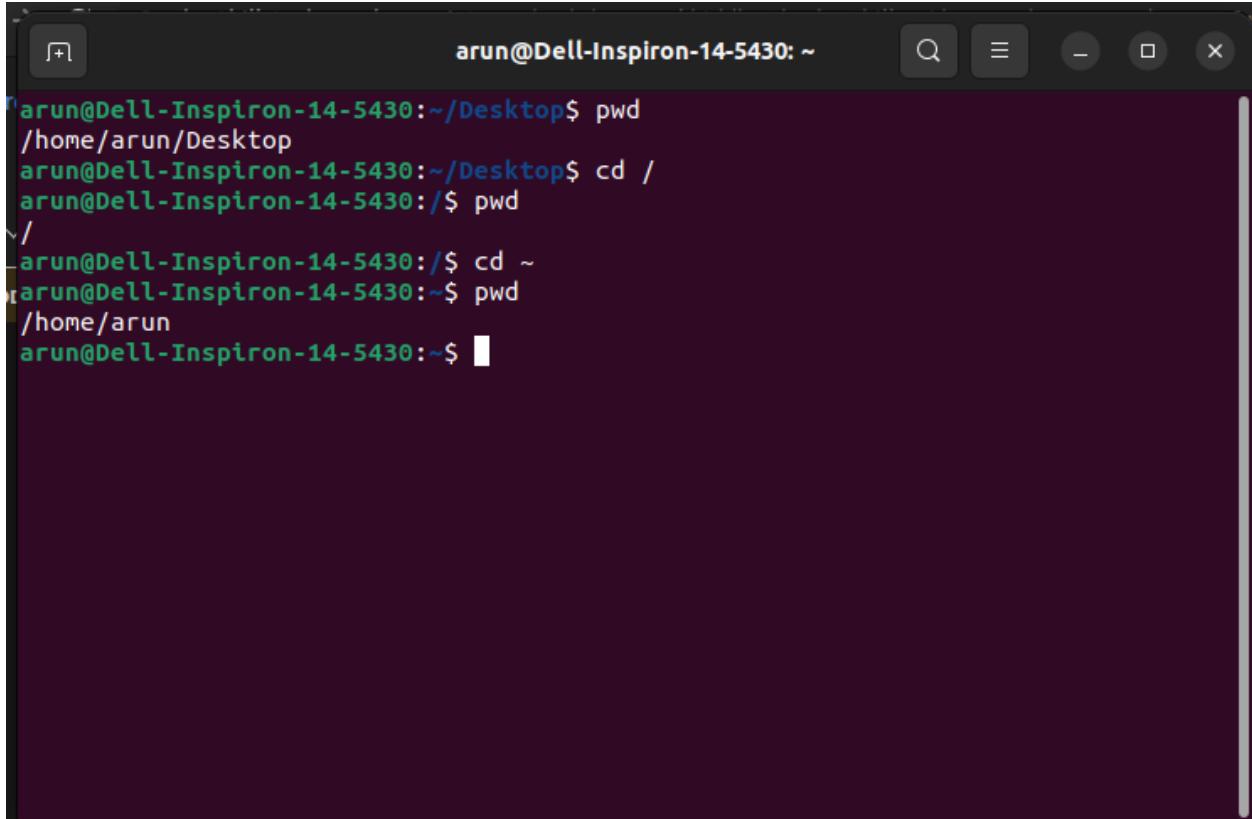


# Trainee Material 1- Linux Part 1

Learning about the linux commands

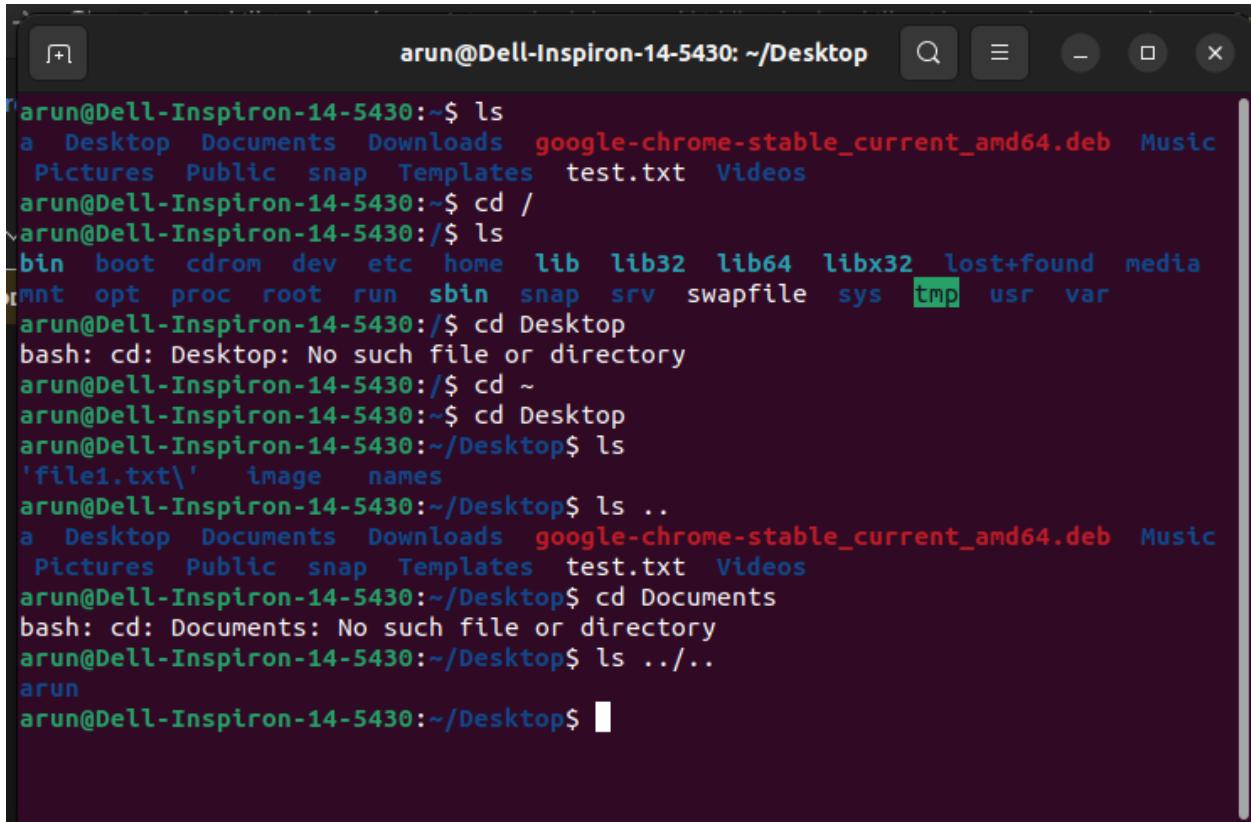
-> Basic directory is the root directory

-> pwd – present working dir command



The screenshot shows a terminal window with a dark background and light-colored text. The title bar reads "arun@Dell-Inspiron-14-5430: ~". The window contains the following command history:

```
arun@Dell-Inspiron-14-5430:~/Desktop$ pwd
/home/arun/Desktop
arun@Dell-Inspiron-14-5430:~/Desktop$ cd /
arun@Dell-Inspiron-14-5430:/$ pwd
~
arun@Dell-Inspiron-14-5430:/$ cd ~
arun@Dell-Inspiron-14-5430:~/`$ pwd
/home/arun
arun@Dell-Inspiron-14-5430:~$
```



The screenshot shows a terminal window with a dark background and light-colored text. The title bar reads "arun@Dell-Inspiron-14-5430: ~/Desktop". The terminal window contains the following command-line session:

```
arun@Dell-Inspiron-14-5430:~$ ls
a Desktop Documents Downloads google-chrome-stable_current_amd64.deb Music
  Pictures Public snap Templates test.txt Videos
arun@Dell-Inspiron-14-5430:~$ cd /
arun@Dell-Inspiron-14-5430:/$ ls
bin boot cdrom dev etc home lib lib32 lib64 libx32 lost+found media
mnt opt proc root run sbin snap srv swapfile sys tmp usr var
arun@Dell-Inspiron-14-5430:/$ cd Desktop
bash: cd: Desktop: No such file or directory
arun@Dell-Inspiron-14-5430:/$ cd ~
arun@Dell-Inspiron-14-5430:~/cd Desktop
arun@Dell-Inspiron-14-5430:~/Desktop$ ls
'file1.txt\' image names
arun@Dell-Inspiron-14-5430:~/Desktop$ ls ..
a Desktop Documents Downloads google-chrome-stable_current_amd64.deb Music
  Pictures Public snap Templates test.txt Videos
arun@Dell-Inspiron-14-5430:~/Desktop$ cd Documents
bash: cd: Documents: No such file or directory
arun@Dell-Inspiron-14-5430:~/Desktop$ ls ../..
arun
arun@Dell-Inspiron-14-5430:~/Desktop$
```

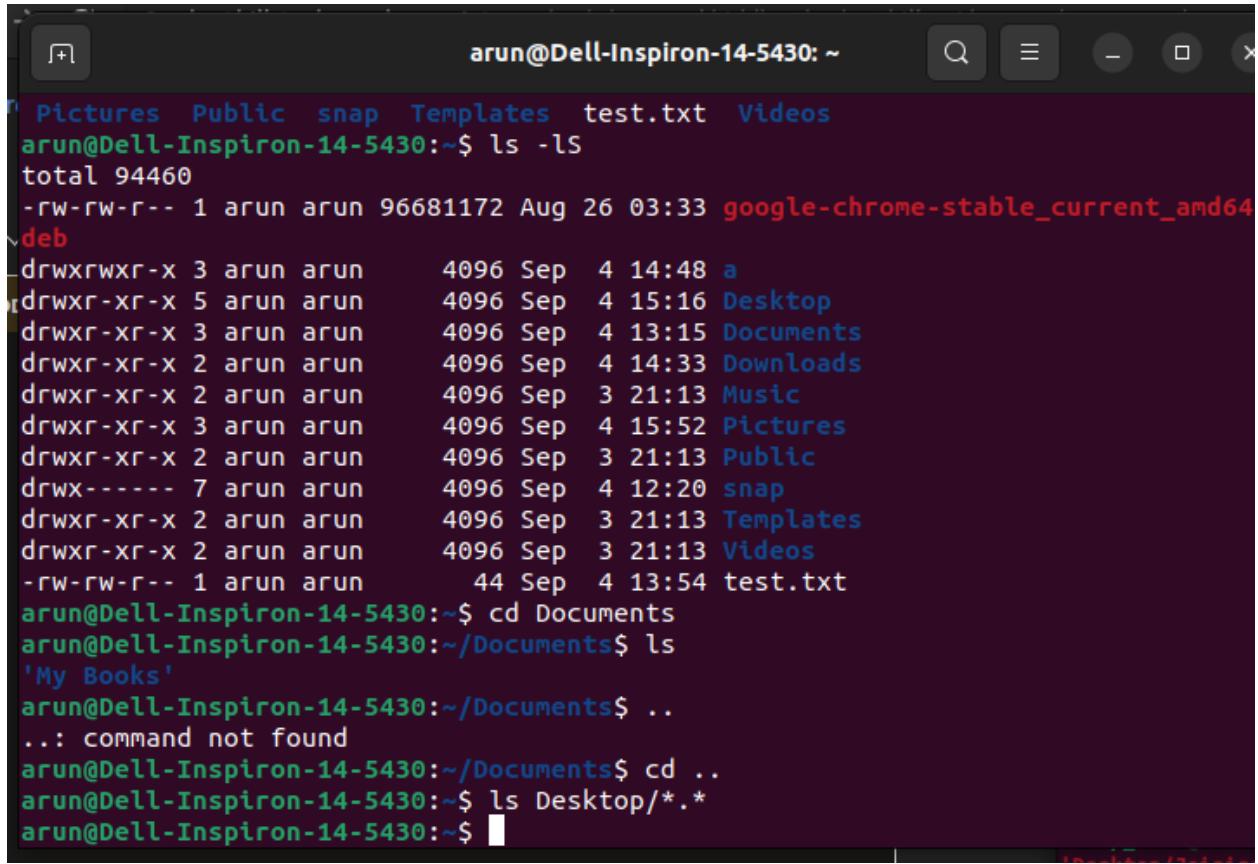
> cd – change dir eg. Cd / this will change our present dir to root dir  
-> ls [options] [file directory] – list all the files eg. ls Documents/, ls ~, ls [path] , ls .. (for backward listing of files), ls.../.. (two times back)  
-> ls -l(long format content of each wall), ls -a(will give all the hidden files), ls -al (long list for hidden files)

```

arun@Dell-Inspiron-14-5430:~$ cd ~
arun@Dell-Inspiron-14-5430:~$ ls -a
.                                .local
..                               .mozilla
a                                Music
.bash_history                    Pictures
.bash_logout                     .pki
.bashrc                          .profile
.cache                           Public
.config                          snap
Desktop                         .ssh
Documents                        .sudo_as_admin_successful
Downloads                        Templates
.gnome                           test.txt
.gnupg                           .thunderbird
google-chrome-stable_current_amd64.deb  Videos
.lesshst                         .vscode
arun@Dell-Inspiron-14-5430:~$ ls -l
total 94460
drwxrwxr-x 3 arun arun    4096 Sep  4 14:48 a
drwxr-xr-x 5 arun arun    4096 Sep  4 15:16 Desktop
drwxr-xr-x 3 arun arun    4096 Sep  4 13:15 Documents
drwxr-xr-x 2 arun arun    4096 Sep  4 14:33 Downloads
-rw-rw-r-- 1 arun arun 96681172 Aug 26 03:33 google-chrome-stable_current_amd64.deb
drwxr-xr-x 2 arun arun    4096 Sep  3 21:13 Music
drwxr-xr-x 3 arun arun    4096 Sep  4 15:52 Pictures
drwxr-xr-x 2 arun arun    4096 Sep  3 21:13 Public
drwx----- 7 arun arun    4096 Sep  4 12:20 snap
drwxr-xr-x 2 arun arun    4096 Sep  3 21:13 Templates
-rw-rw-r-- 1 arun arun     44 Sep  4 13:54 test.txt
drwxr-xr-x 2 arun arun    4096 Sep  3 21:13 Videos
arun@Dell-Inspiron-14-5430:~$ ls -al
total 94528
drwxr-x--- 22 arun arun    4096 Sep  4 14:48 .
drwxr-xr-x  3 root root    4096 Sep  3 21:10 ..
drwxrwxr-x  3 arun arun    4096 Sep  4 14:48 a
-rw-----  1 arun arun   1045 Sep  4 13:55 .bash_history
-rw-r--r--  1 arun arun   220 Sep  3 21:10 .bash_logout
-rw-r--r--  1 arun arun  3771 Sep  3 21:10 .bashrc
drwx----- 18 arun arun   4096 Sep  3 16:59 .cache
drwx----- 18 arun arun   4096 Sep  4 13:39 .config
drwxr-xr-x  5 arun arun   4096 Sep  4 15:16 Desktop
drwxr-xr-x  3 arun arun   4096 Sep  4 13:15 Documents
drwxr-xr-x  2 arun arun   4096 Sep  4 14:33 Downloads
drwx-----  3 arun arun   4096 Sep  3 17:00 .gnome
drwx-----  2 arun arun   4096 Sep  4 12:22 .gnupg
-rw-rw-r--  1 arun arun 96681172 Aug 26 03:33 google-chrome-stable_current_amd64.deb
-rw-----  1 arun arun    20 Sep  4 13:46 .lesshst
drwx-----  3 arun arun   4096 Sep  3 21:13 .local
drwx-----  3 arun arun   4096 Sep  3 16:48 .mozilla
drwxr-xr-x  2 arun arun   4096 Sep  3 21:13 Music
drwxr-xr-x  3 arun arun   4096 Sep  4 15:52 Pictures
drwx-----  3 arun arun   4096 Sep  3 16:59 .pki
-rw-r--r--  1 arun arun   807 Sep  3 21:10 .profile
drwxr-xr-x  2 arun arun   4096 Sep  3 21:13 Public
drwx-----  7 arun arun   4096 Sep  4 12:20 snap
drwx-----  2 arun arun   4096 Sep  3 16:37 .ssh
-rw-r--r--  1 arun arun     0 Sep  3 16:58 .sudo_as_admin_successful

```

> ls -IS (sort the dir acc to size in desc), ls Documents/\*.html (show all the html files), ls Documents/\*.\* (show all the files in dir)



The screenshot shows a terminal window with a dark background and light-colored text. The terminal title is "arun@Dell-Inspiron-14-5430: ~". The user runs several commands:

- "ls -ls" lists all files in the current directory, sorted by size in descending order. The output includes files like "google-chrome-stable\_current\_amd64.deb", "test.txt", and various folders.
- "cd Documents" changes the directory to "Documents".
- "ls" lists files in the "Documents" directory, showing "My Books" and a command not found error for "..".
- "cd .." returns to the previous directory.
- "ls Desktop/\*.\*" lists files in the "Desktop" directory.

