

Linux Basics

Directories

1. Pwd - current working directory
2. Ls - list out all the files and folders in the directed folder.
3. Cd - change directory
4. Mkdir - create your own directory.
5. Rmdir - remove directory

```
supersuyan@supersuyan:~/Ddrive$ cd Bajra_Trainee/  
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ mkdir testtest  
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ ls  
testtest  
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ rmdir testtest  
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ ls  
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ cd ..  
supersuyan@supersuyan:~/Ddrive$ ls  
Bajra_Trainee  _SUYAN  
supersuyan@supersuyan:~/Ddrive$ pwd  
/home/supersuyan/Ddrive  
supersuyan@supersuyan:~/Ddrive$
```

Pwd

First of all, symbolic links are special types of files that serve as references or pointers to other files or directories.

```
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ ls  
symlinkDir  targetDir  
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ cd symlinkDir/  
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/symlinkDir$ ls  
targetDir  
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/symlinkDir$ cd targetDir  
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/symlinkDir/targetDir$ pwd -L  
/home/supersuyan/Ddrive/Bajra_Trainee/symlinkDir/targetDir  
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/symlinkDir/targetDir$ pwd -P  
/home/supersuyan/Ddrive/Bajra_Trainee/targetDir  
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/symlinkDir/targetDir$
```

- a. Pwd -L gives logical path which includes the symbolic link as it was navigated.
- b. Pwd -P gives physical path by resolving the symbolic link to its actual target directory.

Cd

```
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ ls
symlinkDir targetDir
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ cd targetDir
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/targetDir$ pwd
/home/supersuyan/Ddrive/Bajra_Trainee/targetDir
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/targetDir$ cd /home/supersuyan/Ddrive/Bajra_Trainee/symlinkDir/
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/symlinkDir$ cd ~
supersuyan@supersuyan:~$ cd Ddrive/
supersuyan@supersuyan:~/Ddrive$ cd ~supersuyan/
supersuyan@supersuyan:~$
```

Absolute path and Relative path

- a. An absolute path specifies the location of a file or directory from the root directory (/)
- b. A relative path specifies the location of a file or directory in relation to the current working directory.

Ls

```
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ mkdir lsTrial
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ cd lsTrial/
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/lsTrial$ touch .hiddenfile
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/lsTrial$ touch unhiddenfile
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/lsTrial$ ls
unhiddenfile
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/lsTrial$ ls -a
.  ..  .hiddenfile  unhiddenfile
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/lsTrial$ ls -l
total 0
-rw-rw-r-- 1 supersuyan supersuyan 0 जू  4 12:26 unhiddenfile
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/lsTrial$ ls -l -a
total 8
drwxrwxr-x 2 supersuyan supersuyan 4096 जू  4 12:26 .
drwxrwxr-x 6 supersuyan supersuyan 4096 जू  4 12:25 ..
-rw-rw-r-- 1 supersuyan supersuyan  0 जू  4 12:26 .hiddenfile
-rw-rw-r-- 1 supersuyan supersuyan  0 जू  4 12:26 unhiddenfile
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/lsTrial$ ls -lh -a
total 8.0K
drwxrwxr-x 2 supersuyan supersuyan 4.0K जू  4 12:26 .
drwxrwxr-x 6 supersuyan supersuyan 4.0K जू  4 12:25 ..
-rw-rw-r-- 1 supersuyan supersuyan  0 जू  4 12:26 .hiddenfile
-rw-rw-r-- 1 supersuyan supersuyan  0 जू  4 12:26 unhiddenfile
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/lsTrial$ ls -lhS -a
total 8.0K
drwxrwxr-x 2 supersuyan supersuyan 4.0K जू  4 12:26 .
drwxrwxr-x 6 supersuyan supersuyan 4.0K जू  4 12:25 ..
-rw-rw-r-- 1 supersuyan supersuyan  0 जू  4 12:26 .hiddenfile
-rw-rw-r-- 1 supersuyan supersuyan  0 जू  4 12:26 unhiddenfile
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/lsTrial$ nano unhiddenfile
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/lsTrial$ ls -lhS -a
total 12K
drwxrwxr-x 2 supersuyan supersuyan 4.0K जू  4 12:28 .
drwxrwxr-x 6 supersuyan supersuyan 4.0K जू  4 12:25 ..
-rw-rw-r-- 1 supersuyan supersuyan  10 जू  4 12:28 unhiddenfile
-rw-rw-r-- 1 supersuyan supersuyan  0 जू  4 12:26 .hiddenfile
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/lsTrial$
```

```

supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/lsTrial$ ls -l --block-size=K -a
total 12K
drwxrwxr-x 2 supersuyan supersuyan 4K जू  4 12:28 .
drwxrwxr-x 6 supersuyan supersuyan 4K जू  4 12:25 ..
-rw-rw-r-- 1 supersuyan supersuyan 0K जू  4 12:26 .hiddenfile
-rw-rw-r-- 1 supersuyan supersuyan 1K जू  4 12:28 unhiddenfile
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/lsTrial$ mkdir abc
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/lsTrial$ ls -d
.
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/lsTrial$ ls -d */
abc/
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/lsTrial$ mkdir .hiddenDir
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/lsTrial$ ls -dA */
abc/
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/lsTrial$ ls -a */
. . .
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/lsTrial$ ls -A */
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/lsTrial$ ls -A
abc .hiddenDir .hiddenfile unhiddenfile
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/lsTrial$ ls -a
. .. abc .hiddenDir .hiddenfile unhiddenfile
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/lsTrial$ █

