Started on	Monday, 16 January 2023, 9:09 PM
State	Finished
Completed on	Monday, 16 January 2023, 9:55 PM
Time taken	46 mins 3 secs
Grade	**9.97** out of 15.00 (**66.44**%)

Question **1**

Correct

Mark 1.00 out of 1.00

Select all the correct statements about bootloader.

Every wrong selection will deduct marks proportional to 1/n where n is total wrong choices in the question.

You will get minimum a zero.

- a. The bootloader loads the BIOS
- b. Bootloader must be one sector in length
- c. Modern Bootloaders often allow configuring the way an OS boots ✔
- d. LILO is a bootloader ✔
- e. Bootloaders allow selection of OS to boot from ✔

Your answer is correct.

The correct answers are: LILO is a bootloader, Modern Bootloaders often allow configuring the way an OS boots, Bootloaders allow selection of OS to boot from

Question **2**

Correct

Mark 1.00 out of 1.00

Compare multiprogramming with multitasking

- a. A multiprogramming system is not necessarily multitasking ✔
- b. A multitasking system is not necessarily multiprogramming

The correct answer is: A multiprogramming system is not necessarily multitasking

Question **3**

Partially correct

Mark 0.67 out of 1.00

Order the following events in boot process (from 1 onwards)

Init	4	✔
OS	3	✔
Login interface	6	✖
Boot loader	2	✔
Shell	5	✖
BIOS	1	✔

Your answer is partially correct.

You have correctly selected 4.

The correct answer is: Init → 4, OS → 3, Login interface → 5, Boot loader → 2, Shell → 6, BIOS → 1

Question **4**

Partially correct

Mark 0.80 out of 1.00

Select all the correct statements about two modes of CPU operation

Select one or more:

- [x] a. The two modes are essential for a multitasking system ✔
- [x] b. The software interrupt instructions change the mode from user mode to kernel mode and jumps to predefined location simultaneously ✔
- [x] c. Some instructions are allowed to run only in user mode, while all instructions can run in kernel mode ✔
- [ ] d. The two modes are essential for a multiprogramming system
- [x] e. There is an instruction like 'iret' to return from kernel mode to user mode ✔

Your answer is partially correct.

You have correctly selected 4.

The correct answers are: The two modes are essential for a multiprogramming system, The two modes are essential for a multitasking system, There is an instruction like 'iret' to return from kernel mode to user mode, The software interrupt instructions change the mode from user mode to kernel mode and jumps to predefined location simultaneously, Some instructions are allowed to run only in user mode, while all instructions can run in kernel mode

Question **5**

Correct

Mark 1.00 out of 1.00

Is the terminal a part of the kernel on GNU/Linux systems?

- a. no ✔ wrong
- b. yes

The correct answer is: no

Question **6**

Incorrect

Mark 0.00 out of 3.00

Select correct statements about mounting

Select one or more:

- a. The existing name-space at the mount-point is no longer visible after mounting
- b. On Linuxes mounting can be done only while booting the OS
- c. Mounting makes all disk partitions available as one name space
- d. Even in operating systems with a pluggable kernel module for file systems, the code for mounting any particular file system must be already present in the operating system system kernel ✖
- e. It's possible to mount a partition on one computer, into namespace of another computer. ✔
- f. The mount point must be a directory ✔
- g. In operating systems with a pluggable kernel module for file systems, the code for mounting a particular file system is provided by the module of that file system.
- h. Mounting is attaching a disk-partition with a filesystem on it, into another file system name-space ✔
- i. Mounting deletes all data at the mount-point
- j. The mount point can be a file as well ✖

Your answer is incorrect.

The correct answers are: Mounting is attaching a disk-partition with a filesystem on it, into another file system name-space, The mount point must be a directory, The existing name-space at the mount-point is no longer visible after mounting, Mounting makes all disk partitions available as one name space, In operating systems with a pluggable kernel module for file systems, the code for mounting a particular file system is provided by the module of that file system., It's possible to mount a partition on one computer, into namespace of another computer.

