

CSCI 350 Fall 2016 : Practice Exam I

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ID#:	
Last (Family) Name:	
Rest of Name:	
Lecture Section:	Shindler 2PM Govindan 4:30 PM

- This exam is closed book. You are allowed one (1) 8.5" x 11" handwritten note sheet
- You will have fifty (50) minutes to complete this exam.
- Answer the questions only in the spaces provided on the question sheets.
- If you give multiple solutions to a problem without indicating which one you want graded, the grader may select one to grade.
- Your answers do not need to be complete, grammatically correct sentences.

3. How can a thread go from the Running state to the Waiting state? (there are three ways)

4. Simulate the traffic at the intersection of two one-way streets using semaphore operations. In particular, the following rules should be satisfied:

- Only one car can be crossing at any given time;
- When a car reaches the intersection and there are no cars approaching from the other street, it should be allowed to cross;
- When cars are arriving from both directions, they should take turns to prevent indefinite postponement of either direction.

5. Most Round Robin schedulers use a fixed size quantum. Give an argument in favor of and against a small quantum.

6. Which provides the best average response time when there are multiple servers (e.g., bank tellers, supermarket cash registers): a single FIFO queue or a FIFO queue per server? Why?

For this problem, assume you cannot predict how long any customer is going to take at the server, and that once you have picked a queue to wait in, you are stuck and cannot change queues.