-> ls -IS > out.txt (saves the info on out.txt file)

```
arun@Dell-Inspiron-14-5430: ~/Documents
arun@Dell-Inspiron-14-5430:~$ ls
a Desktop Documents Downloads google-chrome-stable_current_amd64.deb Music P
ictures Public snap Templates test.txt Videos
arun@Dell-Inspiron-14-5430:~$ ls -ls >Documents/out.txt
arun@Dell-Inspiron-14-5430:~$ ls
a Desktop Documents Downloads google-chrome-stable_current_amd64.deb Music P
ictures Public snap Templates test.txt Videos
arun@Dell-Inspiron-14-5430:~$ cd Documents
arun@Dell-Inspiron-14-5430:~/Documents$ ls
'My Books' out.txt
arun@Dell-Inspiron-14-5430:~/Documents$ cat out.txt
total 94460
-rw-rw-r-- 1 arun arun 96681172 Aug 26 03:33 google-chrome-stable_current_amd64.de
b
drwxrwxr-x 3 arun arun 4096 Sep 4 14:48 a
drwxr-xr-x 5 arun arun 4096 Sep 4 15:16 Desktop
drwxr-xr-x 3 arun arun 4096 Sep 4 16:37 Documents
drwxr-xr-x 2 arun arun 4096 Sep 4 14:33 Downloads
drwxr-xr-x 2 arun arun 4096 Sep 3 21:13 Music
drwxr-xr-x 3 arun arun 4096 Sep 4 15:52 Pictures
drwxr-xr-x 2 arun arun 4096 Sep 3 21:13 Public
drwx----- 7 arun arun 4096 Sep 4 12:20 snap
drwxr-xr-x 2 arun arun 4096 Sep 3 21:13 Templates
drwxr-xr-x 2 arun arun 4096 Sep 3 21:13 Videos
-rw-rw-r-- 1 arun arun 44 Sep 4 13:54 test.txt
arun@Dell-Inspiron-14-5430:~/Documents$
```

-> man ls (all instr or manual for the ls)

/for root, ~ for home

-> cd (only typing cd will change our dir to home ‘~’), cd Desktop(to desktop), cd [abs-path]

-> cd “my books”, cd my/ books, cd ‘my books’(accessing folders with spaces)

```
arun@Dell-Inspiron-14-5430: ~/Desktop/My work
arun@Dell-Inspiron-14-5430:~$ cd Documents
arun@Dell-Inspiron-14-5430:~/Documents$ cd
arun@Dell-Inspiron-14-5430:~$ cd Desktop
arun@Dell-Inspiron-14-5430:~/Desktop$ cd "My work"
bash: cd: My work: No such file or directory
arun@Dell-Inspiron-14-5430:~/Desktop$ cd "My work"
arun@Dell-Inspiron-14-5430:~/Desktop/My work$ cd ..
arun@Dell-Inspiron-14-5430:~/Desktop$ cd 'My work'
arun@Dell-Inspiron-14-5430:~/Desktop/My work$ cd ..
arun@Dell-Inspiron-14-5430:~/Desktop$ cd My\work
bash: cd: My\work: No such file or directory
arun@Dell-Inspiron-14-5430:~/Desktop$ cd My\work
bash: cd: Mywork: No such file or directory
arun@Dell-Inspiron-14-5430:~/Desktop$ cd My\ work
arun@Dell-Inspiron-14-5430:~/Desktop$
```

```
arun@Dell-Inspiron-14-5430: ~/Documents$ cat
Hello world,Arun this side
Hello world,Arun this side
Hi
Hi
arun@Dell-Inspiron-14-5430:~/Desktop/My work$ cd Document
bash: cd: Document: No such file or directory
arun@Dell-Inspiron-14-5430:~/Documents$ ls
a          Downloads          Pictures  Templates
Desktop    google-chrome-stable_current_amd64.deb  Public    test.txt
Documents  Music             snap      Videos
arun@Dell-Inspiron-14-5430:~/Documents$ cd Documents
arun@Dell-Inspiron-14-5430:~/Documents$ ls
'My Books'  out.txt
arun@Dell-Inspiron-14-5430:~/Documents$ cat out.txt
total 94460
-rw-rw-r-- 1 arun arun 96681172 Aug 26 03:33 google-chrome-stable_current_amd64.de
b
drwxrwxr-x 3 arun arun    4096 Sep  4 14:48 a
drwxr-xr-x 5 arun arun    4096 Sep  4 15:16 Desktop
drwxr-xr-x 3 arun arun    4096 Sep  4 16:37 Documents
drwxr-xr-x 2 arun arun    4096 Sep  4 14:33 Downloads
drwxr-xr-x 2 arun arun    4096 Sep  3 21:13 Music
drwxr-xr-x 3 arun arun    4096 Sep  4 15:52 Pictures
drwxr-xr-x 2 arun arun    4096 Sep  3 21:13 Public
drwx----- 7 arun arun    4096 Sep  4 12:20 snap
drwxr-xr-x 2 arun arun    4096 Sep  3 21:13 Templates
drwxr-xr-x 2 arun arun    4096 Sep  3 21:13 Videos
-rw-rw-r-- 1 arun arun     44 Sep  4 13:54 test.txt
arun@Dell-Inspiron-14-5430:~/Documents$
```

-> cat (without anything given, it will just echo the written content),  
cat list.txt(it will show the content of file)

> cat -b list.txt (add line number to non blank lines), cat -n  
list.txt(add line to all umber), cat -s file.txt(squeezes to one blank  
lines), cat -E file.txt (adds \$ at last)

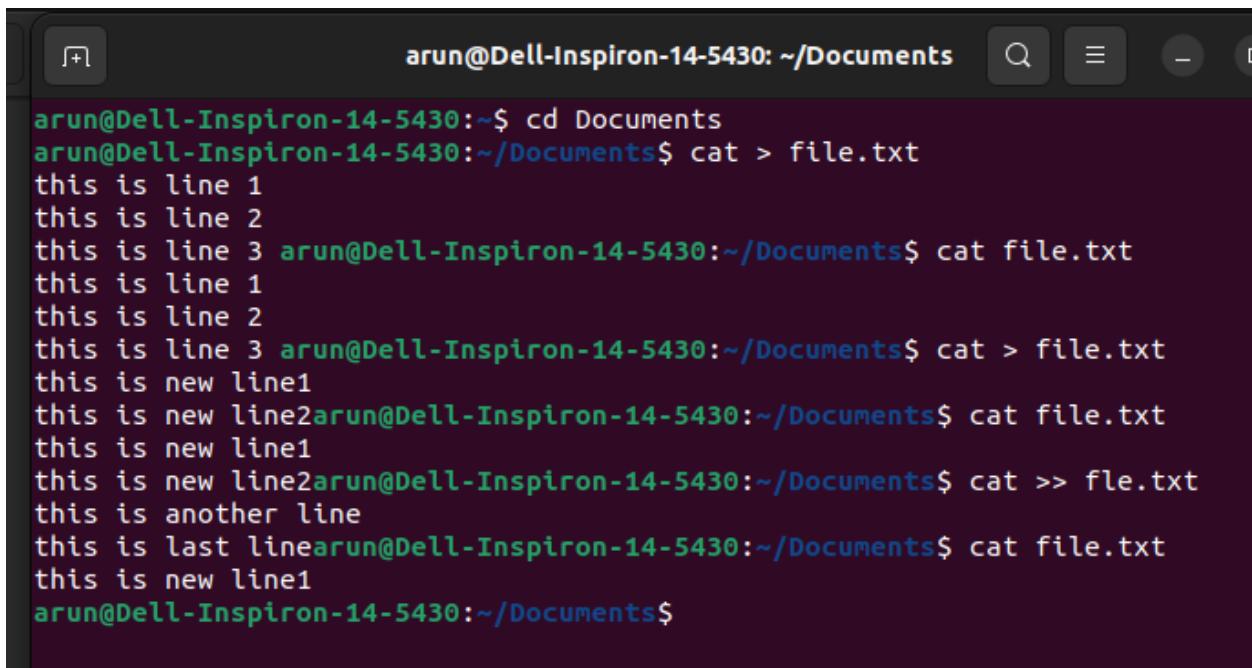
```
arun@Dell-Inspiron-14-5430:~/Documents$ cat -b out.txt
 1 total 94460
 2 -rw-rw-r-- 1 arun arun 96681172 Aug 26 03:33 google-chrome-stable_current_
amd64.deb
 3 drwxrwxr-x 3 arun arun      4096 Sep  4 14:48 a
 4 drwxr-xr-x 5 arun arun      4096 Sep  4 15:16 Desktop
 5 drwxr-xr-x 3 arun arun      4096 Sep  4 16:37 Documents
 6 drwxr-xr-x 2 arun arun      4096 Sep  4 14:33 Downloads
 7 drwxr-xr-x 2 arun arun      4096 Sep  3 21:13 Music
 8 drwxr-xr-x 3 arun arun      4096 Sep  4 15:52 Pictures
 9 drwxr-xr-x 2 arun arun      4096 Sep  3 21:13 Public
10 drwx----- 7 arun arun      4096 Sep  4 12:20 snap
11 drwxr-xr-x 2 arun arun      4096 Sep  3 21:13 Templates
12 drwxr-xr-x 2 arun arun      4096 Sep  3 21:13 Videos
13 -rw-rw-r-- 1 arun arun      44 Sep  4 13:54 test.txt
arun@Dell-Inspiron-14-5430:~/Documents$ cat -n out.txt
 1 total 94460
 2 -rw-rw-r-- 1 arun arun 96681172 Aug 26 03:33 google-chrome-stable_current_
amd64.deb
 3 drwxrwxr-x 3 arun arun      4096 Sep  4 14:48 a
 4 drwxr-xr-x 5 arun arun      4096 Sep  4 15:16 Desktop
 5 drwxr-xr-x 3 arun arun      4096 Sep  4 16:37 Documents
 6 drwxr-xr-x 2 arun arun      4096 Sep  4 14:33 Downloads
 7 drwxr-xr-x 2 arun arun      4096 Sep  3 21:13 Music
 8 drwxr-xr-x 3 arun arun      4096 Sep  4 15:52 Pictures
 9 drwxr-xr-x 2 arun arun      4096 Sep  3 21:13 Public
10 drwx----- 7 arun arun      4096 Sep  4 12:20 snap
11 drwxr-xr-x 2 arun arun      4096 Sep  3 21:13 Templates
12 drwxr-xr-x 2 arun arun      4096 Sep  3 21:13 Videos
13 -rw-rw-r-- 1 arun arun      44 Sep  4 13:54 test.txt
arun@Dell-Inspiron-14-5430:~/Documents$
```

```
arun@Dell-Inspiron-14-5430:~/Documents$ cat -s out.txt
total 94460
-rw-rw-r-- 1 arun arun 96681172 Aug 26 03:33 google-chrome-stable_current_
amd64.deb
drwxrwxr-x 3 arun arun      4096 Sep  4 14:48 a
drwxr-xr-x 5 arun arun      4096 Sep  4 15:16 Desktop
drwxr-xr-x 3 arun arun      4096 Sep  4 16:37 Documents
drwxr-xr-x 2 arun arun      4096 Sep  4 14:33 Downloads
drwxr-xr-x 2 arun arun      4096 Sep  3 21:13 Music
drwxr-xr-x 3 arun arun      4096 Sep  4 15:52 Pictures
drwxr-xr-x 2 arun arun      4096 Sep  3 21:13 Public
drwx----- 7 arun arun      4096 Sep  4 12:20 snap
drwxr-xr-x 2 arun arun      4096 Sep  3 21:13 Templates
drwxr-xr-x 2 arun arun      4096 Sep  3 21:13 Videos
-rw-rw-r-- 1 arun arun      44 Sep  4 13:54 test.txt
arun@Dell-Inspiron-14-5430:~/Documents$ cat -E out.txt
total 94460$
-rw-rw-r-- 1 arun arun 96681172 Aug 26 03:33 google-chrome-stable_current_
amd64.deb$
drwxrwxr-x 3 arun arun      4096 Sep  4 14:48 a$ 
drwxr-xr-x 5 arun arun      4096 Sep  4 15:16 Desktop$ 
drwxr-xr-x 3 arun arun      4096 Sep  4 16:37 Documents$ 
drwxr-xr-x 2 arun arun      4096 Sep  4 14:33 Downloads$ 
drwxr-xr-x 2 arun arun      4096 Sep  3 21:13 Music$ 
drwxr-xr-x 3 arun arun      4096 Sep  4 15:52 Pictures$ 
drwxr-xr-x 2 arun arun      4096 Sep  3 21:13 Public$ 
drwx----- 7 arun arun      4096 Sep  4 12:20 snap$ 
drwxr-xr-x 2 arun arun      4096 Sep  3 21:13 Templates$ 
drwxr-xr-x 2 arun arun      4096 Sep  3 21:13 Videos$ 
-rw-rw-r-- 1 arun arun      44 Sep  4 13:54 test.txt$ 
arun@Dell-Inspiron-14-5430:~/Documents$
```

->cat > file.txt

line1

line2



The screenshot shows a terminal window with a dark background and light-colored text. At the top, it says "arun@Dell-Inspiron-14-5430: ~/Documents". Below that, several commands and their outputs are shown:

```
arun@Dell-Inspiron-14-5430:~$ cd Documents
arun@Dell-Inspiron-14-5430:~/Documents$ cat > file.txt
this is line 1
this is line 2
this is line 3
arun@Dell-Inspiron-14-5430:~/Documents$ cat file.txt
this is line 1
this is line 2
this is line 3
arun@Dell-Inspiron-14-5430:~/Documents$ cat > file.txt
this is new line1
this is new line2
arun@Dell-Inspiron-14-5430:~/Documents$ cat file.txt
this is new line1
this is new line2
arun@Dell-Inspiron-14-5430:~/Documents$ cat >> file.txt
this is another line
this is last line
arun@Dell-Inspiron-14-5430:~/Documents$ cat file.txt
this is new line1
arun@Dell-Inspiron-14-5430:~/Documents$
```

-> cat >> file.txt

line 3

line 4

It will append lines to existing lines

```
arun@Dell-Inspiron-14-5430:~/Documents$ ls
a Desktop Documents Downloads google-chrome-stable_current_amd64.deb Music
Pictures Public snap Templates test.txt Videos
arun@Dell-Inspiron-14-5430:~/Documents$ cd Documents
arun@Dell-Inspiron-14-5430:~/Documents$ ls
file.txt fle.txt 'My Books' out.txt
arun@Dell-Inspiron-14-5430:~/Documents$ cat file.txt
this is new line1
this is new line2arun@Dell-Inspiron-14-5430:~/Documents$ cat fle.txt
this is another line
this is last linearun@Dell-Inspiron-14-5430:~/Documents$ cat fle.txt
this is another line
this is last linearun@Dell-Inspiron-14-5430:~/Documents$ cat > fle.txt
this is last line
this is another line arun@Dell-Inspiron-14-5430:~/Documents$ cat fle.txt
this is last line
this is another line arun@Dell-Inspiron-14-5430:~/Documents$ cat file.txt fle.tx
t >> out.txt
arun@Dell-Inspiron-14-5430:~/Documents$ cat out.txt
total 94460
-rw-rw-r-- 1 arun arun 96681172 Aug 26 03:33 google-chrome-stable_current_amd64.
deb
drwxrwxr-x 3 arun arun 4096 Sep 4 14:48 a
drwxr-xr-x 5 arun arun 4096 Sep 4 15:16 Desktop
drwxr-xr-x 3 arun arun 4096 Sep 4 16:37 Documents
drwxr-xr-x 2 arun arun 4096 Sep 4 14:33 Downloads
drwxr-xr-x 2 arun arun 4096 Sep 3 21:13 Music
drwxr-xr-x 3 arun arun 4096 Sep 4 15:52 Pictures
drwxr-xr-x 2 arun arun 4096 Sep 3 21:13 Public
drwx----- 7 arun arun 4096 Sep 4 12:20 snap
drwxr-xr-x 2 arun arun 4096 Sep 3 21:13 Templates
drwxr-xr-x 2 arun arun 4096 Sep 3 21:13 Videos
-rw-rw-r-- 1 arun arun 44 Sep 4 13:54 test.txt
this is new line1
this is new line2this is last line
arun@Dell-Inspiron-14-5430:~/Documents$
```

-> mkdir

mkdir img/pics

(if img is present)

mkdir -p img/pics

(If img is not present)

mkdir -p img/{dir1,dir2,dir3} (Do not give spaces bw commas)

(It creates all the dir in the list)

Terminal

```
arun@Dell-Inspiron-14-5430:~/Documents$ cd
arun@Dell-Inspiron-14-5430:~$ ls
a Desktop Documents Downloads google-chrome-stable_current_amd64.deb Music
  Pictures Public snap Templates test.txt Videos
arun@Dell-Inspiron-14-5430:~$ cd Desktop
arun@Dell-Inspiron-14-5430:~/Desktop$ mkdir images
arun@Dell-Inspiron-14-5430:~/Desktop$ mkdir images/pics
arun@Dell-Inspiron-14-5430:~/Desktop$ mkdir -p dir1/dir2
arun@Dell-Inspiron-14-5430:~/Desktop$ mkdir -p images/{dir1,dir2,dir3}
arun@Dell-Inspiron-14-5430:~/Desktop$ mkdir -p a//b/c/d/e/
arun@Dell-Inspiron-14-5430:~/Desktop$ █
```