```

- `ls -g` : include group information in the output, but not the owner information.
- `ls -l` : include file permissions, number of links, owner, group, size, and time of last modification.
Format is kinda like

```
-rw-r--r-- 1 user1 group1 398 Feb  9 14:11 file1.txt
```
- `ls -n` : similar to `-l` but owner and group IDs displayed numerically rather than by name.
- `ls -p` : appends a `/` character to each directory name (`-p` option), which can make it easier to see which files are directories at a glance.
- `ls -p /` : does same as `ls -p`, but from root directory
- `ls -lt` : same as `ls -l`, but sorts the files by modification time, with the newest files first (`-t` option).
- `ls -lX` : sorts the files by extension

```

supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/lsTrial$ ls -g
total 8
drwxrwxr-x 2 supersuyan 4096 जू 4 12:31 abc
-rw-rw-r-- 1 supersuyan 10 जू 4 12:28 unhiddenfile
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/lsTrial$ ls -l
total 8
drwxrwxr-x 2 supersuyan supersuyan 4096 जू 4 12:31 abc
-rw-rw-r-- 1 supersuyan supersuyan 10 जू 4 12:28 unhiddenfile
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/lsTrial$ ls -n
total 8
drwxrwxr-x 2 1000 1000 4096 जू 4 12:31 abc
-rw-rw-r-- 1 1000 1000 10 जू 4 12:28 unhiddenfile
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/lsTrial$ ls -li
total 8
5515722 drwxrwxr-x 2 supersuyan supersuyan 4096 जू 4 12:31 abc
5515720 -rw-rw-r-- 1 supersuyan supersuyan 10 जू 4 12:28 unhiddenfile
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/lsTrial$ ls -r -a
unhiddenfile .hiddenfile .hiddenDir abc ..
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/lsTrial$ ls -a
. . . abc .hiddenDir .hiddenfile unhiddenfile
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/lsTrial$ ls -p
abc/ unhiddenfile
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/lsTrial$ ls -p /
bin boot/ dev/ home/ lib64 lost+found/ mnt/ proc/ run/ sbin usr-is-merged/ srv/ sys/ usr/
bin usr-is-merged/ cdrom/ etc/ lib lib usr-is-merged/ media/ opt/ root/ sbin snap/ swapfile tmp/ var/
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/lsTrial$ ls
abc unhiddenfile
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/lsTrial$ cd abc
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/lsTrial/abc$ touch abcKoFile1
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/lsTrial/abc$ touch abcKoFile2
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/lsTrial/abc$ touch abcKoFile3
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/lsTrial/abc$ cd ..
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/lsTrial$ ls -R
.:
abc unhiddenfile
./abc:
abcKoFile1 abcKoFile2 abcKoFile3

