

## COP4610 Spring 2006 Homework Assignment 2

The material for this homework assignment covers Chapters 3 to 4.

1. Describe the five process states that define the activity of a process.
2. An OS uses queues to manage processes in different states. Suppose a system has one I/O device with one queue. How many queues are used in a typical OS for this system to schedule processes and what are the possible states of the processes in these queues?
3. The scheduling queues contain PCBs. Name the slots and briefly describe the content of these slots of a typical PCB.
4. The POSIX shared memory API defines four system calls `shmget()`, `shmat()`, `shmdt()`, and `shmctl()` that can be used for IPC. Describe the four system calls.
5. What are the benefits of multithreaded programming?
6. Textbook exercise 4.7 (page 147). Explain what happens. Test the code if in doubt.
7. What is a LWP (light-weight process)?