RAM is used to store data that the computer is currently using, while ROM is used to store data that the computer needs to boot and operate. RAM is faster than ROM, as the data stored in it can be accessed and modified in any order, while data stored in ROM can only be read.

Computer memory is of two basic types:

- Primary memory (RAM and ROM)
- Secondary memory (Hard Drive, CD, etc).

1. **Random Access Memory (RAM)**
   Random Access Memory (RAM) is a type of computer memory that is used to temporarily store data that the computer is currently using or processing. RAM is volatile memory, which means that the data stored in it is lost when the power is turned off. RAM is typically used to store the operating system, application programs, and data that the computer is currently using.
   - It is also called read-write memory or the main memory or the primary memory .
   - The programs and data that the CPU requires during the execution of a program are stored in this memory.
   - It is a volatile memory as the data is lost when the power is turned off.
   - Two type: SRAM and DRAM.

2. **Read-Only Memory (ROM)**
   Read Only Memory (ROM) is a type of computer memory that is used to permanently store data that does not need to be modified. ROM is non-volatile memory, which means that the data stored in it is retained even when the power is turned off. ROM is typically used to store the computer's BIOS (basic input/output system), which contains the instructions for booting the computer, as well as firmware for other hardware devices.
   - Stores crucial information essential to operate the system, like the program essential to boot the computer.
   - It is non-volatile.
   - Always retains its data.
   - Used in embedded systems or where the programming needs no change.
   - Used in calculators and peripheral devices.
   - ROM is further classified into four types- M ROM , PROM , EPROM , and EEPROM .

Difference Between RAM and ROM

Parameter	RAM	ROM
Storage Type	Temporary Storage.	Permanent Storage.
Storage Capacity	Store data in MBs.	Store data in GBs.
Data Volatility	Volatile.	Non-volatile.
Usage	Used in normal operations.	Used for startup process of computer.
Data Writing Speed	Writing data is faster.	Writing data is slower.

Frequently Asked Questions on RAM and ROM – FAQs

What is the primary function of RAM in a computer ?
RAM (Random Access Memory) is used to temporarily store data that the computer is currently using or processing. It allows for quick access and modification of this data, enabling efficient operation of applications and the operating system.

How does ROM differ from RAM in terms of data retention ?
ROM (Read-Only Memory) is non-volatile, meaning it retains its data even when the power is turned off. In constrast, RAM is volatile, and the data stored in it is lost when the power is turned off.

What are the types of RAM and how do they differ ?
The two types of RAM are Static RAM (SRAM) and Dynamice RAM (DRAM). SRAM is faster and more expensive, using transistors to store data, while DRAM is less expensive and uses capacitors, requiring periodic refeshing to maintain its data.

What types of data are typically stored in ROM ?
ROM is used to permanently store critical sytem information, such as the computer's BIOS (Basic Input/Output System) and firmware for hardware devices. This data is essential for booting the computer and operating system.

What are the advantages and disadvantages of using RAM ?
Advantages of RAM include its speed, flexibility for modifying data, and the ability to upgrade capacity for improved performance. However, its disadvantages include volatility (data loss when powered off), limited capacity, and relatively high cost compared to other storage types.