-bit words of a computer is approximately

A) 16 digits   B) 6 digits
C) 9 digits   D) All of above   Answer : B

43. In most of the IBM PCs, the CPU, the device drivers, memory, expansion slots and active components are mounted on a single board. What is the name of the board?

A) Motherboard   B) Daughterboard

C) Bredboard   D) Fatherboard   Answer : A

44. In most IBM PCs, the CPU, the device drives, memory expansion slots and active components are mounted on a single board. What is the name of this board?

A) Motherboard   B) Breadboard

C) Daughter board   D) Grandmother board   Answer : A

45. Magnetic disks are the most popular medium for

A) Direct access   B) Sequential access

C) Both of above   D) None of above   Answer : C

46. A technique used by codes to convert an analog signal into a digital bit stream is known as

A) Pulse code modulation   B) Pulse stretcher

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C) Query processing   D) Queue management   Answer : A

47. Regarding a VDU, Which statement is more correct?

A) It is an output device   B) It is an input device

C) It is a peripheral device   D) It is hardware item

Answer : C

48. A modern electronic computer is a machine that is meant for

A) Doing quick mathematical calculations   B) Input, storage, manipulation and outputting of data

C) Electronic data processing   D) Performing repetitive tasks accurately Answer

: B

49. When was vacuum tube invented?

A) 1900   B) 1906   C) 1910   D) 1880   Answer : B

50. Which of the following produces the best quality graphics reproduction?

A) Laser printer   B) Ink jet printer

C) Plotter   D) Dot matrix printer   Answer : C

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