->rmdir abd

ls -R (will show all the dir path)

```
arun@Dell-Inspiron-14-5430:~/Desktop$ rmdir images/pics
arun@Dell-Inspiron-14-5430:~/Desktop$ ls -R
.:
  a   dir1 'file1.txt\'  image  images  'My work'  names

./a:
b

./a/b:
c

./a/b/c:
d

./a/b/c/d:
e

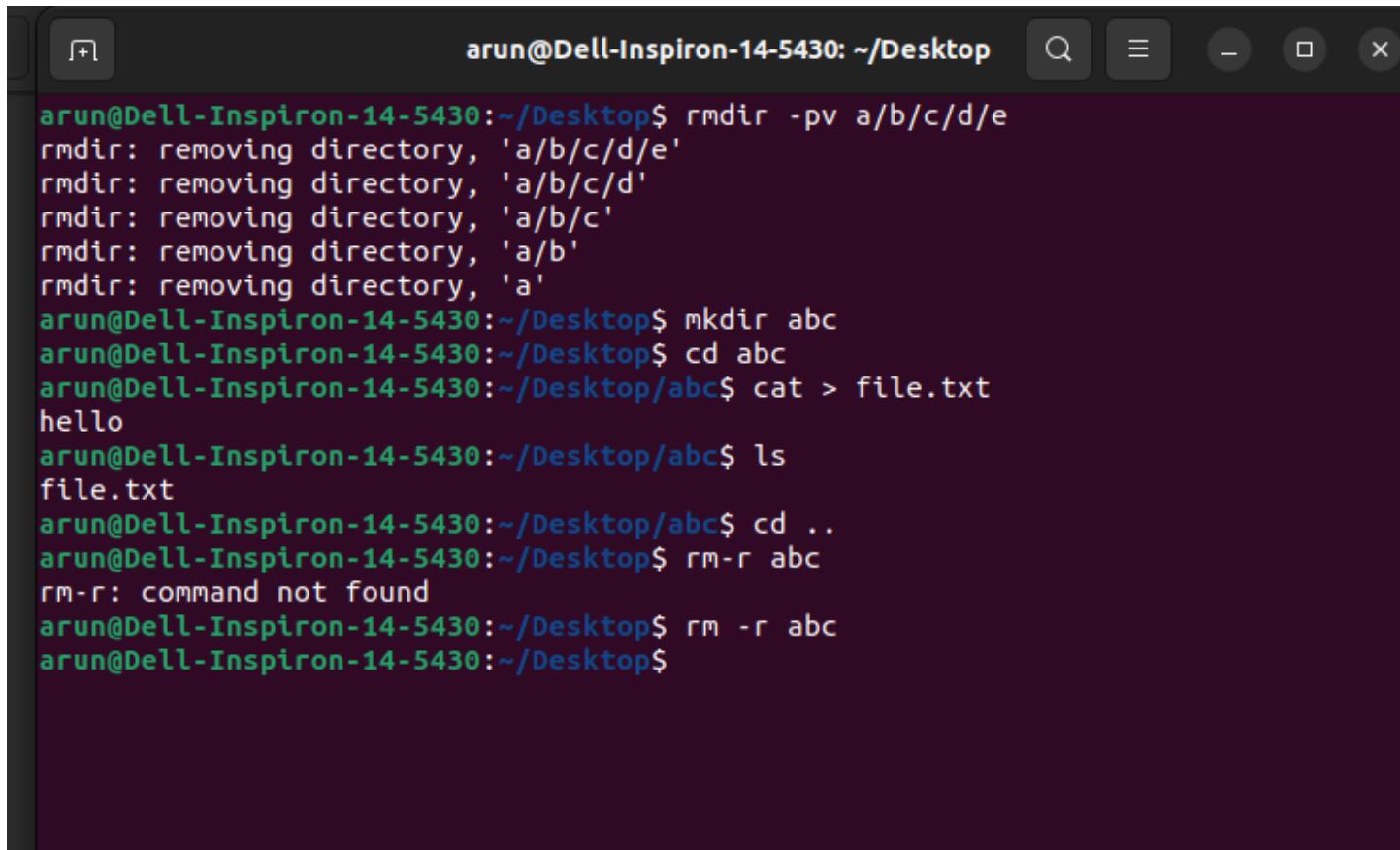
./a/b/c/d/e:

./dir1:
dir2
```

rmdir a/b/c/d/e (will only remove dir e)

rmdir -pv a/b/c/d/e (v is verbos..will show all the work going in the bg)

(If any dir contains any file..rmdir will not delete it)



The screenshot shows a terminal window with a dark background and light-colored text. The title bar reads "arun@Dell-Inspiron-14-5430: ~/Desktop". The terminal content is as follows:

```
arun@Dell-Inspiron-14-5430:~/Desktop$ rmdir -pv a/b/c/d/e
rmdir: removing directory, 'a/b/c/d/e'
rmdir: removing directory, 'a/b/c/d'
rmdir: removing directory, 'a/b/c'
rmdir: removing directory, 'a/b'
rmdir: removing directory, 'a'
arun@Dell-Inspiron-14-5430:~/Desktop$ mkdir abc
arun@Dell-Inspiron-14-5430:~/Desktop$ cd abc
arun@Dell-Inspiron-14-5430:~/Desktop/abc$ cat > file.txt
hello
arun@Dell-Inspiron-14-5430:~/Desktop/abc$ ls
file.txt
arun@Dell-Inspiron-14-5430:~/Desktop/abc$ cd ..
arun@Dell-Inspiron-14-5430:~/Desktop$ rm-r abc
rm-r: command not found
arun@Dell-Inspiron-14-5430:~/Desktop$ rm -r abc
arun@Dell-Inspiron-14-5430:~/Desktop$
```

-> rm -r abc (-r or -rv(for disp the process))  
(del all the files)

-> cp (to copy the file content)  
cp file.txt fle.txt (will copy the content of file to fle )

```
Terminal arun@Dell-Inspiron-14-5430: ~/Documents
arun@Dell-Inspiron-14-5430:~$ ls
a Desktop Documents Downloads google-chrome-stable_current_amd64.deb Music
Pictures Public snap Templates test.txt Videos
arun@Dell-Inspiron-14-5430:~$ cd Documents
arun@Dell-Inspiron-14-5430:~/Documents$ ls
file.txt fle.txt 'My Books' out.txt
arun@Dell-Inspiron-14-5430:~/Documents$ cp file.txt fle.txt
arun@Dell-Inspiron-14-5430:~/Documents$ cat fle.txt
this is new line1
this is new line2
arun@Dell-Inspiron-14-5430:~/Documents$ cat file.txt
this is new line1
arun@Dell-Inspiron-14-5430:~/Documents$
```

cp file.txt dir1

cp file.txt fle.txt dir2

```
Terminal arun@Dell-Inspiron-14-5430: ~/Documents/dir1
arun@Dell-Inspiron-14-5430:~/Documents$ cat file1.txt
this is new line1
this is new line2
arun@Dell-Inspiron-14-5430:~/Documents$ cat file2.txt
this is new line1
this is new line2
arun@Dell-Inspiron-14-5430:~/Documents$ cat file.txt
this is new line1
this is new line2
this is last line
this is another line
arun@Dell-Inspiron-14-5430:~/Documents$ ls
file1.txt file2.txt file.txt 'My Books'
arun@Dell-Inspiron-14-5430:~/Documents$ mkdir dir1
arun@Dell-Inspiron-14-5430:~/Documents$ ls
dir1 file1.txt file2.txt file.txt 'My Books'
arun@Dell-Inspiron-14-5430:~/Documents$ cp file.txt dir1
arun@Dell-Inspiron-14-5430:~/Documents$ ls
dir1 file1.txt file2.txt file.txt 'My Books'
arun@Dell-Inspiron-14-5430:~/Documents$ cd dir1
arun@Dell-Inspiron-14-5430:~/Documents/dir1$ ls
file.txt
arun@Dell-Inspiron-14-5430:~/Documents/dir1$
```

] Terminal

```
arun@Dell-Inspiron-14-5430:~$ cd Documents
arun@Dell-Inspiron-14-5430:~/Documents$ ls
dir1  file1.txt  file2.txt  file.txt  'My Books'
arun@Dell-Inspiron-14-5430:~/Documents$ cd dir1
arun@Dell-Inspiron-14-5430:~/Documents/dir1$ cp -i file1.txt dir1
cp: cannot stat 'file1.txt': No such file or directory
arun@Dell-Inspiron-14-5430:~/Documents/dir1$ cd ..
arun@Dell-Inspiron-14-5430:~/Documents$ cp -i file1.txt dir1
arun@Dell-Inspiron-14-5430:~/Documents$
```

cp ..//file1.txt ..//file2.txt . (the last dot is our current dir)

] Terminal

```
arun@Dell-Inspiron-14-5430:~/Documents$ cd ..
arun@Dell-Inspiron-14-5430:~/Documents$ ls
dir1  file1.txt  file2.txt  file.txt  'My Books'
arun@Dell-Inspiron-14-5430:~/Documents$ cd dir1
arun@Dell-Inspiron-14-5430:~/Documents/dir1$ cd ..
arun@Dell-Inspiron-14-5430:~/Documents$ cp -i file1.txt dir1
cp: overwrite 'dir1/file1.txt'? arun@Dell-Inspiron-14-5430:~/Documents$ ls
dir1  file1.txt  file2.txt  file.txt  'My Books'
arun@Dell-Inspiron-14-5430:~/Documents$ cd dir1
arun@Dell-Inspiron-14-5430:~/Documents/dir1$ cp ..//file1.txt ..//file2.txt
arun@Dell-Inspiron-14-5430:~/Documents/dir1$
```

cp -R dir1 dir3 (-R recursive)

```
Terminal arun@Dell-Inspiron-14-5430: ~/Documents
arun@Dell-Inspiron-14-5430:~/Documents$ cd ..
arun@Dell-Inspiron-14-5430:~/Documents$ ls
dir1  file1.txt  file2.txt  file.txt  'My Books'
arun@Dell-Inspiron-14-5430:~/Documents$ cd dir1
arun@Dell-Inspiron-14-5430:~/Documents/dir1$ cd ..
arun@Dell-Inspiron-14-5430:~/Documents$ cp -i file1.txt dir1
cp: overwrite 'dir1/file1.txt'? arun@Dell-Inspiron-14-5430:~/Documents$ ls
dir1  file1.txt  file2.txt  file.txt  'My Books'
arun@Dell-Inspiron-14-5430:~/Documents$ cd dir1
arun@Dell-Inspiron-14-5430:~/Documents/dir1$ cp ../file1.txt ../../file2.txt
arun@Dell-Inspiron-14-5430:~/Documents/dir1$ cp -R dir2 dir3
cp: cannot stat 'dir2': No such file or directory
arun@Dell-Inspiron-14-5430:~/Documents/dir1$ cd ..
arun@Dell-Inspiron-14-5430:~/Documents$ cp -R dir2 dir3
cp: cannot stat 'dir2': No such file or directory
arun@Dell-Inspiron-14-5430:~/Documents$ cp -R dir2 dir3
cp: cannot stat 'dir2': No such file or directory
arun@Dell-Inspiron-14-5430:~/Documents$ ls
dir1  file1.txt  file2.txt  file.txt  'My Books'
arun@Dell-Inspiron-14-5430:~/Documents$ mkdir dir3
arun@Dell-Inspiron-14-5430:~/Documents$ ls
dir1  dir3  file1.txt  file2.txt  file.txt  'My Books'
arun@Dell-Inspiron-14-5430:~/Documents$
```

if dir 3 does not exist it will create the dir and copy all te comtent of dir1 to it

if dir 3 exists, it will copy the dir inside the dir1

-> mv (move)

mv file.txt file1.txt

(will create a file bt name of file1.txt)

## Terminal

```
arun@Dell-Inspiron-14-5430:~/Documents$ mv file.txt file1.txt
arun@Dell-Inspiron-14-5430:~/Documents$ cat file.txt
cat: file.txt: No such file or directory
arun@Dell-Inspiron-14-5430:~/Documents$ ls
dir1  dir3  file1.txt  file2.txt  'My Books'
arun@Dell-Inspiron-14-5430:~/Documents$ cat file1.txt

this is new line1
this is new line2this is last line
this is another line
arun@Dell-Inspiron-14-5430:~/Documents$
```

`mv file1.txt dir1/`

(will move file to dir)

## Terminal

```
arun@Dell-Inspiron-14-5430:~/Documents$ ls
dir1  dir3  file1.txt  file2.txt  'My Books'
arun@Dell-Inspiron-14-5430:~/Documents$ mv file1.txt dir3/
arun@Dell-Inspiron-14-5430:~/Documents$ cd dir3
arun@Dell-Inspiron-14-5430:~/Documents/dir3$ ls
file1.txt
arun@Dell-Inspiron-14-5430:~/Documents/dir3$
```

for overwriting cons add -i

->less

for big text file, for searching texts

g for beginning, G for end

q for quit

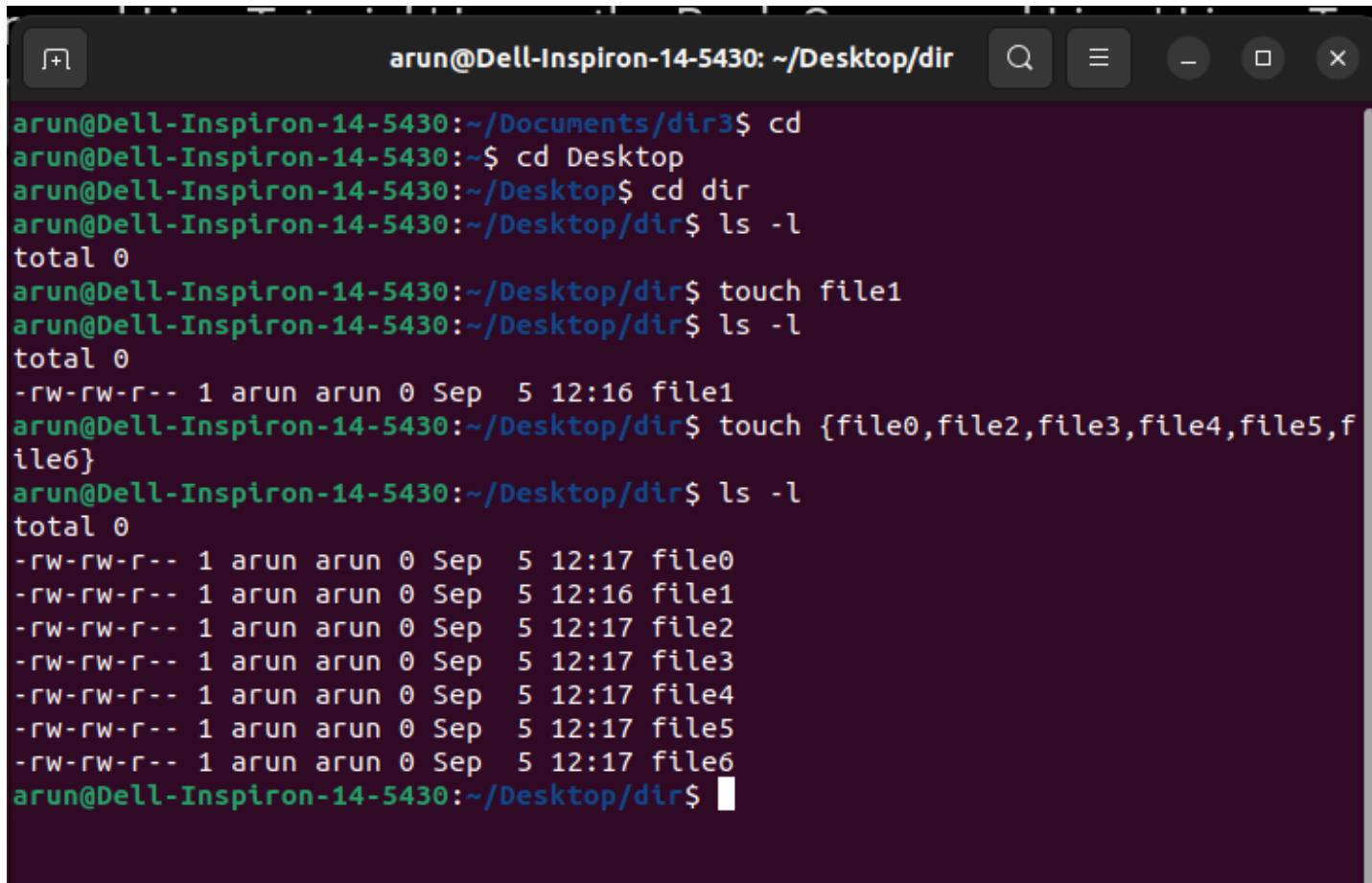
search-> /book (searching book from start to end) press n for next word)

