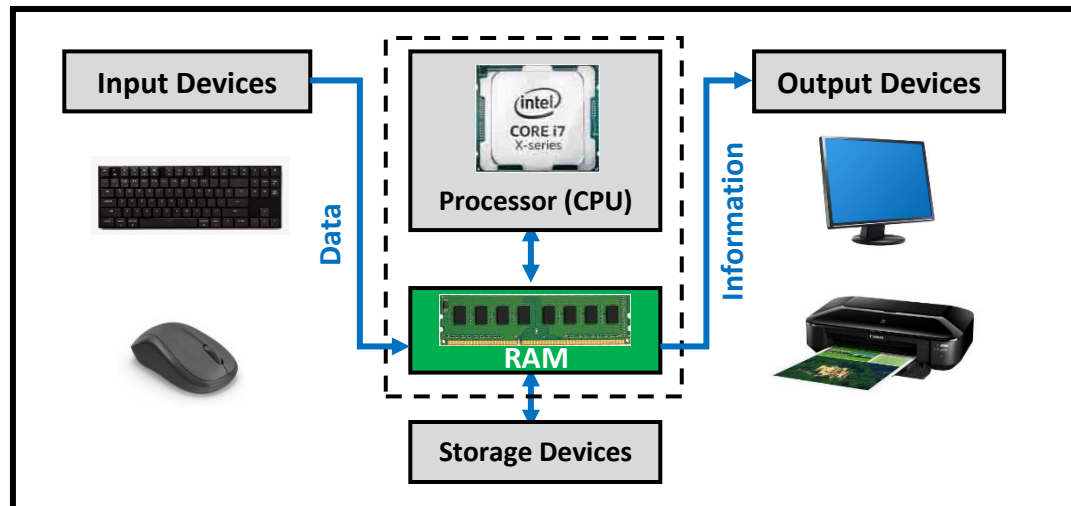


1.1 BASICS OF A COMPUTER

1.1.1 What is a computer?

A computer is an electronic machine that accepts data, stores and processes it according to instructions (programs) in order to produce the results (information). The word “computer” comes from the word ‘compute’, which means to calculate.



Data: is a raw material and unorganized facts that need to be processed.

Information: When data is processed, organized, structured or presented in a given context so as to make them useful, it is called **Information**.

1.1.2 Basic Parts of a Computer:



1. **System Unit:** a case containing the essential components of the computer. It includes the motherboard, central processing unit (CPU), random access memory (RAM), and others.
2. **Monitor:** works as an output device which displays graphical or text output.

3. **Keyboard:** used to input text, characters and other commands into a computer.
4. **Mouse:** is an input device used to point to objects on the screen, click on them, and move them.

1.2 CLASSIFICATIONS OF COMPUTERS

1.2.1 Personal Computer (or Microcomputer)

- **Desktop Computer:** a personal computer designed to fit on a desk. It is typically made up of a system unit, a keyboard, a mouse and a monitor.
- **Laptop Computer:** a portable computer with an integrated screen and keyboard. It is battery powered and more portable than a desktop computer.
- **Tablet Computer:** is a handheld computer that is more portable than a laptop. Instead of a keyboard and mouse, tablets use a touch-sensitive screen for typing and navigation.
- **Smartphone:** is a more powerful version of a traditional cell phone with a touch-sensitive screen. Smartphones can connect to the Internet and you can use it for browsing the Web, receiving and sending emails or playing games.



Desktop



Laptop



Tablet



Smartphone

1.2.2 Server

A server is a software or hardware device that accepts and responds to requests made over a network. The device that makes the request, and receives a response from the server, is called a client. On the Internet, the term "server" commonly refers to the computer system that receives requests for a web files and sends those files to the client.



1.2.3 Mainframe Computer

A very large and expensive computer capable of supporting hundreds, or even thousands, of users simultaneously. In some ways, mainframes are more powerful than supercomputers because they support more simultaneous programs. But supercomputers can execute a single program faster than a mainframe.



1.2.4 Supercomputer

The fastest and most powerful type of computer. Supercomputers are very expensive and are employed for specialized applications that require immense amounts of mathematical calculations, such as weather forecasting, nuclear energy research, and petroleum exploration.

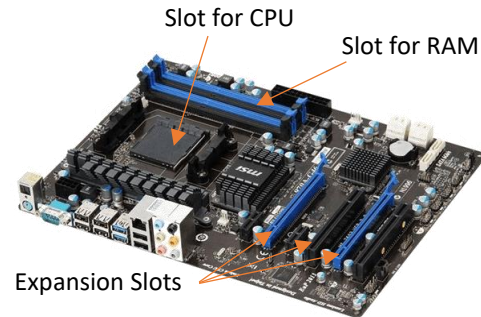


1.3 HARDWARE

The term hardware refers to the physical component of the computer. Computer hardware includes input devices, output devices, central processing unit (CPU), motherboard, power supply, random access memory (RAM), and other components.

1.3.1 Motherboard

The motherboard is the main circuit board of your computer. It is where most of the parts and peripherals are connected. It holds the central processing unit CPU, random access memory RAM, read only memory and other components.



1.3.2 The Central Processing Unit (CPU)

Central processing unit (CPU) is the central component of the Computer System. Sometimes it is called as microprocessor or processor. It is the brain of the computer. All functions and processes that are done on a computer are performed directly or indirectly by the processor.



The CPU consists of transistors that receives data and instructions, process (calculate) the data according to the instructions and produces the results of the calculations. The most common types of computer processor are Intel and AMD.

Processor Speed

The Speed of the CPU is a primary factor determines the computer performance. CPU speed is the number of cycles per second at which the processor operates and is able to process information. The more cycles that a processor unit is able to complete per second, the faster data is able to be processed. Processor speed is measured in megahertz.

A hertz equals to one cycle per second. For Example, a processor with 3.8 GHz runs 3.8 billion cycle per second. To help CPUs run faster, multi-core processors were developed. Multi-core processor means having two or more processors on one integrated circuit, such as: dual-core and quad-core processors.