

Quiz 08

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Which of the following statements regarding device drivers is true?

Which of the following statements regarding device drivers is true?

- ☐ a. Device drivers manage only the newly emerging I/O devices that are unlike previous devices.
- ☐ b. Device drivers are part of the kernel I/O subsystem.
- ☒ c. Device drivers present a uniform device access interface to the kernel I/O subsystem.

Which of the following statements is true for a blocking I/O system call?

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- ☒ a. The execution of the application is suspended when the call is issued.
- ☐ b. The application continues to execute its code when the call is issued.
- ☐ c. The call returns immediately without waiting for the I/O to complete.
- ☐ d. Code using blocking I/O is harder to understand than the one using asynchronous I/O.

Read or write performance of a hard disk drive depends on

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- ☐ a. data transfer time
- ☐ b. seek time
- ☐ c. rotational latency
- ☒ d. all of the above

Read or write performance of a hard disk drive depends on

A RAID structure is primarily used

- ☐ a. for security reasons
- ☒ b. to ensure higher data reliability
- ☐ c. to decrease the dependence on disk drives

Consider a set of four hard-disks, each of 200 GB storage capacity. What are the corresponding storage capacities if they are configured using RAID level 0?

Consider a set of four hard-disks, each of 200 GB storage capacity. What are the corresponding storage capacities if they are configured using RAID level 0?

- ☐ a. 600 GB
- ☐ b. 200 GB
- ☒ c. 800 GB
- ☐ d. 400 GB

Which state will a process be after performing an asynchronous I/O system call?

Which state will a process be after performing an asynchronous I/O system call?

- ☐ a. waiting
- ☒ b. running
- ☐ c. ready

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Consider a set of four hard-disks, each of 200 GB storage capacity. What are the corresponding storage capacities if they are configured using RAID 1+0?

Consider a set of four hard-disks, each of 200 GB storage capacity. What are the corresponding storage capacities if they are configured using RAID 1+0?

- ☐ a. 600 GB
- ☐ b. 800 GB
- ☐ c. 200 GB
- ☒ d. 400 GB

Which mechanism is more appropriate to use for reading a data block of a file repeatedly from hard-disk?

Which mechanism is more appropriate to use for reading a data block of a file repeatedly from hard-disk?

- ☒ a. cache
- ☐ b. spool
- ☐ c. buffer

Device drivers

Device drivers

- ☐ a. manage only the basic I/O hardware devices
- ☐ b. manage only the newly emerging I/O devices that are unlike previous devices
- ☒ c. present a uniform device-access interface to the kernel I/O subsystem
- ☐ d. all of the above

Which state will a process be after performing a blocking I/O system call?

Which state will a process be after performing a blocking I/O system call?

- ☒ a. waiting
- ☐ b. ready
- ☐ c. running

Consider a disk queue holding requests to the following cylinders in the listed order: 116, 22, 3, 11, 75, 185, 100, 87. Using the FCFS scheduling algorithm, what is the order that the requests are serviced, assuming the disk head is at cylinder 88 and moving upward through the cylinders?

Consider a disk queue holding requests to the following cylinders in the listed order: 116, 22, 3, 11, 75, 185, 100, 87. Using the FCFS scheduling algorithm, what is the order that the requests are serviced, assuming the disk head is at cylinder 88 and moving upward through the cylinders?

- ☐ a. 100 -> 116 -> 185 -> 87 -> 75 -> 22 -> 11 -> 3
- ☐ b. 100 -> 116 -> 185 -> 3 -> 11 -> 22 -> 75 -> 87
- ☐ c. 87 -> 75 -> 100 -> 116 -> 185 -> 22 -> 11 -> 3
- ☒ d. 116 -> 22 -> 3 -> 11 -> 75 -> 185 -> 100 -> 87

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Low-level formatting

Low-level formatting

- ☐ a. is different from physical formatting
- ☒ b. divides a disk into sections that the disk controller can read and write
- ☐ c. is usually performed by the purchaser of the disk device

Consider a set of four hard-disks, each of 200 GB storage capacity. What are the corresponding storage capacities if they are configured using RAID 0+1?

Consider a set of four hard-disks, each of 200 GB storage capacity. What are the corresponding storage capacities if they are configured using RAID 0+1?

- ☐ a. 800 GB
- ☒ b. 400 GB
- ☐ c. 600 GB
- ☐ d. 200 GB

Which of the following holds output for a device that cannot accept interleaved data streams?

Which of the following holds output for a device that cannot accept interleaved data streams?

- ☐ a. buffer
- ☒ b. spool
- ☐ c. cache

Consider a disk queue holding requests to the following cylinders in the listed order: 116, 22, 3, 11, 75, 185, 100, 87. Using the LOOK scheduling algorithm, what is the order that the requests are serviced, assuming the disk head is at cylinder 88 and moving upward through the cylinders?

Consider a disk queue holding requests to the following cylinders in the listed order: 116, 22, 3, 11, 75, 185, 100, 87. Using the LOOK scheduling algorithm, what is the order that the requests are serviced, assuming the disk head is at cylinder 88 and moving upward through the cylinders?

- ☐ a. 87 -> 75 -> 100 -> 116 -> 185 -> 22 -> 11 -> 3
- ☐ b. 116 -> 22 -> 3 -> 11 -> 75 -> 185 -> 100 -> 87
- ☐ c. 100 -> 116 -> 185 -> 3 -> 11 -> 22 -> 75 -> 87
- ☒ d. 100 -> 116 -> 185 -> 87 -> 75 -> 22 -> 11 -> 3