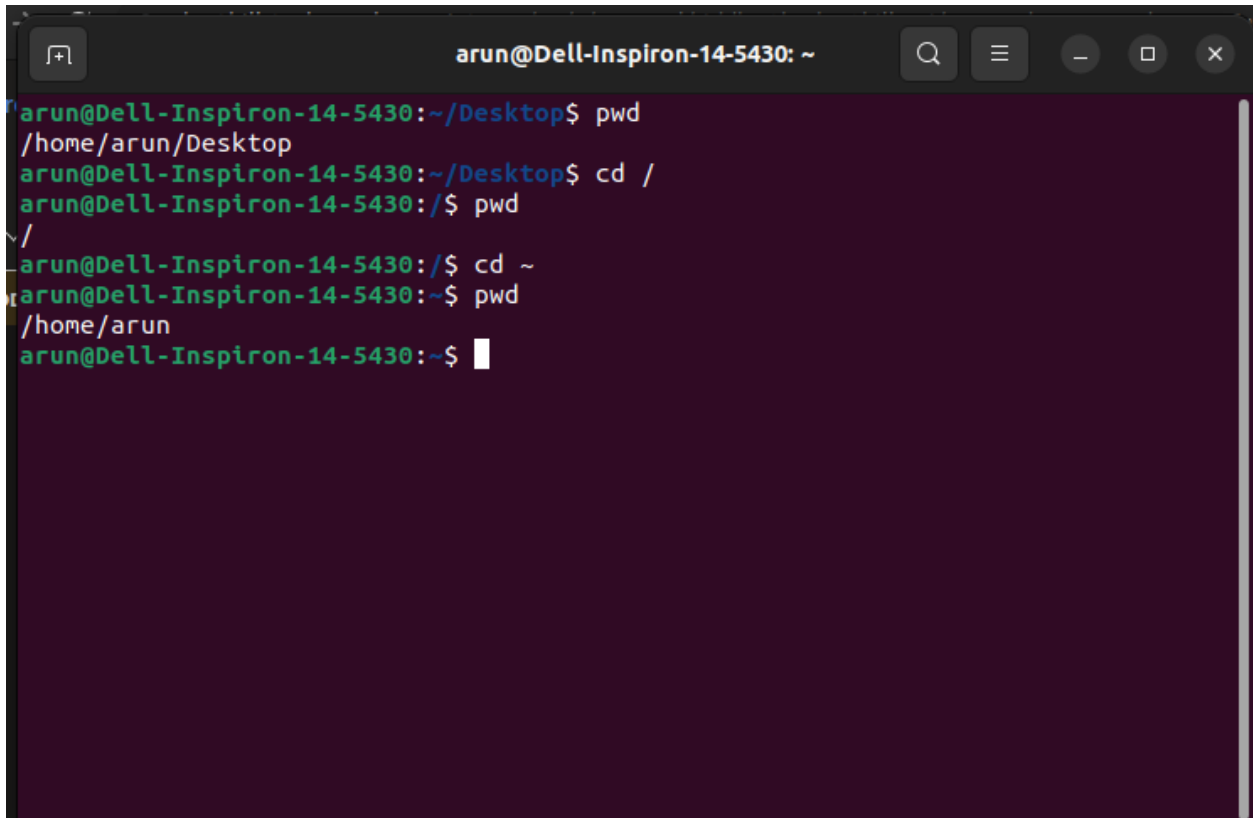


Trainee Material 1- Linux Part 1

Learning about the linux commands

-> Basic directory is the root directory

-> pwd – present working dir command

A terminal window titled 'arun@Dell-Inspiron-14-5430: ~' with standard window controls. The terminal shows a sequence of commands and their outputs: 'pwd' returns '/home/arun/Desktop', 'cd /' changes the directory to root, 'pwd' returns '/', 'cd ~' changes the directory to the home directory, and 'pwd' returns '/home/arun'. The prompt is now 'arun@Dell-Inspiron-14-5430: ~\$' with a cursor.

```
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:~$
```

```
arun@Dell-Inspiron-14-5430: ~/Desktop
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
.lessshst        .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 .lessshst
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 -lS (sort the dir acc to size in desc), ls Documents/*.html (show all the html files), ls Documents/*.txt (show all the files in dir)

