

The evaluation of computers

Today, it is hard to imagine life without computer. They have made strong impact on our society. Computer find application in many areas: business, health care, telecommunication, engineering, entertainment, and education to name a few. To fully understand computers, and their impact day-to-day lives, it is important to understand their evolution .On present day we found the computers in three categories:-

- *mechanical calculating devices
- *electromechanical calculating devices and
- *electronic computers

At that day computers are like as part of our life. Because computers are solve any kinds of problem in few minute. On the computer we found various type of information, exp: - mapping, navigation, G.P.S etc. People are says “Rome is not build in a day” like this computers also touch this stage not only a day. The development of computers from early calculating device. Its take long process for development this stage of computers.

The development of computers is from of ancient counting board in Mesopotamia around 3500 B.C. These counting boards consisted of pitted boards with pebbles and beads, which were used for performing calculation. This is the ancient from of mechanical calculating devices.

The mechanical calculating device we found in two categories:-

- *manual calculating devices
- *semi-automatic calculating devices

Some mostly used manual calculating devices are Abacus and Napier’s bones and Semi-automatic calculating device are Pascal adding machine, Jacquard’s loom, Difference engine and analytical machine. These were first stage of today’s computers.

The first stage of modern computer is Abacus. It is development in 15th –century China. It consists of a rectangular frame carrying a number of rods or wires. The rods have beads that can be moved along the rods, which are used for used for performing calculation. Modern abacuses are found in different forms: - The Chinese abacus, The Japanese abacus (or soroban) and The Russian abacus (or schoty). It also used for simple calculation: addition, subtraction, multiplication and division.

The Napier's bones, Pascal's adding machine, Jacquard's loom, Difference engine etc. are development and upgrade of abacus. They help a step forward to invent modern computer.

But the Analytical engine invented by Charles Babbage who called Father of Modern Computer. It is the basic elements of a modern general-purpose computer. The basic plan proposed for the analytical engine by Charles Babbage completely matches with the input, process and output concept of the present generation of computers. It is draft of present generation computers.

All mechanical calculating devices are a step forward for modern computers. And the electromechanical calculating device second step forward for modern computers. It is upgrade form of mechanical calculating device.

Tabulating Machine, Harvard Mark I are some example of electromechanical calculating device.

Tabulating Machine was invented by Herman Hollerith, which used punched cards for storing and processing information. In 1896, Hollerith founded the Tabulating Machine Company, which after a series of mergers, eventually became International Business

Machines (IBM) in 1924. This company makes many electronic computers.

American Computer engineer Howard H. Aiken devised by the first electromechanical computer called IBM Automatic Sequence Controlled Calculator or Harvard Mark I. It was used for creating ballistic charts for the US Navy. It takes only 3-4seconds for per calculation, it could perform basic arithmetic as well as more complex calculation.

Mechanical and Electromechanical Calculating Devices only could perform numerical calculation, but the electronic computers also could perform various type of activity. Electronic computers are classified into various generations on the basis of the difference in technology. Each of these generations represents major improvement over its predecessor. There is however, no clear line of distinction between these generations, as some overlap in technology exists.

- 1) First-Generation computers (1939-1954):- First-generation computers used vacuum tubes and magnetic drums for storage. Operating system development for the specific task for which the computers was meant to be used. Each computer had a different binary code called the machine language. Atanasoff-Berry computers, Z3, Colossus, ENIAC, EDSAC, EDVAC and UNIVAC- I are example of

first generation computers. UNIVAC I was the first commercially available computer.

- 2) Second-Generation Computers (1954-1959):- Second generation computers based on transistors. They replaced machine language with assembly language, allowing abbreviated programming codes to replace long, difficult binary codes. They also contained all the components we associate with the modern day computer: printers, tape, storage, disk storage, memory, operating systems and stored programmed. Model 604, IBM 1401 and IBM 1620 are example of second generation computers.
- 3) Third-Generation computers (1959-1971):- Third generation computers were based on integrated circuits (or microchips); computers became smaller as more components were squeezed onto the chip. An integrated circuit has several interconnected transistors. IBM's 360 series and 370 series are example of third generation computers.
- 4) Fourth-Generation computers (1971-present):- Fourth generation computers are based on microprocessors. IBM's personal computers (PC) and Apple's Macintosh are example of fourth generation computers.

In early 1982 also start a project Fifth-Generation Computer project. But it is only development phase on present day. We are expected that soon launch this project.

Ancient Abacus to fourth generation computers, it is long journey of computers. At that time computers can many men in one time. It is easy our works. So, computer is very important part of our society.
