**Fundamentals of Computers System**

Today’s world is an information-rich world and it has become a necessity for everyone to know about computers. A computer is an electronic data processing device, which accepts and stores data input, processes the data input, and generates the output in a required format.

The purpose of this tutorial is to introduce you to Computers and its fundamentals.

**Functionalities of a Computer**

If we look at it in a very broad sense, any digital computer carries out the following five functions

**Step 1** − Takes data as input.

**Step 2** − Stores the data/instructions in its memory and uses them as required.

**Step 3** − Processes the data and converts it into useful information.

**Step 4** − Generates the output.

**Step 5** − Controls all the above four steps.



**Advantages of Computers**

Following are certain advantages of computers.

**High Speed**

* Computer is a very fast device.
* It is capable of performing calculation of very large amount of data.
* The computer has units of speed in microsecond, nanosecond, and even the picosecond.
* It can perform millions of calculations in a few seconds as compared to man who will spend many months to perform the same task.

**Accuracy**

* In addition to being very fast, computers are very accurate.
* The calculations are 100% error free.
* Computers perform all jobs with 100% accuracy provided that the input is correct.

**Storage Capability**

* Memory is a very important characteristic of computers.
* A computer has much more storage capacity than human beings.
* It can store large amount of data.
* It can store any type of data such as images, videos, text, audio, etc.

**Diligence**

* Unlike human beings, a computer is free from monotony, tiredness, and lack of concentration.
* It can work continuously without any error and boredom.
* It can perform repeated tasks with the same speed and accuracy.

**Versatility**

* A computer is a very versatile machine.
* A computer is very flexible in performing the jobs to be done.
* This machine can be used to solve the problems related to various fields.
* At one instance, it may be solving a complex scientific problem and the very next moment it may be playing a card game.

**Reliability**

* A computer is a reliable machine.
* Modern electronic components have long lives.
* Computers are designed to make maintenance easy.

**Automation**

* Computer is an automatic machine.
* Automation is the ability to perform a given task automatically. Once the computer receives a program i.e., the program is stored in the computer memory, then the program and instruction can control the program execution without human interaction.

**Reduction in Paper Work and Cost**

* The use of computers for data processing in an organization leads to reduction in paper work and results in speeding up the process.
* As data in electronic files can be retrieved as and when required, the problem of maintenance of large number of paper files gets reduced.
* Though the initial investment for installing a computer is high, it substantially reduces the cost of each of its transaction.

**Disadvantages of Computers**

* A computer is a machine that has no intelligence to perform any task.
* Each instruction has to be given to the computer.
* A computer cannot take any decision on its own.

**Dependency**

* It functions as per the user’s instruction, thus it is fully dependent on humans.

**Environment**

* The operating environment of the computer should be dust free and suitable.

**No Feeling**

* Computers have no feelings or emotions.
* It cannot make judgment based on feeling, taste, experience, and knowledge unlike humans.