```
arun@Dell-Inspiron-14-5430: ~  
Pictures Public snap Templates test.txt Videos  
arun@Dell-Inspiron-14-5430:~$ ls -lS  
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 13:15 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:~$ cd Documents  
arun@Dell-Inspiron-14-5430:~/Documents$ ls  
'My Books'  
arun@Dell-Inspiron-14-5430:~/Documents$ ..  
..: command not found  
arun@Dell-Inspiron-14-5430:~/Documents$ cd ..  
arun@Dell-Inspiron-14-5430:~$ ls Desktop/*.txt  
arun@Dell-Inspiron-14-5430:~$
```

-> ls -lS > 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/My work$
```

```
arun@Dell-Inspiron-14-5430: ~/Documents
arun@Dell-Inspiron-14-5430:~/Desktop/My work$ cat
Hello world,Arun this side
Hello world,Arun this side
Hi
Hi
arun@Dell-Inspiron-14-5430:~/Desktop/My work$ cd
arun@Dell-Inspiron-14-5430:~$ cd Document
bash: cd: Document: No such file or directory
arun@Dell-Inspiron-14-5430:~$ ls
a          Downloads          Pictures    Templates
Desktop    google-chrome-stable_current_amd64.deb  Public     test.txt
Documents  Music                snap       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$
```

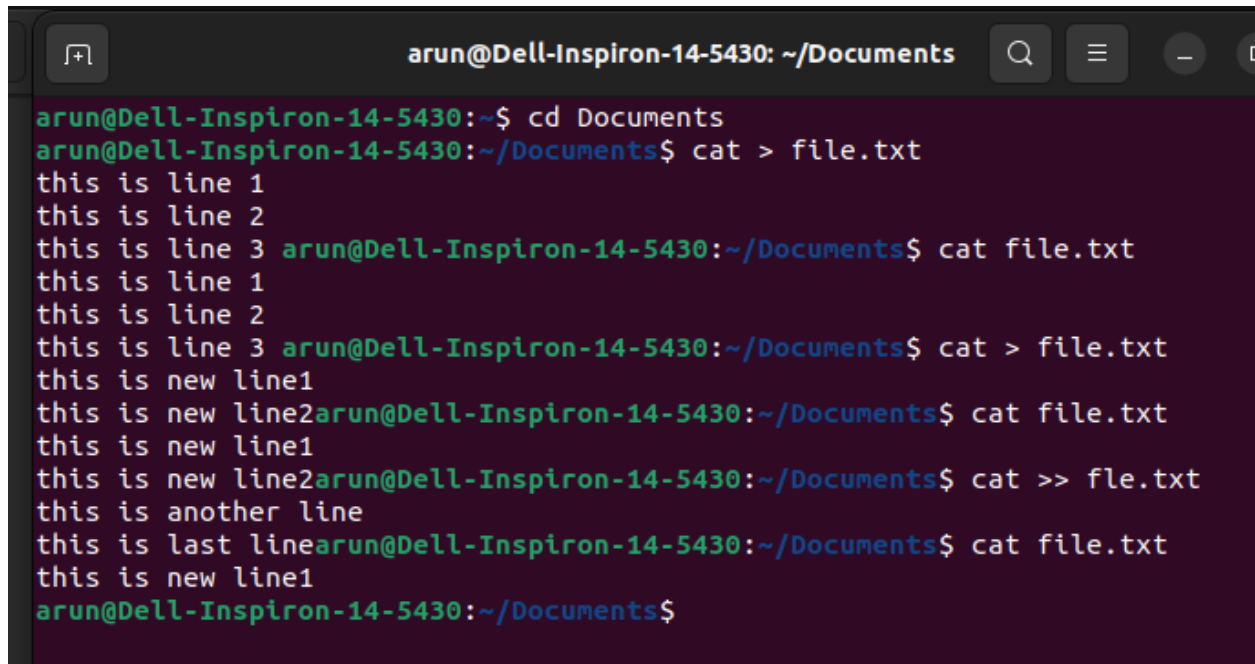
-> cat (without anything given, it will just echo the written content),
cat list.txt(it will show the content of file)
> cat -b list.txt (add line number to non blank lines), cat -n
list.txt(add line to all umber), cat -s file.txt(squeezes to one blank
lines), cat -E file.txt (adds \$ at last)


```
arun@Dell-Inspiron-14-5430: ~/Documents
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
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_curre
nt_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_curre
nt_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

A terminal window titled 'arun@Dell-Inspiron-14-5430: ~/Documents' with search, menu, and window control icons. The terminal shows a sequence of commands and their outputs: 1. 'cd Documents' is executed. 2. 'cat > file.txt' is executed, creating a new file. 3. 'cat file.txt' is executed, showing 'this is line 1', 'this is line 2', and 'this is line 3'. 4. 'cat > file.txt' is executed again, overwriting the previous content. 5. 'cat file.txt' is executed, showing 'this is new line1', 'this is new line2', and 'this is new line1'. 6. 'cat >> fle.txt' (note the typo 'fle') is executed, appending new lines. 7. 'cat file.txt' is executed, showing the combined content: 'this is new line1', 'this is new line2', 'this is another line', 'this is last line', and 'this is new line1'.

