MEMORY:

Computer memory is a generic term for all of the different types of data storage technology that a computer may use, including RAM, ROM, and flash memory.

Another way that computer memory can vary is that some types are *non-volatile*, which means they can store data on a long term basis even when there is no power. And some types are *volatile*, which are often faster, but which lose all the data stored on them as soon as the power is switched off.

A computer system is built using a combination of these types of computer memory, and the exact configuration can be optimized to produce the maximum data processing speed or the minimum cost, or some compromise between the two.

Types of Computer Memory: Primary and Secondary

Memory is primarily of three types −

- Cache Memory
- Primary Memory/Main Memory
- Secondary Memory

Cache Memory

Cache memory is a very high speed semiconductor memory which can speed up the CPU. It acts as a buffer between the CPU and the main memory. It is used to hold those parts of data and program which are most frequently used by the CPU.

Advantages

The advantages of cache memory are as follows −

- Cache memory is faster than main memory.
- It consumes less access time as compared to main memory.
- It stores the program that can be executed within a short period of time.
- It stores data for temporary use.

Disadvantages

The disadvantages of cache memory are as follows −

- Cache memory has limited capacity.
- It is very expensive.

Primary Memory (Main Memory)

Primary memory holds only those data and instructions on which the computer is currently working. It has a limited capacity and data is lost when power is switched off. It is generally made up of semiconductor device.

Characteristics of Main Memory

- These are semiconductor memories.
- It is known as the main memory.
- Usually volatile memory.
- Data is lost in case power is switched off.
- It is the working memory of the computer.
- Faster than secondary memories.
- A computer cannot run without the primary memory.