Learn the following for the OS lab

Access modes, permissions

Creating files, Appending to files, deleting files, renaming files, moving files, finding files

Creating directories, deleting directories,

Virtual consoles, pipes

Operators   >,  >>

Commands:  cd, cat, chmod, cp, date, ls, ps, pwd, sort, who

**B. Tech (I. T) IV Semester**

**Operating Systems Laboratory**

1. Identify the directory you are working in.
2. Create three sub directories in it, dir1, dir2, dir3.
3. Check if they are created and find out what permissions are given to them by default.
4. Create another sub directory sub\_dir1 under dir1.
5. Create a file with name dec22\_file1\_2009..(roll-no) in sub\_dir1 using the vi editor.
6. Find out the default permission given to the above file.
7. Display the contents of the file using “cat”
8. Add a few more lines to the file using the “redirection symbols”.
9. Edit the file by opening it in vi. Identify the keys that you use for common editing:
10. Moving the cursor up, down, left, right, replacing a character, deleting a character,

inserting a line, deleting a line.

1. Change the permission of the file that you created and find out what happens with respect to its usage.
2. Change the permission of any directory and find out what happens to its usage.
3. What are fields that are displayed in the long listing of the directory?
4. Which are the fields that can be changed using the commands that you have seen so far? Change them and display.
5. Create another sub directory sub\_dir2 under dir2.
6. Copy the file you created in sub\_dir1 to sub\_dir2. Check if the task is accomplished. What happens to the file permissions?
7. Create another sub directory sub\_dir3 under dir3.
8. Move the file you created in sub\_dir1 to sub\_dir3. Check if the task is accomplished. What happens to the file permissions? What happens to the file in sub\_dir1?
9. Change the name of any file and see the changes that are made to its attributes in the long listing of the directory.
10. Change to your home directory and search for a file that you have created.
11. Find out who all are currently using the server. List them in alphabetical order.
12. Can you list them according to the time in which they have logged in. (You may need to know something extra to do this—do not bother if you cannot).
13. Find out if you can do more than one task---editing in one console / terminal, seeing the “manual” in another and switching between them.
14. What are the processes that are currently running and how do you find them?
15. Can you identify how you can make the control characters of the keyboard work for editing—backspace, del…

Grep Exercises.

1) Create an employee database (.txt file) which contains employee personal record. The personal record includes name, DOB ( DD/MM/YYYY), address, phone number.

a) Print all Employee record that contain a phone number with an

Extension

b) Print all Employee record that do not begin with a capital A.

c) Print all Employee record whose name ends with Kumar.

d) Print all the Employee names

e) Print all the Mobile number and the land line number with name

f) Find the eldest and the youngest employee from the record set.

g) Find the age of all the employees.

2) Create book database (.txt file) which contains book name, author name, price,

publisher name and total page numbers.

a) Change the publisher name from Mc Graw Hill to Tata Mc Graw Hill

b) Find the list of books which are related with the keyword “database”

c) Find the price of all programming language books

d) Sort the books based on year of publication

e) delete the low price book details

3) Create a text file that contains the following strings

Aggregate, segregate, logicgate, certificate, appriviate,accumulate, accurate,acetate, adequate, anticipate, birthdate, borate, corponate, celebrate, complicate, chocolate, illustrate, affiliate.

1) Print all the record that starts with ‘a’ and ends with ‘ate’

2) Replace ‘d’ in birthdate with ‘r’ and update in the source text file.

3) print the record that ends ‘rate’

4) Display the records with the pattern (gg) (cc) (bb) (ll) (ff)

5) Display the records that does not contains the pattern ‘gate’

4) SED exercise

a)Write a sed command that will go through a file and eliminate any .5 at the end of a record. If .5 is anywhere else in the record, leave it alone. Have the sed command only display those records which are modified.

Sample input :

1:3:5:7.5

1.5:2.5:3.5:7.5

1.5:2:3:4

1:2.5:3:4

b)Given a data file where each record contains four fields and each field is separated from the others by a colon (:), write an awk command which will display the records with fields 3 and 4 swapped.

Input:

CIS:160:374:A

CIS:170:373:A

CIS:118:374:A

CIS:111:374:A

CIS:150:375:A

CIS:123:350:A

c)Use grep to find and display all lines in a file which contain either the string dog or the string cat.

Input: It's been quite a day.

It started when the cat woke me up.

The day was dreary. The weather

dogged me all day long.

d)This section turns a paragraph of text into something similar to leet speak.

Write a tr command that will turn all uppercase characters in a file to lowercase. Send the output from that command to a sed script which does the following:

* + convert the string ck to x
  + convert the string xs to xor
  + convert the string er to or
  + convert the string elite to leet
  + convert the character o to 0
  + convert the character t to 7
  + convert the character e to 3
  + convert the character s to 5
  + convert the character i to 1
  + convert the character a to 4

Input:

The hacker elite were gathering for their

annual meeting. DEFCON had become an annual

event. The big change this year was the

appearance of more female hackers, who seemed

to prefer being known as chicks. The one

thing everyone seemed to agree on was that

Windoze security sucks.

Awk Exercise

1) Create a file with the following fields: country name, capital, area, population and continent.

a) use awk and print the record that containing ‘asia’ and africa’

b) display the rtotal number of input record and fields for the above file.

c) set the field separator as tab (\t). display the sum of area and population for all the records.

d) select all the record that begins with letter ‘s’ through ‘z’

e) select and display all the records where the population is in 5 digit number.