```
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 line2arun@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 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
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$ cat file.txt
this is new line1
this is new line2
arun@Dell-Inspiron-14-5430:~/Documents$ cat fle.txt
this is another line
this is last line
arun@Dell-Inspiron-14-5430:~/Documents$ cat fle.txt
this is another line
this is last 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 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: ~/Desktop
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
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)

```
arun@Dell-Inspiron-14-5430: ~/Desktop
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 file.txt (will copy the content of file to file)

```
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 line2arun@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 line2arun@Dell-Inspiron-14-5430:~/Documents$ cat file2.txt
this is new line1
this is new line2arun@Dell-Inspiron-14-5430:~/Documents$ cat file.txt

this is new line1
this is new line2this 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: ~/Documents

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/dir1

arun@Dell-Inspiron-14-5430:~/Documents/dir1$ 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/dir1$ 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 the content 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 with name of file1.txt)

```
Terminal
arun@Dell-Inspiron-14-5430: ~/Documents
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/dir3
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 overwritting cons add -i
->less
for big text file, for searching texts
g for beginning, G for end
q for quit

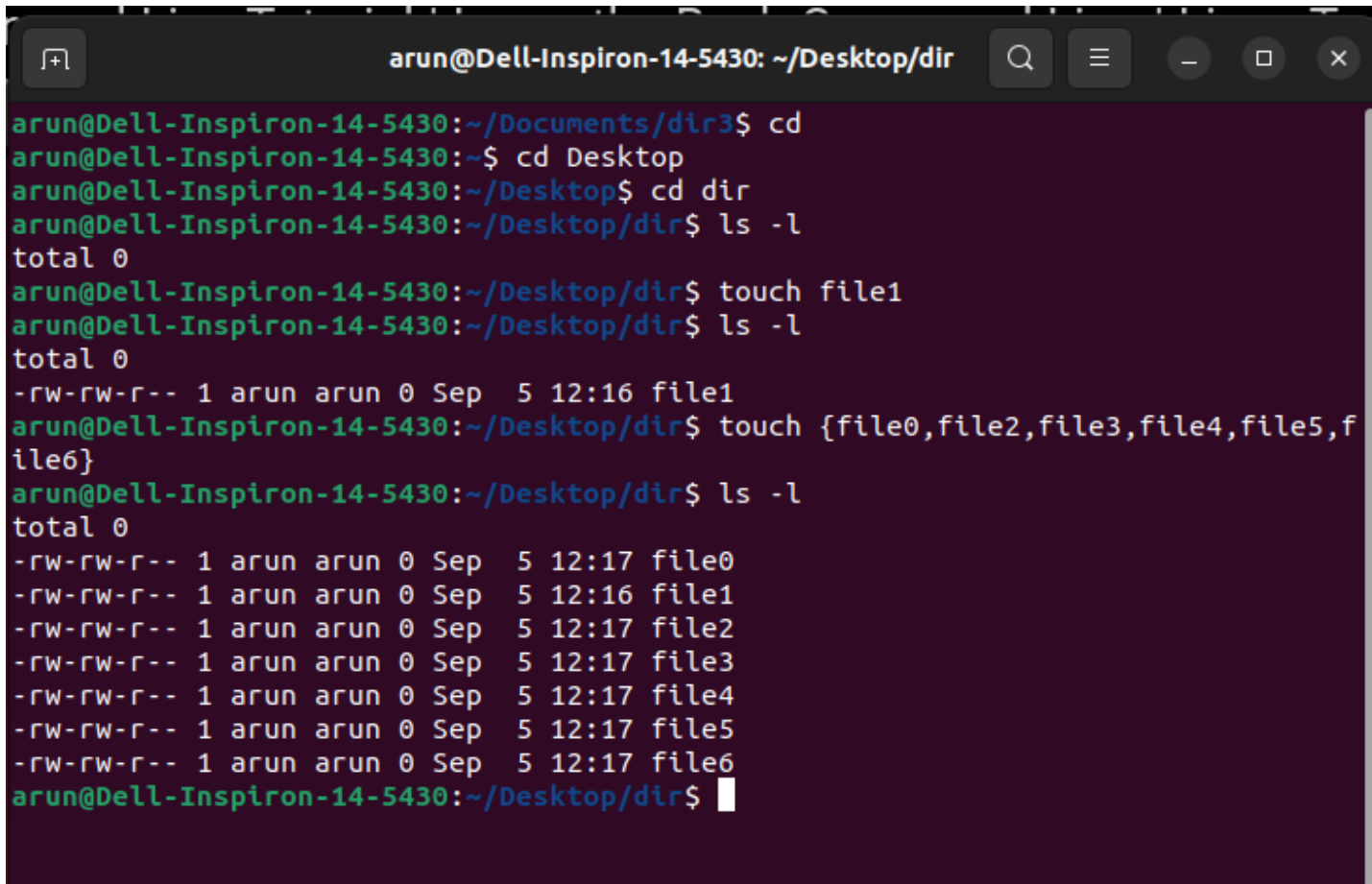
search-> /book (searching book from start to end) press n for next word)

-> ?book(searching from down to up)

> touch

easiest way to make empty files in linux

touch file.txt



