CSE 451: Operating Systems
Winter 2022

Module 19
Review

Gary Kimura

Today's Agenda

- Review with questions and answers
- General computer and career related questions and answers
- Any topic questions and answers
- Last words

Broad topics in final exam

- Hardware Modes (5)
- General Structure, Architecture and Processes (15)
- Interrupt, Exception, and Syscall (10)
- Locks, Deadlock, and Starvation (15)
- CPU Scheduling (15)
- Memory (15)
- Virtual Memory (15)
- Storage and File Systems (10)

Hardware Modes

- Privileged and unprivileged instructions

General Structure, Architecture and Processes

- OS architecture, basic components
- Ramifications of the user mode kernel mode split
- Processes and threads

Interrupt, Exception, and Syscall

- The differences between these three methods for entering the kernel

Locks, Deadlock, and Starvation

- Types and features of various locks
- Understanding deadlocks, occurrences, prevention and analysis
- Differences between deadlock and starvation

CPU Scheduling

- Features and limitations of various scheduling algorithms

Memory

- Understanding physical memory: pages, frames, Page Tables, TLB, etc.

Virtual Memory

- Understanding how the Memory Management component of the OS operates. Page replacement strategies, hard vs. soft fault, etc.

Storage and File Systems

- Basic understanding of the physical features and limitations of storage media
- Understand the basic features and constraints of the File System