Exercise 1

1. Launch a terminal.

2. Create three directories named letters, reports and assignment 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. The directories in

this step should be created without moving from the reports directory.

8. Move to your home directory.

9. Recursively list all of the directories you created and draw the directory structure

on paper.

10. Quit the terminal.

shivanirudh@Shiva-Ideapad:~$ mkdir letters reports assignment

shivanirudh@Shiva-Ideapad:~$ cd letters

shivanirudh@Shiva-Ideapad:~/letters$ mkdir friendly formal

shivanirudh@Shiva-Ideapad:~/letters$ cd ../reports

shivanirudh@Shiva-Ideapad:~/reports$ mkdir personal business school

shivanirudh@Shiva-Ideapad:~/reports$ mkdir ../assignment/UNIX

shivanirudh@Shiva-Ideapad:~/reports$ cd ../assignment

shivanirudh@Shiva-Ideapad:~/assignment$ ls

UNIX

shivanirudh@Shiva-Ideapad:~$ ls -R

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assignment Downloads First.c myname reports

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./assignment:

UNIX

./assignment/UNIX:

./Desktop:

'Assignment - 1 - Basic commands.pdf' 'Basic commands.docx'

'Assignment - 2 - File system.pdf' 'File System.docx'

./Documents:

./Downloads:

./letters:

formal friendly

./letters/formal:

./letters/friendly:

./Music:

./myname:

junk

./myname/junk:

./Pictures:

./Public:

./reports:

assignment business personal school

./reports/business:

./reports/personal:

./reports/school:

./Templates:

./Videos:

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Exercise 2

1. Launch a terminal.

2. Recursively list the directories under your home directory (the ones created in

Exercise 1).

3. Move to the UNIX directory.

4. Check your current directory.

5. Using vi , create a file named hw4 that contains short answers to at least five

review questions in this chapter.

6. Save the file (it should be saved under the UNIX directory).

7. Move to your home directory

8. Print the content of hw4 from your home directory.

9. Make a copy of hw4 and call it hw4.bk . Store it under the same directory

where hw4 is stored.10. From your home directory, check to see if both files ( hw4 and hw4.bk ) exist.

11. Move to the UNIX directory.

12. Check your current working directory.

13. Make a hard link to the hw4 file. The link should be under the UNIX subdirectory

and be called hw4HL .

14. Make a soft link to hw4 called hw4SL and store it under the UNIX directory.

15. Check the inode of hw4, hw4.bk, hw4HL , and hw4SL . Are all the same? Are all

different? Explain how you determined the answer

16. Use ls command to find the file types of hw4, hw4.bk, hw4HL and hw4SL . Explain

your observation.

17. Quit the terminal.

shivanirudh@Shiva-Ideapad:~$ ls -R

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./assignment:

UNIX

./assignment/UNIX:

./Desktop:

'Assignment - 1 - Basic commands.pdf' 'Basic commands.docx'

'Assignment - 2 - File system.pdf' 'File System.docx'

./Documents:

./Downloads:

./letters:

formal friendly

./letters/formal:

./letters/friendly:

./Music:

./myname:

junk

./myname/junk:

./Pictures:

./Public:

./reports:

assignment business personal school

./reports/business:

./reports/personal:

./reports/school:

./Templates:

./Videos:

shivanirudh@Shiva-Ideapad:~$ cd assignment/UNIX

shivanirudh@Shiva-Ideapad:~/assignment/UNIX$ pwd

/home/shivanirudh/assignment/UNIX

shivanirudh@Shiva-Ideapad:~/assignment/UNIX$ vi hw4

shivanirudh@Shiva-Ideapad:~/assignment/UNIX$ cd ../..

shivanirudh@Shiva-Ideapad:~$ cat ~/assignment/UNIX/hw4

The number of partitions is 2. Total size of the disk is 193.1GB.

shivanirudh@Shiva-Ideapad:~$ cd assignment/UNIX

shivanirudh@Shiva-Ideapad:~/assignment/UNIX$ cp hw4 hw4.bk

shivanirudh@Shiva-Ideapad:~/assignment/UNIX$ cd ../..