```
arun@Dell-Inspiron-14-5430: ~/Desktop/dir
arun@Dell-Inspiron-14-5430:~/Documents/dir3$ cd
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
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: ~/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 timestamo 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/dir$ 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)

permission 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
appport                            initramfs-tools                  rc0.d
appstream.conf                    inputrc                          rc1.d
apt                                insserv.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-img.conf                  resolv.conf
```

->top

(memory classification on the kernel)

arun@Dell-Inspiron-14-5430: ~											
top - 12:59:04 up 2:02, 1 user, load average: 1.30, 0.82, 0.66											
Tasks: 330 total, 1 running, 329 sleeping, 0 stopped, 0 zombie											
%Cpu(s): 8.1 us, 1.7 sy, 0.0 ni, 90.0 id, 0.1 wa, 0.0 hi, 0.1 si, 0.0 st											
MiB Mem : 15670.0 total, 10611.4 free, 2452.9 used, 2605.7 buff/cache											
MiB Swap: 2048.0 total, 2048.0 free, 0.0 used. 12203.7 avail Mem											
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_tast

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 1  
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 filter 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

```
arun@Dell-Inspiron-14-5430: ~  
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: ~  
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 ?        S<sl 10:57   1:58 /usr/bin/puls  
eaudio --daemonize=no --log-target=journal  
arun          1593  0.0  0.0 249548  7452 ?        Sl   10:57   0:00 /usr/bin/gnom  
e-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 ?        Sl   10:57   0:00 /usr/libexec/  
gvfsd-fuse /run/user/1000/gvfs -f  
arun          1630  0.0  0.0 244800  6144 ?        Ssl  10:57   0:00 /usr/libexec/  
xdg-permission-store  
arun          1653  0.0  0.1 644184 26960 ?        SNsl 10:57   0:03 /usr/libexec/  
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

