

1. Definition of Computer

A computer is a programmable electronic device that takes data, performs instructed arithmetic and logical operations, and gives the output. Computers are very versatile as they do a lot of different tasks such as storing data, weather forecasting, booking airlines, railway or movie tickets and even playing games.




Do YOU KNOW? **Father of Computer**




Charles Babbage is considered to be the father of computer, for his invention and the concept of Analytical Engine in 1837. The Analytical Engine contained an Arithmetic Logic Unit (ALU), basic flow control, and integrated memory; which led to the development of first general-purpose computer concept.




2. Generations of Computers

Growth in the computer industry is determined by the development in technology. Based on various stages of development, computers can be categorized into different generations.

SN	Generation	Period	Main Component used	Merits/Demerits
1	First Generation	1940-1956	 Vacuum tubes	<ul style="list-style-type: none"> • Big in size • Consumed more power • Malfunction due to overheat • Machine Language was used
First Generation Computers - ENIAC , EDVAC , UNIVAC 1 ENIAC weighed about 27 tons, size 8 feet × 100 feet × 3 feet and consumed around 150 watts of power				
2	Second Generation	1956-1964	 Transistors	<ul style="list-style-type: none"> • Smaller compared to First Generation • Generated Less Heat • Consumed less power compared to first generation • Punched cards were used • First operating system was developed - Batch Processing and Multiprogramming Operating System • Machine language as well as Assembly language was used.
Second Generation Computers IBM 1401, IBM 1620, UNIVAC 1108				
3	Third Generation	1964-1971	 Integrated Circuits (IC)	<ul style="list-style-type: none"> • Computers were smaller, faster and more reliable • Consumed less power • High Level Languages were used
Third Generation Computers IBM 360 series, Honeywell 6000 series				

4	Fourth Generation	1971-1980	 Microprocessor Very Large Scale Integrated Circuits (VLSI)	<ul style="list-style-type: none"> • Smaller and Faster • Microcomputer series such as IBM and APPLE were developed • Portable Computers were introduced.
5	Fifth Generation	1980 - till date	 Ultra Large Scale Integration (ULSI)	<ul style="list-style-type: none"> • Parallel Processing • Super conductors • Computers size was drastically reduced. • Can recognise Images and Graphics • Introduction of Artificial Intelligence and Expert Systems • Able to solve high complex problems including decision making and logical reasoning
6	Sixth Generation	In future		<ul style="list-style-type: none"> • Parallel and Distributed computing • Computers have become smarter, faster and smaller • Development of robotics • Natural Language Processing • Development of Voice Recognition Software

Sixth Generation Computing

In the Sixth Generation, computers could be defined as the era of intelligent computers, based on Artificial Neural Networks. One of the most dramatic changes in the sixth generation will be the explosive growth of Wide Area Networking. Natural Language Processing (NLP) is a component of Artificial Intelligence (AI). It provides the ability to develop the computer program to understand human language.