USF Graduate Operating Systems, Spring 2008.

COP 6611: Programming Assignment 2

Objective: Experiment with synchronization primitives in Linux.

Assignment (Due Sunday, February 10): Implement Problem 2 in Courtois, Heymans, and Parnas paper *Concurrent control with "readers" and "writers"*. Use the Pthreads library for the synchronization primitives needed to provide mutual exclusion.

`man pthreads` on the C4 Lab machines will give you information on mutex operations. Notice that other departmental machines are not Linux, and thus the man pages for the pthreads library will differ.

A nice tutorial on Pthreads: https://computing.llnl.gov/tutorials/pthreads/

Deliverables:

1) The source code.
2) The output of running your program on all meaningful tests that prove that:
    a. your program does behave as supposed
    b. your program does not deadlock

Note: You will have to design your program such that it takes meaningful parameters for testing.

This is an individual assignment. Your source code must compile on one of the C4 Lab PC's (c4labpc11.csee.usf.edu thru c4labpc29.csee.usf.edu). Although you can use any Linux environment to write your programs, make sure you test your solution on one of these machines before submitting.