```

```

supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/lsTrial$ ls -l
total 8
drwxrwxr-x 2 supersuyan supersuyan 4096 जू 4 13:33 abc
-rw-rw-r-- 1 supersuyan supersuyan 0 जू 4 13:37 group1.txt
-rw-rw-r-- 1 supersuyan supersuyan 0 जू 4 13:37 group2.txt
-rw-rw-r-- 1 supersuyan supersuyan 10 जू 4 12:28 unhiddenfile
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/lsTrial$ ls -a -lX
total 20
drwxrwxr-x 2 supersuyan supersuyan 4096 जू 4 13:33 abc
-rw-rw-r-- 1 supersuyan supersuyan 10 जू 4 12:28 unhiddenfile
drwxrwxr-x 4 supersuyan supersuyan 4096 जू 4 13:37 .
drwxrwxr-x 6 supersuyan supersuyan 4096 जू 4 12:25 ..
drwxrwxr-x 2 supersuyan supersuyan 4096 जू 4 12:35 .hiddenDir
-rw-rw-r-- 1 supersuyan supersuyan 0 जू 4 12:26 .hiddenfile
-rw-rw-r-- 1 supersuyan supersuyan 0 जू 4 13:37 group1.txt
-rw-rw-r-- 1 supersuyan supersuyan 0 जू 4 13:37 group2.txt
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/lsTrial$ ls -a
. . . abc group1.txt group2.txt .hiddenDir .hiddenfile unhiddenfile
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/lsTrial$ ls -a -lt
total 20
drwxrwxr-x 4 supersuyan supersuyan 4096 जू 4 13:37 .
-rw-rw-r-- 1 supersuyan supersuyan 0 जू 4 13:37 group2.txt
-rw-rw-r-- 1 supersuyan supersuyan 0 जू 4 13:37 group1.txt
drwxrwxr-x 2 supersuyan supersuyan 4096 जू 4 13:33 abc
drwxrwxr-x 2 supersuyan supersuyan 4096 जू 4 12:35 .hiddenDir
-rw-rw-r-- 1 supersuyan supersuyan 10 जू 4 12:28 unhiddenfile
-rw-rw-r-- 1 supersuyan supersuyan 0 जू 4 12:26 .hiddenfile
drwxrwxr-x 6 supersuyan supersuyan 4096 जू 4 12:25 ..

```

```

supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/lsTrial$ ls --color=never
abc group1.txt group2.txt unhiddenfile
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/lsTrial$ ls --color=auto
abc group1.txt group2.txt unhiddenfile
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/lsTrial$ ls -lt
total 8
-rw-rw-r-- 1 supersuyan supersuyan 0 जू 4 13:37 group2.txt
-rw-rw-r-- 1 supersuyan supersuyan 0 जू 4 13:37 group1.txt
drwxrwxr-x 2 supersuyan supersuyan 4096 जू 4 13:33 abc
-rw-rw-r-- 1 supersuyan supersuyan 10 जू 4 12:28 unhiddenfile
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/lsTrial$ ls -ltr
total 8
-rw-rw-r-- 1 supersuyan supersuyan 10 जू 4 12:28 unhiddenfile
drwxrwxr-x 2 supersuyan supersuyan 4096 जू 4 13:33 abc
-rw-rw-r-- 1 supersuyan supersuyan 0 जू 4 13:37 group1.txt
-rw-rw-r-- 1 supersuyan supersuyan 0 जू 4 13:37 group2.txt
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/lsTrial$ █

```

Mkdir

- mkdir def/123/efg wont create new directory efg inside, if def or 123 doesnt exist. But, mkdir -p def/123/efg will create parent directories too.
- Mkdir -v : creates a directory and prints a message for each created directory.
- Mkdir -m : specified permissions

```

supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/lsTrial$ ls
abc group1.txt group2.txt unhiddenfile
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/lsTrial$ mkdir def/123/efg
mkdir: cannot create directory 'def/123/efg': No such file or directory
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/lsTrial$ mkdir -p def/123/efg
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/lsTrial$ ls
abc def group1.txt group2.txt unhiddenfile
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/lsTrial$ ^C
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/lsTrial$ mkdir -v verboseDir
mkdir: created directory 'verboseDir'
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/lsTrial$ mkdir -m 755 permissionDir
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/lsTrial$ ls -ld
drwxrwxr-x 7 supersuyan supersuyan 4096 जू 4 13:45 .
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/lsTrial$ cd verboseDir/
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/lsTrial/verboseDir$ ls -ld
drwxrwxr-x 2 supersuyan supersuyan 4096 जू 4 13:44 .
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/lsTrial/verboseDir$ cd ..
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/lsTrial$ ls -l
total 20
drwxrwxr-x 2 supersuyan supersuyan 4096 जू 4 13:33 abc
drwxrwxr-x 3 supersuyan supersuyan 4096 जू 4 13:42 def
-rw-rw-r-- 1 supersuyan supersuyan 0 जू 4 13:37 group1.txt
-rw-rw-r-- 1 supersuyan supersuyan 0 जू 4 13:37 group2.txt
drwxr-xr-x 2 supersuyan supersuyan 4096 जू 4 13:45 permissionDir
-rw-rw-r-- 1 supersuyan supersuyan 10 जू 4 12:28 unhiddenfile
drwxrwxr-x 2 supersuyan supersuyan 4096 जू 4 13:44 verboseDir
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/lsTrial$ █

```


Rmdir

- a. Rmdir -p : removes parent and subdirectories, basically whole path

```
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/lsTrial$ ls
abc def group1.txt group2.txt permissionDir unhiddenfile verboseDir
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/lsTrial$ tree def
def
├── 123
│   └── efg
3 directories, 0 files
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/lsTrial$ rmdir def/123/efg
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/lsTrial$ tree def
def
├── 123
2 directories, 0 files
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/lsTrial$ mkdir def/123/efg
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/lsTrial$ tree def
def
├── 123
│   └── efg
3 directories, 0 files
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/lsTrial$ rmdir -p def/123/efg/
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/lsTrial$ ls
abc group1.txt group2.txt permissionDir unhiddenfile verboseDir
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/lsTrial$
```

File System

Linux File System

- **/ (root filesystem):** It is the top-level filesystem directory. It must include every file needed to boot the Linux system before another filesystem is mounted. Every other filesystem is mounted on a well-defined and standard mount point because of the root filesystem directories after the system is started.
- **/boot:** It includes the static kernel and bootloader configuration and executable files needed to start a Linux computer.
- **/bin:** This directory includes user executable files.
- **/dev:** It includes the device file for all hardware devices connected to the system. These aren't device drivers; instead, they are files that indicate all devices on the system and provide access to these devices.
- **/etc:** It includes the local system configuration files for the host system.
- **/lib:** It includes shared library files that are needed to start the system.
- **/home:** The home directory storage is available for user files. All users have a subdirectory inside /home.
- **/mnt:** It is a temporary mount point for basic filesystems that can be used at the time when the administrator is working or repairing a filesystem.
- **/media:** A place for mounting external removable media devices like USB thumb drives that might be linked to the host.
- **/opt:** It contains optional files like vendor supplied application programs that must be placed here.
- **/root:** It's the home directory for a root user. Keep in mind that it's not the '/' (root) file system.
- **/tmp:** It is a temporary directory used by the OS and several programs for storing temporary files. Also, users may temporarily store files here. Remember that files may be removed without prior notice at any time in this directory.
- **/sbin:** These are system binary files. They are executables utilized for system administration.
- **/usr:** They are read-only and shareable files, including executable libraries and binaries, man files, and several documentation types.
- **/var:** Here, variable data files are saved. It can contain things such as MySQL, log files, other database files, email inboxes, web server data files, and much more.

File Creation

```
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ cat catTest.txt
cat: catTest.txt: No such file or directory
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ cat > catTest.txt
aile chahi ma lekhiraxu
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ cat catTest.txt
aile chahi ma lekhiraxu
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ cat > catTest.txt
yo feri naya
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ cat catTest.txt
yo feri naya
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ touch touchTest.txt
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ > redirectTest.txt
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ echo "file content ni cmd mai lekhu paryo" > echoText.txt
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ printf "same to same echo" > echoText.txt
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ ls
catTest.txt  echoText.txt  lsTrial  pkoju  redirectTest.txt  symlinkDir  sysLinktxt.txt  targetDir  touchTest.txt
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ nano nanoTxt.txt
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ ls
catTest.txt  echoText.txt  lsTrial  nanoTxt.txt  pkoju  redirectTest.txt  symlinkDir  sysLinktxt.txt  targetDir  touchTest.txt
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$
```

- If we use `cat > name.txt`, then we can write content in cmd. Ctrl+D to save and exit
 - If we use `cat name.txt`, we can see content

- b. We can use touch, redirect(>) to simple create file
- c. We can use echo, printf to create file, while writing content in same cmd line.
- d. We can use nano to enter editor mode.

Linux file

```
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ file *
catTest.txt:      ASCII text
echoText.txt:     ASCII text, with no line terminators
lsTrial:         directory
nanoTxt.txt:      ASCII text
pkoju:           directory
redirectTest.txt: empty
symlinkDir:       directory
sysLinktxt.txt:   empty
targetDir:        directory
touchTest.txt:    empty
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ file s*
symlinkDir:       directory
sysLinktxt.txt:   empty
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ file s*in*
symlinkDir:       directory
sysLinktxt.txt:   empty
```

Rm

- a. Rm -r : recursively remove
- b. Rm -rf: forced remove directory
- c. Rm -v : verbose {with message} remove
- d. Rm -d : remove only empty directory
- e. Rm -i : asks for permission , like do you want to remove

```
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ touch delete1.txt
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ touch delete2.txt
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ ls
delete1.txt  delete2.txt
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ rm -i delete1.txt delete2.txt
rm: remove regular empty file 'delete1.txt'?
rm: remove regular empty file 'delete2.txt'?
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ █
```

```

supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ ls
pkoju symlinkDir sysLinktxt.txt targetDir
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ rm -r pkoju
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ ls
symlinkDir sysLinktxt.txt targetDir
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ rm -rf sysLinktxt.txt
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ rm -v symlinkDir
rm: cannot remove 'symlinkDir': No such file or directory
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ ls
symlinkDir targetDir
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ rm -v targetDir
rm: cannot remove 'targetDir': Is a directory
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ rm -v -r targetDir
removed directory 'targetDir'
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ ls
symlinkDir
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ cd symlinkDir
bash: cd: symlinkDir: No such file or directory
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ cd symlinkDir/
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/symlinkDir$ ls
targetDir
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/symlinkDir$ cd ..
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ cd -d symlinkDir/
bash: cd: -d: invalid option
cd: usage: cd [-L|[-P [-e]] [-@]] [dir]
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ rm -d symlinkDir/
rm: cannot remove 'symlinkDir/': Directory not empty
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ rm -r symlinkDir/
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ ls
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ █

```

Cp

- Cp source_file destination_path
- Cp -r : will recursively copy contents
- Cp -backup : will take backups
- Cp -i : to confirm before overwriting

```

supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ touch delete{1..5}.txt
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ ls
delete1.txt delete2.txt delete3.txt delete4.txt delete5.txt
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ mkdir txtFiles
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ ls
delete1.txt delete2.txt delete3.txt delete4.txt delete5.txt txtFiles
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ cp delete1.txt txtFiles/
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ ls
delete1.txt delete2.txt delete3.txt delete4.txt delete5.txt txtFiles
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ cd txtFiles
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/txtFiles$ ls
delete1.txt
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/txtFiles$ cd ..
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ cp *.txt txtFiles
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ ls txtFiles/*
txtFiles/delete1.txt txtFiles/delete2.txt txtFiles/delete3.txt txtFiles/delete4.txt txtFiles/delete5.txt
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ mkdir txtFiles2
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ cp txtFiles1 txtFiles2/
cp: cannot stat 'txtFiles1': No such file or directory
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ cp -r txtFiles1 txtFiles2/
cp: cannot stat 'txtFiles1': No such file or directory
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ cp txtFiles txtFiles2/
cp: -r not specified; omitting directory 'txtFiles'
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ cp -r txtFiles txtFiles2/
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ ls txtFiles2/*
delete1.txt delete2.txt delete3.txt delete4.txt delete5.txt
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ cp --backup backup1.txt /
cp: cannot stat 'backup1.txt': No such file or directory
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ mkdir backupDir
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ ls
backupDir delete1.txt delete2.txt delete3.txt delete4.txt delete5.txt txtFiles txtFiles2
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ cp --backup *.txt /backupDir
cp: target '/backupDir': No such file or directory
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ cp --backup *.txt backupDir
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ ls backupDir/*
backupDir/delete1.txt backupDir/delete2.txt backupDir/delete3.txt backupDir/delete4.txt backupDir/delete5.txt
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ nano delete1.txt
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ cat backupDir/delete1.txt
admin abc edit for backup
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$

```

Mv

Used to move files or rename them too

- Mv file1.txt file2.txt : this will rename file1 as file2, and then file2 will get renamed.
- Mv -i : used for interactive move
- Mv -u : used to move only those that dont exist
- Mv -suffix: used to take backup before overwriting

```

supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ ls
delete1.txt delete2.txt delete3.txt delete4.txt delete5.txt moveDir
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ mv -i delete1.txt delete2.txt
mv: overwrite 'delete2.txt'? yes
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ ls
delete2.txt delete3.txt delete4.txt delete5.txt moveDir
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ mkdir backupDir
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ mv --suffix=.bak delete2.txt backupDir/
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ ls backupDir/
delete2.txt
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ ls moveDir/
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ mv delete2.txt moveDir/
mv: cannot stat 'delete2.txt': No such file or directory
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ ls
backupDir delete3.txt delete4.txt delete5.txt moveDir
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ mv delete3.txt moveDir/
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ mv -u *.txt moveDir/
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ ls moveDir/
delete3.txt delete4.txt delete5.txt
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ ls
backupDir moveDir
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ touch delete{1..4}.txt
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ ls
backupDir delete1.txt delete2.txt delete3.txt delete4.txt moveDir
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ mv -u *.txt moveDir/
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ ls
backupDir moveDir
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ █

```

Rename

First of all, let's understand s and y

- a. s/pattern/replacement/
 - i. Substitute
 - ii. used to replace a pattern with a replacement
- b. y/A-Z/a-z/
 - i. Transliteration
 - ii. replaces all occurrences of the characters found in the search list with the corresponding character in the replacement list.

Now, the commands are:

