

# BASIC COMPUTER

01/15



# DEFINITION

A computer is an electronic device that processes data and gives output based on the instructions (program) given.

## TYPES OF COMPUTERS

- **Super Computers** – High performance, used for complex calculations.
- **Personal Computers** – Common desktop/laptop computers.
- **Embedded Systems** – Found in washing machines, ATMs, etc.





**Mouse**



**Keyboard**

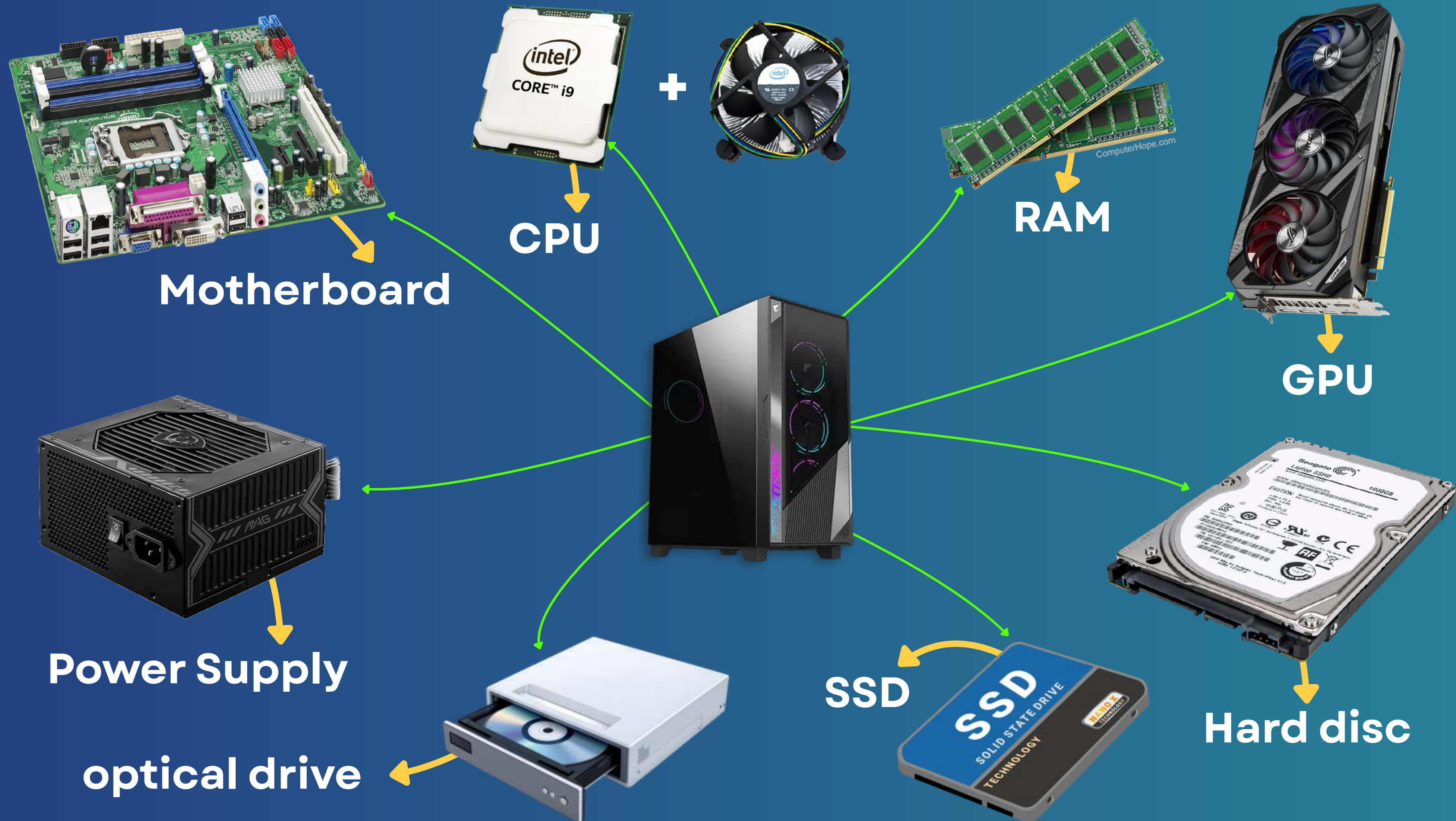


**Monitor**

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# BASIC COMPONENTS OF A COMPUTER

