Pergunta 1

Respondida Pontuou 1,000 de 1,000 Destacar pergunta

The System-Wide Open File Table is a table kept in kernel memory that contains information on all the files:

a. open by active processes.
b. currently stored in storage devices.
c. that at any time were kept in storage devices.

A resposta correta é:
open by active processes.

Pergunta 2

Respondida Pontuou 1,000 de 1,000 Destacar pergunta

The Per-Process Open File Table is used to keep process specific information on open files, for example:

a. the file's creation, last access and last modification times.
b. the location in a storage device of the blocks that contain the file's data.
c. the position of the file read/write cursor.

A resposta correta é: the position of the file read/write cursor.

Pergunta 3

Respondida Pontuou 1,000 de 1,000 Destacar pergunta

In a CPU, the Memory Management Unit is responsible for:

a. allocating memory space for processes that wait for execution in the CPU.
b. enforcing the integrity of process address spaces and translating virtual into physical addresses.
c. detecting illegal accesses to memory and, in such a case, transfer the control to the operating system.

A resposta correta é: enforcing the integrity of process address spaces and translating virtual into physical addresses.

Pergunta 4

Respondida Pontuou -0,333 de 1,000 Destacar pergunta

How does Direct Memory Access (DMA) improve the performance of I/O operations for high-speed devices?

a. the CPU polls the device until it its available for I/O and then performs the data transfer between the device and the memory in a single operation.
b. the CPU seldomly intervenes, it delegates the data transfers between the device and the memory to the device controller and the DMA controller.
c. the CPU creates a direct connection between the device and the memory, bypassing the bus, and performs the data transfer using standard interrupt-based I/O operations.

Pergunta 5

Respondida Pontuou 1,000 de 1,000 Destacar pergunta

A device-driver for an I/O device is:

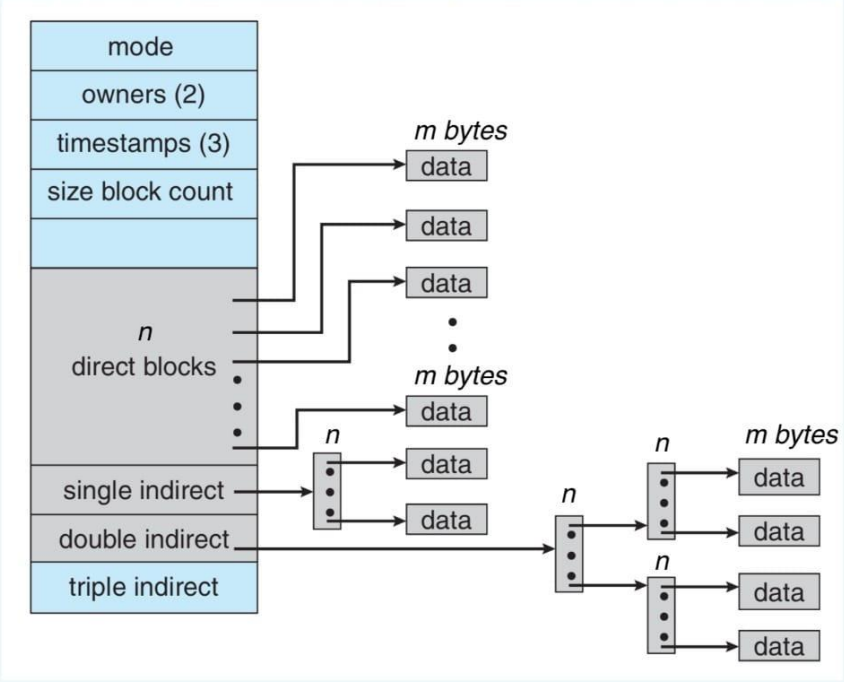
a. any user developed application that interacts with the I/O device.
b. an integrated circuit within the device that allows the BIOS to detect it at boot time.
c. a software component that encapsulates the specificity of the I/O device and allows its utilization by the operating system's kernel.

A resposta correta é: a software component that encapsulates the specificity of the I/O device and allows its utilization by the operating system's kernel.

Pergunta 6

Não respondida Pontuação 1,000 Retirar destaque

What is the main advantage of the following technique to keep track of the disk blocks used to store data for a file?



a. in the case of hard disk drives it minimizes the movements of the read/write head.

b. is it very efficient, especially for small files.

c. it does not waste any disk space when storing the file's data.

A resposta correta é:
is it very efficient, especially for small files.

Pergunta 7

Respondida Pontuou 1,000 de 1,000 Destacar pergunta

An interrupt received by the CPU triggers the execution of a specific handler. How does the operating system know which handler to execute?

- a. the interrupt has an associated attribute, an integer, that is used by the operating system as the index into an interrupt vector to determine the handler routine.
- b. the operating system always executes the same handler for any interrupt that the CPU receives.
- c. the operating system does not execute handler routines in response to an interrupt received by the CPU, it simply terminates the current process.

A resposta correta é:
the interrupt has an associated attribute, an integer, that is used by the operating system as the index into an interrupt vector to determine the handler routine.

