

Dr.SNS RAJALAKSHMI COLLEGE OF ARTS AND SCIENCE  
(Autonomous)  
Accredited by NAAC - UGC with 'A+ Grade (Cycle IV)  
(Recognised by UGC, Approved by AICTE & Affiliated to Bharathiar University)  
Coimbatore- 49



**DEPARTMENT OF COMMERCE WITH INFORMATION  
TECHNOLOGY**

**21UCI507 -Business Information Technology**

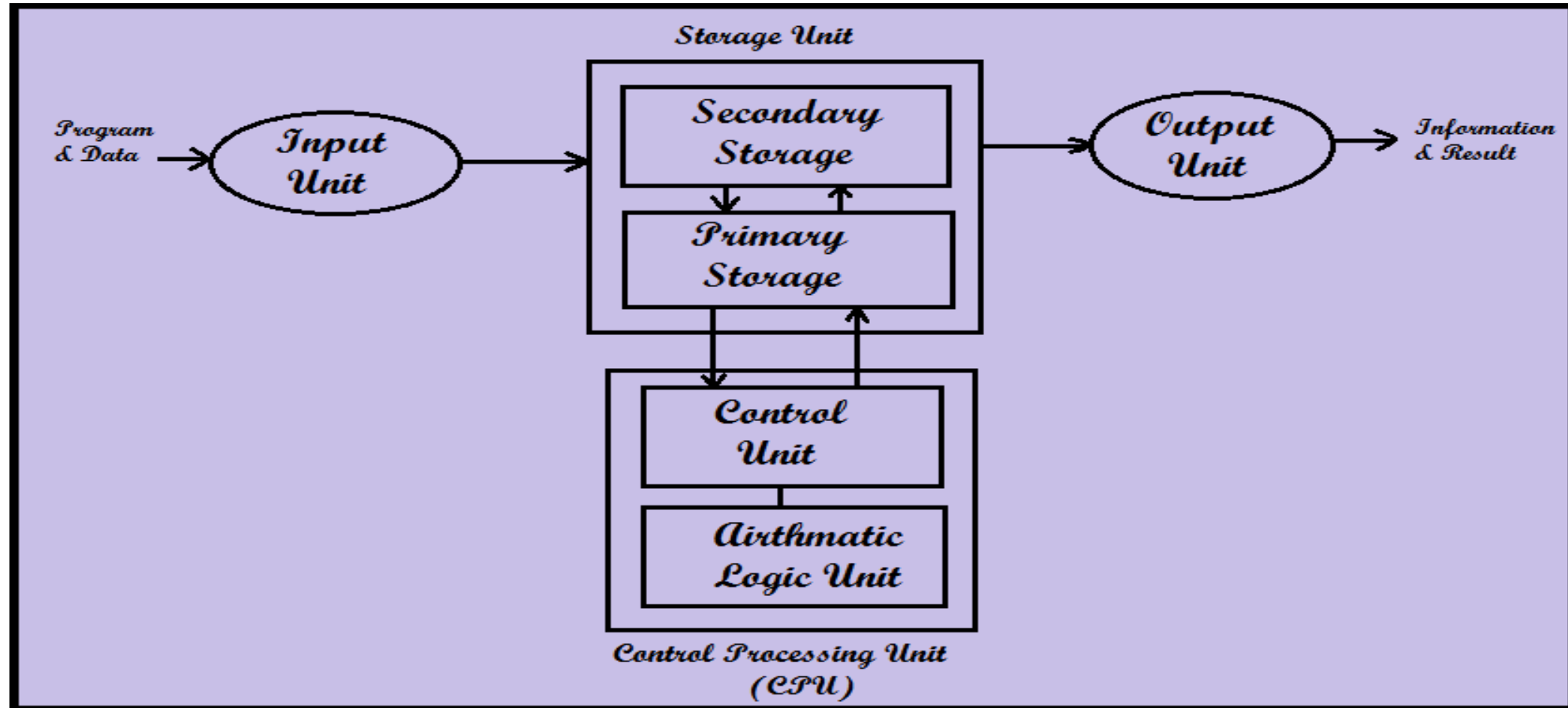
**Anatomy of a Digital Computer System**

