ECE 437 /CS 481
Homework 1

Exercises in "Operating System Concepts", 9th Edition, Silberschatz, et. al.:

1.5 How does the distinction between kernel mode and user mode function as a rudimentary form of protection (security) system?

1.6 Which of the following instructions should be privileged?

1) Set value of timer.
2) Read the clock.
3) Clear memory.
4) Issue a trap instruction.
5) Turn off interrupts.
6) Modify entries in device-status table.
7) Switch from user to kernel mode.
8) Access I/O device.

1.10 Give two reasons why caches are useful. What problems do they solve? What problems do they cause? If a cache can be made as large as the device for which it is caching (for instance, a cache as large as a disk), why not make it that large and eliminate the device?

1.19 What is the purpose of interrupts? What are the differences between a trap and an interrupt? Can traps be generated intentionally by a user program? If so, for what purpose?

What to submit:
Turn in a hard copy of your response in class.