SUBJECT: OPERATING SYSTEMS.

AIM: To Study Shell scripts command such as to display content, search for particular string, deleting a file and creating links for the file.

THEORY:

1). Command used to display or print the content of the file.

- The cat command is short form for 'Concatenate'
- It allows us to create single or multiple files, view content of file, concatenate files and redirects o/p in terminal or files.

Eg. View contents of multiple files.

```
# cat file1 file2.
```

Eg. Create a File with Cat Command.

```
# cat > test2
```

Eg. Display Line Numbers in File.

```
# cat -n song.txt
```

Eg. Redirecting Standard I/p with Redirection Operator

```
# cat < test2.
```

OUTPUT: This is test2 file.

2). Searching a particular string in a file.

- grep can use 2 different types of regular expressions, which it calls basic and extended.

OPTIONS:

-c Print only a count of matching lines.

-i Case insensitive match.

-w Match only complete words i.e., words that match the entire regular expression.

-x Match only complete lines i.e., lines that match the entire regular expression.

3). Deleting a file.

- rm stands for remove. It is used to remove objects such as files, directories, symbolic links and so on from the file system like UNIX.
- To be more precise, rm removes references to objects from the filesystem, where those objects might have had multiple references (Eg. a file with two different names). By default, it does not remove directories.
- This command normally works silently and you should be very careful while running rm command because once you delete the files then you are unable to recover the contents of files and directories.

Eg. Removing one file at a time
$ rm a.txt

Eg. Removing more than one file at a time
$ rm b.txt c.txt

NOTE: No output is produced by rm command, since it typically only generates messages in the case of an error.

OPTION:

-i Enables interactive deletion. It makes the command ask the user for confirmation before removing each file, press y for confirm deletion, any other key leaves the file un-deleted.

-f rm prompts for confirmation removal if a file is write protected. The -f option overrides this minor protection and removes the file forcefully. -f option of rm command will not work for write-protect directories.

-r With -r option rm command performs a tree-walk and will delete all the files and sub-directories recursively of the parent directory. At each stage it deletes everything it finds. Normally, rm would

not delete the directories but when used with this option, it will delete.

4). Creating link for the file.

- A link is a connection between a filename and the actual data on the disk.
- There are two main types of links that can be created:

a) Hard link - These are low-level links which the system uses to create elements of the file system itself, such as files and directories.

b). Soft link - This is a special kind of file that points to another file, much like a shortcut.

- Unlike a hard link, a symbolic link does not contain the data in the target file. It simply points to another entry somewhere in the file system.
- This difference gives symbolic links certain qualities that hard links do not have, such as the ability to link to directory or to files on remote computers networked through NFS.
- When you delete a target file, symbolic links to that file become unusable, whereas hard links preserve the contents of the file.

CONCLUSION - In this practical, we have used all the above mentioned commands.