**Mrs.M.Viveka, MCA., M.Phil., (Ph.D).,**

**Assistant Professor,**

**Department of Commerce with Information Technology**

# Anatomy of a Digital Computer System



- The Computer mainly consists the functions input, process, output and storage.
- The Block diagram of computer consists mainly
  - ❖ Input unit
  - ❖ CPU(Control unit, Main Memory and ALU)
  - ❖ Output unit,
  - ❖ Secondary Storage unit
  - ❖ Input: This is the process of entering data and programs in to the computer system.
  - ❖ Takes data from us to the computer in an organized manner for processing through an input device such as keyboard, mouse, MICR, OCR, Etc.,

# Anatomy of a Digital Computer System



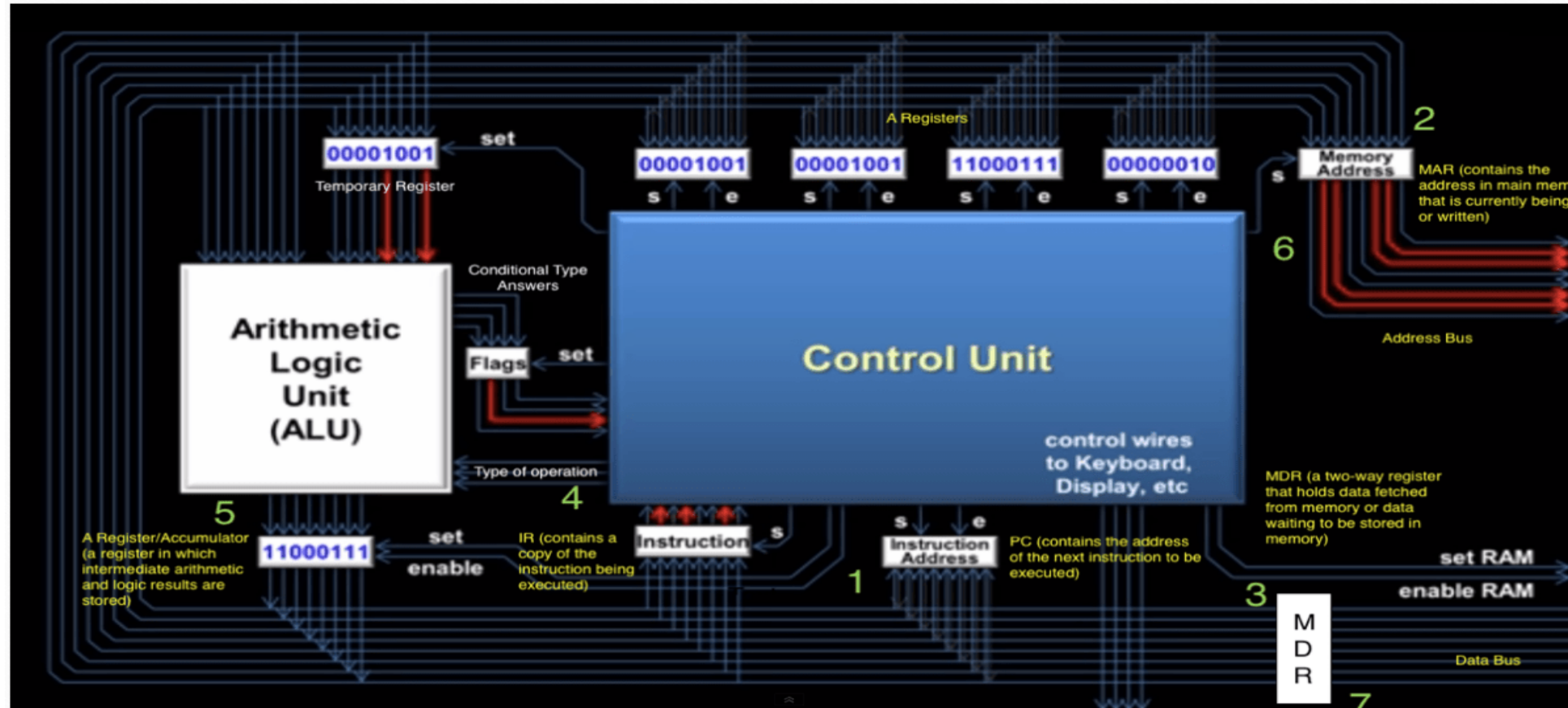
## Main Memory:

- ❖ It is also known as internal memory.
- ❖ It is very fast in operation. It is used to store data and instructions.
- ❖ Data has to be fed into the system before the actual processing starts.
- ❖ It contains a part of the operating system Software, one or more execution programs being executed, the data being processed by the programs for execution, and processed data awaiting output



# Anatomy of a Digital Computer System

## Control Unit



## Control Unit (CU) :

- Acts like the supervisor seeing that things are done in proper fashion.
- Responsible for coordinating various operations using time signal.
- Determines the sequence in which computer programs and instructions are executed.
- Things like processing of programs stored in the main memory, interpretation of the instructions and issuing of signals for other units of the computer to execute them.

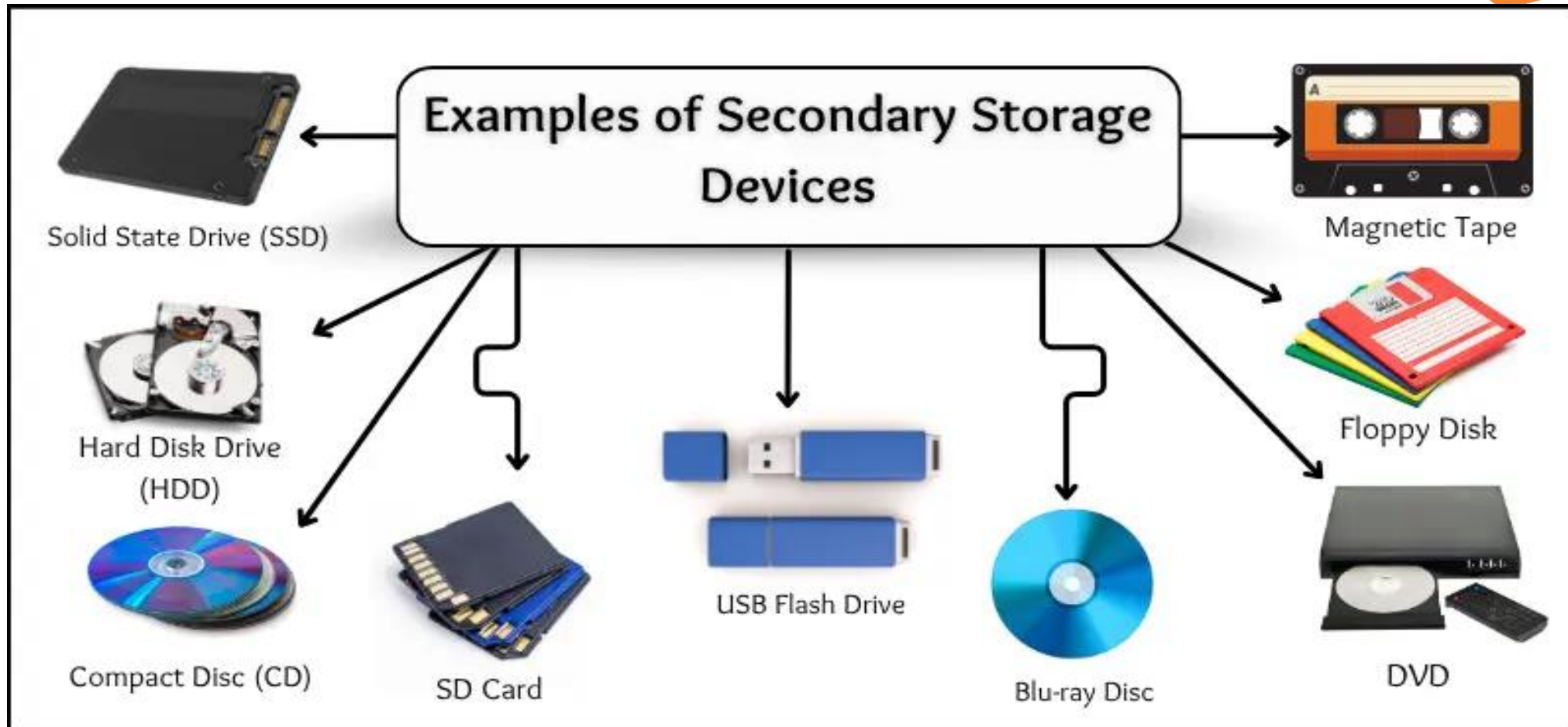
## Arithmetic Logical Unit (ALU) :

