

Topics and sub topics of Chapter 3 Processes

1. Process Concept
 - a. Process
 - b. Process State
 - c. Process Control Block
 - d. Threads
2. Process Scheduling
 - a. Scheduling Queues
 - b. CPU scheduling
 - c. Context Switches
3. Operations on Processes
 - a. Process creation
 - b. Process Termination
4. Interprocess Communication
5. IPC shared memory system
6. IPC in message Passing System
 - a. Naming
 - b. Synchronization
 - c. Buffering
7. Pipes
 - a. Named Pipes
 - b. Unnamed Pipes

Topic and sub Topic of Chapter 4: Thread and Concurrency

1. Overview
2. Multi core programming
 - a. Programming challenges
 - b. Types of parallelism
3. Multi-Threading Model
 - a. Many to one Model
 - b. One to one Model
 - c. Many to many Model
4. Threads Libraries
 - a. P-thread

5. Thread Creation
6. Thread Issue
 - a. The fork() and exec() system call
 - b. Signal Handling
 - c. Threading Cancellation
 - d. Thread local Storage
 - e. Scheduler activation

Topic and sub Topic of Chapter 5: CPU Scheduling

1. Basic Concepts
 - a. CPU I/O Burst Cycle
 - b. CPU scheduler
 - c. Preemptive and non-preemptive
 - d. Dispatcher
2. Scheduling Criteria
3. Scheduling Algorithm
 - a. First Come First Serve scheduler
 - b. Shortest Job scheduler
 - c. Round Robin Scheduling
 - d. Priority Scheduling
 - e. Multilevel Queue Scheduling
 - f. Multilevel feedback Queue Scheduling
4. Thread Scheduling
 - a. Contention Scope
 - b. Pthread Scheduling
5. Multi-Processor scheduling
 - a. Approaches of multi-processor scheduling
 - b. Multi Core Processor
 - c. Multithreading Multicore system
 - d. Load Balancing
 - i. Push Migration
 - ii. Pull Migration
 - e. Processor Affinity
 - i. Hard Affinity
 - ii. Soft affinity

f. Heterogenous Multiprocessing