Introduction to Computing

By: Dr. Jawad Shafi

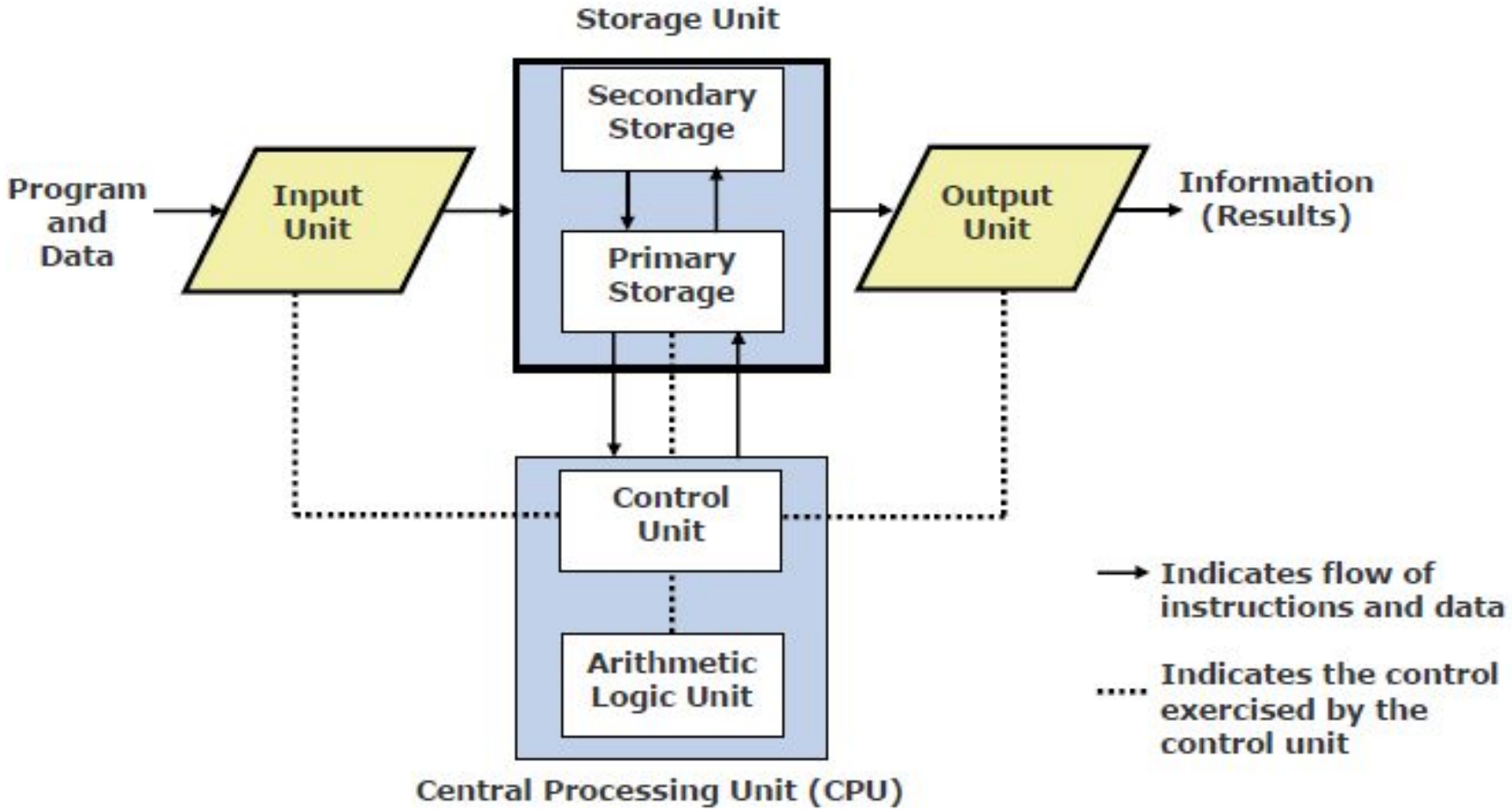
Agenda:

- Basic Operations performed by all types of Computer System
- Basic organization of computer system
- Input units and its functions
- Output units and its functions
- Storage units and its functions
- Types of storage used in computer system

Basic Operations

- Inputting
- Storing
- Processing
- Outputting
- Controlling

Basic Organization of Computer System



Input Unit:

An input unit of a computer system performs the following functions:

1. It accepts (or reads) instructions and data from outside world
2. It converts these instructions and data in computer acceptable form
3. It supplies the converted instructions and data to the computer system for further processing

Output Unit:

An output unit of a computer system performs the following functions:

1. It accepts the results produced by the computer, which are in coded form and hence, cannot be easily understood by us
2. It converts these coded results to human acceptable (readable) form
3. It supplies the converted results to outside world

Storage Unit:

The storage unit of a computer system holds (or stores) the following :

1. Data and instructions required for processing (received from input devices)
2. Intermediate results of processing
3. Final results of processing, before they are released to an output device

Two Types of Storage

- **Primary storage**
  - Used to hold running program instructions
  - Used to hold data, intermediate results, and results of ongoing processing of job(s)
  - Fast in operation
  - Small Capacity
  - Expensive
  - Volatile (looses data on power dissipation)

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Two Types of Storage

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- **Secondary storage**
  - Used to hold stored program instructions
  - Used to hold data and information of stored jobs
  - Slower than primary storage
  - Large Capacity
  - Lot cheaper that primary storage
  - Retains data even without power

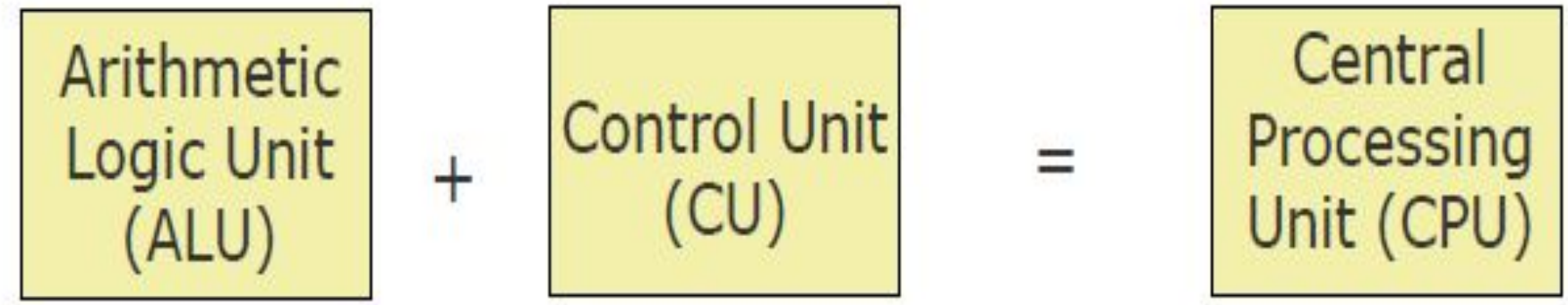
Arithmetic Logic Unit (ALU)

Arithmetic logic unit of computer is the place where the actual execution of instructions take place during processing operation.

Control Unit (CU)

Control unit of computer system manages and coordinates the operations of all other components of computer system.

Central Processing Unit (CPU)



- It is the brain of a computer system
- It is responsible for controlling the operations of all other units of a computer system

The System Concept

A system has following three characteristics:

1. A system has more than one element
2. All elements of a system are logically related
3. All elements of a system are controlled in a manner to achieve the system goal

A computer is a system as it comprises of integrated components (input unit, output unit, storage unit, and CPU) that work together to perform the steps called for in the executing program

Keywords

- Arithmetic Logic Unit (ALU)
- Auxiliary storage
- Central Processing Unit (CPU)
- Computer system
- Control Unit (CU)
- Controlling
- Input interface
- Input unit
- Inputting
- Main memory
- Output interface
- Output unit
- Outputting
- Primate storage
- Processing
- Secondary storage
- Storage unit
- Storing
- System


Thank You!