-> ?book(searching from down to up)

> touch

easiest way to make empty files in linux

touch file.txt



The screenshot shows a terminal window with the following session:

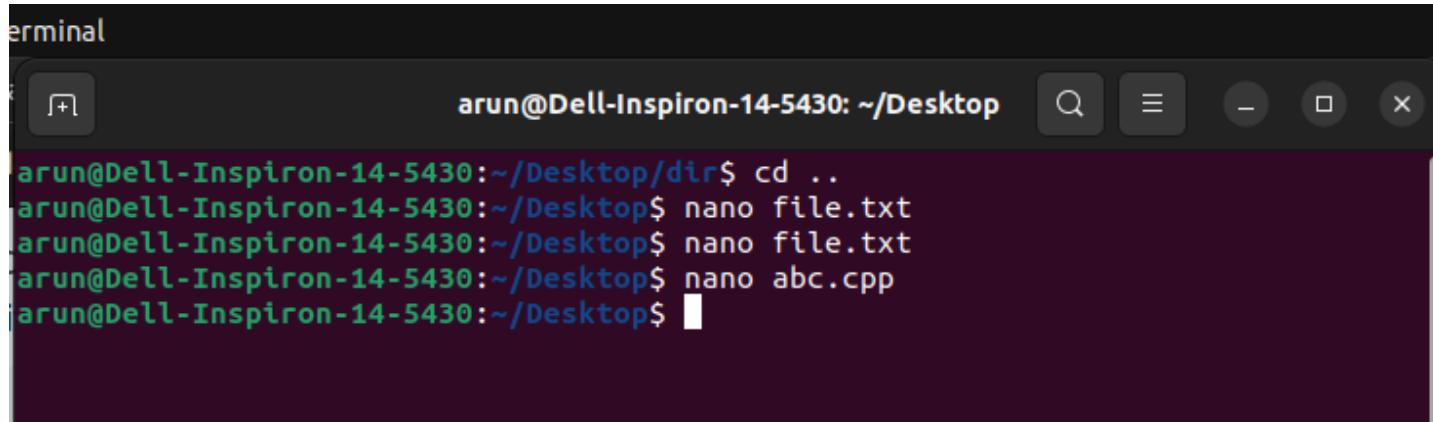
```
arun@Dell-Inspiron-14-5430: ~/Desktop/dir$ cd
arun@Dell-Inspiron-14-5430:~/Desktop$ cd Desktop
arun@Dell-Inspiron-14-5430:~/Desktop$ cd dir
arun@Dell-Inspiron-14-5430:~/Desktop/dir$ ls -l
total 0
arun@Dell-Inspiron-14-5430:~/Desktop/dir$ touch file1
arun@Dell-Inspiron-14-5430:~/Desktop/dir$ ls -l
total 0
-rw-rw-r-- 1 arun arun 0 Sep  5 12:16 file1
arun@Dell-Inspiron-14-5430:~/Desktop/dir$ touch {file0,file2,file3,file4,file5,file6}
arun@Dell-Inspiron-14-5430:~/Desktop/dir$ ls -l
total 0
-rw-rw-r-- 1 arun arun 0 Sep  5 12:17 file0
-rw-rw-r-- 1 arun arun 0 Sep  5 12:16 file1
-rw-rw-r-- 1 arun arun 0 Sep  5 12:17 file2
-rw-rw-r-- 1 arun arun 0 Sep  5 12:17 file3
-rw-rw-r-- 1 arun arun 0 Sep  5 12:17 file4
-rw-rw-r-- 1 arun arun 0 Sep  5 12:17 file5
-rw-rw-r-- 1 arun arun 0 Sep  5 12:17 file6
arun@Dell-Inspiron-14-5430:~/Desktop/dir$
```

```
arun@Dell-Inspiron-14-5430:~$ cd Desktop
arun@Dell-Inspiron-14-5430:~/Desktop$ cd dir
arun@Dell-Inspiron-14-5430:~/Desktop/dir$ ls -l
total 0
-rw-rw-r-- 1 arun arun 0 Sep  5 12:17 file0
-rw-rw-r-- 1 arun arun 0 Sep  5 12:16 file1
-rw-rw-r-- 1 arun arun 0 Sep  5 12:17 file2
-rw-rw-r-- 1 arun arun 0 Sep  5 12:17 file3
-rw-rw-r-- 1 arun arun 0 Sep  5 12:17 file4
-rw-rw-r-- 1 arun arun 0 Sep  5 12:17 file5
-rw-rw-r-- 1 arun arun 0 Sep  5 12:17 file6
arun@Dell-Inspiron-14-5430:~/Desktop/dir$ touch file1
arun@Dell-Inspiron-14-5430:~/Desktop/dir$ ls -l
total 0
-rw-rw-r-- 1 arun arun 0 Sep  5 12:17 file0
-rw-rw-r-- 1 arun arun 0 Sep  5 12:20 file1
-rw-rw-r-- 1 arun arun 0 Sep  5 12:17 file2
-rw-rw-r-- 1 arun arun 0 Sep  5 12:17 file3
-rw-rw-r-- 1 arun arun 0 Sep  5 12:17 file4
-rw-rw-r-- 1 arun arun 0 Sep  5 12:17 file5
-rw-rw-r-- 1 arun arun 0 Sep  5 12:17 file6
arun@Dell-Inspiron-14-5430:~/Desktop/dir$
```

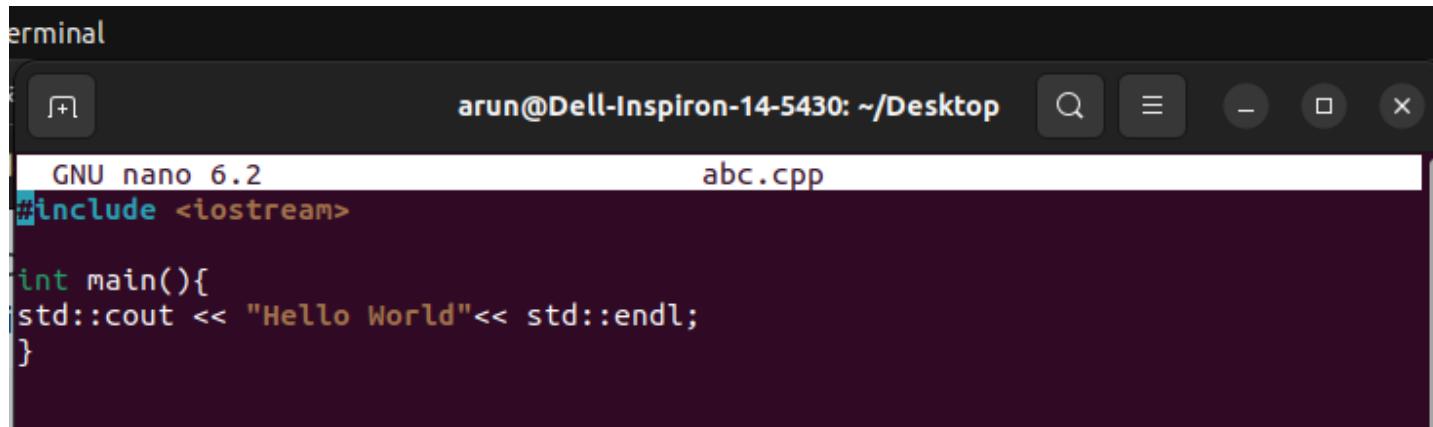
if it exist it will update the timestamp if not then it will create the file and acc set the timestamp to current exact time.

->nano

will open the file and you can add the content acc  
ctrl o for save



```
terminal arun@Dell-Inspiron-14-5430: ~/Desktop
arun@Dell-Inspiron-14-5430:~/Desktop$ cd ..
arun@Dell-Inspiron-14-5430:~/Desktop$ nano file.txt
arun@Dell-Inspiron-14-5430:~/Desktop$ nano file.txt
arun@Dell-Inspiron-14-5430:~/Desktop$ nano abc.cpp
arun@Dell-Inspiron-14-5430:~/Desktop$
```



```
terminal arun@Dell-Inspiron-14-5430: ~/Desktop
GNU nano 6.2 abc.cpp
#include <iostream>

int main(){
std::cout << "Hello World" << std::endl;
}
```

->sudo (super user do)

permision issues solved, sudo gives admin privileges  
making dir in etc dir on root

ctrl + shift + t -> new tab for terminal

sudo -s

gives us root privileges,now we are super

```
root@Dell-Inspiron-14-5430: /etc
arun@Dell-Inspiron-14-5430:~/Desktop$ cd
arun@Dell-Inspiron-14-5430:~$ ls /
bin  boot  cdrom  dev  etc  home  lib  lib32  lib64  libx32  lost+found  media
mnt  opt  proc  root  run  sbin  snap  srv  swapfile  sys  tmp  usr  var
arun@Dell-Inspiron-14-5430:~$ cd /etc/
arun@Dell-Inspiron-14-5430:/etc$ mkdir newdir
mkdir: cannot create directory 'newdir': Permission denied
arun@Dell-Inspiron-14-5430:/etc$ sudo mkdir newdir
[sudo] password for arun:
arun@Dell-Inspiron-14-5430:/etc$ sudo -s
root@Dell-Inspiron-14-5430:/etc#
```

```
root@Dell-Inspiron-14-5430: /etc
arun@Dell-Inspiron-14-5430:~/Desktop$ cd
arun@Dell-Inspiron-14-5430:~$ ls /
bin  boot  cdrom  dev  etc  home  lib  lib32  lib64  libx32  lost+found  media
mnt  opt  proc  root  run  sbin  snap  srv  swapfile  sys  tmp  usr  var
arun@Dell-Inspiron-14-5430:~$ cd /etc/
arun@Dell-Inspiron-14-5430:/etc$ mkdir newdir
mkdir: cannot create directory 'newdir': Permission denied
arun@Dell-Inspiron-14-5430:/etc$ sudo mkdir newdir
[sudo] password for arun:
arun@Dell-Inspiron-14-5430:/etc$ sudo -s
root@Dell-Inspiron-14-5430:/etc# ls
acpi                  hostid          pnm2ppa.conf
adduser.conf           hostname        polkit-1
alsa                 hosts           PPP
alternatives          hosts.allow    profile
anacrontab            hosts.deny    profile.d
apg.conf              hp              protocols
apm                  ifplugd         pulse
apparmor              init             python3
apparmor.d            init.d          python3.10
apport                initramfs-tools rc0.d
appstream.conf        inputrc        rc1.d
apt                  inserv.conf.d  rc2.d
avahi                ipp-usb        rc3.d
bash.bashrc           iproute2       rc4.d
bash_completion        issue          rc5.d
bash_completion.d     issue.net     rc6.d
bindresvport.blacklist kernel        rcS.d
binfmt.d             kernel-ima.conf resolv.conf
```

->top

(memory classification on the kernel)

PID	USER	PR	NI	VIRT	RES	SHR	S	%CPU	%MEM	TIME+	COMMAND
4589	arun	20	0	1133.1g	336092	141864	S	47.2	2.1	9:47.13	chrome
3908	arun	20	0	1131.0g	292708	124592	S	30.6	1.8	3:16.11	chrome
3108	arun	20	0	32.8g	196568	147408	S	15.0	1.2	4:55.79	chrome
1791	arun	20	0	5988820	296112	141596	S	10.6	1.8	8:43.48	gnome-s+%
1582	arun	9	-11	2586220	27384	22392	S	4.0	0.2	1:16.76	pulseau+
221	root	-51	0	0	0	0	S	1.7	0.0	0:56.02	irq/160+
2995	arun	20	0	32.7g	298264	186160	S	1.3	1.9	2:10.02	chrome
3026	arun	20	0	1161068	97948	57008	S	1.3	0.6	0:41.90	Xwayland
3982	arun	20	0	32.9g	81972	69312	S	1.3	0.5	0:22.05	chrome
6154	root	0	-20	0	0	0	I	0.7	0.0	0:05.65	kworker+
7607	root	20	0	0	0	0	I	0.7	0.0	0:01.85	kworker+
15	root	20	0	0	0	0	I	0.3	0.0	0:13.80	rcu_pre+
34	root	rt	0	0	0	0	S	0.3	0.0	0:00.58	migrati+
82	root	rt	0	0	0	0	S	0.3	0.0	0:00.61	migrati+
97	root	39	19	0	0	0	S	0.3	0.0	0:00.08	khugepa+
531	root	-51	0	0	0	0	S	0.3	0.0	0:00.54	irq/187+
1943	arun	20	0	323960	11984	7040	S	0.3	0.1	0:17.80	ibus-da+
3109	arun	20	0	32.4g	117144	93832	S	0.3	0.7	1:07.99	chrome
4704	arun	20	0	573524	62476	40520	S	0.3	0.4	1:10.27	gnome-t+
7037	root	20	0	0	0	0	I	0.3	0.0	0:01.89	kworker+
7608	root	20	0	0	0	0	I	0.3	0.0	0:00.48	kworker+
7773	arun	20	0	22012	4224	3200	R	0.3	0.0	0:00.10	top
1	root	20	0	166796	11488	8160	S	0.0	0.1	0:03.45	systemd
2	root	20	0	0	0	0	S	0.0	0.0	0:00.01	kthreadd
3	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	rcu_gp
4	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	rcu_par+
5	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	slub_fl+
6	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	netns
8	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	kworker+
10	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	mm_perc+
11	root	20	0	0	0	0	I	0.0	0.0	0:00.00	rcu_tas+

press s to set refresh rate

```
arun@Dell-Inspiron-14-5430: ~
top - 13:03:41 up 2:06, 1 user, load average: 0.76, 0.83, 0.71
Tasks: 332 total, 1 running, 331 sleeping, 0 stopped, 0 zombie
%Cpu(s): 5.2 us, 1.5 sy, 0.0 ni, 93.2 id, 0.1 wa, 0.0 hi, 0.0 si, 0.0 st
MiB Mem : 15670.0 total, 10559.2 free, 2492.2 used, 2618.6 buff/cache
MiB Swap: 2048.0 total, 2048.0 free, 0.0 used. 12154.3 avail Mem
Change delay from 5.0 to [ ]
```

PID	USER	PR	NI	VIRT	RES	SHR	S	%CPU	%MEM	TIME+	COMMAND
4589	arun	20	0	1133.1g	349568	141284	S	38.0	2.2	10:58.71	chrome
3108	arun	20	0	32.8g	195800	147016	S	16.5	1.2	5:29.62	chrome
1791	arun	20	0	5998436	296196	141472	S	9.4	1.8	9:06.27	gnome-s+
1582	arun	9	-11	2586220	27280	22288	S	4.4	0.2	1:27.65	pulseau+
2995	arun	20	0	32.7g	301156	186364	S	1.6	1.9	2:15.53	chrome
3026	arun	20	0	1161004	97948	57008	S	1.4	0.6	0:45.59	Xwayland
3109	arun	20	0	32.4g	117252	93968	S	1.4	0.7	1:10.58	chrome
3982	arun	20	0	32.9g	81648	69120	S	1.2	0.5	0:25.09	chrome
4704	arun	20	0	573524	62232	40420	S	0.8	0.4	1:12.35	gnome-t+
7804	root	20	0	0	0	0	I	0.6	0.0	0:00.62	kworker+
15	root	20	0	0	0	0	I	0.4	0.0	0:14.54	rcu_pre+
3908	arun	20	0	1131.0g	291012	124568	S	0.4	1.8	3:23.74	chrome
6384	root	0	-20	0	0	0	I	0.4	0.0	0:03.36	kworker+
184	root	0	-20	0	0	0	I	0.2	0.0	0:00.19	kworker+
221	root	-51	0	0	0	0	S	0.2	0.0	0:57.43	irq/160+
528	root	-51	0	0	0	0	S	0.2	0.0	0:00.81	irq/184+
617	avahi	20	0	7768	3584	3456	S	0.2	0.0	0:08.86	avahi-d+
625	root	20	0	269896	18280	15464	S	0.2	0.1	0:03.69	Network+
630	root	20	0	82852	3840	3584	S	0.2	0.0	0:00.91	irqbala+
662	root	20	0	284888	10240	9472	S	0.2	0.1	0:21.61	thermald
7037	root	20	0	0	0	0	I	0.2	0.0	0:02.59	kworker+
7608	root	20	0	0	0	0	I	0.2	0.0	0:00.70	kworker+
7680	root	0	-20	0	0	0	I	0.2	0.0	0:00.81	kworker+
7773	arun	20	0	22160	4224	3200	R	0.2	0.0	0:00.98	top
1	root	20	0	166796	11488	8160	S	0.0	0.1	0:03.54	systemd
2	root	20	0	0	0	0	S	0.0	0.0	0:00.02	kthreadd
3	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	rcu_gp
4	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	rcu_par+
5	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	slub_fl+
6	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	netns
8	root	0	-20	0	0	0	I	0.0	0.0	0:00.00	kworker+