- **Input Devices** – Keyboard, Mouse, Scanner
- **Output Devices** – Monitor, Printer, Speaker
- **Storage Devices** – Hard Disk, SSD, Pen Drive

## TYPES OF SOFTWARE

- **System Software** – Operating System (Windows, Linux, MacOS)
- **Application Software** – MS Word, Excel, Browsers
- **Utility Software** – Antivirus, File Compressor



# COMPUTER MEMORY

Types	Example	Features
Primary Memory	RAM, ROM	Fast, temporary (RAM)
Secondary Memory	HDD, SSD, CD	Permanent storage
Cache Memory	Between RAM & CPU	Super fast, small size
Virtual Memory	Part of HDD	Temporary RAM extension

# WHAT IS RAM?

**RAM** – Random Access Memory

- It is the temporary memory of the computer.
- It stores the data and programs only while the computer is ON.
- When the power goes off, everything in RAM is erased.
- It helps the computer work fast and smooth.

## KEY POINTS

- Temporary memory
- Volatile (data is lost when power is off)
- Helps in running programs and multitasking
- More RAM = faster computer

# WHAT IS ROM?

**ROM** – Read Only Memory

- It is the permanent memory of the computer.
- It stores important instructions needed to start the computer.
- The data in ROM is not erased, even when the computer is turned off.

## KEY POINTS

- Permanent memory
- Non-volatile (data stays even when power is off)
- Stores startup instructions BIOS ( Basic Input/Output System )
- We can only read, not write or change easily



# WHAT IS CACHE MEMORY?

Cache memory is a very small and very fast memory. It stores frequently used data and instructions so the CPU can access them quickly, instead of going to the slower RAM.

- When the CPU needs some data, it first checks the cache.
- If the data is found in cache → It is called a **Cache Hit** (Very fast).
- If not → It fetches from RAM (slower) → Called a **Cache Miss**.

## REAL-LIFE EXAMPLE

- Imagine you are studying and keep a notebook (Cache) on your desk for quick notes, and your school bag (RAM) nearby.
- It's faster to check your desk than to open your bag every time.

# KEY FEATURES

- Very fast, faster than RAM
- Very small in size (usually MBs)
- Reduces the time to access data
- Improves computer speed and performance

# WHAT IS SECONDARY MEMORY?

Secondary memory is the **permanent storage** in a computer where data, programs, and files are stored even when the computer is turned off.

- It stores data for long-term use.
- It is slower than RAM, but has more storage capacity.
- Also called external memory or backup memory.

## KEY FEATURES

- Permanent storage (Non-volatile)
- Large capacity (GBs to TBs)
- Slower than primary memory (RAM)
- Data is not lost when power goes off



# TYPES OF SECONDARY MEMORY:

## 1. Hard Disk Drive (HDD)

- Common storage inside computers.
- Large capacity (500GB or more).

## 2. Solid State Drive (SSD)

- Faster than HDD.
- Used in modern laptops.

## 3. Pen Drive / USB Drive

- Portable and easy to use.
- Plug-and-play storage device.

## 4. Memory Card (SD Card)

- Used in cameras, mobiles.

# **BASIC USES OF COMPUTERS**

- **Education (E-learning)**
- **Communication (Email, Chat)**
- **Entertainment (Games, Movies)**
- **Office Work (MS Office)**
- **Internet Browsing**
- **Programming**

# FULL FORMS

**CPU** - Central Processing Unit

**RAM** - Random Access Memory

**ROM** - Read Only Memory

**USB** - Universal Serial Bus

**URL** - Uniform Resource Locator

**PDF** - Portable Document Format

**GUI** - Graphical User Interface

**HDD** - Hard Disk Drive

**SSD** - Solid State Drive

**OS** - Operating System

**IP** - Internet Protocol

**AI** - Artificial Intelligence



**THANK YOU!**

