

DEFINITION:

“Computer is an electronic device for performing arithmetic and logical operation and it is a flexible machine to process data and converts it into information.”

DEVELOPMENT OF COMPUTER & DESIGNED TO MAKE CALCULATIONS SIMPLE:

Actually speaking electronic data processing does not go back more than just half a century i.e. they are in existence merely from early 1940's. In early days when our ancestor used to reside in cave the counting was a problem. Still it is stated becoming difficult. When they started using stone to count their animals or the possession they never knew that this day will lead to a computer of today. People today started following a set of procedure to perform calculation with these stones, which later led to creation of a digital counting device, which was the predecessor the first calculating device invented, was known as ABACUS.

THE ABACUS:

Abacus is known to be the first mechanical calculating device. Which was used to be performed addition and subtraction easily and speedily? This device was a first developed by the Egyptians in the 10th century B.C, but it was given its final shape in the 12th century A.D. by the Chinese educationists. Abacus is made up of wooden frame in which rod were fitted across with round beads sliding on the rod. It is divided into two parts called 'Heaven' and 'Earth'. Heaven was the upper part and Earth was the lower one. Thus any no. can be represented by placing the beads at proper place.



NAPIER'S BONES:

As the necessity demanded, scientist started inventing better calculating device. In this process John Napier's of Scotland invented a calculating device, in the year 1617 called the Napier Bones. In the device, Napier's used the bone rods of the counting purpose where some no. is printed on these rods. These rods that one can do addition, subtraction, multiplication and division easily



PASCAL'S CALCULATOR:

In the year 1642, Blaise Pascal a French scientist invented an adding machine called Pascal's calculator, which represents the position of digit with the help of gears in it.



LEIBNIZ CALCULATOR:

In the year 1671, a German mathematician, Gottfried Leibniz modified the Pascal calculator and he developed a machine which could perform various calculations based on multiplication and division as well.



ANALYTICAL ENGINE:

In the year 1833, a scientist from England known to be Charles Babbage invented such a machine. Which could keep our data safely? This device was called Analytical engine and it deemed the first mechanical computer. It included such features which are used in today's computer language. For this great invention of the computer, Sir Charles Babbage is also known as the father of the computer.



GENERATION OF COMPUTER:

As time passed, the need for a more suitable and reliable machine was felt which could perform our work more quickly. During this time, in the year 1946, the first successful electronic computer called ENIAC was developed and it was the starting point of the current generation of computers.

FIRST GENERATION: (1945-1956)

ENIAC was the world's first successful electronic computer which was developed by the two scientists namely J. P. Eckert and J. W. Mauchly. It was the beginning of the first generation.

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computer. The full form of ENIAC is “Electronic Numeric Integrated and Calculator” ENIAC was a very huge and big computer and its weight was 30 tones. It could store only limited or small amount of information. Initially in the first generation computer the concept of vacuum tubes was used. A vacuum tube was such an electronic component which had very less work efficiency and so it could not work properly and it required a large cooling system.

SECOND GENERATION: (1956-1963)

As the development moved further, the second generation computers knocked the door. In this generation, transistors were used as the electronic component instead of vacuum tubes. A transistor is much smaller in the size than that of a vacuum tube. As the size of electronic components decreased from vacuum tube to transistor, the size of computer also decreased and it became much smaller than that of earlier computer.

THIRD GENERATION: (1964-1971)

The third generation computers were invented in the year 1964. In this generation of computer, IC (Integrated circuits) was used as the electronic component for computers. The development of IC gave birth to a new field of microelectronics. The main advantage of IC is not only its small size but its superior performance and reliability than the previous circuits. It was first developed by T.S Kilby. This generation of computer has huge storage capacity and higher calculating speed.

FOURTH GENERATION: (1971-Present)

This is the generation where we are working today. The computers which we see around us belong to the fourth generation computers. ‘Micro processor’ is the main concept behind this generation of computer.

A microprocessor is a single chip (L.S.I circuit), which is used in a computer for any arithmetical or logical functions to be performed in any program. The honor of developing microprocessor goes to Ted Hoff of U.S.A. He developed first micro-processor, the Intel 4004, as he was working for Intel Corporation, U.S.A with the use of microprocessor in the fourth generation computers, the size of computer become very fast and efficient. It is evident that the next generation of computer i.e. fifth generation will be developed soon. In that generation, computer will possess artificial intelligence and it would be able to take self decisions like a human being.

FIFTH GENERATION: (Present and Beyond)

Defining the fifth generation of computers is somewhat difficult because the field is in its infancy.

The most famous example of a fifth generation computer is the fictional HAL9000 from Arthur C. Clarke's novel, 2001: A Space Odyssey. HAL performed all of the functions currently envisioned for real-life fifth generation computers. With artificial intelligence, HAL could reason well enough to hold conversations with its human operators, use visual input, and learn from its own experiences. (Unfortunately, HAL was a little too human and had a psychotic breakdown, commandeering a spaceship and killing most humans on board.)