Know your Computer

In the previous sections you learnt what a computer is, and also had an idea of the computer generations. Now, let's have a look at the different elements that together works as a system called Computer. All the given elements are logically related to each other.

Basic Components of Computer System

The two basic parts of the Computer system are *Hardware* and *Software*.

These two parts work in complete synchronization and are logically related to each other. For instance, lets consider a Lock to be the hardware and software as the Key. If either of the two is missing, the other part becomes useless.

Hardware

In Computers' language, hardware refers to the various physical devices/components, used to make the Computer System. Some of the hardware equipments are as following:-

Keyboard   Monitor   Mouse   Printer
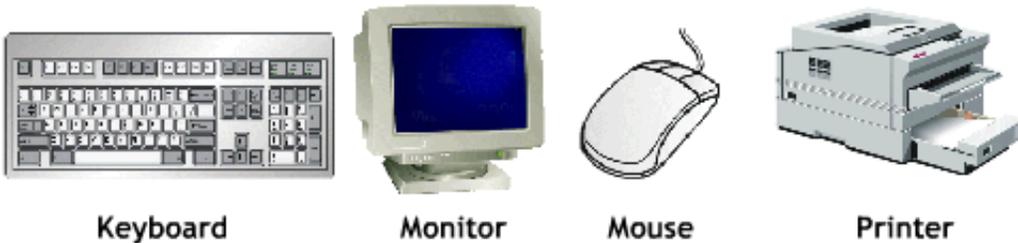
Software

We know that hardware refers to the machinery part, but think how does these machine parts work? Well! definitely they do not work on their own. These parts need to be instructed on exactly what they have to perform. For instance, A human body is useless without Brain. As the Brain is the controlling unit which instructs the body to perform tasks, similarly the software provides intelligence to the Hardware components.

**Note:-** *The combination of both the software and hardware makes the computer work in a fashionable way.*

Bits and Bytes

Data inside a computer system is not stored in a format that could be easily read by the human beings. Computer represents data in a digital form; it treats everything, even the text, numerically.

The following illustration gives an idea of how the data entered by the user is converted into the

computers' language, i.e. Binary Language.
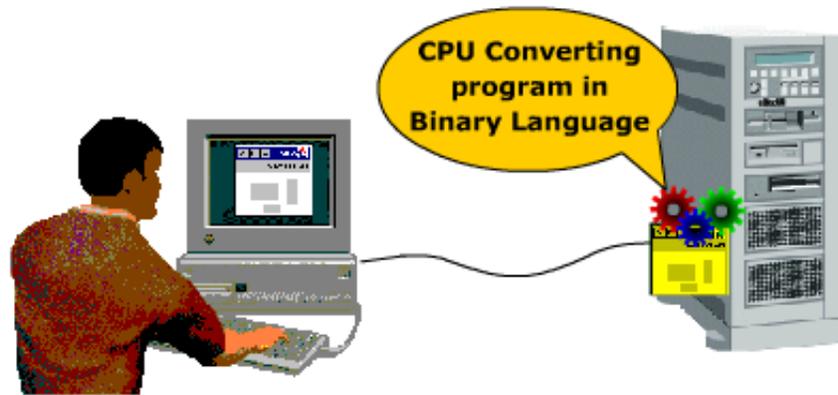
Binary Mode

The term Binary is used to refer to two distinct states, On or Off, yes or no, absent or present, and 1 or 0.

For instance, if we push the light switch, then it can be either ON or OFF. In the same way the computer uses just two digits, 0 & 1, to perform its operation and store data. Continuing with the same example, The light switch's condition OFF represents or is equivalent to the 0 digit, whereas ON condition would mean 1.

The Binary Number System consists of only two digits - 0 and 1 and thus the computer is said to use a Binary Number System.

A 0 or 1 is called as a **Bit** (Binary Digit).

Measuring Units

The size of memory available is measured in :-

- Bit = A Binary digit, 0 or 1.

- Byte = 8 Bits, or 1 character.

- Kilobyte (KB) = 1024 Bytes.

- Megabyte (MB) = 1024 Kilobytes. It is used to describe the total capacity of a hard or floppy disk or the total amount of RAM.

- Gigabyte (GB) = a kilobyte to the third power (1,024 times 1,024 times 1,024), or approximately one billion bytes.

- Terabyte (TB) = 1,000,000,000,000 Bytes.

Bytes are used to measure the amount of information that can be stored. In other words, it is the space required to represent a single character- a letter, number, or even a space. The computers internal memory is organized as a collection of Bytes.