- ✓ After you enter data through the input device it is stored in the primary storage.
- ✓ The major operations performed by the ALU are addition, subtraction, multiplication, division, logic and comparison.
- ✓ Data is transferred to ALU from storage unit when required.
- ✓ After processing the output is returned back to storage unit for further processing or getting stored

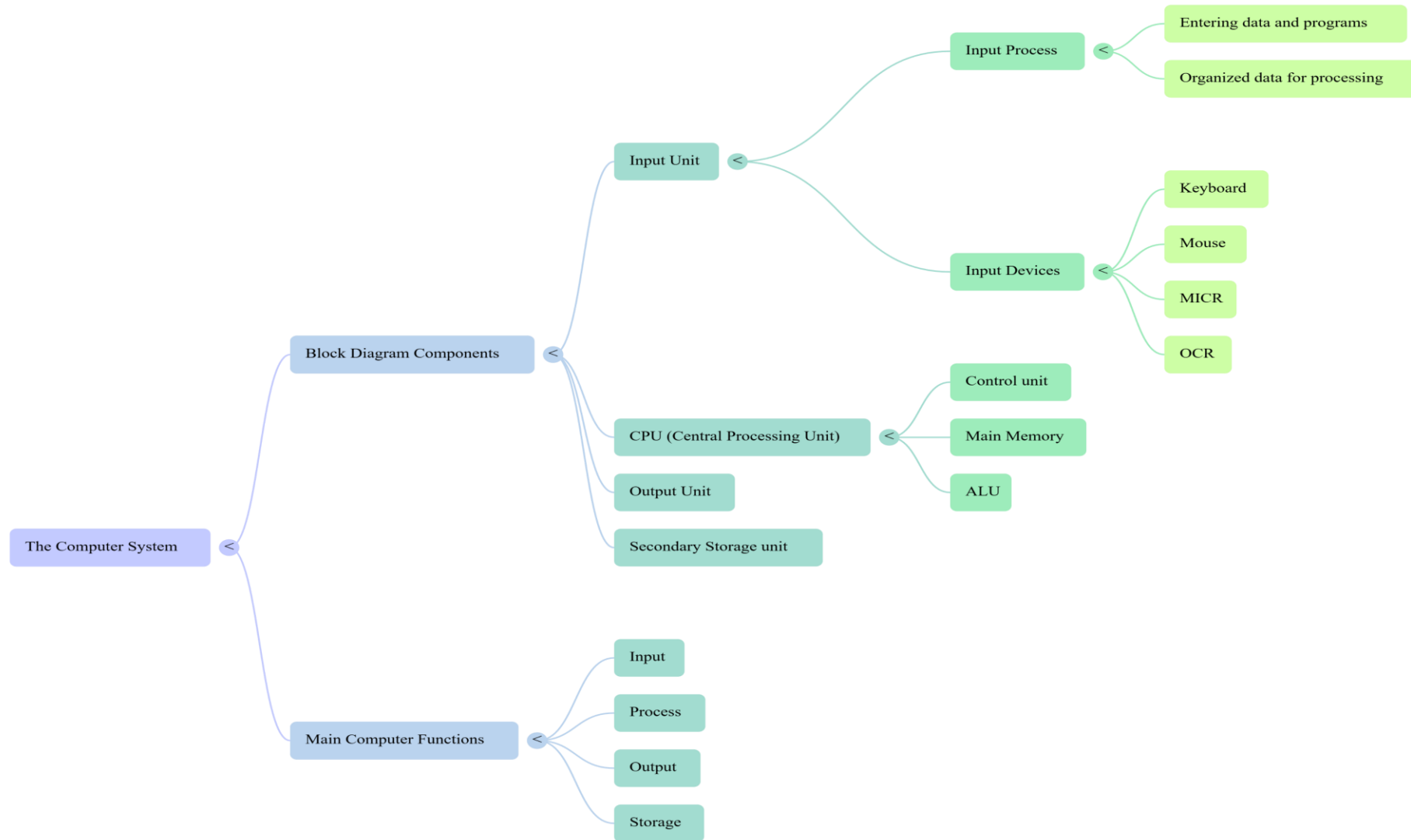
**Secondary storage: It is also known as auxiliary memory.**

