

Assignment - 1.

1. System call provides the services of the operating system to the user programs via Application Program Interface (API). It provides an interface between a process and operating system to allow user-level processes to request services of the operating system. System calls are the only entry points into the kernel system.

2. These are some of the factors affecting the degree of multiprogramming:

- The primary factor is the amount of memory available to be allocated to executing process. If amount of memory is limited, degree of multiprogramming will be limited because fewer processes will fit in memory.
- Operating system: If operating system can not allocate resource to executing processes in fair and orderly fashion, system will waste in reallocation or process execution can enter in deadlock.
- Other factors are I/O needs, program CPU needs, and memory & disk access speed.

3. Essential properties of operating system

- Batch Operating system
- Interactive operating system
- Time sharing operating system
- Real-time operating system
- Network operating system
- Symmetric Multiprocessing
- Distributed operating system
- Clustered Operating system
- Stand held.

4: Advantages of Single User operating system:

- Support one user at a time
- Easy to maintain
- Less chance of to damage
- Concentrate on one task

Advantages of Multitasking Operating system:

- Manage several users
- Virtual Memory
- Good reliability
- Secured memory
- Time sharable
- Background processing
- Optimize the computer resources

5: Multiprogramming : When multiple programs execute at a time on a single device.

Multitasking : When a single resource is used to process multiple tasks #

Multi processing : When more than one processing unit is used by a single computer.

Time sharing : When multiple users with different programs interact nearly simultaneously with CPU of a large scale digital computer.

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