

**Due in class at 12:30pm on Wednesday 24 October 2007**

*typed answers preferred*

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1. The two-level thread model provides the benefits of both user-level and kernel-level threads. Explain.
2. In CPU scheduling, it is desirable to avoid a process' starvation. Explain why starvation is, or is not, possible in Round-Robin and Shortest-Remaining-Time scheduling.
3. Non-preemptive CPU scheduling selects a new process to dispatch onto the CPU only when a running process terminates or blocks. Preemptive CPU scheduling may also select a new process to dispatch at other times. For each of those other times, explain the rationale for selecting a new process at that time.
4. What are the deficiencies with mutual exclusion Algorithm 1?
5. In the bounded-buffer producer-consumer problem solution using semaphores, semaphores are used for two distinctly different purposes. Explain.