Computer Operating Systems

**Problem #1**

Answer the following questions about Semaphores.

a. What is the definition of a Semaphore?

b. What is a binary semaphore?

c. How can we use semaphore instead of locks and condition variables?

**Problem #2**

Answer the following questions about scheduling.

a. How should we develop a basic framework for thinking about scheduling?

b. What are the key assumptions?

c. What basic approaches have been used in the earliest computer systems?

**Problem #3**

Answer the following questions about virtualizing memory.

a. How can we build efficient virtualization of memory?

b. How do we provide the flexibility needed by applications?

c. How do we maintain control over which memory locations an application can access, and thus ensure that application memory accesses are properly restricted?