University of California, Berkeley
College of Engineering
Computer Science Division – EECS

Quiz #1 Solutions

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CS162 Operating Systems

Your Name:	
SID:	**CS162 login:**
TA:	**Discussion Section:**
Score:	

This is a **closed book and notes** ten-minute quiz. Write all of your answers directly on this paper.

Good Luck!!

1. (12 points total) True/False. Circle the correct answer for each of the following questions.
   a. A CPU scheduling algorithm cannot provide both fairness and minimum average response time.

   TRUE **FALSE**

   True. This is a fundamental tradeoff between fairness and minimizing avg response time.

   b. A correct application using the Banker's algorithm for all requests will never deadlock.

   TRUE **FALSE**

   True. The Banker's algorithm only allows requests that leave an app in a SAFE state.

   c. SRTF and SJF are optimal page replacement algorithms that cannot be implemented in practice.

   TRUE **FALSE**

   *False. SRTF and SJF are optimal algorithms, but they are **scheduling** algorithms.*

2. (8 points total) Fill in the **TWO** blanks below.

   With _**Hoare**_____ monitors, the Signaler gives up the lock and CPU to a Waiter; the Waiter runs immediately. The Waiter gives up the lock and processor back to the Signaler when it exits the critical section or if it waits again.

   With _**Mesa**_____ monitors, the Signaler keeps lock and processor. The Waiter is placed on the ready queue with no special priority.