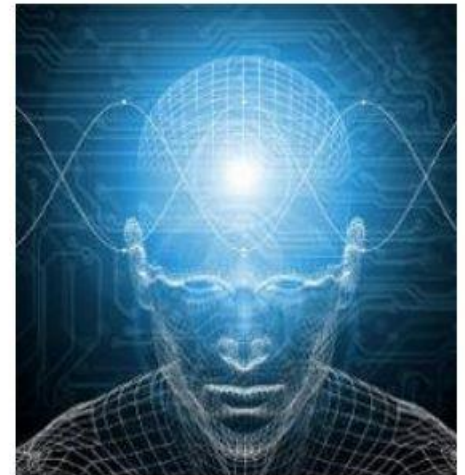


Lecture I
Introduction Computers
By
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What is a Computer?



- A computer or computing machine is a device that performs mathematical and logical operations on symbols and other forms of information at high speed and with precision.
- Early computers were used mainly to compute (add, subtract, multiply, divide and so on).
- Today, computers perform a variety of tasks such as, text processing and handling large quantities of information, which takes different forms (text, image, sound, and video).



What is computer

A computer is an electronic device, operating under the control of instructions stored in its own memory that can accept data (input), process the data according to specified rules, produce information (output), and store the information for future use

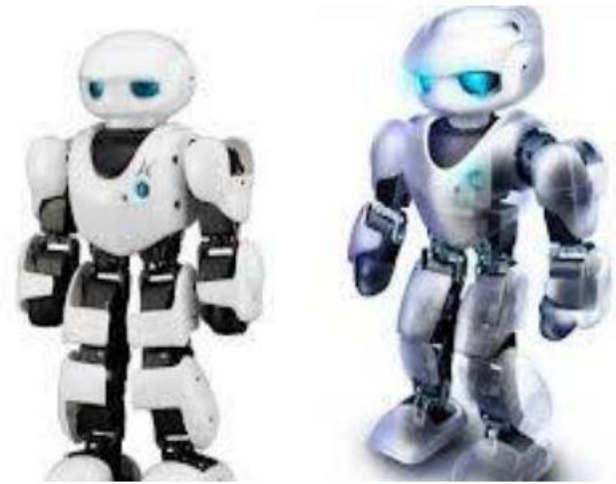
Types of Computers

- **Embedded computers**
- **Non-embedded computers**

Types of Computers(cont.)

- **Embedded computers**
- Non-embedded compute

A computer that is internal component of another machine



Computers classification

Computers can be generally classified by **size** and **power** as follows, though there is Considerable overlap:

- ❑ **Personal computer:** A small, single-user computer based on a **microprocessor**. In addition to the microprocessor, a personal computer has a keyboard for entering data, a monitor for displaying information, and a storage device.



Computers classification

- ❑ **workstation** : A powerful, single-user computer. A workstation is like a personal computer, but it has a more powerful microprocessor and a higher-quality monitor



Computers classification

- mainframe : A powerful multi-user computer capable of supporting many hundreds or thousands of users simultaneously.



Computers classification

- minicomputer : A multi-user computer capable of supporting from 10 to hundreds of users simultaneously.



Computers classification

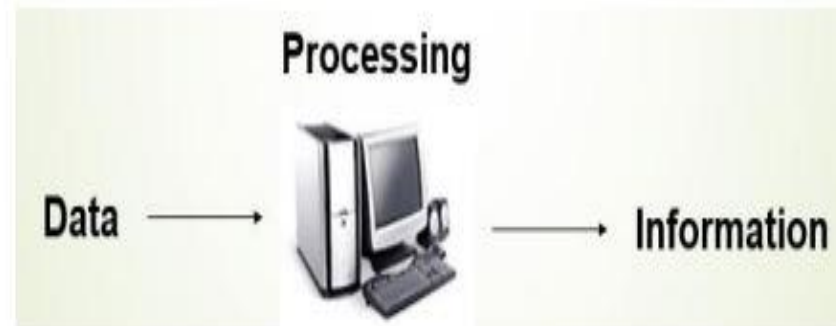
- ❑ supercomputer : An extremely fast computer that can perform hundreds of millions of instructions per second.



