

CMSC 412 Homework Four

Name: _____

You've already read Chapters 4 and 5... maybe start in on chapter 6.

Due Tuesday Oct 6.

Type, please. 11-12 point times (serif) roman (not italic, no bold) or similar, single or 1.5 spaced, 1 inch margins. (I don't mean to define a specific style; missing one or two of these is fine, I won't grade it down.)

As always, if you use sources on-line (e.g., wikipedia, pages found by google, man pages), please cite. This assignment is meant to be done individually.

Point totals are approximate, subject to change.

1. (2 points) Into which register is the syscall number placed when executing a system call in geekos?
2. (2 points) In what way are GeekOS project one memory addresses virtual?
3. (4 points) What flags are passed to clone() by pthread_create on linuxlab? (heaving.csic.umd.edu) You may modify your code for homework 3 as part of answering this question.
4. (2 points) What is the difference between a function declared "static" as in `static void Syscall_Handler(struct Interrupt_State* state)` and one declared without the "static" modifier?
5. (4 points) Imagine you're implementing a (high-quality) web server. (a) Describe an environment (thread model (e.g., one-to-one), kernel parameters (e.g., memory footprint per thread)) in which it is reasonable (better or at least no worse) to start a new thread for every request. (b) Describe an environment in which it would be unreasonable.