press i filer out ideal process

```
arun@Dell-Inspiron-14-5430: ~
top - 13:05:34 up 2:08, 1 user, load average: 0.53, 0.75, 0.70
Tasks: 334 total, 1 running, 333 sleeping, 0 stopped, 0 zombie
%Cpu(s): 1.7 us, 0.8 sy, 0.0 ni, 97.4 id, 0.1 wa, 0.0 hi, 0.0 si, 0
MiB Mem : 15670.0 total, 10527.2 free, 2516.5 used, 2626.4 buff/cach
MiB Swap: 2048.0 total, 2048.0 free, 0.0 used. 12123.2 avail Mem

PID USER PR NI VIRT RES SHR S %CPU %MEM TIME+
1791 arun 20 0 6035808 293736 139212 S 6.4 1.8 9:17.90
1582 arun 9 -11 2586220 27388 22396 S 4.4 0.2 1:29.96
4704 arun 20 0 573524 62208 40540 S 2.9 0.4 1:13.49
3982 arun 20 0 32.9g 81672 69144 S 2.0 0.5 0:25.81
4589 arun 20 0 1133.1g 355012 140400 S 2.0 2.2 11:15.97
221 root -51 0 0 0 0 S 1.2 0.0 0:58.77
2995 arun 20 0 32.7g 303052 185888 S 1.2 1.9 2:19.32
617 avahi 20 0 7768 3584 3456 S 0.6 0.0 0:09.03
3109 arun 20 0 32.4g 117492 94208 S 0.6 0.7 1:11.81
6384 root 0 -20 0 0 0 D 0.6 0.0 0:03.57
474 systemd+ 20 0 14824 6784 6016 S 0.3 0.0 0:13.45
532 root -51 0 0 0 0 S 0.3 0.0 0:00.48
662 root 20 0 284888 10240 9472 S 0.3 0.1 0:21.89
1943 arun 20 0 323960 11984 7040 S 0.3 0.1 0:17.98
3026 arun 20 0 1161068 97948 57008 S 0.3 0.6 0:47.10
3108 arun 20 0 32.8g 194524 146168 S 0.3 1.2 5:38.71
7346 arun 20 0 3207012 68016 49924 S 0.3 0.4 0:01.21
7709 root 20 0 0 0 0 I 0.3 0.0 0:00.04
7773 arun 20 0 22160 4224 3200 R 0.3 0.0 0:01.09
7804 root 20 0 0 0 0 I 0.3 0.0 0:01.02
```

press k to kill any process by pid

```
27 arun@Dell-Inspiron-14-5430: ~ Q ⌂ x
top - 13:09:29 up 2:12, 1 user, load average: 0.54, 0.80, 0.75
Tasks: 330 total, 1 running, 329 sleeping, 0 stopped, 0 zombie
%Cpu(s): 1.2 us, 0.7 sy, 0.0 ni, 98.1 id, 0.0 wa, 0.0 hi, 0.0 si, 0.0 st
MiB Mem : 15670.0 total, 10602.6 free, 2500.1 used, 2567.4 buff/cache
MiB Swap: 2048.0 total, 2048.0 free, 0.0 used. 12200.9 avail Mem

PID USER PR NI VIRT RES SHR S %CPU %MEM TIME+ COMMAND
1791 arun 20 0 6032652 296312 141540 S 10.6 1.8 9:36.61 gnome-s+
221 root -51 0 0 0 0 S 3.2 0.0 1:00.66 irq/160+
4589 arun 20 0 1133.0g 344968 131920 S 2.6 2.1 12:00.00 chrome
2995 arun 20 0 32.7g 300548 186076 S 0.8 1.9 2:23.47 chrome
662 root 20 0 284888 10240 9472 S 0.4 0.1 0:22.54 thermald
7346 arun 20 0 3207012 68272 49924 S 0.4 0.4 0:01.38 gjs
7680 root 0 -20 0 0 0 I 0.4 0.0 0:01.14 kworker+
15 root 20 0 0 0 0 I 0.2 0.0 0:15.36 rcu_pre+
22 root rt 0 0 0 0 S 0.2 0.0 0:00.53 migrati+
40 root rt 0 0 0 0 S 0.2 0.0 0:02.29 migrati+
90 root 20 0 0 0 0 I 0.2 0.0 0:11.43 kworker+
183 root 0 -20 0 0 0 I 0.2 0.0 0:01.13 kworker+
1603 arun 20 0 10080 5376 3968 S 0.2 0.0 0:02.89 dbus-da+
3026 arun 20 0 1130292 97948 57008 S 0.2 0.6 0:49.49 Xwayland
3108 arun 20 0 32.8g 195772 147000 S 0.2 1.2 5:59.22 chrome
3109 arun 20 0 32.4g 116984 94112 S 0.2 0.7 1:13.90 chrome
3908 arun 20 0 1131.0g 292244 124224 S 0.2 1.8 3:41.76 chrome
7773 arun 20 0 22160 4224 3200 R 0.2 0.0 0:01.48 top
7920 root 20 0 0 0 0 I 0.2 0.0 0:00.20 kworker+
```

-> kill

kill [pid]

pidof [name\_of\_process]

kill -KILL 1739

ps -ux --> will show all the details of process and pids

```
arun@Dell-Inspiron-14-5430:~$ pidof unity - control - center
arun@Dell-Inspiron-14-5430:~$ kill -KILL 3294
bash: kill: (3294) - No such process
arun@Dell-Inspiron-14-5430:~$ kill -9 3294
bash: kill: (3294) - No such process
arun@Dell-Inspiron-14-5430:~$ ps -ux
USER          PID %CPU %MEM    VSZ   RSS TTY      STAT START  TIME COMMAND
arun        1573  0.0  0.0  18004 10240 ?          Ss  10:57  0:00 /lib/systemd/
systemd --user
arun        1574  0.0  0.0 170084  5880 ?          S   10:57  0:00 (sd-pam)
arun        1580  0.0  0.0  48504  6400 ?          S<sl 10:57  0:00 /usr/bin/pipe
wire
arun        1581  0.0  0.0  32256  6400 ?          Ssl  10:57  0:00 /usr/bin/pipe
wire-media-session
arun        1582  1.3  0.1 2586220 27180 ?
eaudio --daemonize=no --log-target=journal
arun        1593  0.0  0.0 249548  7452 ?
gnome-keyring-daemon --daemonize --login
arun        1603  0.0  0.0  10080  5376 ?          Ss  10:57  0:03 /usr/bin/dbus-
daemon --session --address=systemd: --nofork --nopidfile --systemd-activation -
-syslog-only
arun        1611  0.0  0.0 249288  7680 ?          Ssl  10:57  0:00 /usr/libexec/
gvfsd
arun        1617  0.0  0.0 545560  7040 ?          Ssl  10:57  0:00 /usr/libexec/
xdg-document-portal
arun        1621  0.0  0.0 380888  6784 ?
gvfsd-fuse /run/user/1000/gvfs -f
arun        1630  0.0  0.0 244800  6144 ?
xdg-permission-store
arun        1653  0.0  0.1 644184 26960 ?
tracker-miner-fs-3
arun        1664  0.0  0.0 324580 10112 ?          Ssl  10:57  0:00 /usr/libexec/
```

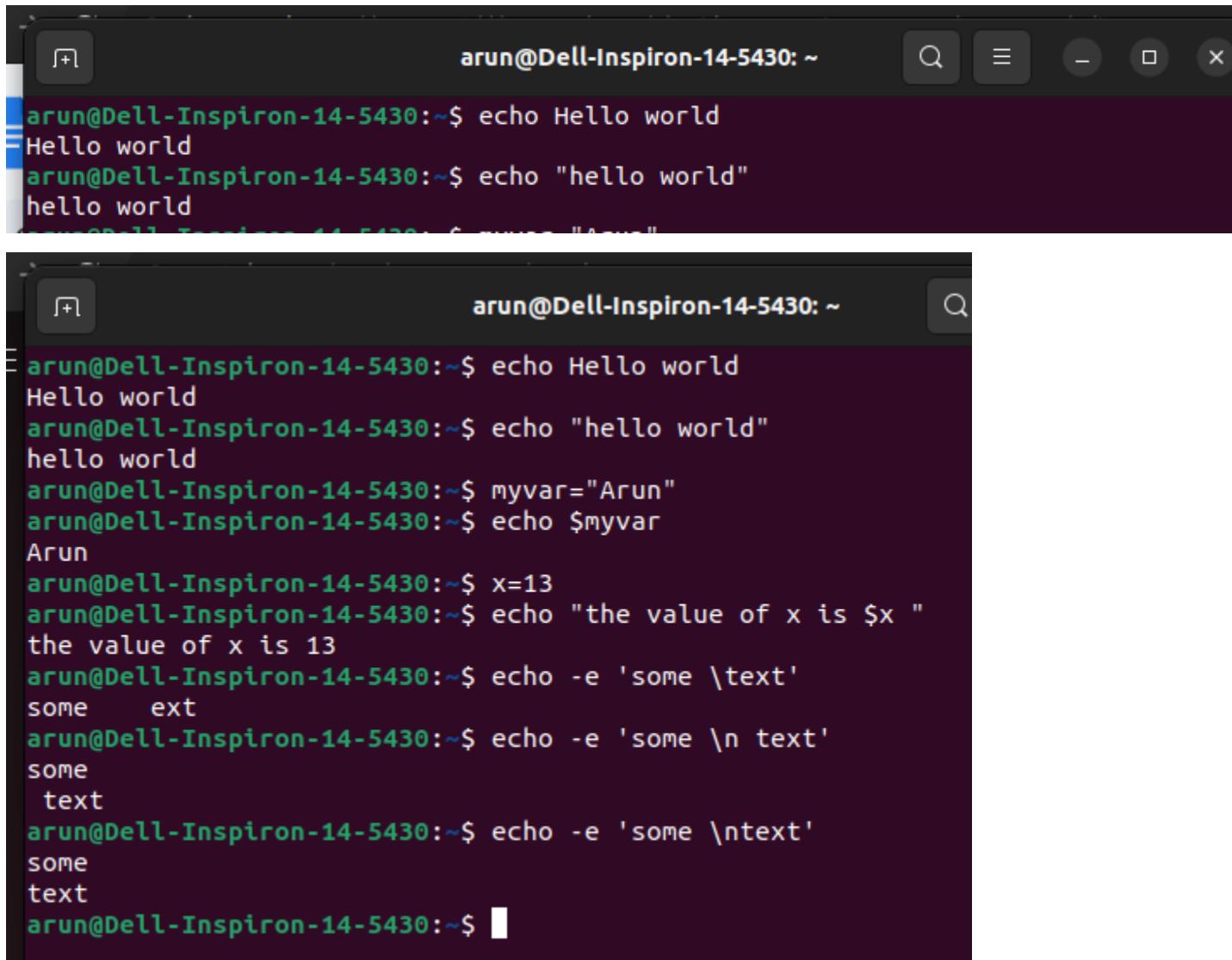
ps -aux --> will show all the details of all user

```
arun@Dell-Inspiron-14-5430:~$ ps -aux
USER        PID %CPU %MEM      VSZ   RSS TTY      STAT START   TIME COMMAND
root          1  0.0  0.0 166796 11488 ?      Ss   10:56  0:04 /sbin/init sp
lash
root          2  0.0  0.0      0      0 ?      S    10:56  0:00 [kthreadd]
root          3  0.0  0.0      0      0 ?     I<  10:56  0:00 [rcu_gp]
root          4  0.0  0.0      0      0 ?     I<  10:56  0:00 [rcu_par_gp]
root          5  0.0  0.0      0      0 ?     I<  10:56  0:00 [slub_flushwq]
]
root          6  0.0  0.0      0      0 ?     I<  10:56  0:00 [netns]
root          8  0.0  0.0      0      0 ?     I<  10:56  0:00 [kworker/0:0H
-events_highpri]
root         10  0.0  0.0      0      0 ?     I<  10:56  0:00 [mm_percpu_wq]
]
root         11  0.0  0.0      0      0 ?     I    10:56  0:00 [rcu_tasks_kt
hread]
root         12  0.0  0.0      0      0 ?     I    10:56  0:00 [rcu_tasks_ru
de_kthread]
root         13  0.0  0.0      0      0 ?     I    10:56  0:00 [rcu_tasks_tr
ace_kthread]
root         14  0.0  0.0      0      0 ?     S    10:56  0:00 [ksoftirqd/0]
root         15  0.1  0.0      0      0 ?     I    10:56  0:17 [rcu_preempt]
root         16  0.0  0.0      0      0 ?     S    10:56  0:00 [migration/0]
root         17  0.0  0.0      0      0 ?     S    10:56  0:00 [idle_inject/
0]
root         19  0.0  0.0      0      0 ?     S    10:56  0:00 [cpuhp/0]
root         20  0.0  0.0      0      0 ?     S    10:56  0:00 [cpuhp/1]
root         21  0.0  0.0      0      0 ?     S    10:56  0:00 [idle_inject/
1]
root         22  0.0  0.0      0      0 ?     S    10:56  0:00 [migration/1]
root         23  0.0  0.0      0      0 ?     S    10:56  0:00 [ksoftirqd/1]
root         25  0.0  0.0      0      0 ?     I<  10:56  0:00 [kworker/1:0H
```

ps -U [user\_name] -->will show the pid acc to user

-> echo

echo Hello world



```
arun@Dell-Inspiron-14-5430:~$ echo Hello world
Hello world
arun@Dell-Inspiron-14-5430:~$ echo "hello world"
hello world
arun@Dell-Inspiron-14-5430:~$ echo Hello world
Hello world
arun@Dell-Inspiron-14-5430:~$ echo "hello world"
hello world
arun@Dell-Inspiron-14-5430:~$ myvar="Arun"
arun@Dell-Inspiron-14-5430:~$ echo $myvar
Arun
arun@Dell-Inspiron-14-5430:~$ x=13
arun@Dell-Inspiron-14-5430:~$ echo "the value of x is $x "
the value of x is 13
arun@Dell-Inspiron-14-5430:~$ echo -e 'some \text'
some    ext
arun@Dell-Inspiron-14-5430:~$ echo -e 'some \n text'
some
text
arun@Dell-Inspiron-14-5430:~$ echo -e 'some \ntext'
some
text
arun@Dell-Inspiron-14-5430:~$ 
```

-e flag can be used to enable us some options for echo.

-> chmod

For files

first char is type of file eg, -(file),d(directory)

next three for owner

next three grp of file

last three for permission

chmod o+x file

o is others,g is for group + is adding permission, - is for subt

Permission

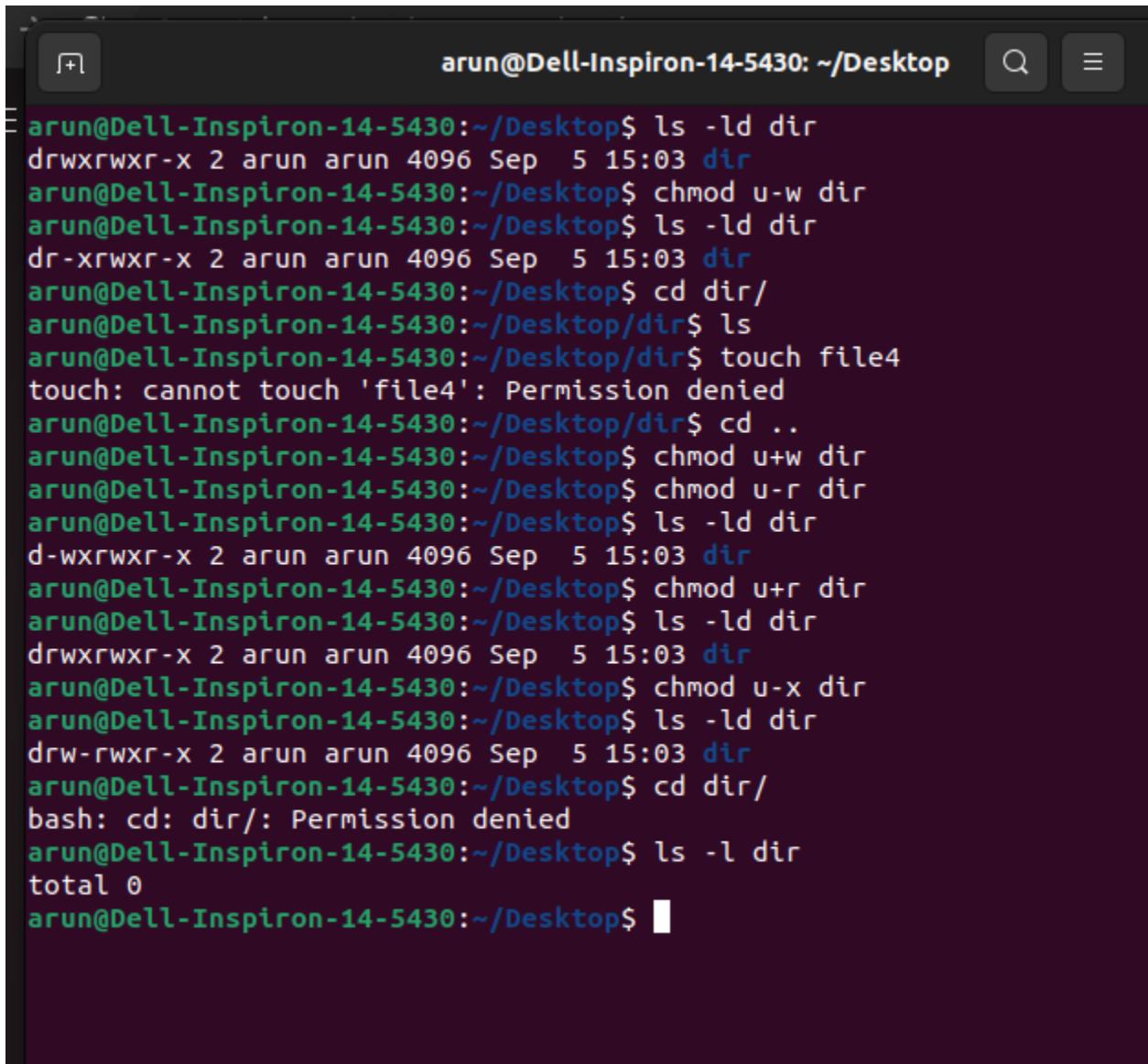
chmod ug=rwx (for owner and group)