Functionalities of a computer

Any digital computer carries out five functions in gross terms:

- Takes data as input.
- Stores the data/instructions in its memory and use them when required.
- Processes the data and converts it into useful information.
- Generates the output
- Controls all the above four steps.



Computer Components

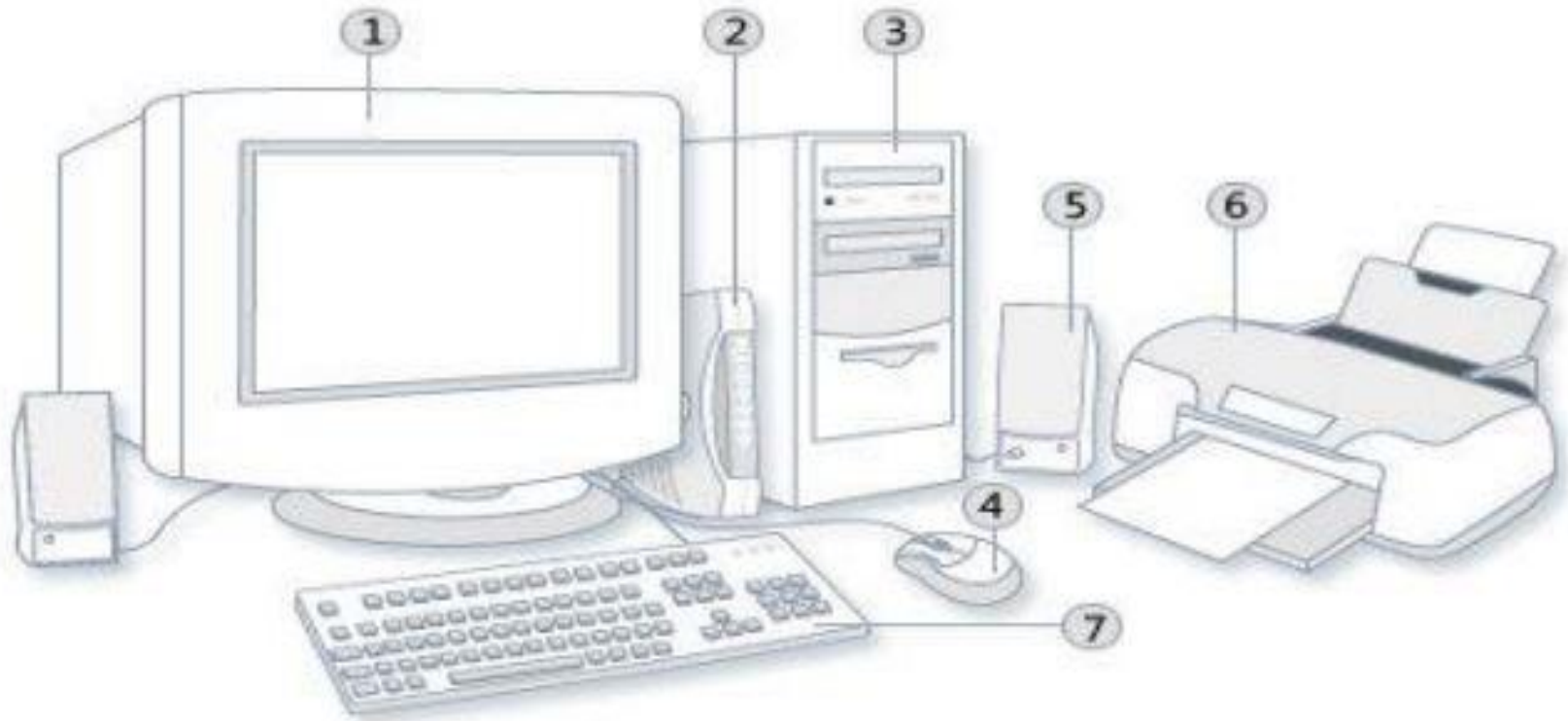
Any kind of computers consists of

- ❑ Hardware
- ❑ Software

Computer Components(Hardware)

