Midterm Review

Topic List

- Processes
- Threads
- Synchronization Primitives
- Deadlock

Questions?

Processes

- How does a process switch to kernel mode?
- What is needed?
  - Interrupt Vector
  - Interrupt Stack
- How are processes created?
  - Windows? (CreateProcess section 3.1)
  - Mac/Linux? (fork starts process / exec for new program)

Threads

- TCB
- User and Kernel Stack
- Context Switch
  - thread_switch in kern/thread
  - code in book section 4.6 (page 161)
- Ways your code can be "optimized"
  - compiler
  - processor

Synchronization Primitives

- Locks
- Condition Variables
- Semaphores
  - Don't worry about these, not likely to be on the test

Deadlock

- ● What is it?
- ● How do we fix it?
  - ○ (Pseudo)detection
    - ■ Timeouts
    - ■ List of resources that might be needed
  - ○ Prevention
    - ■ Ordering
    - ■ Bankers Algorithm (Safe State)

Questions?