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Operating sys. Notes

OPERATING SYSTEM

What is operating system?

So, Let's start with Introduction :-

[Basic]

- Operating System is a System Software

Operating System

operating belongs To:-

A Software which can helps user to Operate Computer hardware very Essentially

System belongs To:-

It Comprises the Essential Environment which helps programs to execute easily

[WORKING OF OS]

- 1 Operating System is a Software that acts as an Interface between User and the Computer hardware
 - Every Computer System Must have at least one [OS] operating System to run other programs.
- 2 Operating System helps you to Communicate with the Computer Without knowing how to speak the Computer Language
 - It is not possible for the User to use any Computer OR Mobile device without having an Operating System.

[~~Functions~~ of Operating System]

There are 11 major Functions of Operating System

- 1 Process Management *
- 2 Memory Management *
- 3 File Management *
- 4 Device Management
- 5 I/O System Management *
- 6 Secondary - Storage Management *
- 7 Security *
- 8 Command interpretation
- 9 Networking
- 10 Job accounting
- 11 Communication Management

* In which ONLY 7 FUNCTION ARE IN OUR COURSE

Processor MANAGEMENT

- When more than one process runs on the system then, the OS decides how and when a process will use the CPU.

OR

In a Multiprogramming Environment, the OS decides the order in which processes have access to the processor, and how much processing time each process has.

- The function of OS is called Process Scheduling
- It also tracks status of processes.
- The program which performs this task is known as traffic controller

MEMORY Management

It is the management of the Main or Primary Memory, whatever program is executed, it has to be present in the main memory. Therefore there can be more than one program present at a time. Hence it is required to manage the memory.

I/O device MANAGEMENT

The processes may require devices for their use
This Management is done by the OS

The OS:

- Allocates and deallocates Devices to different process Execution
- Keep Records of the Devices
- Decides which process can use which device for how much time

FILE MANAGEMENT

The files on a System are stored in different

The OS:

- Keep Records of the status & Location of files
- Allocates and deallocates resources

Secondary - storage Management

System have Several level of Storage which includes primary storage, secondary storage and Cache storage.

- Instruction and data must be stored in primary storage or cache so that a running program can reference it

Security MANAGEMENT

The OS keeps the system and programs safe & secure through Authentication.

- A USER ID & PASSWORD decides the authentication of the USER.

Accounting

Keep track the time and resource used by various jobs and users.

Process MANAGEMENT

It helps OS to Create & delete the process

[Features of Operating System]

Some Important features of [OS]

- Protected and supervisor Mode
- Allow disks Access and file Systems Device drivers Networking security
- Program Execution
- Memory Management Virtual Memory Multitasking
- Handling I/O operation
- Manipulation of the file System
- Error Detection and Handling
- Resource Allocation
- Information & Resource Protection

[Advantages of Using Operating System]

- Allows you to hide details of hardware by creating an abstraction
- Easy to use with a GUI
- Offers an environment in which a user may execute — Program/Applications
- The Operating System must make sure that the Computer's System Convenient to use
- Operating System acts as an intermediary among application and the Hardware Component.
- It provides the Computer System resources with Easy to use format
- Act's as an intermeditor b/w all Hardware's and Software's of the System

[Disadvantages of Using Operating System]

- If any issue occurs in OS, you may lose all the contents which have been stored in your system.
- Operating System's software is quite expensive for small size organization which adds burden on them
Example:- Windows
- It is never entirely secure as a threat can occur at any time

[Ex-AMPLE OF OS]

SOME COMMONLY USED

Operating system

OS NAME

Windows

Android

iOS

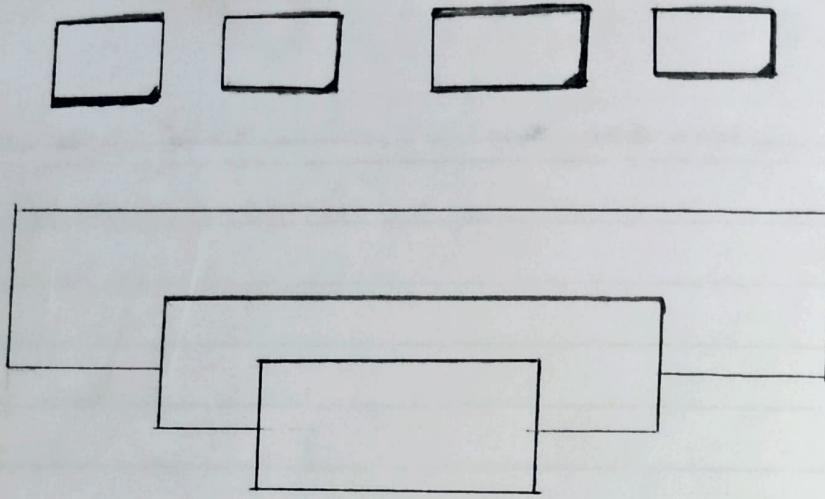
Mac OS

Linux

chrome OS

Window phone OS

Abstract View of OPERATING System



TYPE OF OPERATING SYSTEM

There are 9 types of [OS]

1. * Batch Operating System
2. * Multiprogramming OS
3. * Time sharing OS
4. * Real time OS
5. * Multi USER OS
6. Multi Processing OS
7. Network OS
8. Distributed OS
9. * Multi threading OS
10. * Embedded
- 11.