**Introduction to operating system**

It works as an interface between user and hardware.

Hardware’s -CPU, I/O device, RAM

User uses hardware using operating System i.e., user doesn’t use hardware directly.

Q) If we didn't have an operating System, what would be the scenario?

Answer) 1. Then user had to write a program for every hardware he/she wants to access.

2.There might me user 1 who has occupied the hardware and user 2 wants to use that hardware. In that case there is no authority to take away the resource from user 1.

Primary goal of operating system is to provide convenience

What is throughput?

number of tasks executed in a particular amount of time

OS with highest througput-linux

Functionality of OS

1.Resource management (In case of multiple user)

2.Process Management-how to execute (Done by CPU Scheduling)

3.Storage management (Done using File management)-Hard Disk

4.Memory management (RAM management)

5.Secuirty and Privacy. (Window uses Kerberos Security Protocol which uses password to provide safe access of files to user. And it also Provides security among the programs also. For example, P1 is running and then P2 wants to access some data i.e., wants to interfere in P1 then P2 would be blocked).

Why we have taken storage and memory management as different?

Management of hard Disk is a functionality of OS but hard Disk does not have constraints whereas RAM has a constraint which is "Limitation of size “. All the process that are executed come first in RAM. This topic is called as multitasking or multiprogramming concept in which the processes to be executed are brought in to the Main memory or RAM.To be concise Allocation and Deallocation.

Operating system is invoked using System Call

Type of Operating System-

1. Batch
2. Multi-programmed
3. Multitasking
4. Real time OS
5. Distributed
6. Clustered
7. Embedded