

## Classification of Computer

The Computer is an Electronic Device which accepts the input data processing according to their Instruction and it gives output result. Computers may be classified based on the following:

1. **Size**
2. **Generation**
3. **Degree of versatility**
4. **Type**

### CLASSIFICATION BASED ON SIZE

**a) Microcomputers (Personal Computer):** A microcomputer is the smallest general purpose processing system. Microcomputer can be classified into 2 types :The older pc started 8 bit processor with speed of 3.7MB and current pc 64 bit processor with speed of 4.66 GB. Some examples are IBM PCs, APPLE computers

1. Desktops
2. Laptop
3. Palmtop (Handheld)

**b) Workstations:** It is used in large, high-resolution graphics screen built in network support, Engineering applications(CAD/CAM), software development desktop publishing.

**c) Minicomputer:** A minicomputer is a medium-sized computer. That is more powerful than a microcomputer. These computers are usually designed to serve multiple users simultaneously (Parallel Processing). They are more expensive than microcomputers.

**d) Mainframe computers:** Computers with large storage capacities and very high speed of processing (compared to mini- or microcomputers) are known as mainframe computers.

**e) Supercomputer:** Supercomputers have extremely large storage capacity and computing speeds which are many times faster than other computers. A supercomputer is measured in terms of tens of millions Instructions per second (mips), an operation is made up of numerous instructions. Examples: IBM Deep Blue

**f) Wearable computer:** The size of this computer is very small so that it can be worn on the body. It has smaller processing power. It is used in the field of medicine. For example pacemaker to correct the heart beats. Insulin meter to find the levels of insulin in the blood.

**g) Notebook:** These computers are as powerful as desktop but size of these computers are comparatively smaller than laptop and desktop. They weigh 2 to 3 kg. They are more costly than laptop.

### CLASSIFICATION BASED ON SIZE

The development of electronic computers can be divided into five generations depending upon the technologies used. The following are the five generations of computers:

1. **First Generation of Computers (1942-1955):** The first generation computers were used during 1942-1955. They were based on vacuum tubes Examples of first generation computers are ENIVAC and UNIVAC

2. **Second Generation Computers (1955-1964):** The second generation computers used transistors. The examples of second generation computers are IBM 7094 series, IBM 1400 series and CDC 164
3. **Third Generation Computers (1964-1975):** The Third generation computers used the Integrated Circuit (IC). Examples are IBM 370, IBM System/360, UNIVAC 1108 and UNIVAC AC 9000
4. **Fourth Generation Computers (1975-Present):** The fourth generation computers started with the invention of Microprocessor. Examples are Apple Macintosh & IBM PC.
5. **Fifth Generation Computers (Present & Beyond):** Scientists are working hard on the 5th generation computers with quite a few breakthroughs. It is based on the technique of Artificial Intelligence (AI) or Biochip.

### **CLASSIFICATION BASED ON VERSATILITY**

1. **Special Purpose Computers:** A special purpose computer is designed only to meet the requirements of a particular task or application. The instructions needed to perform a particular task are permanently stored into the internal memory, so that it can perform the given task on a single command. It therefore doesn't possess unnecessary options and is less expensive.

2. **General Purpose Computers:** A General Purpose computers are designed to meet the needs of many different applications. In these computers, the instructions needed to perform a particular task are wired permanently into the internal memory. When one job is over, instructions for another job can be loaded into the internal memory for processing.

### **CLASSIFICATION BASED ON TYPE**

A. **Analog Computers:** An analog computer is a form of computer that uses the continuously changeable aspects of physical phenomena such as electrical, mechanical, or hydraulic quantities to model the problem being solved.

B. **Digital Computers:** Operate essentially by counting. All quantities are expressed as discrete or numbers. Digital computers are useful for evaluating arithmetic expressions and manipulations of data (such as preparation of bills, ledgers, solution of simultaneous equations etc)

C. **Hybrid Computers:** are computers that has features of analog computers and digital computers. The digital component normally serves as the controller and provides logical operations, while the analog component normally serves as a solver of differential equations.