Pergunta 8

Respondida Pontuou 1,000 de 1,000 Destacar pergunta

A File Allocation Table (FAT) uses lists of blocks to keep track of the blocks used to store data for each file. However, FAT is more efficient than a simple linked list of blocks because:

- a. it stores all the links between file blocks in an array and the array is manipulated in the disk.
- b. it stores just the links for the first block of each file in an array and the array is manipulated in user memory.
- c. it stores all the links between file blocks in an array and the array is manipulated in kernel memory.

A resposta correta é:
it stores all the links between file blocks in an array and the array is manipulated in kernel memory.

Pergunta 9

Respondida Pontuou 1,000 de 1,000 Destacar pergunta

Can two distinct variables in two distinct processes have the same virtual address?

- a. no, because each virtual address is mapped into a unique physical address, independently of the process it occurs in.
- b. yes, because virtual addresses are valid only within each process' address space and, for distinct processes, are mapped into distinct physical addresses.
- c. yes, but only if one of the processes is a child of the other.

A resposta correta é:
yes, because virtual addresses are valid only within each process' address space and, for distinct processes, are mapped into distinct physical addresses.

Pergunta 10

Respondida Pontuou 1,000 de 1,000 Destacar pergunta

In an operating system like UNIX, under certain circumstances, the CPU can avoid dispatching interrupts. How?

- a. all interrupts are queued by the interrupt controller hardware until the quantum of the current process ends or it issues an I/O request.
- b. a process can discard all interrupts the CPU receives while it is executing its quantum.
- c. some interrupts in the system are maskable and these are queued by the interrupt controller hardware while the CPU is running critical code.

A resposta correta é:
some interrupts in the system are maskable and these are queued by the interrupt controller hardware while the CPU is running critical code.

Pergunta 11

Não respondida Pontuação 1,000 Retirar destaque

When using segmentation for managing the physical memory:

a. spacial locality of data and instructions in the process' address space is preserved.
b. virtual address validation and translation is simple as all segments are of the same size.
c. external fragmentation is never a problem.

A resposta correta é: spacial locality of data and instructions in the process' address space is preserved.

Pergunta 12

Respondida Pontuou 1,000 de 1,000 Destacar pergunta

The main difference between interrupt driven I/O and polling is that:

a. polling avoids busy waiting on the device thus preventing CPU cycles from being wasted.
b. there is no difference, interrupt-based I/O and polling are alternative names for the same technique.
c. interrupt driven I/O avoids busy waiting on the device thus preventing CPU cycles from being wasted.

A resposta correta é: interrupt driven I/O avoids busy waiting on the device thus preventing CPU cycles from being wasted.

Pergunta 13

Respondida Pontuou -0,333 de 1,000 Destacar pergunta

The data structure used to organize files and directories in the Unix File System (ufs) is:

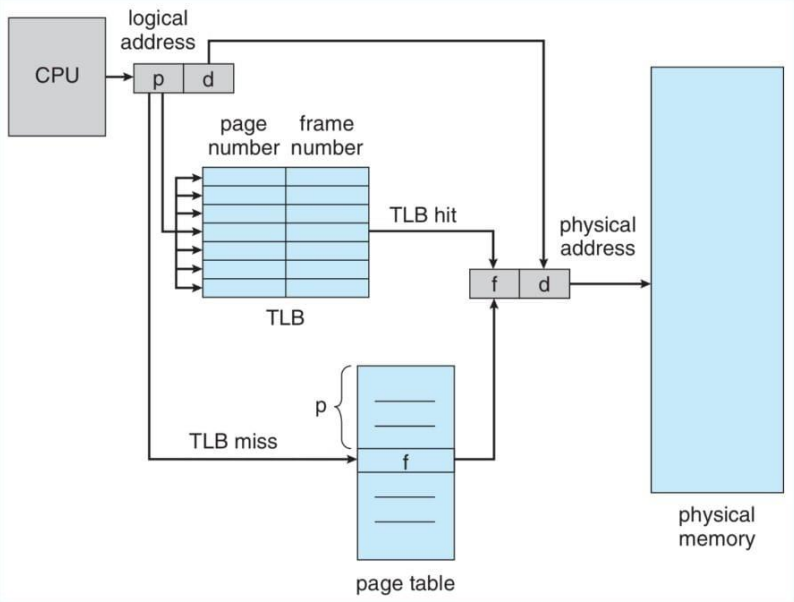
a. a directed acyclic graph.
b. a tree.
c. a linked list.

A resposta correta é:
a directed acyclic graph.

Pergunta 14

Respondida Pontuou 1,000 de 1,000 Destacar pergunta

The following diagram shows a MMU with a TLB, the page table (in the physical memory) and the remainder of the physical memory. Assuming that the page table has a single layer, how many accesses to physical memory are required for the translation of a virtual address if: a) the TLB has a hit, b) otherwise.



a. 2 and 1, respectively.

b. 2 and 2.

c. 1 and 2, respectively.

Pergunta 15

Não respondida Pontuação 1,000 Retirar destaque

When using pagination to manage the physical memory, having smaller pages is advantageous because:

a. it improves data and instruction locality.

b. it diminishes page swapping.

c. it induces less internal fragmentation.

A resposta correta é: it induces less internal fragmentation.