## History of Computers (Generations of Computers)

The continuous development of electronic counting devices led to the invention of modern computers. There are five generations of computers. These are:

- First Generation Computers
- Second Generation Computers
- Third Generation Computers
- Fourth Generation Computers
- Fifth Generation Computers

### (i) First Generation Computers (1946-1955)

The first generation computers were invented during the Second World War to design bombs and missiles.

### Features of First Generation Computers

1. Use of vacuum tubes
2. very big and clumsy
3. High electricity consumption
4. Very slow processing speed
5. Programmed in machine language

Examples of first generation computers are:

1. Colossus – used by Great Britain during the second world war to decode German messages
2. ENIAC – (Electronic Numerical Integrator and Computer) used by the US Army to calculate ballistic tables during the second world war

### (ii) Second Generation Computers (1956-1963)

The second generation computers were an improvement on the first generation computers.

### Features of Second Generation Computers

1. Transistors were used which make the second generation computers much more smaller, fasters and reliable

2. Instructions (programs) could be stored inside the computer memory
3. High-level languages such as COBOL and FORTRAN were used
4. They consumed less heat and electricity
5. External storage e.g. magnetic tape and discs were used

Examples of second generation computers are IBM 1401, RAC 501

**(iii) Third Generation Computers (1964-1971)**

The third generation computers were more reliable than the earlier ones. They are called mini-computers

**Features of Third Generation Computers**

1. Integrated Circuits (ICs) were used to replace transistors. A single Integrated Circuit (ICs) contains many transistors and led to the reduction in size of third generation computers.
2. Power consumption of third generation computers is low
3. Faster processing speed
4. Increased in internal memory and improved secondary storage.

Examples of third generation computers are – IBM360/370, etc

**Fourth Generation Computers (1972-1989)**

Fourth generation computers are the modern day computers. They are called micro-computers.

**Features of Fourth Generation Computers**

1. They are made of Very Large Scale Integration (VLSI) and Ultra Large Scale Integration (ULSI) circuits' technology.
2. Many components were joined together to form a single component called micro-processor (microchip).
3. This generation of computers used efficient data storage technology.
4. This generation of computers uses different types of memories with very high accessing speed and storage capacity.

Examples are – desktops, laptops, palmtops, etc

## Fifth Generation Computers

The fifth generation computers perform complex manipulation at the same time.

## Features of Fifth Generation Computers

1. They are used in parallel processing of information e.g. mobile communication systems.
2. They are used in speech recognition for highly secured and sensitive locations, e.g. Nuclear Plant
3. These generation of computers have the capacity of making decision e.g. intelligent robots used in Japanese Industries
4. These generation of computers used artificial intelligence, the ability of computers to exhibit intelligent behaviour like human beings.

Examples of fifth generation computers are Industrial Robots, unmanned aircrafts,