

Third:

## **Computer memory**

- **Memory** is where a computer **stores data**. It helps the computer **run programs and remember information**, either **temporarily** or **permanently**.
- **Types of computer memory:**
  1. **Primary Memory ( Main Memory):**Used while the computer is working. Fast, but temporary.

**Types of main memory:****RAM:(random access memory)** Stores data while programs are running. Gets cleared when the computer turns off means More RAM = faster multitasking. RAM: 16 GB DDR4, 3200 MHz

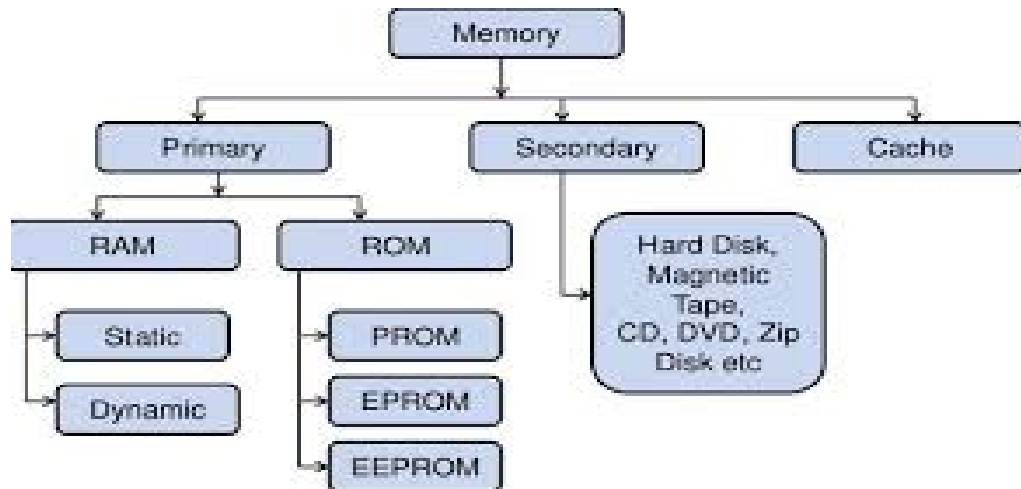
**ROM:(read -only memory)** Stores permanent data. You can't change it easily.

2. **Secondary Memory ( Storage):**Used to store data permanently.

Type	Description
HDD (Hard Disk Drive)	Stores lots of data. Slower, but cheaper. Has moving parts .Hard Drive: 1 TB HDD, 7200 RPM
SSD (Solid State Drive)	Faster than HDD, no moving parts, more expensive .SSD: 512 GB NVMe
USB/Memory Card	Portable storage devices using flash memory.

### 3. Cache memory:

- Very fast memory inside the CPU.
- Stores frequently used data for quick access
- Helps the CPU work faster.



- An image for a computer memory



- An image for different types of computer memory <https://computerguideonline.com/images/types-of-computer-memory.webp>

- **NOTES:**

- More RAM = Better multitasking and faster apps.

- SSD is faster than HDD.
- Cache is the fastest, but smallest.
- ROM is not erased; RAM is temporary.

- **Memory vs Storage :**

- Memory (RAM) = Short-term, fast, cleared when off.
- Storage (HDD/SSD) = Long-term, where files and apps live.