- a. rename -n: This option shows what files would have been renamed.
- b. rename -v: This option shows what renaming operations are being done.
- c. rename 'y/A-Z/a-z' *.txt : change uppercase to lowercase for names of all txt files.

```

supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/moveDir$ ls
delete1.txt delete2.txt delete3.txt delete4.txt delete5.txt
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/moveDir$ rename -n 's/.txt/.bak/' *.txt
rename(delete1.txt, delete1.bak)
rename(delete2.txt, delete2.bak)
rename(delete3.txt, delete3.bak)
rename(delete4.txt, delete4.bak)
rename(delete5.txt, delete5.bak)
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/moveDir$ ls
delete1.txt delete2.txt delete3.txt delete4.txt delete5.txt
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/moveDir$ rename -v 's/.txt/.bak/' *.txt
delete1.txt renamed as delete1.bak
delete2.txt renamed as delete2.bak
delete3.txt renamed as delete3.bak
delete4.txt renamed as delete4.bak
delete5.txt renamed as delete5.bak
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/moveDir$ rename 'y/a-z/A-Z/' *
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/moveDir$ rename -v 's/a-z/A-Z/' *.txt
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/moveDir$ ls
DELETE1.BAK DELETE2.BAK DELETE3.BAK DELETE4.BAK DELETE5.BAK
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/moveDir$ rename -n 'n/A-Z/a-z' *.BAK
Bareword "n" not allowed while "strict subs" in use at line 1.
syntax error at line 1, near "a-z"
Execution of (eval 25) aborted due to compilation errors, in:
n/A-Z/a-z
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/moveDir$ rename -n 's/A-Z/a-z' *.BAK
Substitution replacement not terminated at line 1, in:
s/A-Z/a-z
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/moveDir$ █

```

Man

to view the system's reference manual.

- a. Man -a : show all man page sections of particular topic
- b. Man -aw : list all sections
- c. Whereis : find location of a manpage
- d. Whatis: searches for a manual page name, and gives a short description
- e. Man - k (apropos) : search the man page descriptions for a particular keyword

```

supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ man -aw chmod
/usr/share/man/man1/chmod.1.gz
/usr/share/man/man2/chmod.2.gz
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ whereis chmod
chmod: /usr/bin/chmod /usr/share/man/man2/chmod.2.gz /usr/share/man/man1/chmod.1.gz
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ whatis chmod
chmod (1)          - change file mode bits
chmod (2)          - change permissions of a file
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$

```

```

supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ man -k chmod
chmod (1)          - change file mode bits
chmod (2)          - change permissions of a file
fchmod (2)         - change permissions of a file
fchmodat (2)       - change permissions of a file
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$

```

File Content

- a. `cat fileContent.txt >> test.txt` : this will copy contents of first file to another new file
- b. `Head filename.txt` : displays first 10 lines by default,
 - i. but if we specify n like, `head -15 filename.txt`, then it will show 15 lines.
 - ii. And if we have `head filename.txt filename2.txt`, then it will show 10 lines of both by default
- c. `Tail` will give last lines like `head` did
 - i. Using `-n`, will give number of lines to be shown
 - ii. Using `-c` will show specific number of bytes from last
- d. `Cat file1 file2 > comboFile` : will concatenate and put result
- e. `Cat -n file1` : will show line number in front of each line
- f. `Cat -b file1` : wont assign line number to empty lines

```

supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ ls
backupDir  errorInfo.txt  fileContent.txt  lsInfo.txt  moveDir  test.txt
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ cat errorInfo.txt lsInfo.txt > comboInfo.txt
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ cat -n comboInfo.txt
1  ls: invalid option -- 'j'
2  Try 'ls --help' for more information.
3  backupDir
4  fileContent.txt
5  lsInfo.txt
6  moveDir
7  test.txt

```



```

supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ head fileContent.txt test.txt
==> fileContent.txt <==
my
name
is
suyan
shrestha
a
s

df
c

==> test.txt <==
my
name
is
suyan
shrestha
a
s

df
c
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ head -2 fileContent.txt
my
name
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ tail -2 fileContent.txt
a

supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ tail -c 6 fileContent.txt

c
a

```

- g. Tac : same as cat but displays in reverse order

```

supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ ls
backupDir  comboInfo.txt  errorInfo.txt  fileContent.txt  lsInfo.txt  moveDir  test.txt
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ cat errorInfo.txt
ls: invalid option -- 'j'
Try 'ls --help' for more information.
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ tac errorInfo.txt
Try 'ls --help' for more information.
ls: invalid option -- 'j'
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ █

```

- h. More : cat will scroll off screen if long contents, so use 'more'
 - i. Enter key : line by line scroll
 - ii. Space bar : next page
 - iii. B key : go backward
 - iv. More -num : how many lines to be displayed limit
 - v. More +num : display content from specified line
 - vi. more +/string name : find string
 - vii. More -d : display user msg at corner
 - viii. More -b : squeeze blank link
- i. Less :
 - i. More only allows line by line forward navigation
 - ii. But, allows both forward and backward navigation in the file, making it easier to scroll up and down.

