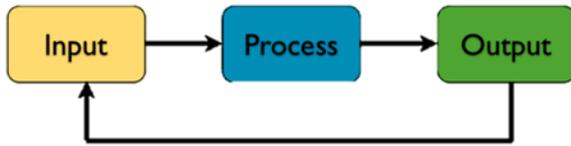


## What is a computer?

A computer is any device that takes an input, processes it and then outputs information.



## CPU (Von Neumann)

The CPU has two main parts: **ALU & CU**

### Arithmetic and Logic Unit

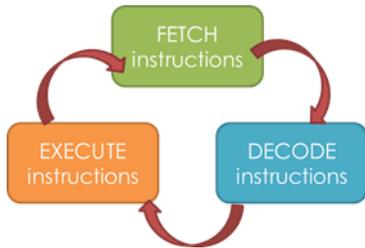
The ALU carries out all of the arithmetic and logical operations including addition, subtraction and comparisons (for example, equal to, less than, greater than).

### Control Unit

The **Control Unit** uses electrical signals to direct the system to execute the instructions in stored programs.

## Fetch, Decode, Execute

The main function of the CPU is to run an endless fetch-execute cycle.



The speed of the **FDE** cycle is measured in cycles per second (**hertz**). This is known as the **clock speed**.

Processors are usually measured in **giga-hertz (GHz)**

**1GHz = 1 billion instructions processed.**

## Input Devices

An input device is a piece of hardware that can be used to enter data into a computer.



## Output Devices

An output device is a piece of hardware that can be used to represent information in a variety of ways.



# TOPIC 2 COMPUTER SYSTEMS

## Key Words

Input

Process

Output

CPU

Heat Sink

Motherboard

RAM

Component

Hard Drive

FDE

Power Supply

Clock Speed

## Components

Computer components are all the different internal parts of a computer system that help it to operate. Each component has its own purpose and functions.

### Central Processing Unit

The CPU is the brain of the computer. It does all the processing and calculating for the computer.



### Heat sink

A heat sink is used to draw heat away from important components such as the CPU that can get quite hot. If a component gets too hot then it won't be able to perform its job as well.



### Motherboard

The motherboard is what connects all the other components. It helps keep them secure and allows the components to communicate.



### Power Supply

A power supply helps to convert electricity to a suitable voltage to power the computer safely.



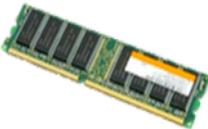
### Hard Drive

A Hard Drive is where all the computer's long-term data is stored i.e. data you want to keep for in the future, such as your own documents, music, films and games.



### Random Access Memory

RAM is where temporary data is stored while the computer is currently being used. Once a computer is switched off this data is lost.



### Network Interface Card

A network interface card (NIC) enables a computer system to connect to a network. Some allow access wirelessly.

