Quiz Five of Operating System

Fall 2017, 106F14A

Name:_____**Student ID**:_____

Question **1**: Illustrate how a binary semaphore can be used to implement mutual exclusion among n processes.
Answer:

Question **2**: The Linux kernel has a policy that a process cannot hold a spinlock while attempting to acquire a semaphore. Explain why this policy is in place.
Answer:

Question **3**: Consider a 1-lane bridge that spans a creek. Because the bridge has only a signal lane, it can carry traffic in only one direction at a time (suppose *N* cars in each direction). A synchronization mechanism (use *wait()* and *signal()* function) is desired to avoid accidents on the bridge when traffic in both direction attempts to traverse the bridge at the same time.
Answer: