CS110 Practice Midterm

Midterm Details

- Thursday, February 12th, 2015
- Last names beginning with A - Ko: Report to Building 200, Room 002 (this is History Corner basement), last names beginning with Ku - Z: Report to Building 420, Room 041 (same building as lecture, but in the neighboring room)
- 7:00pm - 9:00pm

The exam is closed book, closed note, closed electronic device. I will provide you with all of the prototypes of C and C++ functions/methods that might be relevant to a particular problem, and you can always come to CS110 staff member during the exam if you want to use a core C function that we didn't provide but want to know the prototype for. (Caveat: You are permitted to populate both sides of a single 8.5" x 11" sheet of paper with as much material as you can jam into it).

The exam will, of course, focus on the concepts we've learned during the first 12 lectures of the course (everything up through and including our discussion of virtual memory and the OS scheduler, but not threading and **intra**-process concurrency issues).

Material

Here's the impressive list of topics you should be familiar with:

- You should understand how `open`, `read`, `write`, `close`, `stat`, and `lstat` all work.
- You should be familiar with the basic concepts of layering and naming in computer systems.
- You should understand the UNIX v6 file system concepts, data structures, and layers you coded against for Assignment 1.
- You should be familiar with `fork`, `waitpid`, all of the various status macros, `execvp`, `signal`, signal handlers, signal blocking and unblocking, `kill`, process ids, and process groups.
- You should be familiar with the various **inter**-process concurrency issues that can come up as a result of a single code base controlling multiple processes.
- You should have a basic understanding of how virtual-to-physical memory mapping works and how it's used to allow all processes to operate under the illusion that

each owns its full virtual address space.

- You should have a basic understanding of how the OS scheduler works.

Practice Midterm

I'm presenting a collection of exam problems that represent the type of exam problems I might give on your February 12th midterm. I am planning on writing the exam so that it could be completed in 75 minutes, but in order to remove time pressure, I'm giving you 120 minutes to complete it. Understand that I'm under no obligation to replicate the structure of this practice exam while writing yours. I'm only intending to hit on many of the concepts you're likely to see during your own exam. Here are links to the practice exam and its solution.

- [Practice Midterm](#) [[Solution](#)]

Good luck studying for this and the rest of your midterms!