Quizlet

OS Chpt 1 Introduction

71 terms | LessonsByBruno PLUS

Terms in this set (71)

An __ is a program which acts as an interface between computer system users and the computer hardware.	OS(operating system)
Operating System Goals:	1. Execute user programs and make solving user problems easier. 2. Make the computer system convenient to use. 3. Use he computer hardware in an efficient manner.
Assume we are using MS-Paint or Windows-when do we need to access the OS?	1. Loading the application/ terminating the application. 2. Memory allocation/management[e.g., paging]. 3. Access to IO devices-keyboard, mouse, printer, monitor. 4. CPU allocation. 5. Copy/Paste[inter-process communication].

An OS provides services for:	1. Processor management. 2. memory management. 3. File Management. 4. Device Management. 5. Concurrency Control.	
In a more simplistic approach, in fact, OS itself is a __.	program.	☆
True or false: Os itself is a program, but OS has a priority which application programs don't have.	True	☆
OS uses the __ of the microprocessor, whereas other programs use the __.	kernel mode; user mode.	☆
The difference between a kernel mode and a user mode microprocessor is____.	All the hardware instructions are valid in kernel mode, where some of them cannot be used in the user mode.	☆
Computer system can be divided into four components:	1. Hardware. 2. Operating system. 3. Application programs. 4. Users.	☆
__ provides basic computing resources; CPU, memory, I/O devices, file storage space.	Hardware	☆
__ controls and coordinates use of hardware among various	Operating system	☆

applications and users.		
__ define the ways in which the system resources are used to solve the computing problems of the users; Word processors, compilers, web browsers, database systems, video games	Application programs	☆
__ are people, machines (e.g., embedded), other computers.	Users	☆
OS is a __; manages all resources [OS as a government allegory]; Decides between conflicting requests for efficient and fair resource use.	resource allocator	☆
OS is a __: Controls execution of programs to prevent errors and improper use of the computer.	control program	☆
__ and control is especially important when having several users connected to the same mainframe or microcomputer	Resource allocation	☆
One or more __, device controllers connect through common bus providing access to shared memory.	CPUs	☆

Concurrent execution of __ and devices competing for memory cycles (through memory controller).	CPUs	☆
Each __ is in charge of a particular device type[thus competing on memory cycles].	device controller	☆
Each __has a local buffer	device controller	☆
__ moves data from/to main memory to/from local buffers	CPU	☆
__ is from the device to local buffer of controller	I/O is from the device to local buffer of controller	☆
__ informs CPU that it has finished its operation by causing an interrupt	Device controller	☆
Two types of multiprocessing:	1. Asymmetric multiprocessing. 2. Symmetric multiprocessing.	☆
__ assigns certain tasks only to certain processors. In particular, only one processor may be responsible for handling all of the interrupts in the system or perhaps even	Asymmetric Multiprocessing	☆
__ treats all of the processing elements in the system identically.	Symmetric Multiprocessing	☆

Multiprogramming needed for efficiency:	1. Single user cannot keep CPU and I/O devices busy at all times. 2. Multiprogramming organizes jobs (code and data) so CPU always has one to execute. 3. A subset of total jobs in system is kept in memory. 4. One job selected and run via job scheduling. 5. When it has to wait (for I/O for example), OS switches to another job. 6. Unlike sitting idle in a non-multiprogrammed system. 7. The idea is common in other life situations (e.g., lawyers) as long as at least one job needs to execute, the CPU is never idle...	☆
__ operation allows OS to protect itself and other system components.	Dual-mode	☆
Mode bit provided by hardware:	1. Provides ability to distinguish when system is running user code or kernel code. 2. Some instructions designated as privileged, only executable in kernel mode. 3. System call changes mode to kernel, return from call resets it to user.	☆
Operating systems made available in source-code format rather than just binary __.	closed-source	☆
Counter to the copy protection and __ movement	Digital Rights Management (DRM)	☆
Started by __, which has "copyleft" GNU Public License (GPL).	Free Software Foundation (FSF)	☆
Examples include __[including core of Mac OS X], and Sun Solaris.	GNU/Linux, BSD UNIX	☆

