UNIT-2

➢ Classification of computer

- Traditional computer were classified on the basic of lost speed, memory size and power supply.
- Today's day computer is classified on the basis of mode of use.
- Some classification of computers.

As follow: -

- Generation of computer.
- Digital vs. Analog computer.
- Single user vs. multi-user.
- General purpose vs. special purpose.
- Micro/mini/mainframe/super computer.

➢ Generation of computer

- 1st generation of computer(1942-55)
- 2nd generation of computer(1955-64)
- 3rd generation of computer(1964-75)
- 4th generation of computer(1975-89)
- 5th generation of computer(1989-today)

➢ First generation (1942-55)

- The first generation is based on vacuum tube technology.
- Thousand of vacuum tube is used to build a computer. Vacuum tube were big in size (a size of one vacuum tube is equivalent to small electric volt, which used filament as a source of electric control and signal).

➢ Features of first generation of computer

- They are too large in size requiring large room for installation.
- They emitted a large amount of heat AC room with be required to keep this computer.
- They power consultations of this computer were very high.

- They had limited life because vacuum tube burnet frequency.
- This computer are default to program and used.
- They had a limited commercial use:

  Example: -
  - ENIAC: - Electronic numerical integrator and calculator.
  - EDVAC: - Electronic discrete variable automatic computer.
  - EDSAC: - Electronic delay storage automatic computer.

➢ Second generation (1955-64)

- The major contribution given by three scientist john burden will ion Shockley water Britain in 1947 and bell laboratories.
- They invented transistor for which they receive Nobel Prize.
- 4 transistors made up of a semiconductor material whose major part silicon.
- Vacuum tubes were replaced by transistor in 1959.

➢ Feature of second generation computer

- They were much smaller requiring small place.
- They emitted much less heat as compare vacuum tube.
- They consume much less power than 1st generation computer.
- They were more reliable.
- They have wider commercial use.

  Example: -
  - UNIVAC: - Universal automatic computer.
  - IBM7090
  - HONEY WELL 400 SERIES.

➢ Third generation (1964-75)

- In third generation computer technology was completely changed (transitory were replaced by I.C) around 1965.
- Integrated circuit combination of transistor and other electronic components fished together a single crystal.

- Essentially I.C contains only about 10 to 20 electronic components.
- This technology name S.S.I.
- Letter with this advantage I.C it become possible to integrated about 100 electronic component one a single crystal this technology has name M.S.A

➢ Features of third generation computer

- They were much powerful than second generation.
- They were much smaller than second generation.
- They consume much less power in compression of second generation.
- They were totally generating purpose machine.
- They commercial in wider and cheaper many high level language such as COBOL, basic, fortan, Pascal etc.
- A new industry was born during.

➢ Fourth generation (1975-89)

- In fourth generation that is I.C were replaced by microprocessor.
- Microprocessor contain and entire central processing and a single chip.
- L.S.I and V.L.S.I technology were used in fourth generation in which one million electronic components were fused single chip.

➢ Features of fourth generation

- The social revolution the pc was started to individual.
- The pc wore smaller and cheaper in compression of mainframe of 3^{rd} generation computer.
- They are faster and large primary and secondary memory.
- High level language was fully developed.
- The consume much less power in compression of 3^{rd} generation computer.
- They are totally generating purpose machine and affordable by individuals.

Ex: - micro computer.

➢ Fifth generation (1989-today)

- There is certain advantage in the science of computer design and technology.
- Design and technology are combining together/ enable the certain of 5th generation computer.
- Two such as advantage are: -
  - Parallel processing replacing.
  - Van new single chip.

- VLSI ultra large scale integration replaced V.L.S.I in which 10 million of electronic component are fused in single chip.

➢ Features of fifth generation

- Portable pc is invented that enable the mobile inputting.
- Pc become were powerful than 4th generation.
- Multiplication feature makes the system easier to learn and use by anyone.
- During fifth generation internet become a popular away from information interchange.

➢ General purpose vs. special purpose

- It is the classification of use of work.
- There are those computers which are used in general work.
- The software are easily available to the user for most of daily life ms office package.
- Example of G.P.C is pc.
- It is easily available in low cost.
- Maintenance is less.

➢ Special purpose computer

- There are those computers which are some special work.
- The special works are not easily available and this type of computer rewire special type of device also which is used in weather for casting, space, research, aeroplane aviation.
- Example of special purpose computer is mainframe computer.
- It is high cost.
- Maintenance is more.

➢ Single user vs. Multi-user

- Single user: - it is the classification of computer on the basis of user.
- The system on which only one user can work on it a time is called single user. System number user can interface when first user is working on that computer system.

