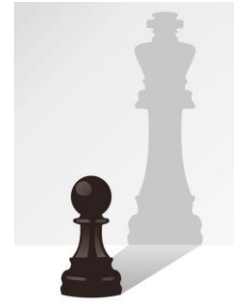


# **STUDENT'S** **SENA**



## **History of Computers and Generations: -**

### **History related to computers: -**

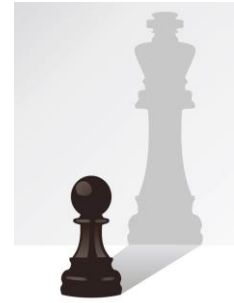
1. A Computer is an electronic device that can solve different problems, process data, store and retrieve data, perform both arithmetic and logical operations faster and efficiently than humans. It is a collection both hardware's and software's.
2. Charles Babbage, an English mechanical engineer, polymath and considered by some to be a "father of the computer" originated the concept of a programmable computer. He conceptualized and invented the first mechanical computer in the early 19th century. After working on his revolutionary difference engine, designed to aid in navigational calculations, in 1833 he realized that a much more general design, an Analytical Engine, was possible.
3. The first substantial computer was the giant ENIAC machine by John W. Mauchly and J. Presper Eckert in 1946. ENIAC (Electrical Numerical Integrator and Calculator).
4. Douglas Engelbart was the inventor of the mouse, the simple tool that dramatically changed the way in which humans interact with their computers.

### **The Generations of computers and their important factors related to the generation: -**

#### *1. First Generation: Vacuum Tubes (1940-1956)*

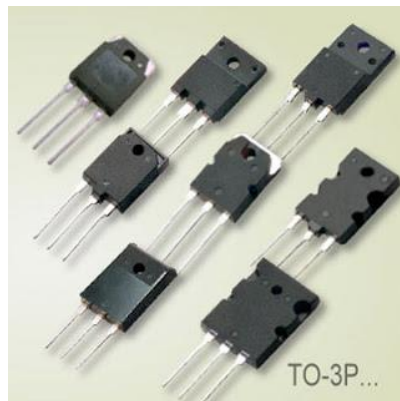


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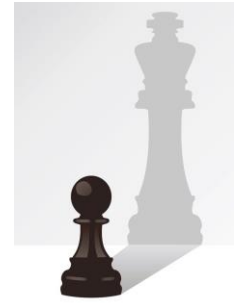
- The First-Generation computers used vacuum tubes.
- These computers were very expensive and occupy entire rooms.
- First generation computers relied on machine language, the lowest-level programming language.
- The UNIVAC and ENIAC computers are examples of first-generation computing devices.

## *2. Second Generation: Transistors (1956-1963)*



- Transistors replace vacuum tubes in the second generation of computers.
- The transistors made computers to become smaller, faster, cheaper, more energy-efficient and more reliable than their first-generation computers.
- Second generation computers relied on Assembly language and High-level programming languages were also being developed at this time, such as early versions of COBOL and FORTRAN.

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## *3.Third Generation: Integrated Circuits (1964-1971)*



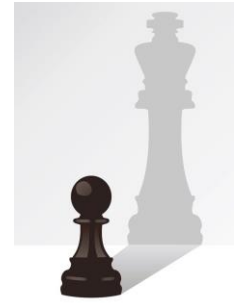
- Integrated circuits were used in the third generation of computers. Transistors were placed on silicon chips, called semiconductors, which increased the speed and efficiency of computers.
- C and C++ are the programming languages used in the third generation.
- IBM 360 series is an example of computers in this generation.

## *4.Fourth Generation: Microprocessors (1971-Present)*



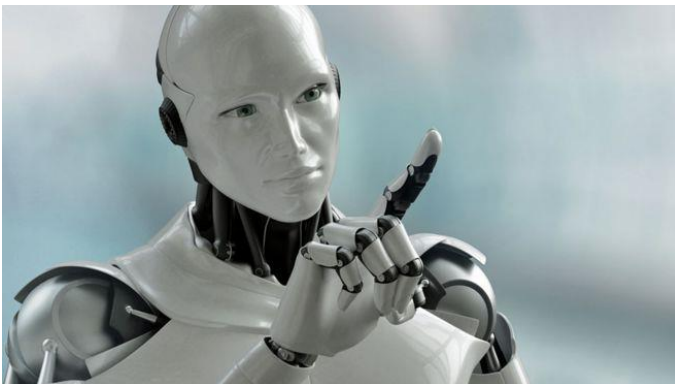
- In this generation thousands of integrated circuits were built onto a single silicon chip this technology is called as Very large scale integrated circuits(VLSI).
- The Intel 4004 is a 4-bit central processing unit (CPU) released by Intel Corporation in 1971. It was the first commercially available microprocessor by Intel.

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- In 1981 IBM introduced its first computer for the home user, and in 1984 Apple introduced the Macintosh.
- These computers became more powerful, they could be linked together to form networks, which eventually led to the development of the Internet. Fourth generation computers also saw the development of GUIs (Graphical user interface), the mouse and handheld devices.
- High level languages like C, C++, Java are being used.

## ***5.Fifth Generation: Artificial Intelligence (Present and Beyond)***



- ULSI (Ultra Large-Scale Integration) Technology is being used in this generation. Fifth generation computing devices, based on artificial intelligence, are still in development, though there are some applications, such as voice recognition, that are being used today.
- All the Higher-level languages, Neural networks are being at present generation.
- In this generation processing Speed of computers is Very fast and example of this generation are Robotics.

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