Jaypee Institute of Information Technology, Noida

Department of CSE and IT

Operating System and System Programming Lab (15B17CI472)

List of Experiments

1. **Getting Started with Unix-** Refer Unix help section to execute all commands from it for different category like -file commands, directory commands, symbolic links, terminal commands, help commands, information commands, useful cshell symbols, permissions and file storage (unix), permissions and file storage (andrew), processes, printing, environment, customizing, networking, x-applications, unix filters.

2. **Solving C exercises in Linux environment-**Refer Lab manual and solve practical exercise to refresh your skill for C. Solve all the exercise questions related to the processes given in the lab assignment sheet.

3. **Process creation and management –**Create foreground and background processes. Solve all the exercise questions related to the processes given in the lab assignment sheet.

4. **Using fork() and creating child processes-** Solve the arithmetic of ADD, SUB, MUL and DIV by forking child process, Spawn a child process and do the exercise questions given in the lab assignment sheet.

5. **Process Scheduling Algorithms -** Write C program in Linux operating systems for implementing scheduling algorithms (FCFS, SJF, Round Robin, etc). Also for all scheduling algorithm, write menu driven Linux C program and give average waiting time and the average turnaround time in sec.

6. **Threads Creation and Synchronization-**Solve all the exercise questions related to the threads and synchronization given in the lab assignment sheet.

7. **Deadlocks -** Solve all the exercise questions related to the deadlock given in the lab assignment sheet.

8. **File management -**Write a Linux C Program to create a file to store records with various fields using Fixed size records and Variable size records methods and show the size occupied by both the method to store the records.

9. **Disk Scheduling -** write a Linux C program to calculate total distance for each of the disk-scheduling algorithms.

10. **Memory Management -** Implement page replacement algorithms, assuming one, two, three, four, five, size, or seven frames. Assume that all frames are initially empty.