

**UNIX PROGRAMMING LAB**

1. Program using basic network commands
2. Program using system calls: create, open, read, write, close, stat, fstat, lseek . Program to implement inter process communication using pipes
4. Program to perform inter process cots : sniffer
5. Program using TCP sockets (Client and Server)
6. Program using UDP sockets (Client and Server)
7. Program using URL class to download web pages
8. Write a shell script for sorting, searching and insertion/deletion of elements in a list
9. Create two processes to run a for loop, which adds numbers 1 to n, say one process adds odd numbers and the other even
10. By creating required number of processors, simulate a communication between them as below:
11. Create a file that is shared among some users, write a program that finds whether a specific user has created read and write operations on the file
12. Create a shared lock and exclusive lock among some number of processes; say 1 to 10 on any data of 100 elements. For example, process 5 wants a shared lock on elements 5 to 50 or process 8 wants exclusive lock on elements 32 to 45. Create access violations on the locks and show what occurs, then.
13. Write a program demonstrating semaphore operation on a shared file for reading but not writing
14. Create a distributed key among some processes which exchange messages of the form (m, Ti, I) for resource sharing, where m=request, reply, release, Ti=time stamp and I=process id
15. Write a program demonstrating mutual exclusion principle
16. Write a program which reads a source file name and destination file name using command line arguments and then converts into specified format (i.e. either from lower case to upper case or upper case to lower case or inverse of each)
17. Write a program which takes a set of filenames along with the command line and print them based on their size in bytes either ascending or descending order

18. Write a program which takes directory name along the command line and displays names of the files which are having more than one link
19. Write a program to demonstrate the use of temporary files
20. Write a program to demonstrate the use of exec family functions
21. Write a program to display the good morning, good afternoon, good evening and good night depending on the users log on time
22. Write a program to demonstrate the working of simple signal handler that catches either of the two user defined signals and prints the signal number
23. Write a program to demonstrate the locking mechanism while accessing the shared files
24. Write a shell script containing a function mycd() using which, it is possible to shuttle between directories
25. Write a shell script which works similar to the wc command. This script can receive the option -l, -w, -c to indicate whether number of lines/ words/characters
26. Write a program to print prime numbers between x and y Write a shell script which deletes all lines containing the word
27. Write a shell script which deletes all lines containing the word "UNIX" in the files supplied as arguments to this shell script
28. Write a shell script which displays a list of all files in the current directory to which you have read, write and execute permissions
29. Write a menu-driven program which has the following options:
30. Write a shell script for renaming each file in the directory such that it will have the current shell's PID as an extension. The shell script should ensure that the directories do not get renamed
31. Write a program which demonstrates the shared memory functions