CSE 760: Au 2009: Homework II
Due in Class Monday, Oct 26th
(No solutions turned in after the end of the class that day will receive credit)

1) Using Java support for multithreading (Synchronized, wait, and notifyall only), write a solution to the producer-consumer problem with a buffer of length N. Submit your solution on paper (i.e. do not worry about exact syntax or debugging).

2) Using Java support for multithreading (Synchronized, wait, and notifyall), write a solution to the readers-writers problem, with exclusive writer access, concurrent reader access, and reader's priority. Submit your solution on paper (i.e. do not worry about exact syntax or debugging).

3) Lamport' algorithm requires messages to be delivered in FIFO order between every pair of sites. Does Ricart-Agrawala's algorithm require the same assumption to work? Explain your answer.

4) Show that in Lamport's distributed mutual exclusion algorithm, the critical section is accessed according to the increasing order of timestamps. Then, show that the same property holds true in Ricart-Agrawal's distributed mutual exclusion algorithm. Does the same hold true in Maekawa's algorithm ?