

18MC211 LINUX BASICS AND SHELL PROGRAMMING LABORATORY

Course Description and Objectives:

This course focuses on basic concepts of Linux Operating System, and various kinds of Shells such as Bash, C, Korn shell etc... In addition, a student can also explore generating appropriate scripts for a given job.

Course Outcomes:

The student will be able to:

- Understand the Linux environment
- Perform file management and multiple tasks using shell scripts in Linux environment.
- Administer user accounts and provide file security.
- Create user - defined commands through system calls.

List of Experiments:

(Note: Use Bash for Shell scripts)

1. Execution of various file/directory handling commands.
2. Simple shell script for basic arithmetic and logical calculations.
3. Shell scripts to check various attributes of files and directories.
4. Write a Shell script that accepts a filename, starting and ending line numbers as arguments and displays all the lines between the given line numbers.
5. Write a Shell script that deletes all lines containing a specified word in one or more files supplied as arguments to it.
6. Write a Shell script that displays list of all the files in the current directory to which the user has read, Write and execute permissions.
7. Write a Shell script that receives any number of file names as arguments checks if every argument supplied is a file or a directory and reports accordingly. Whenever the argument is a file, the number of lines on it is also reported.
8. Write a Shell script that accepts a list of file names as its arguments, counts and reports the occurrence of each word that is present in the first argument file on other argument files.
9. Write a Shell script to list all of the directory files in a directory
10. Write a Shell script to find factorial of a given integer.
11. Write a Shell script to count the number of lines in a file that do not contain vowels.
12. Write an awk script to find the number of characters, words and lines in a file.
13. Write a C Program that makes a copy of a file using standard I/O and system calls.
14. Write in C the following Unix commands using system calls
a.cat b.mv
12. Write a C program to list files in a directory

13. Write a C program to emulate the Unixls-l command.
14. Write a C program to list for every file in a directory, its inode number and file name.
15. Write a C Program that demonstrates redirection of standard output to a file .EX:
ls>f1.

Reference Books:

1. N.Matthew,R.Stones,“Beginning Linux Programming”, 4th Edition, (Wrox) Wiley Publishing Inc., 2008
2. N.B.Venkateswarlu,“Advanced Unix Programming”, 1st Edition, BS Publications, 2008.
3. M.G.Venkatesh Murthy,“Introduction to Unix & Shell Programming”, 1st Edition, Pearson Education, 2005.