CSCI 4320 (Principles of Operating Systems), Fall 2002

Review for Exam 1

1 Format of the exam

The exam will be in class October 22. You will have 75 minutes. You may use your textbook and any notes or papers you care to bring, but you may not use other books, a calculator or computer, or each other's papers. Questions are likely (but not guaranteed) to be similar in format to those in the homework assignments.

2 Lecture topics to review

You are responsible for all material presented during lecture (including the occasional topics not covered in the textbook), but the following is a list of topics I consider most important.

- History/evolution of operating systems.
- Functions we would like an operating system to provide.
- What functionality we need (and/or can expect) from hardware in order to write a reasonable operating system.
- The process abstraction.
- Implementing processes.
- Why interprocess communication (IPC) is needed.
- Mechanisms for IPC (shared variables, semaphores, monitors, message-passing).
- IPC problems (mutual exclusion, producers/consumers, dining philosophers) and their solutions.
- Scheduling and scheduling algorithms.

3 Reading to review

You should have read all of chapters 1 and 2; the following is a list of sections to read or review more carefully.

- Chapter 1: Sections 1, 2, 3, 4, and 5.
- Chapter 2: Sections 1, 3, 4, and 5.