shivanirudh@Shiva-Ideapad:~$ dir

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shivanirudh@Shiva-Ideapad:~$ dir ~/assignment/UNIX

hw4 hw4.bk

shivanirudh@Shiva-Ideapad:~$ cd assignment/UNIX

shivanirudh@Shiva-Ideapad:~/assignment/UNIX$ ln hw4 hw4HL

shivanirudh@Shiva-Ideapad:~/assignment/UNIX$ ln -s hw4 hw4SL

shivanirudh@Shiva-Ideapad:~/assignment/UNIX$ ls -li hw4

3015591 -rw-r--r-- 2 shivanirudh shivanirudh 67 Jul 10 20:19 hw4

shivanirudh@Shiva-Ideapad:~/assignment/UNIX$ ls -li hw4.bk

3015590 -rw-r--r-- 1 shivanirudh shivanirudh 67 Jul 10 20:20 hw4.bk

shivanirudh@Shiva-Ideapad:~/assignment/UNIX$ ls -li hw4HL

3015591 -rw-r--r-- 2 shivanirudh shivanirudh 67 Jul 10 20:19 hw4HL

shivanirudh@Shiva-Ideapad:~/assignment/UNIX$ ls -li hw4SL

3015592 lrwxrwxrwx 1 shivanirudh shivanirudh 3 Jul 10 20:26 hw4SL -> hw4

The inodes of the original and the hard linked file are the same, while that of the copied and the soft linked file are different.

shivanirudh@Shiva-Ideapad:~/assignment/UNIX$ ls -l

total 12

-rw-r--r-- 2 shivanirudh shivanirudh 67 Jul 10 20:19 hw4

-rw-r--r-- 1 shivanirudh shivanirudh 67 Jul 10 20:20 hw4.bk

-rw-r--r-- 2 shivanirudh shivanirudh 67 Jul 10 20:19 hw4HL

lrwxrwxrwx 1 shivanirudh shivanirudh 3 Jul 10 20:26 hw4SL -> hw4

ls command gives the file types of the files present along with the total number oflinks created.

Exercise 3

1. Launch a terminal.

2. Create a backup directory in your home directory called backups .

3. Use the find command to find the pathnames of all of the files ( hw4, hw4.bk,

hw4HL, hw4SL ) that you created in Exercise 2. All of them should be found using

only one find command. The command must also copy all of them to

the backups directory.

4. Check the number of links and inode number of ( hw4, hw4.bk, hw4HL, hw4SL ).

Make note of the results.

5. Delete the original hw4 file without moving from your home directory.

6. Check the existence of hw4, hw4.bk, hw4HL, hw4SL .

7. Check the contents of hw4, hw4.bk, hw4HL, hw4SL .

8. Restore hw4 by making a copy of hw4.bk .

9. You may have noticed that your soft link ( hw4SL ) contains garbage. Delete this file.

10. Make a soft link to hw4 and save it as hw4SL under the same directory as it was.

11. List recursively all of your files and directories to confirm all operations.

12. Draw the directory structure of your home directory.

13. Quit the terminal.

shivanirudh@Shiva-Ideapad:~$ mkdir backups

shivanirudh@Shiva-Ideapad:~$ find ~/assignment/UNIX/\* -print >> ../backups

bash: ../backups: Permission denied

shivanirudh@Shiva-Ideapad:~$ find ~/assignment/UNIX/\* -print

/home/shivanirudh/assignment/UNIX/hw4

/home/shivanirudh/assignment/UNIX/hw4.bk

/home/shivanirudh/assignment/UNIX/hw4HL

/home/shivanirudh/assignment/UNIX/hw4SL

shivanirudh@Shiva-Ideapad:~$ find ~/assignment/UNIX/\* -print|cp ~/assignment/UNIX/\* ~/backups/

shivanirudh@Shiva-Ideapad:~$ cd backups

shivanirudh@Shiva-Ideapad:~/backups$ ls

hw4 hw4.bk hw4HL hw4SL

shivanirudh@Shiva-Ideapad:~/backups$ ls -l

total 16

-rw-r--r-- 1 shivanirudh shivanirudh 67 Jul 10 21:15 hw4

-rw-r--r-- 1 shivanirudh shivanirudh 67 Jul 10 21:15 hw4.bk

-rw-r--r-- 1 shivanirudh shivanirudh 67 Jul 10 21:15 hw4HL

-rw-r--r-- 1 shivanirudh shivanirudh 67 Jul 10 21:15 hw4SL

shivanirudh@Shiva-Ideapad:~/backups$ rm ~/assignment/UNIX/\*

shivanirudh@Shiva-Ideapad:~/backups$ rmdir ~/assignment/UNIX

shivanirudh@Shiva-Ideapad:~/backups$ rmdir ~/assignment

shivanirudh@Shiva-Ideapad:~/backups$ dir ~/backups

hw4 hw4.bk hw4HL hw4SL

shivanirudh@Shiva-Ideapad:~/backups$ cat ~/backups/\*

The number of partitions is 2. Total size of the disk is 193.1GB.

