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Operating system: An operating system (OS) is a program which acts as an interface between the user and the computer hardware. A computer needs to communicate with both the hardware and software

Functions of an Operating system: The function of an operating system categorised by four steps

- ❖ **Process management:** - It is a process by which operating system can control the planning, monitoring and performance of a CPU. A process is the basic unit of execution in the operating system.
- ❖ **File Management:-** It is a process of controlling and coordinating computer memory. It ensures that all processes are able to access their memory or not.
- ❖ **Memory management:-** It is the main function of operating system. It manages all data files in a computer system.
- ❖ **Device Management:** It is a process of managing the operation and maintenance of input/output devices. It also facilitates the interface between all the connected devices.

Types of Operating system: Operating system can be classified in different ways:

- ❖ **Single-tasking and Multi-tasking:-** *Single tasking* such operating systems allow execution of only a single program at any given instant. When *Mutli-tasking* As the name suggests, multi-tasking operating system can execute more than one programs simultaneously. The processor time, in this case, is divided amongst various processes.
- ❖ **Single User Operating System:-** It is a type of operating system which allows only one user at a time . The desktop systems can be classified as typical single user systems. When *Multi-user* operating systems allow many users to access the system by maintaining an account of all the registered users.
- ❖ **Real-time Operating System:** Operating systems which ensure that the response time is fixed are categorized as real-time operating systems.
- ❖ **Batch Processing Systems:-** In a batch processing systems, similar jobs are clubbed together and submitted as a block to the processor for execution. User intervention is minimal in such systems. The jobs are picked up one by one and executed.