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iswer

Question 1 pts

Virtualizing memory does NOT

☐ Create separate physical memories dedicated to each program

☐ Create an illusion that each program has its dedicated address space

☐ Allow different programs to use the same address for their independent local variables

☐ Map virtual addresses of the program to physical addresses in the memory

iswer

Question 1 pts

Two concurrently running threads share a counter. Each thread loads the variable, increments its value, and stores it back to memory. The threads will run correctly if:

☐ Loading, incrementing, and storing occur atomically in each thread

☐ Loading and incrementing occurs atomically in each thread

☐ Incrementing and storing occurs atomically in each thread

☐ No group of instructions run atomically

iswer

Question 1 pts

Which of the following commands will print the first 20 lines of the file /etc/passwd?

☐ cat /etc/passwd | head -20

☐ head /etc/passwd

☐ tail /etc/passwd

☐ cat /etc/passwd | tail -20

☐ head /etc/passwd | tail -20

Question 1 pts

Which of the following commands will print the lines in the file `/etc/passwd` that contain the string `root` and then remove all duplicate lines?

answer

- ☐ `cat /etc/passwd | grep root | uniq`
- ☐ `cat /etc/passwd | grep root | sort -u`
- ☐ `cat /etc/passwd | grep -l root | sort | uniq -d`
- ☐ `cat /etc/passwd | grep -c root | sort | uniq -u`
- ☐ `cat /etc/passwd | grep -u root | sort | uniq -c`

Question**1 pts**

The SCAN algorithm for disk scheduling is servicing a frozen queue of requests during a sweep when a new request comes for a track that has already been serviced in the current sweep. What happens?

answer

- ☐ It is not handled immediately (i.e. queued until the next sweep), regardless of whether it will take longer or shorter than servicing the next request in the on-going sweep
- ☐ It is handled immediately (i.e. not queued until the next sweep), if seeking the track will take shorter than servicing the next request in the on-going sweep
- ☐ It is handled immediately (i.e. not queued until the next sweep), regardless of whether seeking the track will take longer or shorter than servicing the next request in the on-going sweep
- ☐ It is not handled immediately (i.e. queued until the next sweep), if accessing the track will take shorter than servicing the next request in the on-going sweep
- ☐ It is handled immediately (i.e. not queued until the next sweep), if total positioning time to the requested block will take shorter than servicing the next request in the on-going sweep

Question**1 pts**

A file was opened by a parent process that returned a file descriptor. After that it created a child process using a `fork()` call. Then:

answer

- ☐ The file descriptor variables are local to each process but they point to the same entries in the open file table
- ☐ The file descriptor variables are shared by both processes and they point to the same entries in the open file
- ☐ The file descriptor variables are local to each process and they point to different entries in the open file table
- ☐ The file descriptor variables are shared by both processes yet they point to different entries in the open file table

Question**1 pts**

In bash scripting, which statement checks whether the variable `num` is greater than five?



- iswer
- ☐ ((\$num > 5))
 - ☐ ((\$num -gt 5))
 - ☐ [[\$num -lt 5]]
 - ☐ \$num > 5

Question**1 pts**

What Bash script will correctly create these files?

- iswer
- ☐ touch file{1..10}.txt
 - ☐ touch file{1+10}.txt
 - ☐ touch file{1-10}.txt
 - ☐ None of these

Question**1 pts**

When the following system call is executed by the OS:

```
open("/home/user/file.txt", O_RDONLY)
```

how many inodes and data blocks are accessed?

- iswer
- ☐ 4 inodes, 3 data blocks
 - ☐ 4 inodes, 1 data blocks
 - ☐ 1 inode, 3 data blocks
 - ☐ 1 inode, 1 data blocks

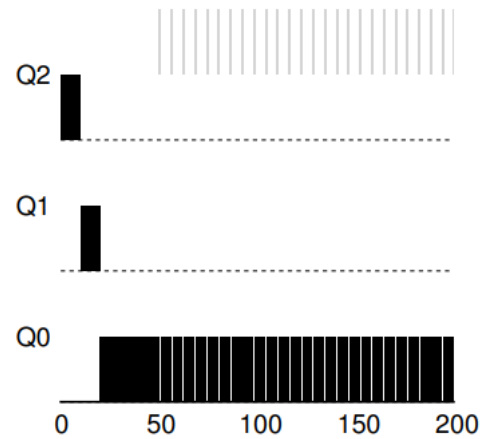
Question**1 pts**

Which of the following process state transitions is NOT possible?

- iswer
- ☐ Ready to Waiting
 - ☐ Ready to Running
 - ☐ Waiting to Ready
 - ☐ Running to Waiting
 - ☐ Running to Ready

Question**1 pts**

In the diagram below job A is represented by black and job B is represented by grey color.



Why does job B remain in priority queue Q2, while job A is relegated to Q0?

Answer

- ☐ Job B does not use up an entire time slice before giving up control of CPU, while Job A uses up an entire time slice
- ☐ Program A requests the scheduler to reduce its priority because it is CPU intensive, while job B does not
- ☐ The scheduler already knows that job A will take a long time to complete, while job B will finish quickly
- ☐ The scheduler decides priorities arbitrarily, so it has nothing to do with the behavior of the jobs

Question

1 pts

For output redirection to a file the following code can be used:

```
close(STDOUT_FILENO);
open(filename, O_CREAT | O_WRONLY | O_TRUNC, S_IRWXU);
```

Which of the following statements is NOT true.

Answer

- ☐ There are special flags in open() system call that tell the OS to make this filename as the new STDOUT
- ☐ Closing STDOUT_FILENO releases the file-descriptor to be used by other files
- ☐ The file opened by the open() command assigns the file-descriptor STDOUT_FILENO to the newly opened file
- ☐ All system calls used for printing data to the console use STDOUT_FILENO file-descriptor by default

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