Question **7**

Correct

Mark 1.00 out of 1.00

When you turn your computer ON, you are often shown an option like "Press F9 for boot options". What does this mean?

a. The choice of the boot loader (e.g. GRUB or Windows-Loader)
b. The choice of which OS to boot from
c. The BIOS allows us to choose the boot device, the device from which the boot loader will be loaded ✔
d. The choice of booting slowly or fast

The correct answer is: The BIOS allows us to choose the boot device, the device from which the boot loader will be loaded

Question **8**

Incorrect

Mark 0.00 out of 1.00

A process blocks itself means

a. The kernel code of system call, called by the process, moves the process to a waiting queue and calls scheduler
b. The kernel code of an interrupt handler, moves the process to a waiting queue and calls scheduler ✖
c. The application code calls the scheduler
d. The kernel code of system call calls scheduler

The correct answer is: The kernel code of system call, called by the process, moves the process to a waiting queue and calls scheduler

Question **9**

Correct

Mark 1.00 out of 1.00

Consider the following programs

exec1.c

```
#include <unistd.h>
#include <stdio.h>
int main() {
    execl("./exec2", "./exec2", NULL);
}
```

exec2.c

```
#include <unistd.h>
#include <stdio.h>
int main() {
    execl("/bin/ls", "/bin/ls", NULL);
  printf("hello\n");
}
```

Compiled as

```
cc    exec1.c   -o exec1
cc    exec2.c   -o exec2
```

And run as

```
$ ./exec1
```

Explain the output of the above command (./exec1)

Assume that /bin/ls , i.e. the 'ls' program exists.

Select one:

- a. "ls" runs on current directory ✔
- b. Program prints hello
- c. Execution fails as the call to execl() in exec1 fails
- d. Execution fails as the call to execl() in exec2 fails
- e. Execution fails as one exec can't invoke another exec

Your answer is correct.

The correct answer is: "ls" runs on current directory

Question **10**

Partially correct

Mark 0.50 out of 1.00

Select the correct statements about hard and soft links

Select one or more:

- [x] a. Soft links can span across partitions while hard links can't ✔
- [x] b. Soft links increase the link count of the actual file inode ✖
- [ ] c. Deleting a hard link always deletes the file
- [x] d. Deleting a soft link deletes the link, not the actual file ✔
- [x] e. Soft link shares the inode of actual file ✖
- [x] f. Hard links share the inode ✔
- [ ] g. Deleting a soft link deletes both the link and the actual file
- [x] h. Deleting a hard link deletes the file, only if link count was 1 ✔
- [ ] i. Hard links enforce separation of filename from it's metadata in on-disk data structures.
- [x] j. Hard links increase the link count of the actual file inode ✔
- [ ] k. Hard links can span across partitions while soft links can't
- [ ] l. Deleting a soft link deletes only the actual file

Your answer is partially correct.

You have selected too many options.
The correct answers are: Soft links can span across partitions while hard links can't, Hard links increase the link count of the actual file inode, Deleting a soft link deletes the link, not the actual file, Deleting a hard link deletes the file, only if link count was 1, Hard links share the inode, Hard links enforce separation of filename from it's metadata in on-disk data structures.

Question **11**

Correct

Mark 1.00 out of 1.00

which of the following is not a difference between real mode and protected mode

- ( ) a. in real mode the segment is multiplied by 16, in protected mode segment is used as index in GDT
- ( ) b. in real mode general purpose registers are 16 bit, in protected mode they are 32 bit
- ( ) c. processor starts in real mode
- (•) d. in real mode the addressable memory is more than in protected mode ✔
- ( ) e. in real mode the addressable memory is less than in protected mode

The correct answer is: in real mode the addressable memory is more than in protected mode

Question **12**

Correct

Mark 2.00 out of 2.00

What will this program do?

```
int main() {
fork();
execl("/bin/ls", "/bin/ls", NULL);
printf("hello");
}
```

- a. run ls twice ✔
- b. run ls twice and print hello twice, but output will appear in some random order
- c. run ls once
- d. one process will run ls, another will print hello
- e. run ls twice and print hello twice

Your answer is correct.

The correct answer is: run ls twice

◄ Random Quiz - 1 (Pre-Requisite Quiz)

Jump to...

Homework questions: Basics of MM, xv6 booting ►