***Introduction to Computers***

***Operating System***

**Operating System**

An Operating System (OS) is an interface between computer user and computer hardware. An operating system is software which performs all the basic tasks like file management, memory management, process management, handling input and output, and controlling peripheral devices such as disk drives and printers. Some popular Operating Systems include Linux Operating System, Windows Operating System, and MAC/ Apple OS etc.

 

An Operating System provides services to both the users and to the programs.

* It provides programs an environment to execute.
* It provides users the services to execute the programs in a convenient manner.

Following are a few common services provided by an operating system −

* Program execution
* I/O operations
* File System manipulation
* Communication
* Error Detection
* Resource Allocation
* Protection

## **Applications of Operating System**

Following are some of the important activities that an Operating System performs −

* **Security** − By means of password and similar other techniques, it prevents unauthorized access to programs and data.
* **Control over system performance** − Recording delays between request for a service and response from the system.
* **Job accounting** − Keeping track of time and resources used by various jobs and users.
* **Error detecting aids** − Production of dumps, traces, error messages, and other debugging and error detecting aids.
* **Coordination between other software and users** − Coordination and assignment of compilers, interpreters, assemblers and other software to the various users of the computer systems.

**Advantages of Operating System**

* An OS allows installing of different types of apps and run them
* OS improves work efficiency and saves time by reducing the complexity
* Also, it helps in reducing the efforts need to access various data
* Data can be copied, deleted, moved, and restored from the computer system
* Every system component is independent of each other, so the failure of one system will not affect others