- ❑ Computer hardware is the collection of physical elements that constitutes a computer system.
- ❑ Computer hardware refers to the physical parts or components of a computer such as the monitor, mouse, keyboard, computer data storage, hard drive disk (HDD), system unit (graphic cards, sound cards, memory, motherboard and chips), etc. all of which are physical objects that can be touched

Computer Components(Hardware)



① Monitor

② Modem

③ System unit

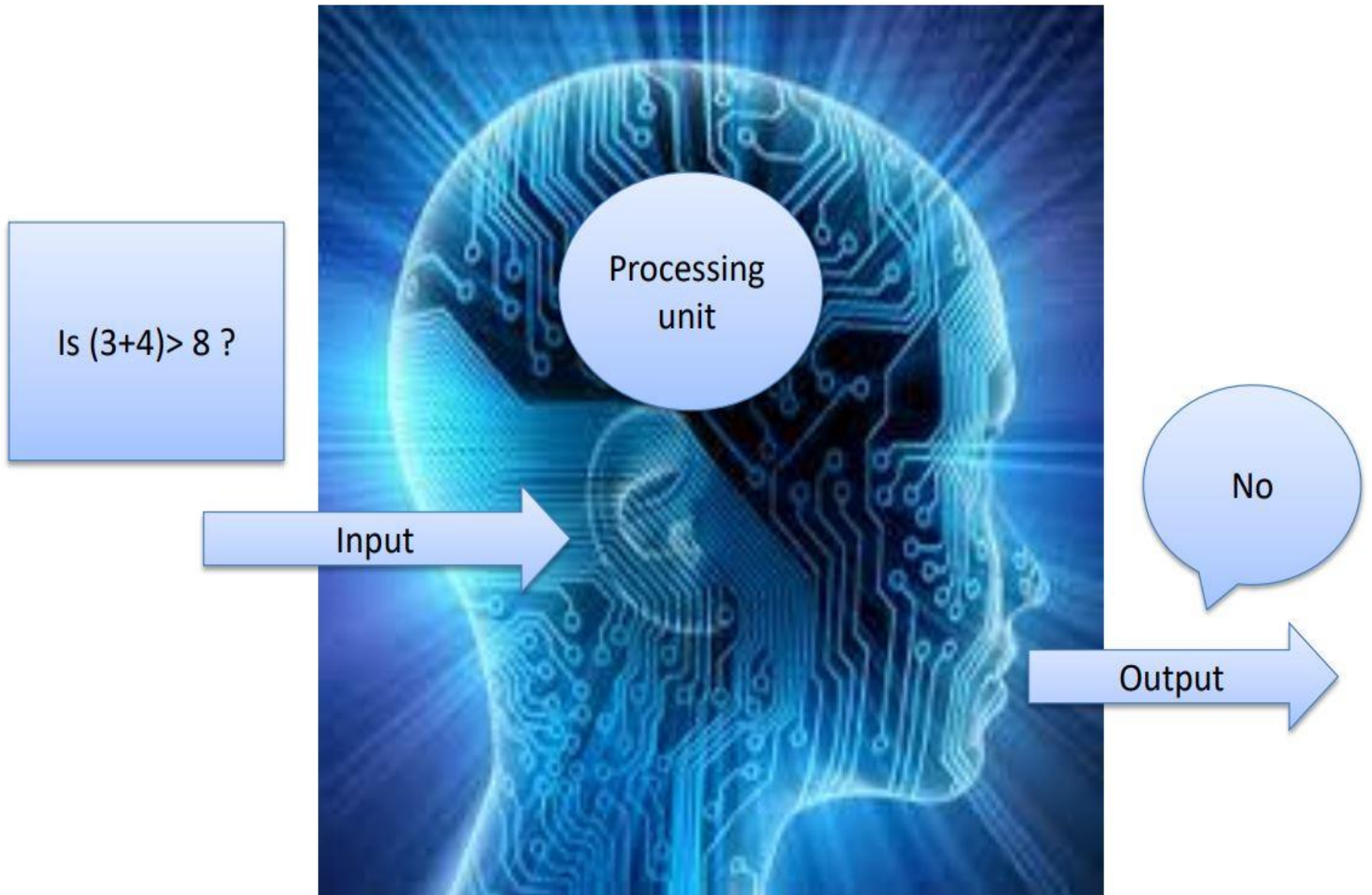
④ Mouse

⑤ Speaker

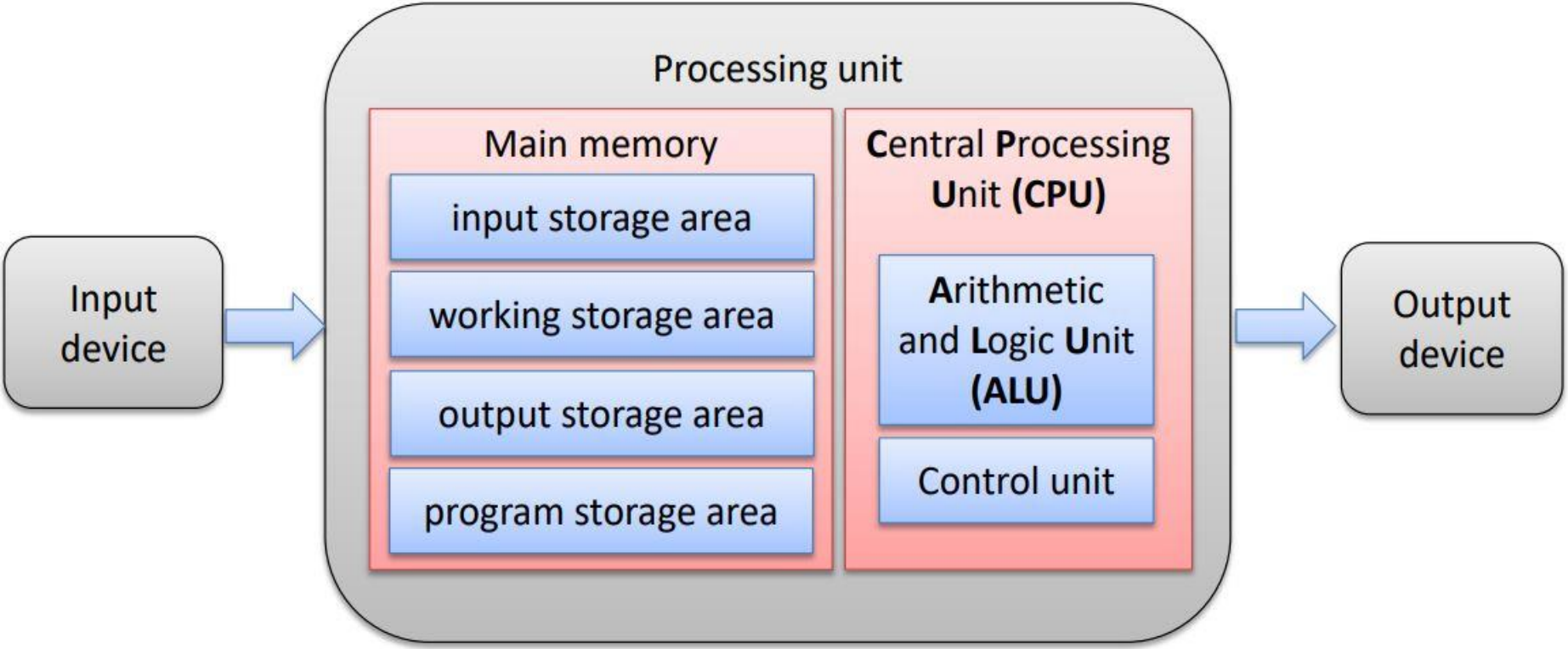
⑥ Printer

⑦ Keyboard

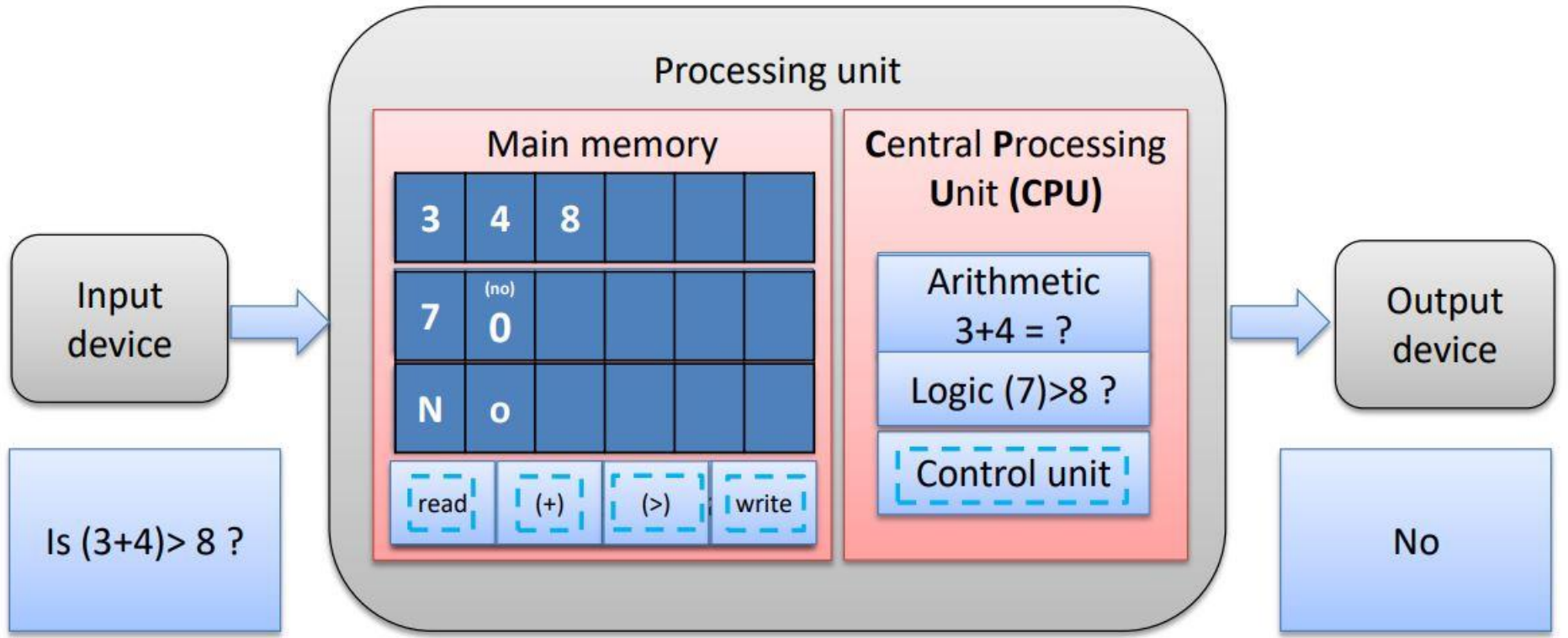
Basic Elements of a Computer System



Basic Elements of a Computer System



Basic Elements of a Computer System



Input Devices

Input device is any **peripheral** (piece of computer hardware equipment to provide data and control signals to an information processing system such as a computer or other information appliance. Input device Translate data from form that humans understand to one that the computer can work with. Most common are **keyboard** and **mouse**.

