Learning Objectives

- By the end of this lesson all of you will;
  - define the terms hardware, software, input device, storage device and output device;
  - describe the purpose of input devices, storage devices and output devices;

Hardware

Hardware are the physical components of a computer – eg the input devices, output devices, primary storage (memory) and secondary storage (backing store), Central Processing Unit etc. Note that input and output devices are collectively known as peripherals.

External Hardware	Internal Hardware
Monitor	Hard drive
Printer	CPU
Keyboard	Fan
Mouse	Motherboard
Microphone	Sound card

Software

Software are the sets of instructions/ programs that are loaded into the memory of the computer in order to perform a task or to control the operation of the computer.

Systems Software	Application Software
Operating systems	Word processors
Utilities	Web browsers
User interface	Game applications

Input Device

An input device is hardware that allows data to be entered into a computer.

Manual Input	Automatic Input
Keyboard	Barcode reader
Mouse	Sensor
Microphone	Magnetic stripe reader
Scanner	Optical mark reader (OMR)

Storage

A storage device is hardware that allows data to be saved, long-term, after it has been inputted into the computer. Examples include;

- Hard drive
- DVD
- CD
- Flash memory (USB)

Output Devices

A storage device is hardware that allows data to be saved, long-term, after it has been inputted into the computer. Examples include;
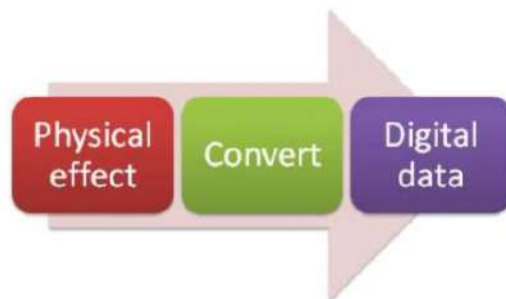
- Monitor
- Printer
- Projector
- Speakers

Computer Systems

A computer system is one that is able to take a set of inputs, process them, and create a set of outputs. This is done using a combination of hardware and software.

Input Devices

The purpose of an input device is to provide data in a computer system ready for processing.

| Physical effect | Convert | Digital data |

Storage Devices

The purpose of a storage device to store data and software for later use. The storage device will make some use of physical effect to represent the data.

- CD, DVD, Blu-Ray – a laser burns dark pits onto the medium. Each pit is a binary digit.
- Hard drives and magnetic tape use magnetic domains to represent data.
- Flash drive use electric charge to store the data

A primary storage device is the main computer storage device, and a secondary device is one where you can also store files, but is not the main storage you use.

Output Devices

Output is the stage where the information obtained by the processing is presented to the user in a suitable format. Examples include;

- A printout of exam grades
- A digital display on a petrol pump
- A sound from a smoke alarm

Digital Data → Convert → Physical effect