EECS 211:
Advanced System Software
Lecture 9

Rainer Dömer

doemer@uci.edu

The Henry Samueli School of Engineering
Electrical Engineering and Computer Science
University of California, Irvine

Lecture 9: Overview

- Assignment 3
  - Discussion: Proper (!) use of Condition Variables
- Assignment 4
  - Priority-based scheduling
  - Producer-consumer example with bounded buffer

- Storage Management
  - File-System Interface

Assignment 3

- Schedule
  - posted Jan 31, 2008 (week 4)
  - due Feb 7, 2008 (week 5)
- The Nachos System
  - Task: Properly (!) use locks and condition variables
    - re-do Assignment 2, Task 2
    - use provided locks and condition variables
      - `synch.h` and `synch.cc`
    - implement *safe* scheduling of two alternating threads
      - *no change in execution order due to any* `-rs #` *option!*
- Deliverables
  - brief explanation of proper use of condition variables
  - code for safe `threadtest.cc`
  - 5 identical test runs for options `-rs 1, 2, 3, 4, 5`
  - Email to doemer@uci.edu

EECS211: Advanced System Software, Lecture 9   (c) 2008 R. Doemer   3

Assignment 4

- Schedule
  - posted Feb 3, 2008 (week 5)
  - due Feb 14, 2008 (week 6)
- The Nachos System
  - Task 1: Implement a priority-based scheduler
    - Non-preemptive
  - Task 2: Bounded buffer for safe communication
    - Template code provided
    - 2 producer and 2 consumer threads
- Deliverables
  - brief explanation (in body of email)
  - `thread.h, thread.cc, scheduler.cc`
  - `threadtest.cc`
  - Email to doemer@uci.edu

EECS211: Advanced System Software, Lecture 9   (c) 2008 R. Doemer   4

Storage Management

- Excerpts from chapter 10 of
  "Operating System Concepts", 7th Edition,
  by A. Silberschatz, P. B. Galvin, G. Gagne,
  John Wiley & Sons, 2005.

- Storage Management
  - File-System Interface

EECS211: Advanced System Software, Lecture 9   (c) 2008 R. Doemer   5