- It is closely linked with the main memory.
- Thus, secondary storage is used to hold mass of information i.e., system software, application programs, cinemas, games and data files.
- Obviously, the capacity of secondary storage is very high compared to main memory.
- Auxiliary memory usually in the form of Magnetic disk, Magnetic tape, CD's, Memory cards, Pen drives Etc.,

# Secondary Storage



# Mind map for Anatomy of Digital Computer



## 1. Problem Scenario

A classroom wants to create a **digital learning corner** where students can type notes, watch videos, and store project files.

## 2. Design Thinking Stages

### 1. Empathize

- Understand what students need:
- Very simple explanation
- What each computer part does
- How input, processing, memory, and output happen
- Real-life examples they can relate to

## 2.. Define

**Students need to clearly understand the internal parts of a computer to use it effectively for learning activities.**

**Goal:** Explain the anatomy of a digital computer in an easy and visual way.

## 3. Ideate

- Think of ideas to make it easy:
- Use IPO Cycle (Input → Process → Output)
- Compare parts with real-life examples
- Create a small model showing components
- Use simple examples like typing, saving files, and watching videos

## 1. CPU — “Brain of the Computer”

Has two parts:

**ALU** – Does calculations

**CU** – Controls all activities

Example: When a student opens a game or video, CPU processes it.

## 2. Memory Unit — “Where Data is Stored”

**RAM** – Temporary memory (open files)

**ROM** – Permanent instructions

**HDD/SSD** – Stores files, videos, projects

Example: Saving a project in Documents.

## 3. Output Unit — “How Computer Shows the Result”

Examples: Monitor, Speaker, Printer

Shows videos, plays audio, prints assignments.

## 4. System Bus — “Roads that Connect All Parts”

Carries data and signals between CPU, memory, and input/output devices.

## Simple Data Flow Model

### 5. Test

Ask students:

Input → CPU → Memory → Output

- “Can you explain how a computer works in one sentence?”
- “Do you know what happens after you press a key?”
- “Can you identify input and output devices?”

### Final Outcome

Students now easily understand:

- What input, output, memory, and CPU do
- How all parts work together in a digital computer
- Why these parts are important for learning activities

**Next Topic:**  
**Memory Unit**