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shivanirudh@Shiva-Ideapad:~/backups$ cp hw4.bk hw4

shivanirudh@Shiva-Ideapad:~/backups$ rm hw4SL

shivanirudh@Shiva-Ideapad:~/backups$ ln -s hw4 hw4SL

shivanirudh@Shiva-Ideapad:~/backups$ ls -R

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hw4 hw4.bk hw4HL hw4SL

Exercise 4

1. Launch a terminal.

2. Use wildcards to display all of the files you have created under the HWs without

moving from your home directory.

3. Rename hw4.bk to hw4.bak

4. Create a short friendly letter, called friend.1 , using vi and store it under

the friendly directory.

5. Create a short formal letter, called formal.1 , using vi and store it under the formal

directory. Give a title to formal.1 letter.

6. Copy the file formal.1 and call the new copy formal.2

7. Change only the title of formal.2 (using vi and save it.

8. Using wildcards, print the contents of formal.1 and formal.2

9. Make a directory called business under your home directory.

10. Move the formal directory (with all of its contents) under the business directory.

11. Make a recursive list of your directory structure.

12. Draw the new directory structure on paper.

13. Quit the terminal.

shivanirudh@Shiva-Ideapad:~$ cat ~/backups/\*

The number of partitions is 2. Total size of the disk is 193.1GB.

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The number of partitions is 2. Total size of the disk is 193.1GB.

The number of partitions is 2. Total size of the disk is 193.1GB.

shivanirudh@Shiva-Ideapad:~$ cd backups

shivanirudh@Shiva-Ideapad:~/backups$ ,v hw4.bk hw4.bak

,v: command not found

shivanirudh@Shiva-Ideapad:~/backups$ mv hw4.bk hw4.bak

shivanirudh@Shiva-Ideapad:~/backups$ cd ..

shivanirudh@Shiva-Ideapad:~$ vi friend.1

shivanirudh@Shiva-Ideapad:~$ vi friend.1

shivanirudh@Shiva-Ideapad:~$ mkdir friendly

shivanirudh@Shiva-Ideapad:~$ mv friend.1 friendly

shivanirudh@Shiva-Ideapad:~$ cd friendly

shivanirudh@Shiva-Ideapad:~/friendly$ ls

friend.1

shivanirudh@Shiva-Ideapad:~/friendly$ mkdir formal

shivanirudh@Shiva-Ideapad:~/friendly$ rmdir formal

shivanirudh@Shiva-Ideapad:~/friendly$ cd ..

shivanirudh@Shiva-Ideapad:~$ mkdir formal

shivanirudh@Shiva-Ideapad:~$ cd formal

shivanirudh@Shiva-Ideapad:~/formal$ vi formal.1

shivanirudh@Shiva-Ideapad:~/formal$ cp formal.1 formal.2

shivanirudh@Shiva-Ideapad:~/formal$ vi formal.1

shivanirudh@Shiva-Ideapad:~/formal$ cp formal.1 formal.2

shivanirudh@Shiva-Ideapad:~/formal$ vi formal.2

shivanirudh@Shiva-Ideapad:~/formal$ cat formal.\*

Formal 1

Good evening sir/ma'am,

This is in regard of my attendance.

Yours sincerely

FormAl

Good evening sir/ma'am,

This is in regard of my attendance.

Yours sincerely

shivanirudh@Shiva-Ideapad:~/formal$ cd ..

shivanirudh@Shiva-Ideapad:~$ mkdir business

shivanirudh@Shiva-Ideapad:~$ mv formal business

shivanirudh@Shiva-Ideapad:~$ ls

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business Downloads First.c Music Public Videos

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shivanirudh@Shiva-Ideapad:~$ cd business

shivanirudh@Shiva-Ideapad:~/business$ ls

formal

shivanirudh@Shiva-Ideapad:~/business$ ls -R

.:

formal

./formal:

formal.1 formal.2