Unit 4 - Week 3

Assignment 3

The due date for submitting this assignment has passed. **Due on 2020-02-19, 23:59 IST.**
As per our records you have not submitted this assignment.

1) The application is allowed to change the segment registers. By changing these segment registers an application can access the address space of another application. Which of the following is true? *1 point*

- OS does not allow an application to edit the segment registers.
- OS restricts the value of the segment registers to some specific values which do not correspond to any other application.
- OS allows the application to access the address space of another application.

No, the answer is incorrect.
Score: 0
Accepted Answers:
OS restricts the value of the segment registers to some specific values which do not correspond to any other application.

2) How is GDT protected from untrusted user processes? *1 point*

- There are six different segment registers available to the user process corresponding to six segments in GDT.
- Base address of GDT is stored in GDTR and instruction to load value to GDTR is available to high privileged process.
- Even though the user process can change the values of segment registers, OS restricts the value of the segment registers to some specific values which do not correspond to any other processes.
- All of the above

No, the answer is incorrect.
Score: 0
Accepted Answers:
Base address of GDT is stored in GDTR and instruction to load value to GDTR is available to high privileged process.
Even though the user process can change the values of segment registers, OS restricts the value of the segment registers to some specific values which do not correspond to any other processes.

3) What does the last two bit of cs register signify? *1 point*

- Permissions for accessing the data whose segment value lies in cs register: '00' meaning accessible.
- Permissions for accessing the data whose segment value lies in cs register: '11' meaning accessible.
- Privilege mode of the application. '00' being the least privileged and '11' being the most.
- Privilege mode of the application. '00' being the most privileged and '11' being the least.

No, the answer is incorrect.
Score: 0
Accepted Answers:
Privilege mode of the application. '00' being the most privileged and '11' being the least.

4) The host repeatedly checks if the controller is busy until it is not. It is in a loop that the status register's busy bit becomes clear. This is called _____ and a mechanism for the hardware controller to notify the CPU that it is ready is called _____. *1 point*

- Interrupt and Polling
- Polling and Spooling
- Polling and Interrupt
- None of the above

No, the answer is incorrect.
Score: 0
Accepted Answers:
Polling and Interrupt

5) The size of extended memory in the physical memory signifies the size of _____ *1 point*

- ROM
- RAM
- On-chip cache
- Disk

No, the answer is incorrect.
Score: 0
Accepted Answers:
RAM

6) To transfer a text message to the display device OS has to write to which part of the memory? *1 point*

- Extended memory
- BIOS
- Low memory
- VGA memory

No, the answer is incorrect.
Score: 0
Accepted Answers:
VGA memory

7) 'gcc' command to generate the .o file i.e the object file from source code is: *1 point*

- gcc -S main.c
- gcc -E main.c
- gcc -c main.c
- gcc -o main.c

No, the answer is incorrect.
Score: 0
Accepted Answers:
gcc -c main.c

8) The preprocessor step in the compiler workflow performs a source code to source code transformation replacing the header file mentions (using #include) with relevant functions from corresponding header file. What is the extension of the file produced after this step? *1 point*

- .c
- .o
- .s
- .i

No, the answer is incorrect.
Score: 0
Accepted Answers:
.i

9) Which of the following registers is used for the implementation of 'backtrace' command used for debugging? *1 point*

- esp
- ebp
- eip
- ecx

No, the answer is incorrect.
Score: 0
Accepted Answers:
ebp

10) Which of the following instructions will change the flags? *1 point*

- movl
- test
- movsb
- add

No, the answer is incorrect.
Score: 0
Accepted Answers:
test
add

11) Consider the following function: *1 point*

```
1. int foo(int a,int b) {
2. int c;
3. c=a*b;
4. int d;
5. d=a+b;
6. return c + d;
7. }
```

Follow all the GCC calling conventions.Which registers can be used to access the arguments a,b and local variables c,d in the assembly code?

- esp and eip
- ebp and esp
- eax and esp
- None of the above

No, the answer is incorrect.
Score: 0
Accepted Answers:
ebp and esp