EECS 111: System Software
Lecture 9

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Lecture 9 Overview

- Course Administration
  - Assignment 3
- Process Synchronization
  - Producer-Consumer Problem
  - Critical-Section Problem
  - Software Synchronization
  - Hardware Synchronization

Assignment 3

- Discussion
  - Race conditions, synchronization primitives, critical sections
- Project
  - Producer Consumer Problem, Threads, Busy Waiting
    - Program **`prodcons.c`** with producer, consumer threads
    - Producer thread computes Fibonacci series up to **`max`**, sends sequence of numbers to consumer
    - Consumer thread receives and checks numbers
    - Communication via bounded buffer (version 1)
      - Busy waiting
      - Uses up to BUFFER_SIZE-1 items
    - Analyze execution time, CPU load
  - Due
    - Tuesday, May 4, 2010, 12:00pm (noon)

Process Synchronization

- *"Operating System Concepts", 8th Edition,* by A. Silberschatz, P. B. Galvin, G. Gagne, John Wiley & Sons, 2009.
- Chapter 6
  - Producer-Consumer Problem
  - Critical-Section Problem
  - Software Synchronization
  - Hardware Synchronization