**USP LAB**

**WEEK – 2**

**Agenda: File Systems**

**Questions**

1. Write the directory structure of Unix File System.
2. Create three directories named **letters, reports** and **assignments** under your home directory.
3. Move to directory **letters**.
4. Create two directories named **friendly** and **formal** under the **letters** directory.
5. Move to directory **reports** using only one command (directly from **letters**).
6. Create three directories called **personal, business** and **school** under the directory **reports** (use only one command).
7. create a directory called **UNIX** under the **assignments** directory without moving from the **reports** directory.
8. Create two directories called **HWs** and **projects** under directory **UNIX.** The directories in this step should be created without moving from the **reports** directory.
9. Move to your home directory.
10. Recursively list all of the directories from the home directory and draw the directory structure on paper for the directories you have created just before.
11. Move to **HWs** directory
12. Check your current working directory
13. Create a file named **hw4** that contains some questions on Unix
14. Move to the home directory & View the contents of hw4 from your home directory
15. Ensure that the file you created is a regular file.
16. Make a copy of hw4 and call it **hw4.bk.** Store it under the same directory where hw4 is stored.
17. From your home directory, check to see if both files (hw4 and hw4.bk) exist.
18. Move to **HWs** Directory
19. Make the hard link to the **hw4** file called **hw4HL**.
20. Make a soft link to **hw4** called **hw4SL**.
21. Check the inode of **hw4, hw4.bk, hw4HL** and **hw4SL**. Are all the same? Are all different? Explain your answer.
22. Use the **ls** command to find the file types of **hw4, hw4.bk, hw4HL** and **hw4SL**. Explain your observation.
23. Check the file type of sda and tty in dev directory
24. Create a character device **cdev** file under device directory with 7 as major number and 136 as minor number. Do this with superuser permission.
25. Create a character device **bdev** file under device directory with 1 as major number and 101 as minor number. Do this with superuser permission.
26. Ensure the type of **cdev** and **bdev**

Answer:

1. cd / bin, usr, dev, home, etc, mnt, opt, proc etc...
2. mkdir letters reports assignments
3. cd letters
4. mkdir friendly formal
5. cd ~/reports
6. mkdir personal business school
7. mkdir ~/assignments/UNIX
8. mkdir ~/assignments/UNIX/HWs ~/assignments/UNIX/projects
9. cd ~
10. ls -R /home/student
11. cd ~/assignments/UNIX/HWs
12. pwd
13. cat > hw4
14. cd ~ ; cat /assignments/UNIX/Hws/hw4
15. ls -l /assignments/UNIX/Hws/hw4
16. cp /assignments/UNIX/Hws/hw4 /assignments/UNIX/Hws/hw4.bk
17. ls -l /assignments/UNIX/Hws/hw4 /assignments/UNIX/Hws/hw4.bk
18. cd ~/assignments/UNIX/Hws
19. ln hw4 hw4HL
20. ln -s hw4 hw4SL
21. ls -i hw4 hw4.bk hw4HL hw4SL
22. ls -i hw4 hw4.bk hw4HL hw4SL
23. cd / ; ls -l /dev/sda /dev/tty
24. sudo mknod /dev/cdev c 7 136
25. sudo mknod /dev/bdev b 1 101
26. ls -l /dev/cdev /dev/bdev