

# 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?