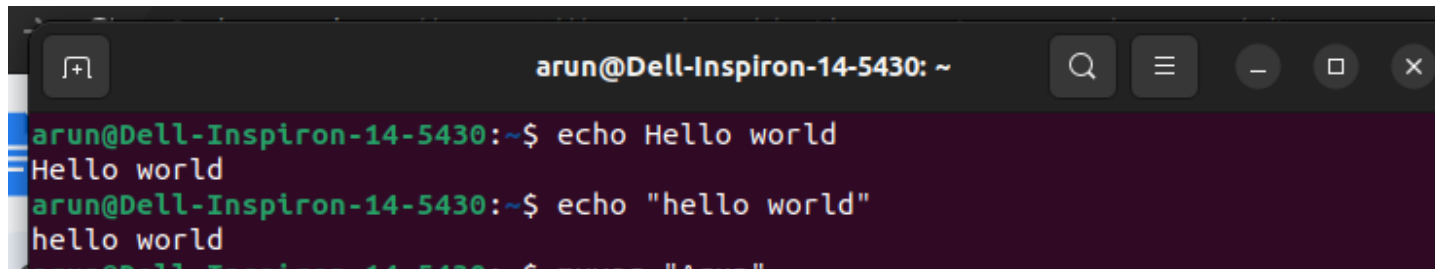
```
arun@Dell-Inspiron-14-5430: ~$ ps -aux
```

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
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
root	12	0.0	0.0	0	0	?	I	10:56	0:00	[rcu_tasks_ru
root	13	0.0	0.0	0	0	?	I	10:56	0:00	[rcu_tasks_tr
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/
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/
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

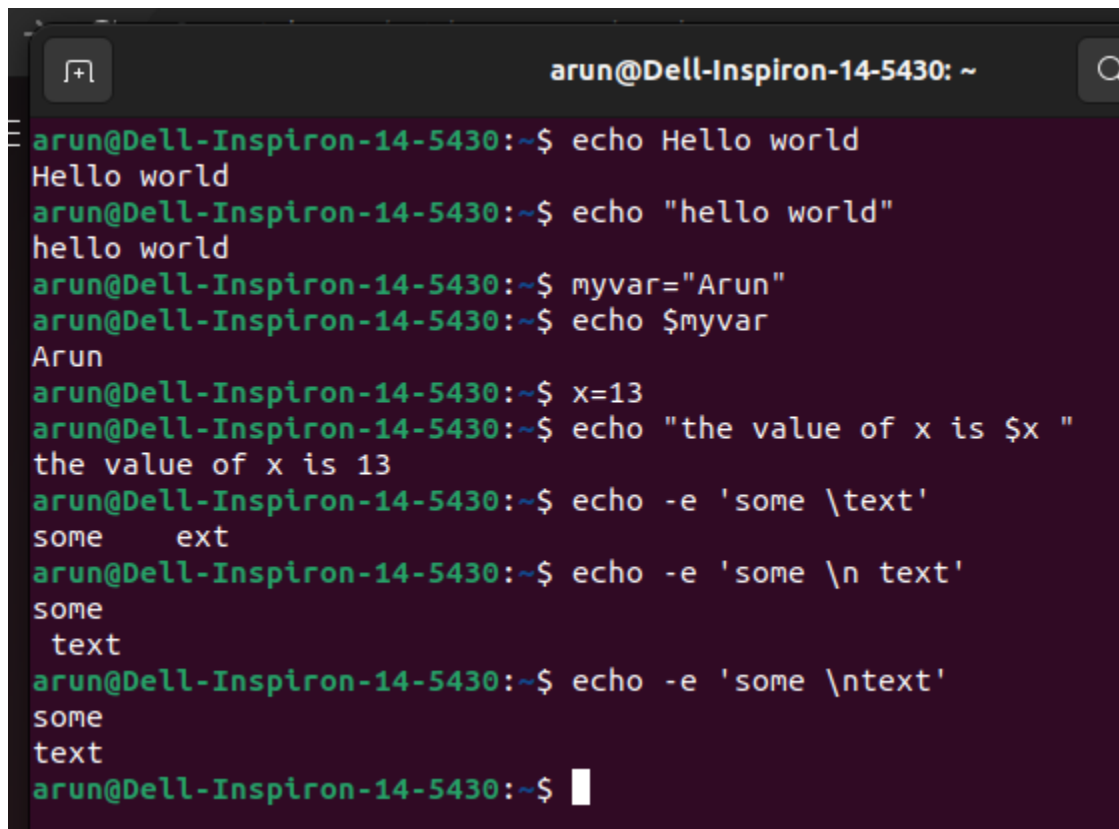
ps -U [user_name] --> will show the pid acc to user

