Computer Programming, M 2020

Lab 1

Week 1, 2020

Objective: Familiarization with Linux

Part 1

1. Turn on your system and login using login ID and password.

2. Press Ctrl + Alt + T to open a terminal.

3. ls- Lists the contents of the current directory

ls

4. Create a directory in your home folder (using mkdir) and name it as CP2020.

mkdir CP2020

5. Change the current directory to CP2020.

cd CP2020

6. In this directory, create another folder, called as Lab1.

cd to Lab1.

7. Create a text "a.txt" using gedit and write your name and roll no. in it. Save it and close it.

gedit a.text

8. Copy the contents of "a.txt" to "b.txt" using cp.

cp a.txt b.txt

9. Open "b.txt" and verify that it is a copy of "a.txt".

gedit b.txt

or

cat b.txt

10. List the contents of the directory Lab1 and learn how to recognize files and folders.

ls Lab1

11. Rename "b.txt" as "acopy.txt" using **mv.**

mv b.txt acopy.txtLL

12. Retrieve previous commands using the **arrow keys.**

13. Move out of CP2020 using ..

cd ..

14. Copy the directory hierarchy CP2020 to CP2021 copy using cp -r.

cp -r CP2020 CP2021

15. List the folder contents using ls.

ls

16. Delete the directory hierarchy CP2020copy using rm and rm -r.

rm filename and rm -r directory_name.

17. List the folder contents using ls. Also find out what ls -a does.

ls -a

18. Learn the mea**ning of .. and .**

cd ..

cd .

19. Use **man** to learn about different commands.

man cat

20. Using cd and ls, check the contents of various other directories.

Answer the following

write command to Create a text "a.txt" using gedit and write your name and roll no. in Desktop/s3/2020/cp3 directory. Save it and close it.(current directory : home) :

Part 2

1. Change permissions for a file or folder using **chmod.**

ls -a a.txt

chmod 777 a.txt

2. Explore the Linux file system and see what else is there on it. Use Google search to learn about the directories root (/), /etc/, /bin/

3. Explore the other processes running in the system and try killing some processes (using "ps" and "kill").

4. Open "acopy.txt", change the entry number slightly and observe the difference using diff.

5. Learn about I/O redirection (using ">" and "|")

6. Learn about text search and manipulation (using "grep", "sort", "uniq",

etc.)

7. In a terminal, open a text file using gedit. Copy a small C program such as the one given below. Name it as hello.c and save it. Compile it using the gcc compiler and run it. To compile it, type gcc hello.c –o hello.o into the terminal. To run it, use ./hello.o

```
/* Hello World program */

#include<stdio.h>

main()

{

        printf("Hello World");

}
```

Useful commands in Linux

1. Open terminal: Ctrl + Alt + T
2. Make a new directory: mkdir dirname
3. Copy: cp src dest
4. Rename: mv originalname newname
5. Delete: rm filename
6. Change working directory: cd path
7. List contents of a folder: ls
8. List contents of a folder including hidden files: ls -a
9. Print current directory: pwd