chmod ugo-rwx

chmod a-rwx

```
arun@Dell-Inspiron-14-5430: ~/Desktop$ ls -l
total 4
-rw-rw-r-- 1 arun arun 15 Sep  5 12:30 file.txt
arun@Dell-Inspiron-14-5430:~/Desktop$ chmod o+x file.txt
arun@Dell-Inspiron-14-5430:~/Desktop$ ls -l
total 4
-rw-rw-r-x 1 arun arun 15 Sep  5 12:30 file.txt
arun@Dell-Inspiron-14-5430:~/Desktop$ chmod o+w file.txt
arun@Dell-Inspiron-14-5430:~/Desktop$ ls -l
total 4
-rw-rw-rwx 1 arun arun 15 Sep  5 12:30 file.txt
arun@Dell-Inspiron-14-5430:~/Desktop$ chmod g+x file.txt
arun@Dell-Inspiron-14-5430:~/Desktop$ ls -l
total 4
-rw-rwxrwx 1 arun arun 15 Sep  5 12:30 file.txt
arun@Dell-Inspiron-14-5430:~/Desktop$ chmod g-wx file.txt
arun@Dell-Inspiron-14-5430:~/Desktop$ ls -l
total 4
-rw-r--rwx 1 arun arun 15 Sep  5 12:30 file.txt
arun@Dell-Inspiron-14-5430:~/Desktop$ chmod ug=rwx file.txt
arun@Dell-Inspiron-14-5430:~/Desktop$ ls -l
total 4
-rwxrwxrwx 1 arun arun 15 Sep  5 12:30 file.txt
arun@Dell-Inspiron-14-5430:~/Desktop$ chmod a-rwx file.txt
arun@Dell-Inspiron-14-5430:~/Desktop$ ls -l
total 4
----- 1 arun arun 15 Sep  5 12:30 file.txt
arun@Dell-Inspiron-14-5430:~/Desktop$ chmod u+rwx,g=rw,o+r file.txt
arun@Dell-Inspiron-14-5430:~/Desktop$ ls -l
total 4
-rw-rw-r-- 1 arun arun 15 Sep  5 12:30 file.txt
arun@Dell-Inspiron-14-5430:~/Desktop$
```

## For directory



The screenshot shows a terminal window with a dark background and light-colored text. The title bar reads "arun@Dell-Inspiron-14-5430: ~/Desktop". The terminal content is as follows:

```
arun@Dell-Inspiron-14-5430:~/Desktop$ ls -ld dir
drwxrwxr-x 2 arun arun 4096 Sep  5 15:03 dir
arun@Dell-Inspiron-14-5430:~/Desktop$ chmod u-w dir
arun@Dell-Inspiron-14-5430:~/Desktop$ ls -ld dir
dr-xrwxr-x 2 arun arun 4096 Sep  5 15:03 dir
arun@Dell-Inspiron-14-5430:~/Desktop$ cd dir/
arun@Dell-Inspiron-14-5430:~/Desktop/dir$ ls
arun@Dell-Inspiron-14-5430:~/Desktop/dir$ touch file4
touch: cannot touch 'file4': Permission denied
arun@Dell-Inspiron-14-5430:~/Desktop/dir$ cd ..
arun@Dell-Inspiron-14-5430:~/Desktop$ chmod u+w dir
arun@Dell-Inspiron-14-5430:~/Desktop$ chmod u-r dir
arun@Dell-Inspiron-14-5430:~/Desktop$ ls -ld dir
d-wxrwxr-x 2 arun arun 4096 Sep  5 15:03 dir
arun@Dell-Inspiron-14-5430:~/Desktop$ chmod u+r dir
arun@Dell-Inspiron-14-5430:~/Desktop$ ls -ld dir
drwxrwxr-x 2 arun arun 4096 Sep  5 15:03 dir
arun@Dell-Inspiron-14-5430:~/Desktop$ chmod u-x dir
arun@Dell-Inspiron-14-5430:~/Desktop$ ls -ld dir
drw-rwxr-x 2 arun arun 4096 Sep  5 15:03 dir
arun@Dell-Inspiron-14-5430:~/Desktop$ cd dir/
bash: cd: dir/: Permission denied
arun@Dell-Inspiron-14-5430:~/Desktop$ ls -l dir
total 0
arun@Dell-Inspiron-14-5430:~/Desktop$
```

-> Octal numerical permissions

R w x

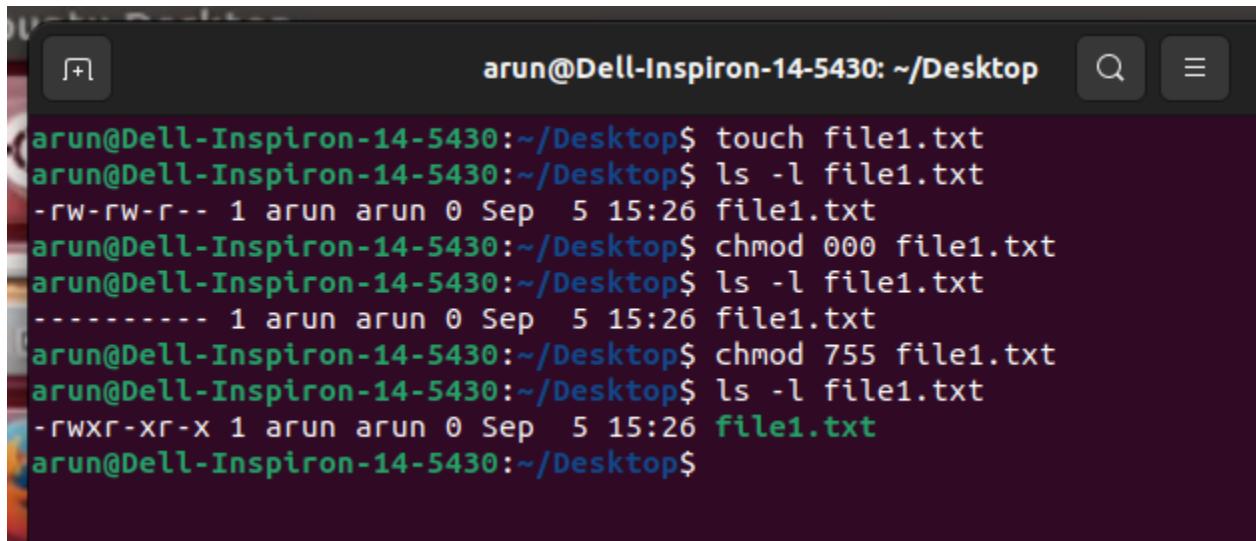
Bin	oct
0 0 1	1
0 1 0	2
0 1 1	3
1 0 0	4
1 0 1	5
1 1 0	6
1 1 1	7

chmod file1.txt

user – 1 – 001

group – 2- 010

other – 3 - 101



The screenshot shows a terminal window with a dark background and light-colored text. The title bar reads "arun@Dell-Inspiron-14-5430: ~/Desktop". The terminal content is as follows:

```
arun@Dell-Inspiron-14-5430:~/Desktop$ touch file1.txt
arun@Dell-Inspiron-14-5430:~/Desktop$ ls -l file1.txt
-rw-rw-r-- 1 arun arun 0 Sep  5 15:26 file1.txt
arun@Dell-Inspiron-14-5430:~/Desktop$ chmod 000 file1.txt
arun@Dell-Inspiron-14-5430:~/Desktop$ ls -l file1.txt
----- 1 arun arun 0 Sep  5 15:26 file1.txt
arun@Dell-Inspiron-14-5430:~/Desktop$ chmod 755 file1.txt
arun@Dell-Inspiron-14-5430:~/Desktop$ ls -l file1.txt
-rwxr-xr-x 1 arun arun 0 Sep  5 15:26 file1.txt
arun@Dell-Inspiron-14-5430:~/Desktop$
```

# Bash Scripting

1. Create a bash script --> nano myscript.sh (.sh is extension for a script)
  2. Initials of script --> #!<location of bash-script>
  3. To find a location of bash --> type command which bash in the terminal
  4. To execute a script --> ./<bash-file-name.sh>

```
arun@Dell-Inspiron-14-5430: ~/Desktop
arun@Dell-Inspiron-14-5430:~$ cd Desktop
arun@Dell-Inspiron-14-5430:~/Desktop$ nano myscript.sh
arun@Dell-Inspiron-14-5430:~/Desktop$ ./myscript.sh
bash: ./myscript.sh: Permission denied
arun@Dell-Inspiron-14-5430:~/Desktop$ chmod +x myscript.sh
arun@Dell-Inspiron-14-5430:~/Desktop$ ./myscript.sh
total 12
drw-rwxr-x 2 arun arun 4096 Sep  5 15:03 dir
-rwxr-xr-x 1 arun arun     0 Sep  5 15:26 file1.txt
-rw-rw-r-- 1 arun arun    15 Sep  5 12:30 file.txt
-rwxrwxr-x 1 arun arun   24 Sep  6 11:20 myscript.sh
arun@Dell-Inspiron-14-5430:~/Desktop$ nano myscript.sh
arun@Dell-Inspiron-14-5430:~/Desktop$
```

```
arun@Dell-Inspiron-14-5430: ~/Desktop
GNU nano 6.2
myscript.sh
#!/usr/bin/bash
ls -l
```

5. Which Command --> Used to return the path name
6. Whatis Command --> Used to return what that command does (or full form)

```
arun@Dell-Inspiron-14-5430: ~/Desktop$ which ls
/usr/bin/ls
arun@Dell-Inspiron-14-5430: ~/Desktop$ which bash
/usr/bin/bash
arun@Dell-Inspiron-14-5430: ~/Desktop$ nano myscript.sh
arun@Dell-Inspiron-14-5430: ~/Desktop$ ./myscript.sh
dir file1.txt file.txt myscript.sh
arun@Dell-Inspiron-14-5430: ~/Desktop$ which firefox
/usr/bin/firefox
arun@Dell-Inspiron-14-5430: ~/Desktop$ which cat
/usr/bin/cat
arun@Dell-Inspiron-14-5430: ~/Desktop$
```

```
arun@Dell-Inspiron-14-5430: ~/Desktop$ man ls
arun@Dell-Inspiron-14-5430: ~/Desktop$ whatis ls
ls (1)           - list directory contents
arun@Dell-Inspiron-14-5430: ~/Desktop$ wja
Command 'wja' not found, did you mean:
  command 'eja' from deb eja (9.5.20-1)
Try: sudo apt install <deb name>
arun@Dell-Inspiron-14-5430: ~/Desktop$ 
arun@Dell-Inspiron-14-5430: ~/Desktop$ whatis firefox
firefox: nothing appropriate.
arun@Dell-Inspiron-14-5430: ~/Desktop$ whatis grep
grep (1)           - print lines that match patterns
arun@Dell-Inspiron-14-5430: ~/Desktop$ whatis cat
cat (1)           - concatenate files and print on the standard output
arun@Dell-Inspiron-14-5430: ~/Desktop$ █
```

7. To create a User --> sudo useradd <user-name> -m -s binbash -g users(group-name) -c "comment"

Here,

-m --> it will create a default directory for this user.

-s --> it will create a shell for this specific user.

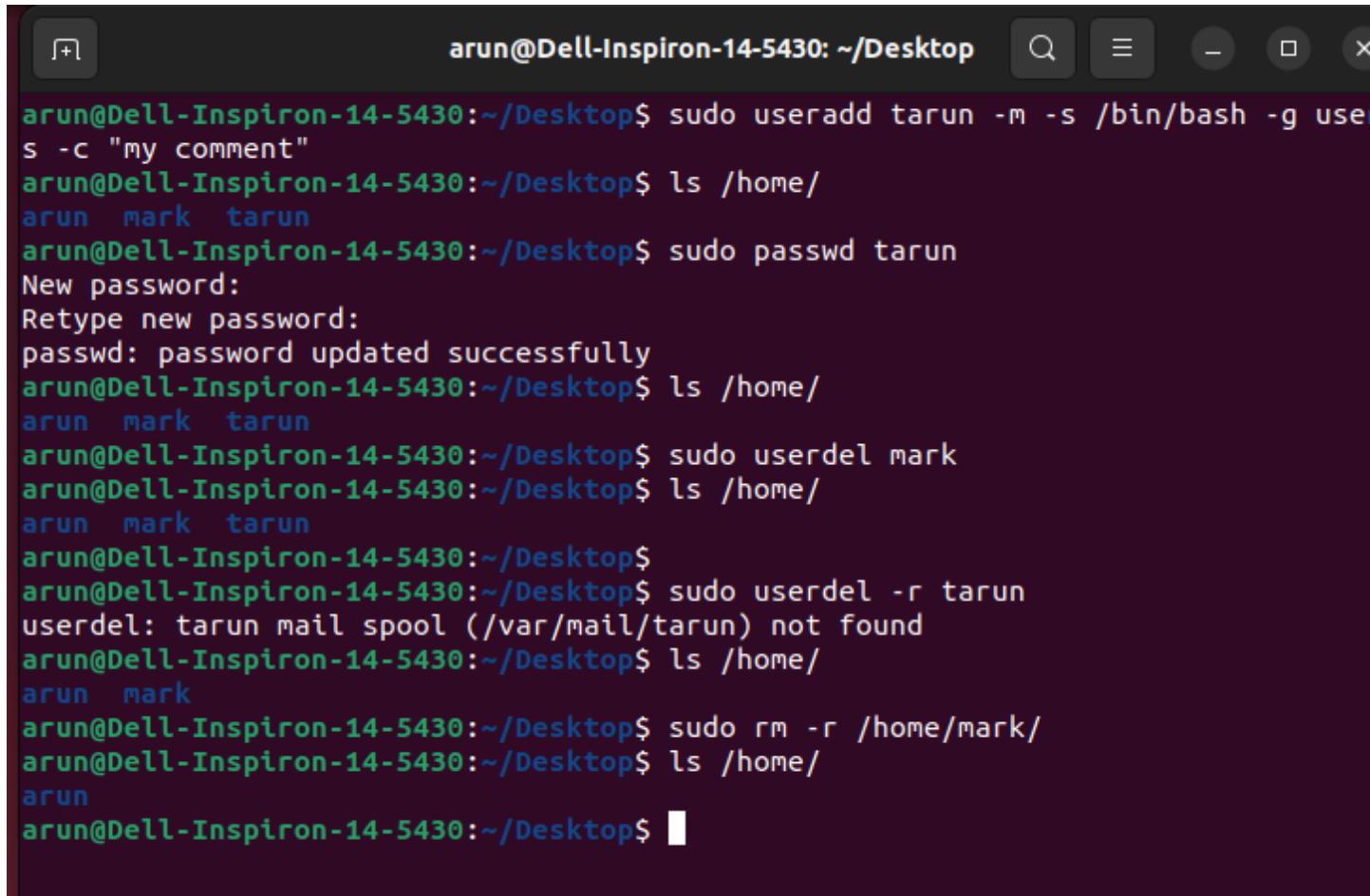
-c --> comment specifically for this user.

