

Operating Systems

CSC 227

Fall 2012/2013

Wednesday Nov. 14, 2012

Homework 3

Points: 40

Due: Saturday Nov. 24, 2012 - 2:00 pm.

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1. [5.0 points] Discuss in details the different states that a process can exist in at any given time?
2. [6.0 points] List three different situations that lead to the following direct transitions between states:
  - a. Running state to ready state
  - b. Waiting state to ready state
  - c. Running state to waiting state
3. [4.0 points] What are the differences between a short-term and long-term scheduler? (3 points)
4. [5.0 points] Describe the actions taken by a kernel to context-switch between processes?
5. [5.0 points] Describe the actions taken when a user process starts to execute a write() system call?
6. [3.0 points] List THREE reasons when parent may terminate the execution of its child.
7. [3.0 points] Write down TWO of the things that happen when a Unix fork() system call is made at user level.
8. [4.0 points] What is the difference between message passing and shared memory as two main models of interprocess communication (IPC)? List TWO examples in which message passing is preferred to be used?
9. [5.0 points] Discuss the producer/consumer in your own sentences? Write the required pseudo-codes?