CS251 Inlab 1 - Unix CLI

Things to try in the lab:

1. Use **script** command to save the work in a file named ***<yourrollnumber>-lab1-inlab.script***. Do a man script first before you do this to check how it works. You will eventually submit the script output, so you MUST do this task first. This command will start a session in which everything you type on the terminal will be recorded. It will return with a command prompt. Continue with the next instruction below. Note that the script command will only record what you do in that terminal window (or shell session) only. So, ensure that you do all your work in that window alone. Else you will lose your work.
   Note: All the data required for the inlab assignment is given in **Data.tar.gz**

2. Go to your home directory using **cd or cd ~/**. Use **mkdir** command to make two directories *lab1* and *assignment1*, *lab1* should be ***in*** *assignment1* and do this with one command.

3. Use **cd** command to navigate into the directories and use **touch** command to make 3 files in the *lab1* directory named *lab1_1.txt*, *lab1_2.doc, lab1_3.odt* and in the *assignment1* directory named *assignment1_1.txt*, *assignment1_2.doc, assignment1_3.odt*

4. Use the **cat** command to copy the content of the given file *iit.txt* file into all the files of *assignment1* directory and *lab1* directory. (HInt: Use a **for** loop)

5. In the *lab1* directory, use **ls** command to display only the .txt files, then only the .doc file and then only the .odt files.

6. Use **pwd** command to print the full path of the *lab1* directory. Understand the concept of full vs relative paths.

7. Make a file named commands.txt inside *assignment1* directory using **cat** command and write "ls" command in it. Do NOT use any editor to do this. Make it executable *for user and group only* using **chmod** and then execute it.

8. Use **cat** command to create a file called *names.txt* in the *assignment1* directory and copy the contents of the given file *find.txt* in to it.

9. use the **head** command to display the first 15 lines of the *names.txt* file

10. use the **tail** command to display the last 15 lines of *names.txt* file

11. use **more** and **less** command to display the contents of the *names.txt* file

12. copy the file *names.txt* into the lab1 directory using the **cp** command

13. make a new directory named *moved_content* inside *assignment1* directory using **mkdir** command and use **mv** command to move *names.txt* file into it

14. Use **grep** command to search the word “the” in all the .txt files of the *assignment1* directory recursively, also use the **grep** command to search the word “the” in all the files in the *assignment1* directory recursively.

15. Move the given file named *info.txt* to the *lab1* directory and then use the **grep** command to count the occurence of the number “5” in the file.

16. Display only the “the” word in all the files in *assignment1* directory recursively without displaying the entire line using **grep** command.

17. Display all the “the” without considering the case sensitivity in all the files in the *assignment1* directory recursively using **grep** command.

18. Display the file name of all the files that contains the word “the” in all the files in *assignment1* directory recursively using **grep** command.

19. Be in the home directory and use **find** command to find the file *lab1_1.txt* in the *assignment1* directory

20. Make an empty file named *empty.txt* inside the *lab1* directory using **touch** command, then return to home directory and use **find** command to search for a file having 0 bytes size

21. Use **find** command to display the files that were accessed 0.0002 days ago in the *assignment1* directory

22. Display the space of the disks *in GB* using the **df** command

23. Create a sleep job for 5 minutes as a background job using **sleep** command and list the jobs running in the background using **jobs** command

24. Use **fg** command to bring the sleep job in the foreground and stop it using ^z. Display all the stopped jobs using the jobs command

25. Use **bg** command to run the sleep job in the background and display all the running jobs using the jobs command

26. Get the process ID of *all* the running processes on the machine using the **ps** command

27. Write a command to display all the running processes using **ps** command, pipeline it with **grep** command to search for “bash” processes. Understand the concept of pipes in Unix. You will use this later.

28. remove the file commands.txt from the *assignment1* directory using **rm -i**.

29. use **rm** command to first empty the *lab1* directory and then use **rmdir** command to remove the directory.

30. Use **rm** to delete *assignment1* directory(non empty)

31. Using **ls** output the long listing human readable format of files in home directory. (Refer man page of ls)

32. Use **uptime, w, uname** command to see the output that it displays.

33. Using **whereis** command, find out the source, binary, and manuals sections for **grep, ls, man** command.

34. Using **which** command, locate the full path of the executable associated with **dpkg, ls, sudo** command.

35. Use **man** command to see the detail of function **ping, fgrep, tee** command. Use **tee** command to append the text "I love my India" into the blank file test.txt

36. Get your ip address of your neighbor's system and then test its network connectivity using **ping** command. Use **ifconfig** to determine the IP address of your system.

37. Using **wget** command download the pdf from http://www.cse.iitb.ac.in/~aryan/opencv2refman.pdf

38. Use **vimtutor** command and save the output to a file vim.txt using vim commands and using **diff** compare the file with vim_edited.txt present in Data tar provided.

39. Given the large text file **sample.txt** in Data folder, using emacs editor perform the following tasks:-
    a. Jump to the first line
    b. Delete 5th character from line 60.
    c. Add a new line after line 70 and input the text "line 60 was edited"
    d. Find the entry of word "imperdiet"
    e. Replace all the words "non" with "changed"
    f. Save the file as tmp-1

40. Do all emacs exercises listed in slides 113/114 of the Unix CLI presentation. Become really familiar with Emacs since its much much more than a editor - its an environment where you can program, compile, check mail, browse the web and do anything you want to with a computer.

41. As you know Vi (or Vim) is another popular editor on Linux/Unix. Do all the exercises listed on slides 101/102 for Vi. Vi is the default editor present on every variant of Linux or Unix. So, its useful to be familiar with all the shortcuts in Vi/Vim.

Submission Instructions for the in-lab work.

1. Exit the script session you started in the very first instruction of the in lab portion. Do this using ^D. This will save the entire session into a file whose filename you specified as an argument to the script command in the first instruction. and exit the script session.
2. Compress the file using gzip. You will end up with the script file having the .gz extension.
3. Upload this on Moodle.