Filter

```
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ cat comboInfo.txt
ls: invalid option -- 'j'
Try 'ls --help' for more information.
backupDir
fileContent.txt
lsInfo.txt
moveDir
test.txt
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ cat comboInfo.txt | tac
test.txt
moveDir
lsInfo.txt
fileContent.txt
backupDir
Try 'ls --help' for more information.
ls: invalid option -- 'j'
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$
```

- a. This pipeline operator is used to take output of one command and use it over another command. Here, cat's output is used as tac input.
- b. cut -d ' ' -f(columnNumber) <fileName>
 - i. Cut -d- -f1 fileName.txt : - will be delimiter, and first column will be shown
 - ii. Cut -d ' ' -f2 fileName.txt : here space will be delimiter, and second column will be shown. If there is no second column, it will show latest one

- c. Cut -b 2 <fileName> : this will show 2nd byte of each line

```
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ cut -b 2 comboInfo.txt
s
r
a
i
s
o
e
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$
```

```
ls: invalid option -- 'j'
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ cat comboInfo.txt
ls: invalid option -- 'j'
Try 'ls --help' for more information.
backupDir
fileContent.txt
lsInfo.txt
moveDir
test.txt
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ cut -d ' ' -f1 comboInfo.txt
ls:
Try
backupDir
fileContent.txt
lsInfo.txt
moveDir
test.txt
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ cut -d ' ' -f2 comboInfo.txt
invalid
'ls
backupDir
fileContent.txt
lsInfo.txt
moveDir
test.txt
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$
```

- d. cut -c 1,6 combolnfo.txt : 1st and 6th byte element chahi dekhauni
e. Cut – complement 1,6 combolnfo.txt : 1st and 6th bahek dekhauni
f. Cat marks.txt : this will give all result marks
i. Cat marks.txt | grep 9 : only give result with 9 vako line

```
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ cut -c 1,6 comboInfo.txt
ln
Tl
bp
fo
lo
mi
tt
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ cut --complement -c 1,6 comboInfo.txt
s: ivalid option -- 'j'
ry 's --help' for more information.
ackuDir
ileCntent.txt
sInf.txt
oveDr
est.xt
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$
```

EXTRA LEARNINGS

- a. Cat Test1.txt >> test2.txt will simply append contents of test1.txt to test2.txt
- b. Cat Test1.txt > test2.txt will overwrite contents of test2.txt by contents of test1.txt
- c. 2> can be used to save errors in separate files
- d. >> can be used to save output of commands in a text file

```
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ ls
backupDir fileContent.txt moveDir test.txt
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ ls >> lsInfo.txt
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ cat lsInfo.txt
backupDir
fileContent.txt
lsInfo.txt
moveDir
test.txt
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ ls -adknsjn 2> errorInfo.txt
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$ cat errorInfo.txt
ls: invalid option -- 'j'
Try 'ls --help' for more information.
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee$
```

- e. Touch filename{1..10}.txt will create 10 files at once

```
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/test$ ls
a.txt b.txt hello.txt test1 test2
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/test$ touch delete{1..10}.txt
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/test$ ls
a.txt b.txt delete10.txt delete1.txt delete2.txt delete3.txt delete4.txt dele
supersuyan@supersuyan:~/Ddrive/Bajra_Trainee/test$
```

- f. Dont know why, but symlinks could only be created on same directory. If the target and symlink arent on same directory, symlink wont point normally.

