

Week 9 Topics:

Operating System Details: IPC, Synchronization and Deadlock

As you saw from the Midterm Exam, these questions actually DID form the basis of the questions I used for the exam. Didn't believe me, did you? Now that you know this, why not study these now and review them weekly with me on Mondays! I may actually ask you to do something with these in class!

1. List 3 ways processes can communicate with each other.

Files

Shared memory

Messages

Signals

2. What are 3 ways that Linux processes can communicate?

Pipes

Message Queues

Sockets

Shared Memory

CORBA

3. What are 3 ways that Windows processes can communicate?

OLE

Bidirectional pipes

Shared Memory

Mailslots

Mail slots

Clipboard Application

4. What is the purpose of synchronization? To prevent two or more processes from concurrently accessing a state sensitive resource while processing critical sections in their code.

5. List two ways to prevent data loss through processes not being synchronized.

Suppress/ Disable interrupts

Semaphores or Mutual exclusion locks.

6. What is deadlock? Where two processes hold locks on separate resources that each other needs.

7. What is starvation? Where most, if not all, system resources are either consumed by a single dominant process not allowing other processes to continue, OR, where lower priority processes never get a chance to execute because too many smaller, higher-priority processes block or pre-empt them.