- A computer cannot run without the primary memory.

1. RAM(Random Access Memory)

RAM (Random Access Memory) is the internal memory of the CPU for storing data, program, and program result. It is a read/write memory which stores data until the machine is working. RAM is volatile, i.e. data stored in it is lost when we switch off the computer or if there is a power failure. The memory unit that communicates directly within the CPU, Cache memory, is also called main memory. It is the central storage unit of the computer system. It is a large and fast memory used to store data during computer operations.

Characteristic of Static RAM

- Long life
- No need to refresh
- Faster
- Used as cache memory
- Large size
- Expensive
- High power consumption

Characteristics of Dynamic RAM

- Short data lifetime
- Needs to be refreshed continuously
- Slower as compared to SRAM
- Used as RAM
- Smaller in size
- Less expensive
- Less power consumption

2. ROM(Read Only Memory)

ROM stands for Read Only Memory. The memory from which we can only read but cannot write on it. This type of memory is non-volatile. The information is stored permanently in such memories during manufacture. A ROM stores such instructions that are required to start a computer. This operation is referred to as bootstrap.

Concept of Virtual Memory

- A programmer can write a program which requires more memory space than the capacity of the main memory. Such a program is executed by virtual memory technique.
- The program is stored in the secondary memory. The *memory management unit* (MMU) transfers the currently needed part of the program from the secondary memory to the main memory for execution.
- This to and fro movement of instructions and data (parts of a program) between the main memory and the secondary memory is called **Swapping.**