**Problem Set 3**

**COSI 131 Operating Systems**
**Spring 2020**

# Process Synchronization

**Problem 1**: Explain why spinlocks are not appropriate for single-processor systems yet are often used in multiprocessor systems.

**Problem 2**: Explain why implementing synchronization primitives by disabling interrupts is not appropriate in a single-processor system if the synchronization primitives are to be used in user-level programs.

**Problem 3**: Discuss the tradeoff between fairness and throughput of operations in the readers-writers problem. Propose a method for solving the readers writers problem without causing starvation.

**Problem 4**: Show how to implement acquire() and release() lock operations using Test and Set instruction.