

Outline: October 2, 2008

1. Organization of operating systems
 - a. Monolithic
 - b. Kernel
 - c. Process hierarchy
 - d. Object oriented
2. User interface
 - a. Kernel, essential utilities, optional utilities
 - b. Command interpreter: JCL for batch, command language for interactive
 - c. Program vs. environment
 - d. Invoking programs; global vs. local environment
 - e. Other features: interrupt, suspend, background, command completion
3. System kernel
 - a. First level interrupt handler
 - b. Dispatcher
 - c. IPC primitives
4. Processes in the kernel
 - a. Process control block
 - b. Process state
 - c. Process queues
 - d. Dispatcher
5. Parallelism
 - a. What and why?
 - b. Precedence constraint
 - c. Precedence graph
 - d. Process flow graph
6. Basic constructs
 - a. *fork, join, quit*
 - b. **parbegin, parend**
7. Problem: bounded buffer without protection
8. Critical section problem
 - a. What a critical section is
 - b. Requirements to a solution