-> echo

echo Hello world

A terminal window titled 'arun@Dell-Inspiron-14-5430: ~' with search, menu, and window control icons. It shows two echo commands: 'echo Hello world' and 'echo "hello world"', each followed by its output on a new line.

```
arun@Dell-Inspiron-14-5430:~$ echo Hello world
Hello world
arun@Dell-Inspiron-14-5430:~$ echo "hello world"
hello world
```

A terminal window titled 'arun@Dell-Inspiron-14-5430: ~' with search and menu icons. It shows a series of echo commands demonstrating variable expansion, escape sequences for spaces, newlines, and backslashes.

```
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 subtr
Permission

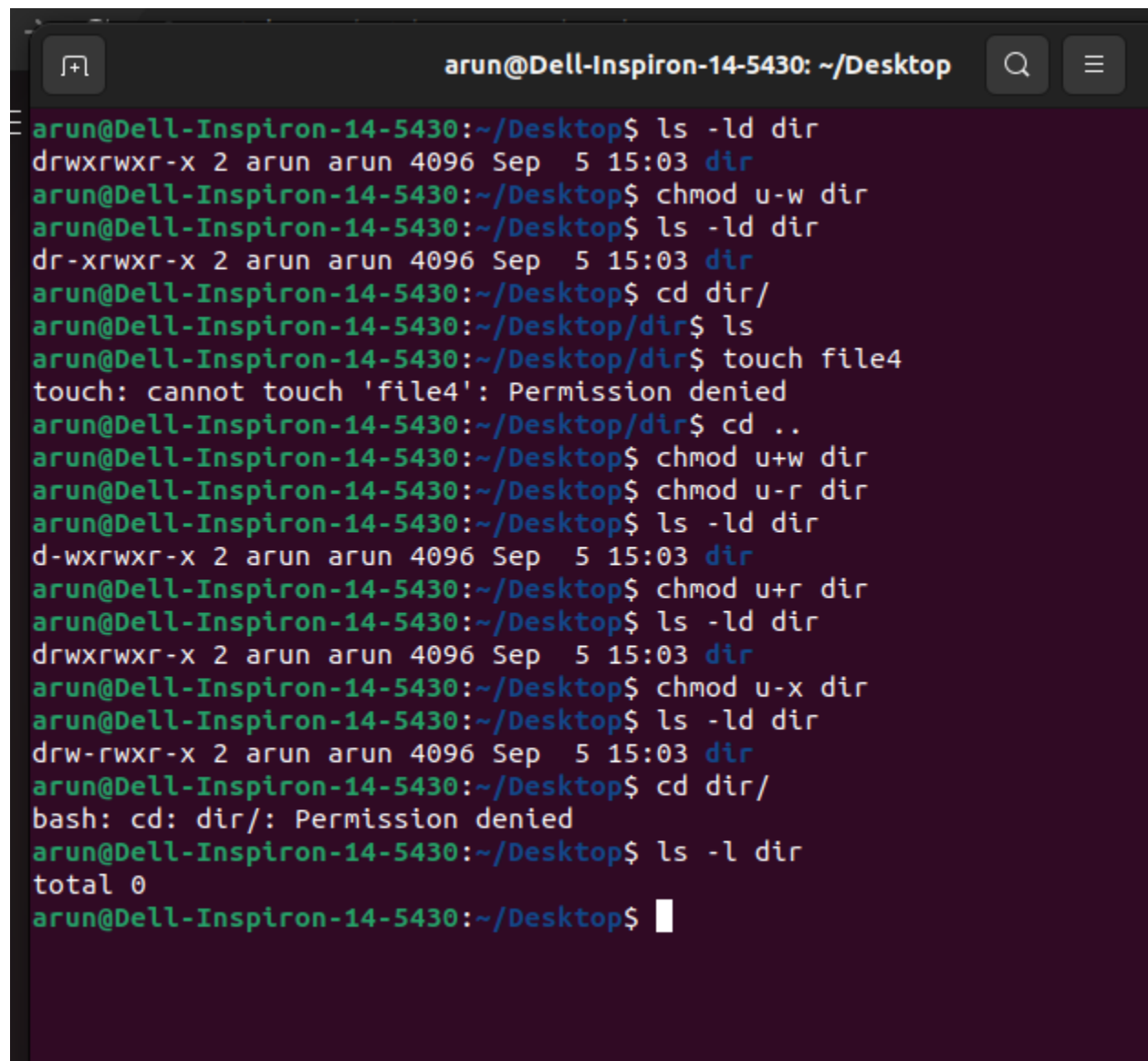
chmod ug=rwx (for owner and group)

chmod ugo-rwx

chmod a-rwx