An __is a program that manages a computer's hardware. It also provides a basis for application programs and acts as an intermediary between the computer user and the computer hardware.	operating system	☆
__ are designed primarily to optimize utilization of hardware.	Mainframe operating systems	☆
__ operating systems support complex games, business applications, and everything in between.	Personal Computer [PC]	☆
Operating systems for __ provide an environment in which a user can easily interface with the computer to execute programs	mobile computers	☆
Some __ are designed to be convenient, others to be efficient, and others to be some combination of the two.	operating systems	☆
A computer system can be divided roughly into four components:	1. The hardware. 2. The operating system. 3. The application programs. 4. The users.	☆

the hardware, includes __, __ and __, provides the basic computing resources for the system.	central processing unit(CPU), the memory, and the input/output(I/O) devices	☆
The application programs, such as __, __, __, and __ , define the ways in which these resources are used to solve users computing problems.	word processors, spreadsheets, compilers, and Web browsers	☆
The __ controls the hardware and coordinates its use among the various application programs for the various users.	operating system	☆
We can also view the computer system as consisting of __, __, and __.	hardware, software, and data	☆
Two viewpoints used to fully understand the operating system's role:	1. user. 2. the system.	☆
Most computer users sit in front of a PC, consisting of a __, __, __, and __.	monitor, keyboard, mouse, and system unit.	☆
The goal of the user is to ___the work[or play] that the user is performing.	maximize	☆
For the user, the operating system	resource utilization	☆

is designed mostly for ease of use, with some attention paid to performance, and none paid to ___ [how various hardware and software resources are shared]		
The operating system when other users are accessing the same computer through other terminals, is designed to ___[to assure that all available CPU time, memory, and I/O are used efficiently and that no individual user takes more than her fair share.	maximize resource utilization	☆
In workstations, users have dedicated resources at their disposal, but they also share resources such as__, and __, including __, __, and __ servers	networking and servers, including file, compute, and print servers.	☆
For a computer to start running—for instance, when it is powered up or rebooted—it needs to have an initial program to run. This initial program, or bootstrap program, tends to be simple. Typically, it is stored within the computer hardware in__or __, known by the general term firmware.	read-only memory (ROM) or electrically erasable programmable read-only memory (EEPROM)	☆

Once the__ is loaded and executing, it can start providing services to the system and its users. Some services are provided outside of the kernel, by system programs that are loaded into memory at boot time to become system processes, or system daemons that run the entire time the kernel is running.	kernel	☆
The occurrence of an event is usually signaled by an __ from either the hardware or the software. Hardware may trigger an interrupt at any time by sending a signal to the CPU, usually by way of the system bus. Software may trigger an interrupt by executing a special operation called a system call (also called a monitor call).	interrupt	☆
The operating system is a __.	system software.	☆
Direct memory access is a technique that	Enables the associated controller to read and write data directly from/to primary memory with no CPU intervention during data transfer.	☆
An operating system is a__ that mediates between hardware resources and the user's	software program	☆

An operating system is a __ that manages and allocates resources.	resource allocator	☆
An operating system is a __ that controls execution of user programs and their access to I/O devices	control program	☆
An operating system is the __, the one program running at all times[everything else may be considered application programs].	kernel	☆
which is the one program running at all times[everything else may be considered application programs]?	the kernel	☆
What is the purpose of an OS?	1. Facilitates program execution. 2. Supports program development. 3. Makes computer system easy to use for users. 4. Uses computer resources efficiently.	☆
__ and __ are the most important resource.	CPU & RAM	☆
__ is managed by the O/S especially for multi-managing systems.	CPU	☆
CPU gets content from __ and uses __ to perform functions.	RAM and uses ALU	☆
When using MS-Paint over	1. Loading the application/terminating the application.	

Windows, when do we need to access OS?	2. Memory allocation/ management(e.g.,paging) 3. Access to IO devices - keyboard, mouse, printer, monitor. 4. CPU allocation. 5. Copy/Paste[inter-process communication].	☆
True or false, the OS manages these resources and allocates them to specific programs and users.	True	☆
With the management of the OS, a programmer is rid of difficult __ considerations:	hardware	☆
An OS provides services for:	1. Processor Management. 2. Memory Management. 3. File Management. 4. Device Management. 5. Concurrency Control.	☆
Os uses the __ of the microprocessor, whereas other programs use the __.	kernel mode, other programs use the user mode.	☆
The difference between a kernel mode and user mode is_____.	All hardware instructions are valid in kernel mode, where some of them cannot be used in the user mode.	☆
Computer systems can be divided into four components:	1. Hardware. 2. Operating system. 3. Application programs. 4. Users.	☆

__ provides basic computing resources such as CPU, memory, I/O devices, file storage space.	Hardware	☆

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