CS 4760	<b>Operating Systems</b>	Test $1$
Name:	Fall 2007	Max Pts: 42

**Important**: This is an open book test. You can use any books, notes, or paper, but not exchange anything with other students. You are not allowed to use any electronic/communication devices, including a calculator. *Do not log into the computer during the test. Switch off your cell phones*. Any calculations and rough work can be done on the back side of the test pages. You will lose five points for not writing your name.

1. [6 pt] The use of execl system call changes the program while retaining the process. Explain how is it achieved.

2. [6 pt] The current generation of processors from different vendors are billed as multi-core CPUs. Will you classify them as SIMD, MIMD, or SMP processors? Briefly exlain your answer.

3. [6 pt] We say that the kernel protects the system from a user. What is it that the kernel is trying to protect? Why is it important for the operation of the system?

4. [6 pt] Briefly describe the operation of handshaking protocol.

5. [6 pt] How does the operating system acquire control from user process to perform a process switch. Describe all possibilities.

6. [6 pt] What is the difference between daemons and zombies in Unix? Is any of them essential to the working of the system?

7. [6 pt] Explain the difference between a general counting semaphore and a condition used to implement monitors.