COSC 350 System Software (Mini Test #4)

04/07/21

Name: _____

1. (5 pt.) Write a following syntax error free compliable C program.

    The parent creates a child process and run concurrently. Both parent and child try to run forever. The child process just keep printing "**child is running**". The parent process also keep printing "**parent is running**". For each print, both parent and child need sleep one second. Parent try to terminate the child process by sending SIGUSR1 to child after printing 10 times. When the child process gets a SIGUSR1 from the parent, the child process will print "**I am terminated by my parent**" and terminate itself. Once a child is terminated, parent will print "**My child is gone so I don't need stay**" then terminate itself. The parent must recognize the child's termination by using signal.

2. (5 pt.) Write a following syntax error free compliable C program.

    Two threads will be created. Three threads are running concurrently.
    Each thread will continuously print "**This is original thread**", "**This is the first thread**" or "**This is the second thread**". For each print, each thread will sleep one second.
    Original program runs forever until recognize the first thread's termination.
    After the second thread print 10 times, it tried to terminate the first thread. Then, the second thread print "**The second thread job is done**" and terminate itself.
    When the first thread recognizes the second thread's trial, the first thread will print "**The first thread job is done**" and terminate. When the original program recognizes the first thread's termination, it prints "**The original thread job is done**" and terminate itself.

    Do not use pthread_join() function for synchronization. Do not use signal for thread's termination!

    How to submit
    - Submit two files **mini4.1.c** and **mini4.2.c**
    - Submit by e-mail to cosc350@gmail.com