

Unit 8 - Week 7

Course outline

How does an NPTEL online course work?

Week 1

Week 2

Week 3

Week 4

Week 5

Week 6

Week 7

Processes in action

Process structure, Context Switching

Process Kernel stack, Scheduler, Fork, Context-Switch, Process Control Block, Trap Entry and Return

Quiz : Assignment 7

Week 7 Feedback Form

Week 8

Week 9

Week 10

Week 11

Week 12

Assignment Solution

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Assignment 7

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.

Due on 2020-03-18, 23:59 IST.

1) Which of the following is true?

1 point

- Registers of the form **crx** are general purpose register.
- All instructions, such as add can work on **crx** register.
- Registers of the form **crx** are control registers.
- Page directory base register is stored in **cr3**.

No, the answer is incorrect.
Score: 0

Accepted Answers:
*Registers of the form **crx** are control registers.
Page directory base register is stored in **cr3**.*

2) Which of the following is NOT true?

1 point

- `kvmalloc()` allocates the kernel page directory and switches to it.
- `setupkvm()` allocates the kernel page directory.
- `kmap` structure stores the kernel page directory.
- `pgdir` structure stores the kernel page directory.

No, the answer is incorrect.
Score: 0

Accepted Answers:
`kmap` structure stores the kernel page directory.

3) Which of the following are tasks of the function `walkpgdir()`?

1 point

- It returns a pointer to an entry in the page directory corresponding to the address passed.
- It returns a pointer to an entry in the page table corresponding to the address passed.
- It allocates memory for a page table, if necessary.

No, the answer is incorrect.
Score: 0

Accepted Answers:
*It returns a pointer to an entry in the page table corresponding to the address passed.
It allocates memory for a page table, if necessary.*

4) Choose the correct ones amongst the following options

1 point

- xv6 has support for segmentation.
- xv6 has support for a singular level page table system.
- xv6 works with `PHYSTOP` amount of memory and the rest, if any goes unused

No, the answer is incorrect.
Score: 0

Accepted Answers:
xv6 works with `PHYSTOP` amount of memory and the rest, if any goes unused

5) Which of the following is true about the behaviour of page directory on interrupts?

1 point

- cr3** register is changed by hardware when interrupt occurs.
- cr3** register is changed by OS when interrupt occurs.
- cr3** register is not changed on interrupts.
- Each process has entries corresponding to kernel in their page directory.

No, the answer is incorrect.
Score: 0

Accepted Answers:
***cr3** register is not changed on interrupts.
Each process has entries corresponding to kernel in their page directory.*

6) Which of the following are properties of microkernel?

1 point

- Extensibility
- Portability
- Reliability
- Uniform interface
- Performance

No, the answer is incorrect.
Score: 0

Accepted Answers:
*Extensibility
Reliability
Uniform interface*

7) Choose the correct ones in the context of `trapret` symbol.

1 point

- `trapret` is a privileged instruction.
- `trapret` is an OS function.
- `trapret` puts back the saved registers placed on `kstack` by hardware during trap.
- `trapret` and `ret` can be used interchangeably by OS.

No, the answer is incorrect.
Score: 0

Accepted Answers:
*`trapret` is an OS function.
`trapret` puts back the saved registers placed on `kstack` by hardware during trap.*