III Year - I Semester

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UNIX AND OPERATING SYSTEMS LAB

OBJECTIVES:

- To understand the design aspects of operating system.
- To study the process management concepts & Techniques.
- To study the storage management concepts.
- To familiarize students with the Linux environment
- To learn the fundamentals of shell scripting/programming
- To familiarize students with basic Unix administration

Operating Systems

1. Simulate the following CPU scheduling algorithms
   a) Round Robin b) SJF c) FCFS d) Priority
2. Multiprogramming-Memory management- Implementation of fork (), wait (), exec() and exit (), System calls
3. Simulate the following
   a) Multiprogramming with a fixed number of tasks (MFT)
   b) Multiprogramming with a variable number of tasks (MVT)
4. Simulate Bankers Algorithm for Dead Lock Avoidance
5. Simulate Bankers Algorithm for Dead Lock Prevention.
6. Simulate the following page replacement algorithms.
   a) FIFO b) LRU c) LFU
7. Simulate the following File allocation strategies
   a) Sequenced b) Indexed c) Linked

UNIX Programming

List of Experiments:

1. Basic Shell Commands Shell Programs:
2. Fibonacci Series
3. Designing Calculator
4. File Operations
5. Base conversion
6. Usage of cut and grep commands
7. Usage of user defined functions Administration
8. Managing User Accounts
9. User Quota Management
10. Installation of RPM software and Zipping, tar
11. Configuring RAID
12. Configuring Web server

OUTCOMES:

- To use Unix utilities and perform basic shell control of the utilities
- To use the Unix file system and file access control.
- To use of an operating system to develop software
- Work confidently in Unix/Linux environment
- Write shell scripts to automate various tasks
- Master the basics of Linux administration