-g --> general (by-default)

8. To create a password for the user --> sudo passwd <user-name>

9. To remove a user --> sudo userdel <user-name>

10. To remove a user with home directory --> sudo userdel -r <user-name>



The screenshot shows a terminal window with a dark theme. The title bar reads "arun@Dell-Inspiron-14-5430: ~/Desktop". The terminal content is as follows:

```
arun@Dell-Inspiron-14-5430:~/Desktop$ sudo useradd tarun -m -s /bin/bash -g users -c "my comment"
arun@Dell-Inspiron-14-5430:~/Desktop$ ls /home/
arun mark tarun
arun@Dell-Inspiron-14-5430:~/Desktop$ sudo passwd tarun
New password:
Retype new password:
passwd: password updated successfully
arun@Dell-Inspiron-14-5430:~/Desktop$ ls /home/
arun mark tarun
arun@Dell-Inspiron-14-5430:~/Desktop$ sudo userdel mark
arun@Dell-Inspiron-14-5430:~/Desktop$ ls /home/
arun mark tarun
arun@Dell-Inspiron-14-5430:~/Desktop$
arun@Dell-Inspiron-14-5430:~/Desktop$ sudo userdel -r tarun
userdel: tarun mail spool (/var/mail/tarun) not found
arun@Dell-Inspiron-14-5430:~/Desktop$ ls /home/
arun mark
arun@Dell-Inspiron-14-5430:~/Desktop$ sudo rm -r /home/mark/
arun@Dell-Inspiron-14-5430:~/Desktop$ ls /home/
arun
arun@Dell-Inspiron-14-5430:~/Desktop$
```

## 11. Basic Group Management

1. To get which groups user is added to --> groups
2. To get all the groups that your system has --> cat /etc/groups
3. To add a group --> sudo groupadd <group-name>
4. To delete a group --> sudo groupdel <group-name>
5. To assign a user to a particular group --> sudo gpasswd -a/d <user-name> <group-name>

Here,

-a --> add

-d --> delete

```
arun@Dell-Inspiron-14-5430:~/Desktop$ cd
arun@Dell-Inspiron-14-5430:~$ groups
arun adm cdrom sudo dip plugdev lpadmin lxd sambashare
arun@Dell-Inspiron-14-5430:~$ cat /etc/group
root:x:0:
daemon:x:1:
bin:x:2:
sambashare:x:100:arun
arun@Dell-Inspiron-14-5430:~$ sudo groupadd java
arun@Dell-Inspiron-14-5430:~$ cat /etc/group
root:x:0:
daemon:x:1:
arun:x:100:arun
arun@Dell-Inspiron-14-5430:~$ sudo groupdel cpp
groupdel: group 'cpp' does not exist
arun@Dell-Inspiron-14-5430:~$ sudo groupdel java
arun@Dell-Inspiron-14-5430:~$ sudo gpasswd -a arun@Dell-Inspiron-14-5430 sambashare
gpasswd: user 'arun@Dell-Inspiron-14-5430' does not exist
arun@Dell-Inspiron-14-5430:~$ 

arun@Dell-Inspiron-14-5430:~$ sudo gpasswd -d arun@Dell-Inspiron-14-5430 sambashare
Removing user arun@Dell-Inspiron-14-5430 from group sambashare
gpasswd: user 'arun@Dell-Inspiron-14-5430' is not a member of 'sambashare'
arun@Dell-Inspiron-14-5430:~$ 
```

12. .bashrc file --> It is a file created whenever a new terminal is created and can be edited/customized according to your needs.

The screenshot shows a terminal window with the following content:

```
arun@Dell-Inspiron-14-5430: ~
GNU nano 6.2          .bashrc
# ~/.bashrc: executed by bash(1) for non-login shells.
# see /usr/share/doc/bash/examples/startup-files (in the package bash-doc)
# for examples

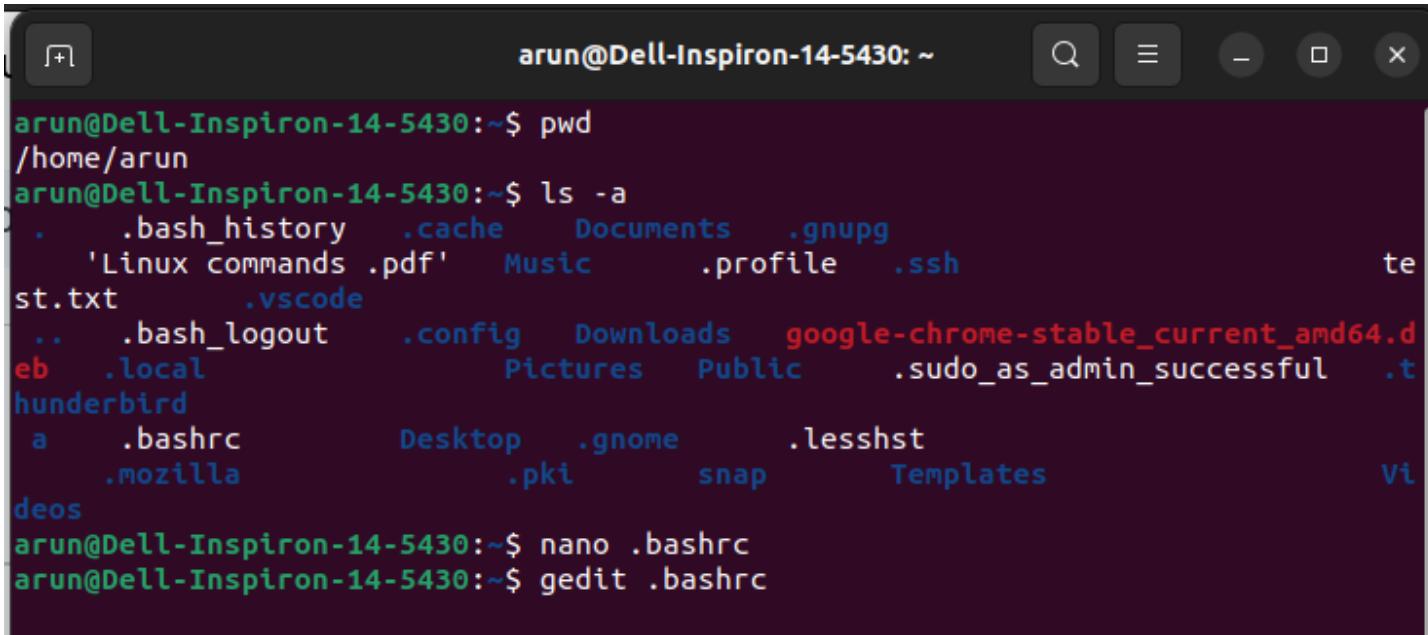
# If not running interactively, don't do anything
case $- in
  *i*) ;;
  *) return;;
esac
```

Below the editor, the terminal prompt is shown again:

```
arun@Dell-Inspiron-14-5430: ~
```

Then, the command "this is a test" is typed and executed:

```
this is a test
arun@Dell-Inspiron-14-5430:~$
```



The screenshot shows a terminal window with the following content:

```
arun@Dell-Inspiron-14-5430:~$ pwd
/home/arun
arun@Dell-Inspiron-14-5430:~$ ls -a
. .bash_history .cache Documents .gnupg
'Linux commands.pdf' Music .profile .ssh
st.txt .vscode
.. .bash_logout .config Downloads google-chrome-stable_current_amd64.d
eb .local Pictures Public .sudo_as_admin_successful .t
hunderbird
a .bashrc Desktop .gnome .lesshst
.mozilla .pki snap Templates
deos
arun@Dell-Inspiron-14-5430:~$ nano .bashrc
arun@Dell-Inspiron-14-5430:~$ gedit .bashrc
```

13. df -h --> It will give you the available disk space.

Here, -h --> Human Read-able

14. du -sh --> It estimated the disk space taken by folder/file.

Here, -s --> summary, -h --> Human read-able

15. free -m/g --> It will estimate you the free and used physical memory on the system. Here, -m --> megabyte

-g --> gigabyte

-tera --> terabyte

16. Watch Command --> To keep a check over anything at a regular interval and update it accordingly.

Command: watch free -hm

watch free -n 1 -m (Here, 1 is the time interval and n denotes the time is accepted)

```
arun@Dell-Inspiron-14-5430:~$ df
Filesystem      1K-blocks      Used Available Use% Mounted on
tmpfs            1604616       2640    1601976   1% /run
/dev/nvme0n1p2  982862268  13809872  919052064   2% /
tmpfs            8023060      98792    7924268   2% /dev/shm
tmpfs             5120          4      5116   1% /run/lock
/dev/nvme0n1p1   523248       6216     517032   2% /boot/efi
tmpfs            1604612      144     1604468   1% /run/user/1000
arun@Dell-Inspiron-14-5430:~$ df -h
Filesystem      Size  Used Avail Use% Mounted on
tmpfs           1.6G  2.6M  1.6G   1% /run
/dev/nvme0n1p2  938G   14G  877G   2% /
tmpfs           7.7G  98M  7.6G   2% /dev/shm
tmpfs           5.0M  4.0K  5.0M   1% /run/lock
/dev/nvme0n1p1  511M  6.1M  505M   2% /boot/efi
tmpfs           1.6G  144K  1.6G   1% /run/user/1000
arun@Dell-Inspiron-14-5430:~$
```

```
arun@Dell-Inspiron-14-5430:~$ ls
a  Desktop  Documents  Downloads  google-chrome-stable_current_amd64.deb  '
Linux commands .pdf'  Music  Pictures  Public  snap  Templates  test.txt
Videos
arun@Dell-Inspiron-14-5430:~$ cd Downloads
arun@Dell-Inspiron-14-5430:~/Downloads$ du
9408 .
arun@Dell-Inspiron-14-5430:~/Downloads$ du -h
9.2M .
arun@Dell-Inspiron-14-5430:~/Downloads$ du -sh
9.2M .
arun@Dell-Inspiron-14-5430:~/Downloads$ cd //
arun@Dell-Inspiron-14-5430://$ cd ..
arun@Dell-Inspiron-14-5430://$ free
      total        used        free      shared  buff/cache   available
Mem:    16046124     2862332     9397548     935328     3786244    11912852
Swap:   2097148          0     2097148
arun@Dell-Inspiron-14-5430://$ free -m
      total        used        free      shared  buff/cache   available
Mem:    15670         2780        9221        884        3668       11677
Swap:   2047          0         2047
arun@Dell-Inspiron-14-5430://$ free -g
      total        used        free      shared  buff/cache   available
Mem:      15           2          8          0          3          11
Swap:      1           0          1
arun@Dell-Inspiron-14-5430://$
```

The terminal window shows two sessions. The top session runs the command `watch free -m`, which displays memory usage every 0.01 seconds. The bottom session runs `watch df`, which displays disk space usage every 2.0 seconds. The output for `df` is as follows:

Filesystem	1K-blocks	Used	Available	Use%	Mounted on
tmpfs	1604616	2636	1601980	1%	/run
/dev/nvme0n1p2	982862268	13813512	919048424	2%	/
tmpfs	8023060	84068	7938992	2%	/dev/shm
tmpfs	5120	4	5116	1%	/run/lock
/dev/nvme0n1p1	523248	6216	517032	2%	/boot/efi
tmpfs	1604612	144	1604468	1%	/run/user/1000

17. Head Command --> Used to get the initial/head content of a file(log file generally)

`head <file-name>` --> will give first 10 number of line

`head -n3 <file-name>` --> will give only first three lines

`head <file-name1> <file-name2>` --> Will give first 10 lines of multiple files.

```
arun@Dell-Inspiron-14-5430: /var/log$ head -n3 dmesg.0
[    0.000000] kernel: Linux version 6.2.0-26-generic (buildd@bos03-amd64-042) (
x86_64-linux-gnu-gcc-11 (Ubuntu 11.3.0-1ubuntu1~22.04.1) 11.3.0, GNU ld (GNU Bin
utils for Ubuntu) 2.38) #26~22.04.1-Ubuntu SMP PREEMPT_DYNAMIC Thu Jul 13 16:27:
29 UTC 2 (Ubuntu 6.2.0-26.26~22.04.1-generic 6.2.13)
[    0.000000] kernel: Command line: BOOT_IMAGE=/boot/vmlinuz-6.2.0-26-generic r
oot=UUID=3f2847f7-a22d-4a30-8467-f14a83e9555f ro quiet splash vt.handoff=7
[    0.000000] kernel: KERNEL supported cpus:
arun@Dell-Inspiron-14-5430: /var/log$ tail -n3 dmesg.0
[    7.945340] kernel: wlp0s20f3: associate with 54:47:e8:37:30:65 (try 2/3)
[    8.047994] kernel: wlp0s20f3: associate with 54:47:e8:37:30:65 (try 3/3)
[    8.156915] kernel: wlp0s20f3: association with 54:47:e8:37:30:65 timed out
arun@Dell-Inspiron-14-5430: /var/log$
```

```
c.log      hp          kern.log   private      ubuntu-advantage.log      wtmp
apport.log    boot.log    cups        dmesg.0     dpkg.log      gdm3
           installer  lastlog    speech-dispatcher  ubuntu-advantage-timer.log
apt          bootstrap.log dist-upgrade  dmesg.1.gz  faillog      gpu-manag
er.log      journal    openvpn    syslog       unattended-upgrades
arun@Dell-Inspiron-14-5430: /var/log$ tail -f dmesg.0
[    6.241609] kernel: input: sof-hda-dsp HDMI/DP,pcm=5 as /devices/pci0000:00/0
000:00:1f.3/skl_hda_dsp_generic/sound/card0/input21
[    6.355188] kernel: rfkill: input handler disabled
[    6.964823] kernel: usb 3-5: reset full-speed USB device number 2 using xhci_
hcd
[    7.708661] kernel: wlp0s20f3: authenticate with 54:47:e8:37:30:65
[    7.723017] kernel: wlp0s20f3: send auth to 54:47:e8:37:30:65 (try 1/3)
[    7.837647] kernel: wlp0s20f3: authenticated
[    7.844250] kernel: wlp0s20f3: associate with 54:47:e8:37:30:65 (try 1/3)
[    7.945340] kernel: wlp0s20f3: associate with 54:47:e8:37:30:65 (try 2/3)
[    8.047994] kernel: wlp0s20f3: associate with 54:47:e8:37:30:65 (try 3/3)
[    8.156915] kernel: wlp0s20f3: association with 54:47:e8:37:30:65 timed out
```

18. Tail Command --> Used to get the end content of a file (log file generally)

tail <file-name> --> will give last 10 number of line

tail -n3 <file-name> --> will give only last three lines

tail -f <file-name> --> It will wait there and if anything is updated then will update the last ten lines on itself. (“-f” refers to follow)

19. Find Command --> It is used to search for files in a directory hierarchy.

Command: find <location-in-which-you-want-to-search>  
-name<file-name.\*>

find <location> -mtime -3 --> will give you file created in last 3 days.

```
arun@Dell-Inspiron-14-5430:~$ pwd  
/home/arun  
arun@Dell-Inspiron-14-5430:~$ ls  
a Desktop Documents Downloads google-chrome-stable_current_amd64.deb '  
Linux commands .pdf' Music Pictures Public snap Templates test.txt  
Videos  
arun@Dell-Inspiron-14-5430:~$ find /home/arun  
^C  
arun@Dell-Inspiron-14-5430:~$ find /home/arun -name test.txt  
/home/arun/test.txt  
arun@Dell-Inspiron-14-5430:~$ find /home/arun -name test.*  
/home/arun/test.txt  
arun@Dell-Inspiron-14-5430:~$ find /home/arun -name *.txt  
/home/arun/test.txt
```

```
arun@Dell-Inspiron-14-5430:~$ sudo find / -name dmesg.0  
find: '/run/user/1000/doc': Permission denied  
find: '/run/user/1000/gvfs': Permission denied  
/var/log/dmesg.0  
arun@Dell-Inspiron-14-5430:~$ find /home/arun/ -mtime -0  
arun@Dell-Inspiron-14-5430:~$ find /home/arun/ -mtime -3
```

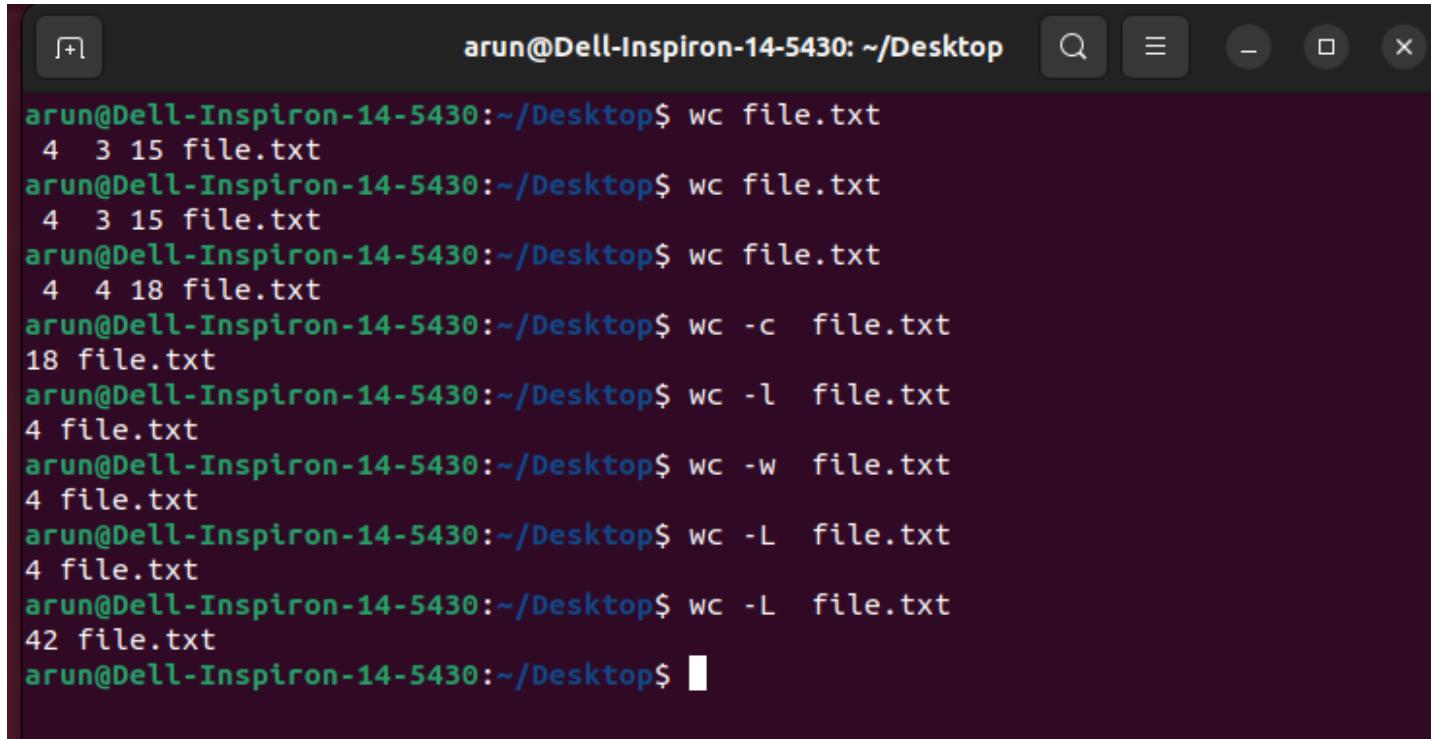
20. wc command --> It will give you number of lines/characters/words in a file.

