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DEPARTMENT OF COMMERCE WITH INFORMATION TECHNOLOGY

21UCI507 -Business Information Technology

Input, Processing, Output and Storage devices

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IPOS CYCLE (BASIC CONCEPT)

IPOS :

Input → Processing → Output → Storage

A computer works in a systematic way:

1.Input – Data is entered by the user

2.Processing – CPU processes the data

3.Output – Result is displayed to the user

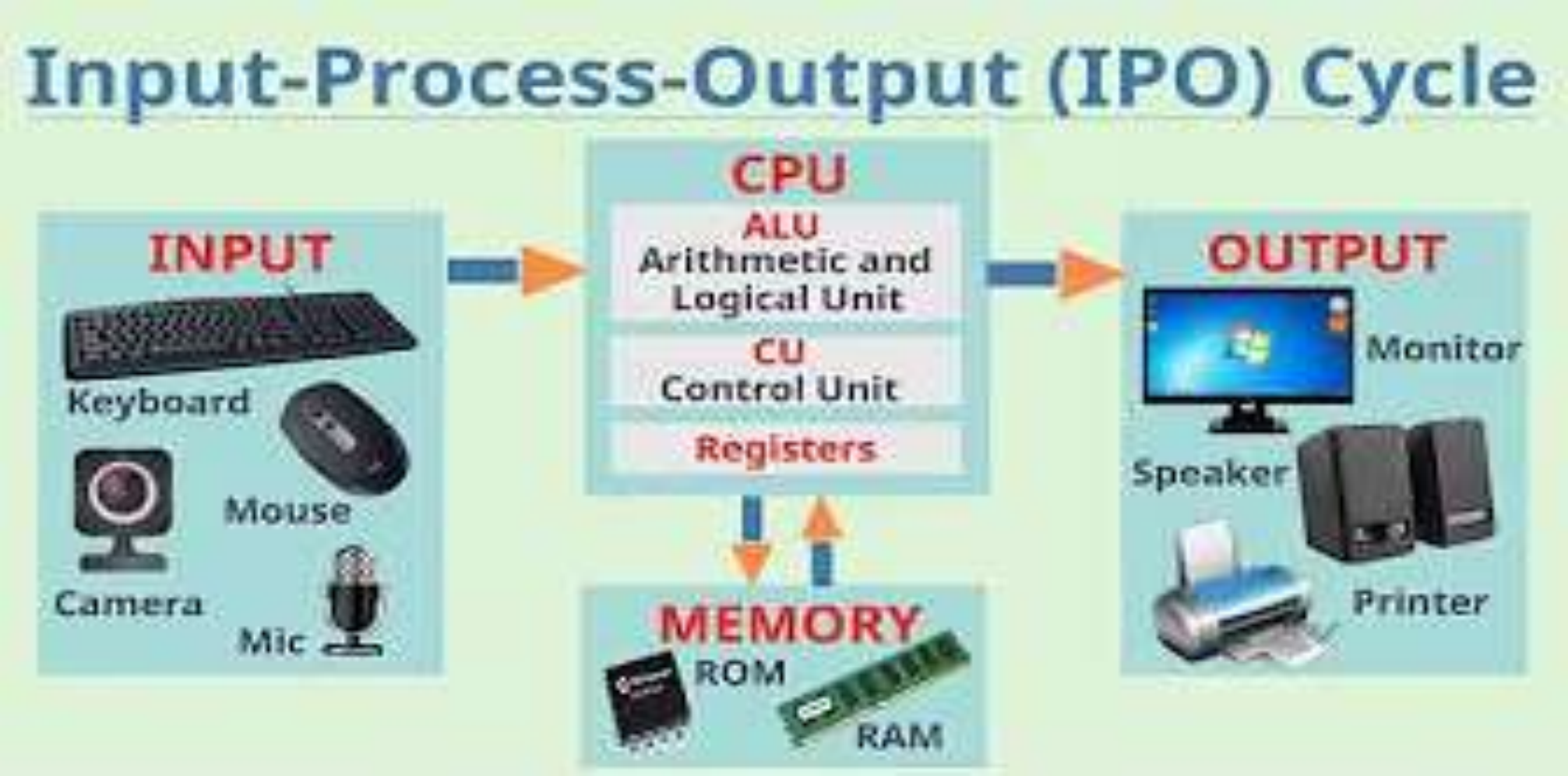
4.Storage – Data is saved for future use

Simple Example:

Typing 2 + 3 in calculator

Typing → Processing → Result = 5 → Saved (if needed)

DIAGRAM: IPOS MODEL



INPUT DEVICES (Definition)

Input Devices:

These are devices used to **enter data and instructions** into the computer.

Main Function:

→ Convert user data into machine-readable form

Examples:

- Keyboard
- Mouse
- Scanner
- Microphone
- Webcam
- Touch Screen
- Barcode Reader

PROCESSING (CPU)

Processing Unit = CPU (Central Processing Unit)

CPU is the **brain of the computer**

It performs:

- Calculations
- Logical operations
- Decision making
- Program execution

Parts of CPU:

1.ALU – Arithmetic Logic Unit

2.CU – Control Unit

3.Registers

FUNCTIONS OF PROCESSING UNIT

ALU (Arithmetic Logic Unit)

→ Performs Addition, Subtraction, Comparison, Logical operations

CU (Control Unit)

→ Controls all operations of computer

Registers

→ Temporary storage for fast processing

Example:

5 + 2 = 7

This is done by ALU inside CPU

OUTPUT DEVICES (Definition)

Output Devices:

These devices show the **result of processing** to the user.

Main Function:

→ Convert digital data into user-readable form

Examples:

- Monitor
- Printer
- Speakers
- Projector
- Headphones

REAL LIFE EXAMPLE

ATM Machine

- Input – ATM Card + PIN
- Processing – Bank Server
- Output – Cash + Receipt
- Storage – Transaction saved in database

ADVANTAGES OF STORAGE DEVICES

- Store large amount of data
- Easy data transfer
- Backup and recovery
- Long-term usage
- Portable devices available

SUMMARY

- Input devices → Enter data
- CPU → Processes data
- Output devices → Display results
- Storage → Save information
- These four work together as **IPOS Cycle**

Computer works only when all four parts function properly

SHORT QUESTIONS

- What is an input device?
- Write two examples of output devices.
- What is CPU?
- Difference between RAM and ROM?
- Give two examples of storage devices.

CASE STUDY – ONLINE EXAM SYSTEM (IPOS MODEL)

Scenario:

ABC College conducted an **Online Internal Examination** for first-year students using a computer-based system.

Each student was given a system in the computer lab to write the exam.

The system included the following operations:

Input:

Students entered their:

- Username and password
- Answers using **keyboard and mouse**
- Some students used **webcam and microphone** for monitoring

CASE STUDY – ONLINE EXAM SYSTEM (IPOS MODEL)

Processing:

The **CPU and server** checked:

- Student login details
- Time limit
- Auto evaluation for objective questions
- Score calculation

Output:

After submitting the exam, the system displayed:

- Marks obtained
- Correct and wrong answers
- Performance analysis on the **monitor**

Storage:

The system stored:

- Student answers
- Marks
- Attendance details
- Result report in the **database / hard disk**

Next Topic:
Software - System software and Application software