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?