Command: `wc -c test.txt` ("c" refers to characters)

`wc -w test.txt` ("w" refers to words)

`wc -l test.txt` ("l" refers to lines)

`wc -L test.txt` ("L" refers to length of longest line)



```
arun@Dell-Inspiron-14-5430:~/Desktop$ wc file.txt
4 3 15 file.txt
arun@Dell-Inspiron-14-5430:~/Desktop$ wc file.txt
4 3 15 file.txt
arun@Dell-Inspiron-14-5430:~/Desktop$ wc file.txt
4 4 18 file.txt
arun@Dell-Inspiron-14-5430:~/Desktop$ wc -c file.txt
18 file.txt
arun@Dell-Inspiron-14-5430:~/Desktop$ wc -l file.txt
4 file.txt
arun@Dell-Inspiron-14-5430:~/Desktop$ wc -w file.txt
4 file.txt
arun@Dell-Inspiron-14-5430:~/Desktop$ wc -L file.txt
4 file.txt
arun@Dell-Inspiron-14-5430:~/Desktop$ wc -L file.txt
42 file.txt
arun@Dell-Inspiron-14-5430:~/Desktop$
```

21. cal command --> gives you conventionally formed calender.

Command: `ncal` --> gives you different format

`cal 2018` --> gives you all the month of a year

`cal 2 2018` --> gives you the calender of february 2018

`cal -3` --> gives you previous, present and next month.

```
arun@Dell-Inspiron-14-5430:~$ cal
September 2023
Su Mo Tu We Th Fr Sa
      1  2
3  4  5  6  7  8  9
10 11 12 13 14 15 16
17 18 19 20 21 22 23
24 25 26 27 28 29 30

arun@Dell-Inspiron-14-5430:~$ ncal
September 2023
Su      3 10 17 24
Mo      4 11 18 25
Tu      5 12 19 26
We      6 13 20 27
Th      7 14 21 28
Fr      1  8 15 22 29
Sa      2  9 16 23 30
arun@Dell-Inspiron-14-5430:~$
```

```
arun@Dell-Inspiron-14-5430:~$ cal 2018
2018
January          February          March
Su Mo Tu We Th Fr Sa   Su Mo Tu We Th Fr Sa   Su Mo Tu We Th Fr Sa
      1  2  3  4  5  6   1  2  3  4  5  6  7  8  9  10  11  12  13  14  15  16  17
    7  8  9 10 11 12 13   4  5  6  7  8  9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
14 15 16 17 18 19 20   11 12 13 14 15 16 17 18 19 20 21 22 23 24 18 19 20 21 22 23 24
21 22 23 24 25 26 27   25 26 27 28               25 26 27 28 29 30 31
28 29 30 31

arun@Dell-Inspiron-14-5430:~$
```

```
arun@Dell-Inspiron-14-5430:~$ cal 2 2013
February 2013
Su Mo Tu We Th Fr Sa
      1  2
3  4  5  6  7  8  9
10 11 12 13 14 15 16
17 18 19 20 21 22 23
24 25 26 27 28

arun@Dell-Inspiron-14-5430:~$
```

```
arun@Dell-Inspiron-14-5430:~$ cal -3
      August 2023          September 2023        October 2023
Su Mo Tu We Th Fr Sa   Su Mo Tu We Th Fr Sa   Su Mo Tu We Th Fr Sa
    1   2   3   4   5       6   7   8   9   10  11  12  13  14
  13  14  15  16  17  18  19   10  11  12  13  14  15  16  17  18  19  20  21
  20  21  22  23  24  25  26   17  18  19  20  21  22  23  24  25  26  27  28
  27  28  29  30  31       24  25  26  27  28  29  30  29  30  31
```

```
arun@Dell-Inspiron-14-5430:~$ █
```

22. date command --> gives you the current date and time

Command: date -s “11/12/2019 12:12:12” --> to set a specific time of your system.

date +%d%h%y --> gives you date in specific format

date “%d-%h-%y” -->gives you date in string format so that you can use “-” or “/” in between.

```
arun@Dell-Inspiron-14-5430:~$ date
Wednesday 06 September 2023 02:21:11 PM IST
arun@Dell-Inspiron-14-5430:~$ date +%d%h%y
06Sep23
arun@Dell-Inspiron-14-5430:~$ date +%m
09
arun@Dell-Inspiron-14-5430:~$ date "+%d%h%y"
06Sep23
arun@Dell-Inspiron-14-5430:~$ date "+%d/%h/%y"
06/Sep/23
arun@Dell-Inspiron-14-5430:~$ date +%D
09/06/23
arun@Dell-Inspiron-14-5430:~$ date +%B
September
arun@Dell-Inspiron-14-5430:~$ date "+DATE: %m/%d%y%nTime: %H:%M:%Y"
DATE: 09/06/23
Time: 14:32:2023
arun@Dell-Inspiron-14-5430:~$ █
```

23. To run multiple commands →

Use “;” or “&&” between two or multiple commands and they will be executed together.

->Note: Difference b/w “;” and “&&” is that in “&&” it will stop executing if there is an error and will not execute further commands where in “;” it will execute further as well.

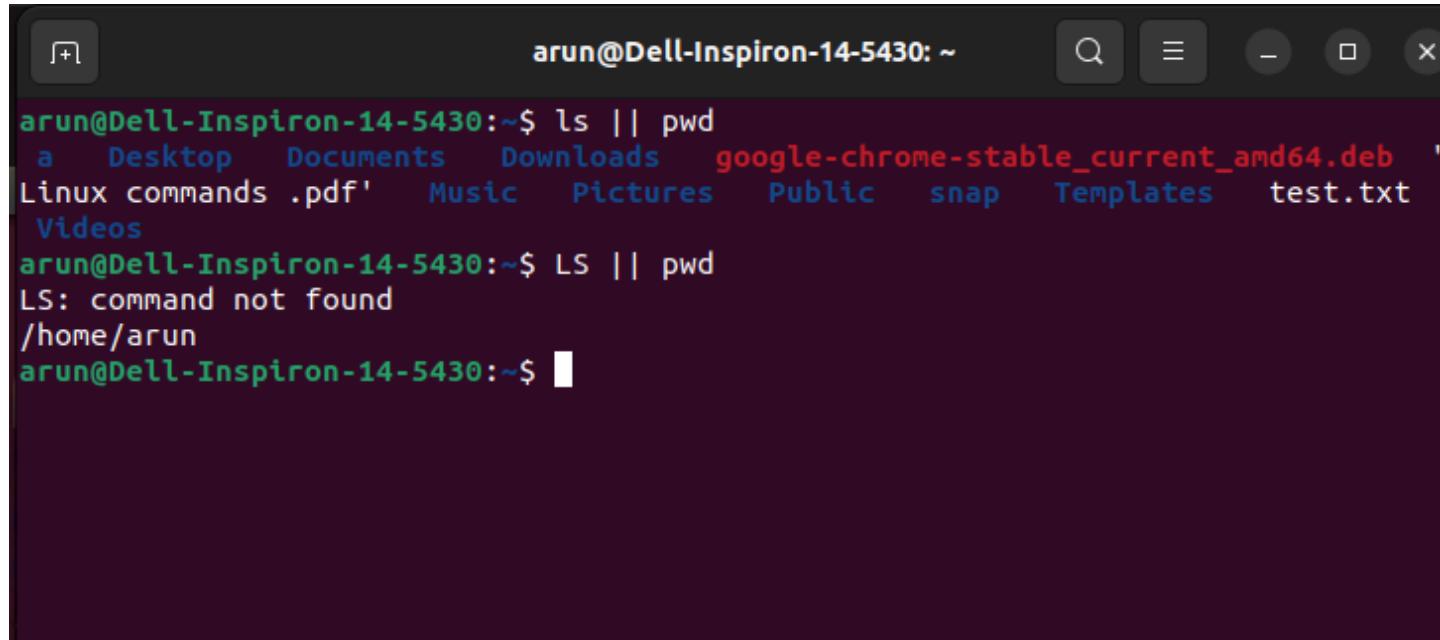
```
a Desktop Documents Downloads google-chrome-stable_current_amd64.deb '
Linux commands .pdf' Music Pictures Public snap Templates test.txt
Videos
/home/arun
arun@Dell-Inspiron-14-5430:~$ date ; cal ; pwd
Wednesday 06 September 2023 03:39:01 PM IST
    September 2023
Su Mo Tu We Th Fr Sa
              1  2
 3  4  5  6  7  8  9
10 11 12 13 14 15 16
17 18 19 20 21 22 23
24 25 26 27 28 29 30

/home/arun
arun@Dell-Inspiron-14-5430:~$ date ; cal ; PWD
Wednesday 06 September 2023 03:39:41 PM IST
    September 2023
Su Mo Tu We Th Fr Sa
              1  2
 3  4  5  6  7  8  9
10 11 12 13 14 15 16
17 18 19 20 21 22 23
24 25 26 27 28 29 30

PWD: command not found
arun@Dell-Inspiron-14-5430:~$
```

```
arun@Dell-Inspiron-14-5430:~$ ls && pwd
a Desktop Documents Downloads google-chrome-stable_current_amd64.deb
Linux commands .pdf' Music Pictures Public snap Templates test.txt
Videos
/home/arun
arun@Dell-Inspiron-14-5430:~$ date && cal && pwd
Wednesday 06 September 2023 03:42:12 PM IST
September 2023
Su Mo Tu We Th Fr Sa
          1  2
3  4  5  6  7  8  9
10 11 12 13 14 15 16
17 18 19 20 21 22 23
24 25 26 27 28 29 30

/home/arun
arun@Dell-Inspiron-14-5430:~$ date && CAL && pwd
Wednesday 06 September 2023 03:42:28 PM IST
CAL: command not found
arun@Dell-Inspiron-14-5430:~$
```



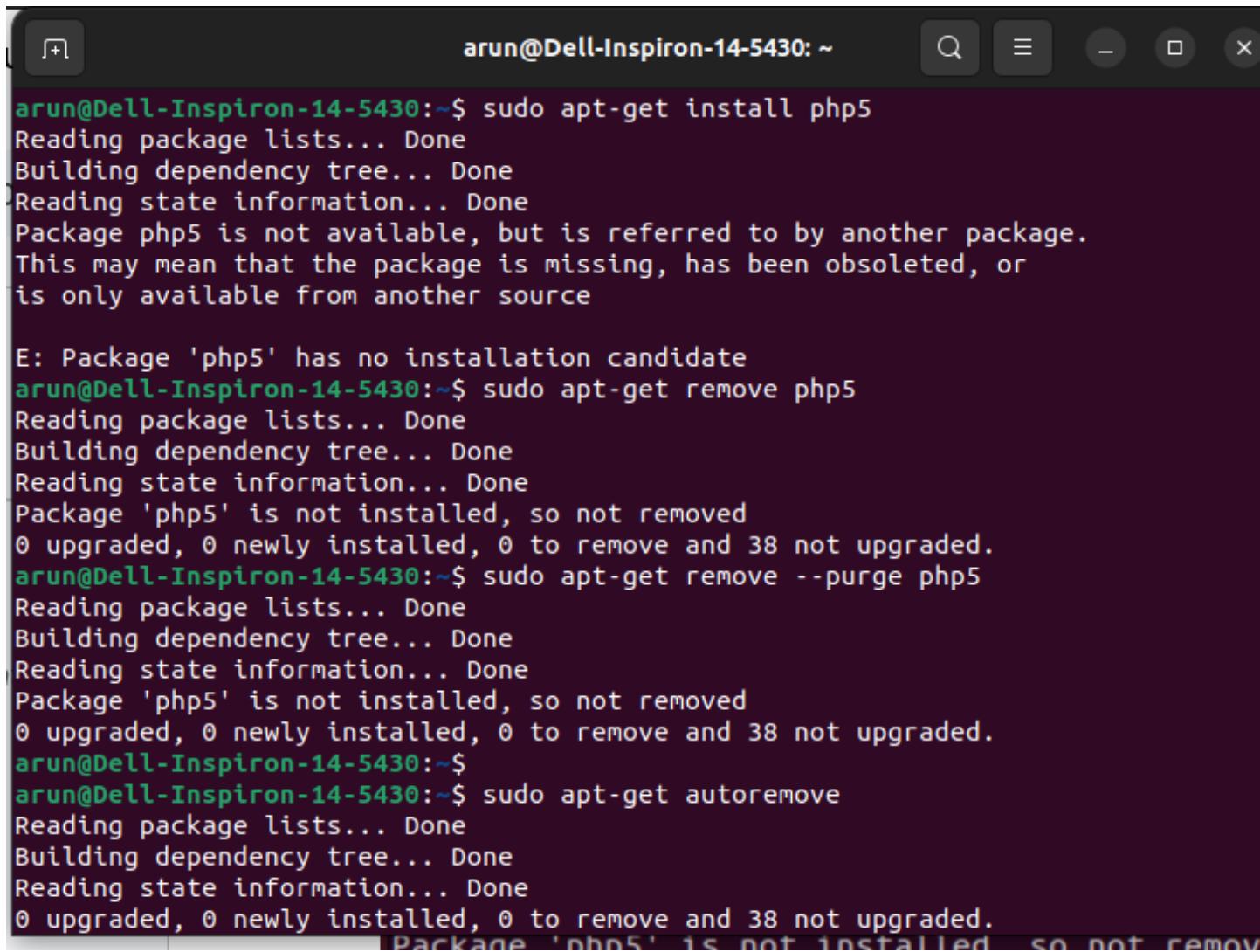
The screenshot shows a terminal window with a dark theme. The title bar reads "arun@Dell-Inspiron-14-5430: ~". The window contains the following text:

```
arun@Dell-Inspiron-14-5430:~$ ls || pwd
a Desktop Documents Downloads google-chrome-stable_current_amd64.deb
Linux commands .pdf' Music Pictures Public snap Templates test.txt
Videos
arun@Dell-Inspiron-14-5430:~$ LS || pwd
LS: command not found
/home/arun
arun@Dell-Inspiron-14-5430:~$
```

24. apt-get --> It is a command line tool to work with apt software packages. “apt” stands for advanced packaging tool.

Command:

- sudo apt-get update --> it updates all your packages already installed.
- sudo apt-get remove --> it removes the software/package.
- sudo apt-get remove –purge <package-name> --> it will remove all the dependencies to the package as well.



```
arun@Dell-Inspiron-14-5430:~$ sudo apt-get install php5
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
Package php5 is not available, but is referred to by another package.
This may mean that the package is missing, has been obsoleted, or
is only available from another source

E: Package 'php5' has no installation candidate
arun@Dell-Inspiron-14-5430:~$ sudo apt-get remove php5
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
Package 'php5' is not installed, so not removed
0 upgraded, 0 newly installed, 0 to remove and 38 not upgraded.
arun@Dell-Inspiron-14-5430:~$ sudo apt-get remove --purge php5
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
Package 'php5' is not installed, so not removed
0 upgraded, 0 newly installed, 0 to remove and 38 not upgraded.
arun@Dell-Inspiron-14-5430:~$ 
arun@Dell-Inspiron-14-5430:~$ sudo apt-get autoremove
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
0 upgraded, 0 newly installed, 0 to remove and 38 not upgraded.
  Package 'php5' is not installed, so not remov
```

25. ifconfig command --> It is used to view and change the configuration of network interface on your system. “ifconfig” stands for interface configuration.

Command:

- ifconfig
  - ifconfig eth0 up/down --> It will connect/disconnect from that network. (eth0 is the wired connection name)