It is divided in to two types; -

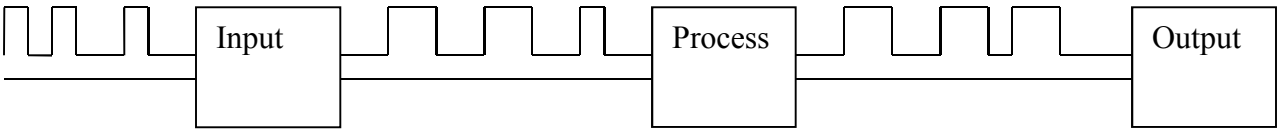
- Single user single tasking: - the system on which only one user can perform only one work at a time is called single user single tasking.
- Single user multitasking: - The system on which single user can perform multiple work at a time is called single user multitasking.

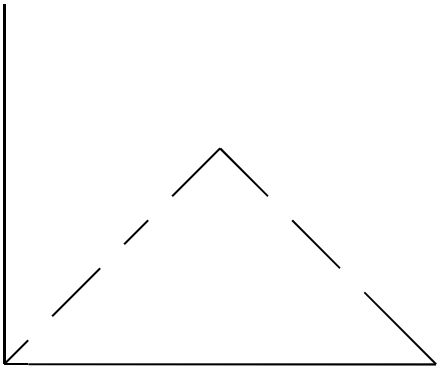
Ex: - Win 98, Win 95, Win 7, Win vista, Win xp.

➢ Digital vs. analog computer

- Digital computer means all the expression are finally represented as binary digit 0(off) & 1(on). All operations or done using these digital very high rate(speed). Digital computer basically knows only how to add remaining operation. Such as subtraction, multiplication and division, algorithm etc. first converted in to addition and they calculated.
- In digital computer data following discontinuous stream.
- It is based done counting rather than measuring.
- In digital computer data defined in individual step.
- In digital computer has much speed than other computer.

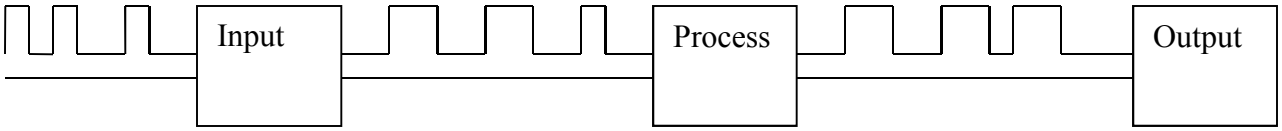
- It is less effect by unwanted interference noise.
- Maintains cost is less.
- Representation of digital signal_____ _____ _____

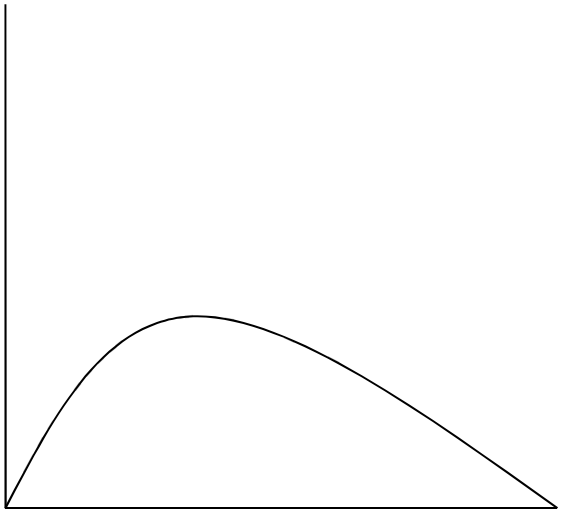




➢ Analog computer

- Analog is a Greek word which means similarities between two quantities.
- In analog computer similarities are stabilised in the form of current or voltage signal.
- Data flow continuously which is analog to the variable of physical stream.
- Analog computer operates by measuring rather than counting.
- Analog computer data defined in continuously in analog computer machine cost is more comparison of digital computer.
- It is more noise able comparison of digital computer.
- Analog computer speed is low comparison of digital computer.
- Representation analog computer.





- Multi user system

The system in which more than one user can work at a time is called multi user system. In multi user systems many user can work on signal system without is any interference to each other.

Ex: - UNIX, Linux
WIN 2000 SERVER

- Micro-mini-main-super computer

It is the classification of computer on the basis of initial memory size.

- Micro computer

It is the classification of memory size up to 16kb to 4mb.

- Micro computer is called for reason.
- One because it is mini (small) nature in size and another because it uses.
- Uses microprocessor (C.P.U) micro means million parts of unit quantities.
- Initial memory range is 16kb to 4mb.
- Number of user is equal to one.
- Example of micro computer is PC.

➢ Mini computer

- It is spine faster than micro computer.
- It is also small computer so it is set to be mini computer.
- Initial memory range is to 256kb to 12mb.
- DEC is main manufacture of this computer.
- No of user 4 to 8.

➢ Mainframe computer

- They are large size computer which a large air condition space.
- Its peripheral device is mounted in large cabinet's type of frame so it is called mainframe computer.
- Main manufactures are UNIVAC 1100/60a class 1100.

➢ Super computer

- These computer is five million time faster than 1st INIAC. Memory size up to 256mb. One super computer is equal to 64 mainframe computer.
- Number of user is 64 * 128.
- The first super computer is ILLAC (that perform 64 calculators) at time.