```
arun@Dell-Inspiron-14-5430: ~/Desktop
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+rw,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

A terminal window titled 'arun@Dell-Inspiron-14-5430: ~/Desktop'. The window has a dark background with light green text. The terminal shows a series of commands and their outputs related to directory permissions. The user 'arun' is in the directory '~/Desktop'. The commands include 'ls -ld dir', 'chmod u-w dir', 'ls -ld dir', 'cd dir/', 'ls', 'touch file4', 'cd ..', 'chmod u+w dir', 'chmod u-r dir', 'ls -ld dir', 'chmod u+r dir', 'ls -ld dir', 'chmod u-x dir', 'ls -ld dir', 'cd dir/', and 'ls -l dir'. The output shows the permissions of the 'dir' directory at each step, with the final state being 'drw-rwxr-x 2 arun arun 4096 Sep 5 15:03 dir' and a total size of 0 bytes.

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

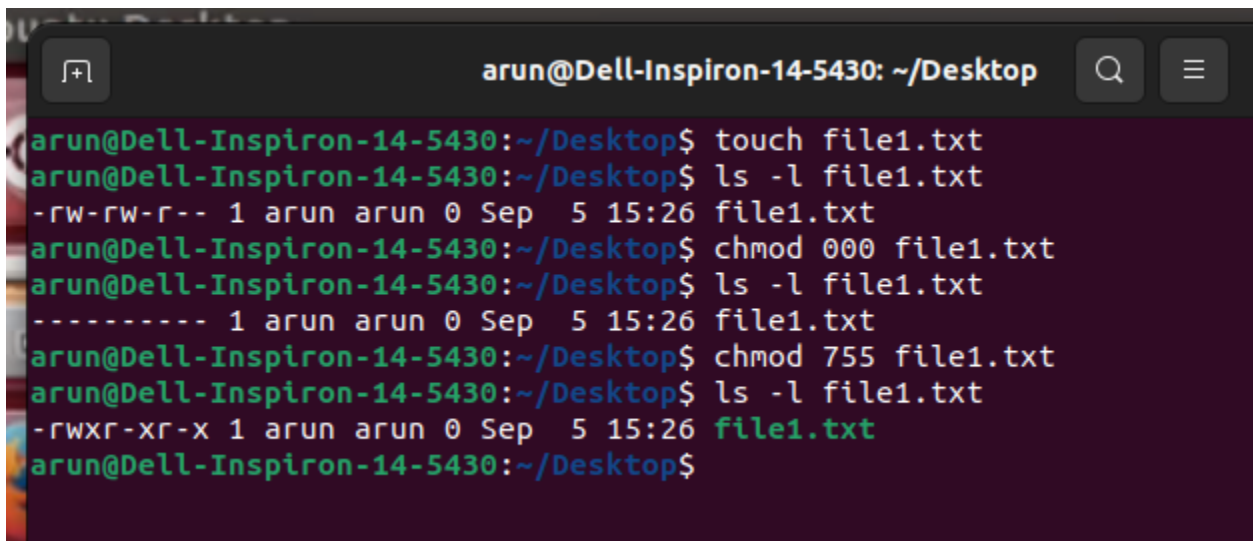
Bin	oct
0 0 1	1
0 1 0	2
0 1 1	3
1 0 0	4
1 0 1	5
1 1 0	6
1 1 1	7

chmod file1.txt

user – 1 – 001

group – 2- 010

other – 3 - 101

A terminal window titled 'arun@Dell-Inspiron-14-5430: ~/Desktop' with search and menu icons. It shows a series of commands and their outputs: 'touch file1.txt' is executed; 'ls -l file1.txt' shows '-rw-rw-r-- 1 arun arun 0 Sep 5 15:26 file1.txt'; 'chmod 000 file1.txt' is executed; 'ls -l file1.txt' shows '----- 1 arun arun 0 Sep 5 15:26 file1.txt'; 'chmod 755 file1.txt' is executed; 'ls -l file1.txt' shows '-rwxr-xr-x 1 arun arun 0 Sep 5 15:26 file1.txt'.

```
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$
```