CSci 402 - Operating Systems

Quiz 0

Fall 2023

Monday, Aug 28

Instructor: Bill Cheng

Teaching Assistant: Zhuojin Li

(This exam is open book and open notes.
Remember what you have promised when you signed your
Academic Integrity Honor Code Pledge.)

Time: (N/A) minutes

_____-
Name (please print)

Total: 10 points

_____-
Signature

Instructions

1. This is the first page of your exam. The previous page is a title page and does not have a page number. Since this is a take-home exam, no need to sign above since you won't submit this file.
2. Read problem descriptions carefully. You may not receive any credit if you answer the wrong question. Furthermore, if a problem says *"in N words or less"*, use that as a hint that N words or less are expected in the answer (your answer can be longer if you want). Please note that points may get *deducted* if you put in wrong stuff in your answer.
3. If a question doesn't say `weenix`, please do not give `weenix`-specific answers.
4. Write answers to all problems in the **answers text file**.
5. For non-multiple-choice and non-fill-in-the blank questions, please show all work (if applicable and appropriate). If you cannot finish a problem, your written work may help us to give you partial credit. We may not give full credit for answers only (i.e., for answers that do not show any work). Grading can only be based on what you wrote and cannot be based on what's on your mind when you wrote your answers.
6. Please do *not* just draw pictures to answer questions (unless you are specifically asked to draw pictures). Pictures will not be considered for grading unless they are clearly explained with words, equations, and/or formulas. It's very difficult to draw pictures in a text file and you are not permitted to submit additional files other than the answers text file.
7. For problems that have multiple parts, please clearly *label* which part you are providing answers for.
8. Please ignore minor spelling and grammatical errors. They do not make an answer invalid or incorrect.
9. During the exam, please only ask questions to *clarify* problems. Questions such as "would it be okay if I answer it this way" will not be answered (unless it can be answered to the whole class). Also, you are suppose to know the definitions and abbreviations/acronyms of *all technical terms*. We cannot "clarify" them for you. We also will **not** answer any clarification-type question for multiple choice problems since that would often give answers away.
10. Unless otherwise specified and stated explicitly, multiple choice questions have one or more correct answers. You will get points for selecting correct ones and you will lose points for selecting wrong ones.
11. When we grade your exam, we must assume that you wrote what you meant and you meant what you wrote. So, please write your answers accordingly.

(Q1) (2 points) Which of the following statements are correct about the **programming assignments late policy** of this class?

(1) if your submission timestamp is even one second after the deadline, you will get a grade of zero
(2) you can submit kernel 1 before the kernel 2 deadline and get a 50% deduction if you follow the posted rules
(3) you can use up to three "free late days" on warmup #2
(4) even though the submission deadline is set at 11:45PM, if you submit before midnight, there is no deduction
(5) you can use up to two "free late days" on kernel 3

Answer (just give numbers): _____

(Q2) (2 points) Which of the following statements are correct about **OS abstractions**?

(1) a process is an abstraction of processors
(2) a thread is an abstraction of memory
(3) a process is an abstraction of memory
(4) a thread is an abstraction of CPU
(5) application programs typically can access disks directly and do not need an OS abstraction to access disks

Answer (just give numbers): _____

(Q3) (2 points) Which of the following statements are correct about **virtual memory**?

(1) the addresses that are used inside a running program is called virtual address
(2) the addresses that are used inside a running program is called physical address
(3) if you have 16GB of physical memory, you cannot run 5 application programs concurrently because each program requires 4GB of memory exclusively
(4) through the use of virtual memory maps, every running program thinks that it has 4GB of address space
(5) none of the above is a correct answer

Answer (just give numbers): _____

(Q4) (2 points) Given that you are not allowed to modify `"my402list.h"`, which of the following statements are correct about the My402List data structure?

(1) the "anchor" inside My402List is a pointer
(2) the "anchor" inside My402List is a data structure
(3) application programmer can decide if the "anchor" inside My402List is used as a data structure or a pointer
(4) you must initialize the function pointers inside My402List in order for My402List to work properly
(5) none of the above is a correct answer

Answer (just give numbers): _____

(Q5) (2 points) Which of the following statements are correct about Warmup #1 grading?

(1) if you ask the grader to compile your code with a particular IDE, the grader must follow your instruction
(2) if you ask the grader to compile your code with a non-standard C compiler, as long as it can be installed on Ubuntu 16.04, the grader must follow your instruction
(3) you must edit the SELF-GRADING section of the README file properly or the grader will deduct points
(4) you can get up to 15% extra credit if you submit your Warmup #1 more than 4 days before the submission deadline
(5) none of the above is a correct answer

Answer (just give numbers): _____