Input Devices

Examples of Manual Input Devices

Keyboard



Numeric Keypad



Pointing Device



Remote Control



Joystick



Touch Screen



Scanner



Graphics Tablet



Microphone



Digital Camera



Webcams



Light Pens



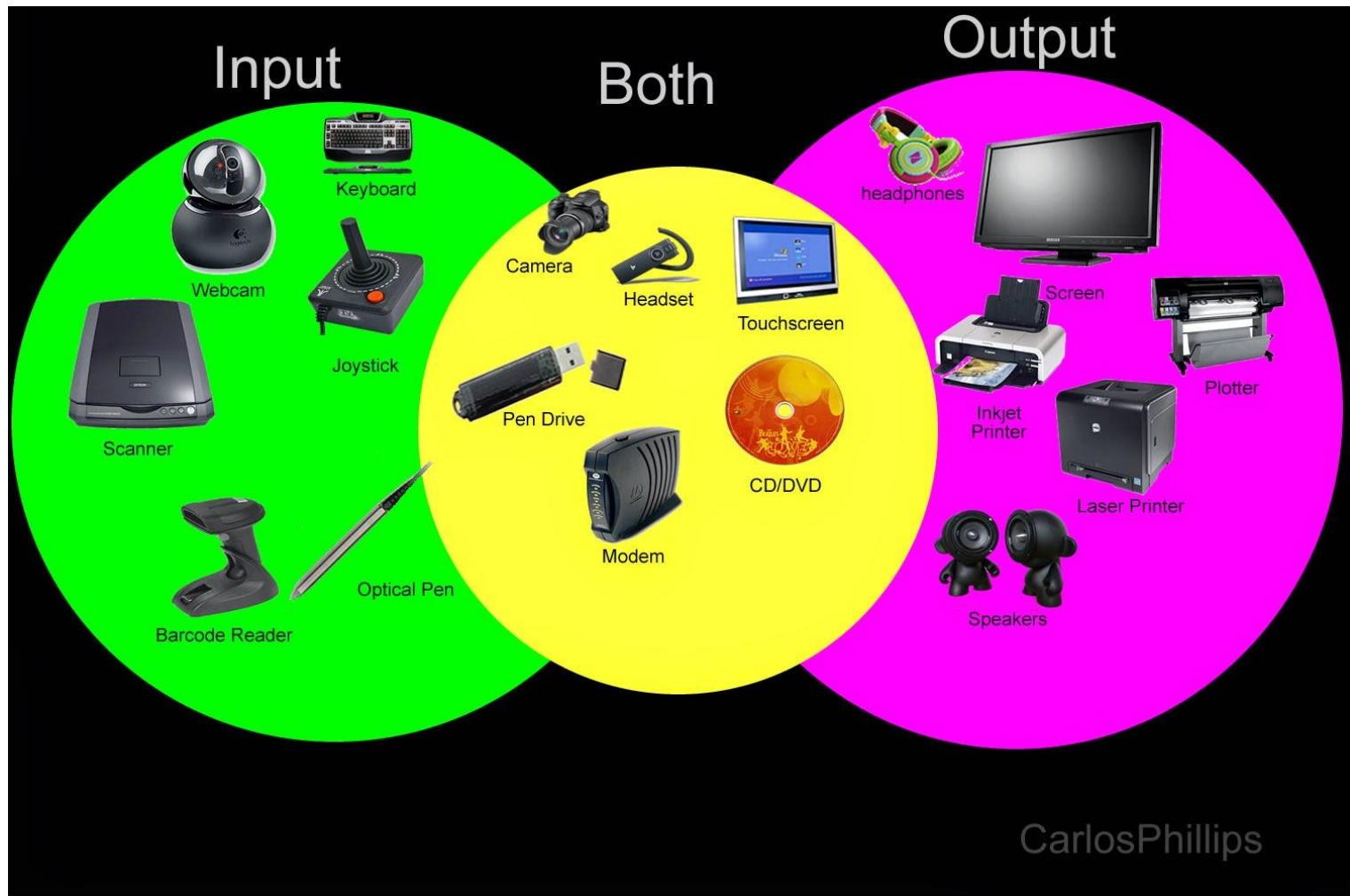
Input Devices

Example of Input Devices:-

1. Keyboard	2. Mouse (pointing device)	3. Microphone
4. Touch screen	5. Scanner	6. Webcam
7. Touchpads	8. MIDI keyboard	9.
10. Graphics Tablets	11. Cameras	12. Pen Input
13. Video Capture Hardware	14. Microphone	15. Trackballs
16. Barcode reader	17. Digital camera	18. Joystick
19. Gamepad	20. Electronic Whiteboard	21.

Note: The most common use keyboard is the QWERTY keyboard. Generally standard Keyboard has 104 keys.

Output Devices





Components of the System Unit