

# ASSIGNMENT 05

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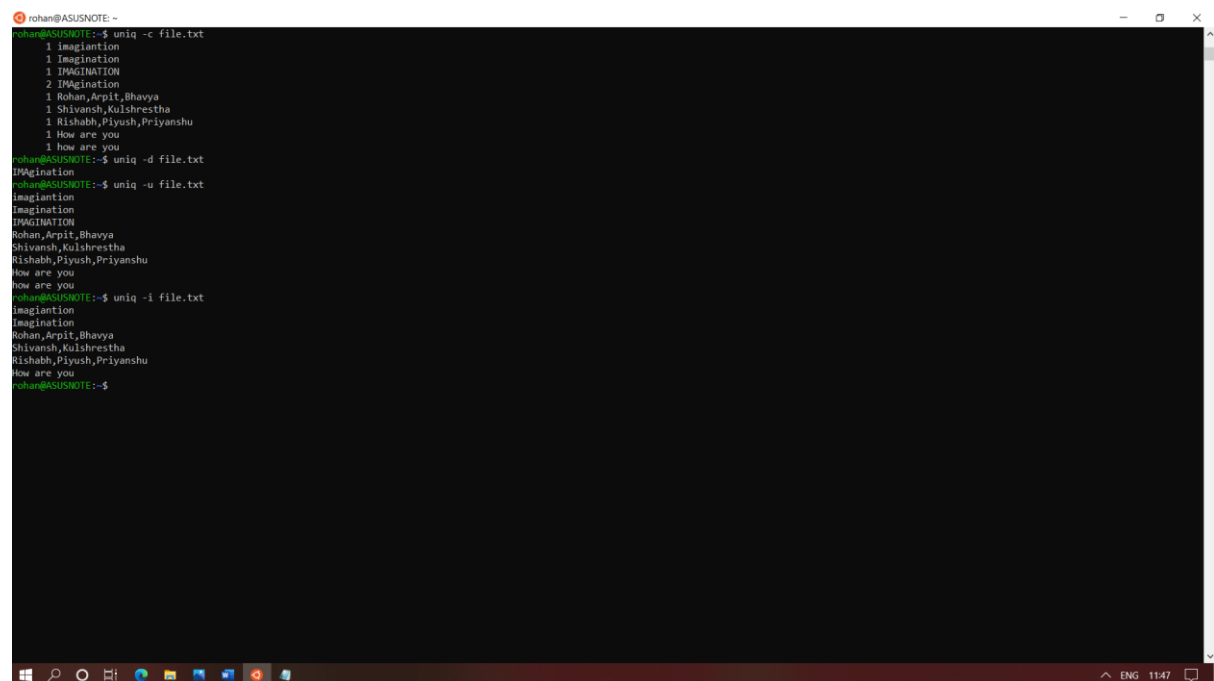
SUBMITTED TO - Miss Nidhi

## 1.UNIQ

USED ALONG WITH SORT COMMAND TO DISPLAY REPEATING LINES ONLY ONCE IF REPEATED LINES ARE ADJACENT.

### Syntax-

```
uniq -c filename -It tells no of times a line was repeated by displaying a number as a prefix with the line.  
uniq -d filename -It only prints the repeated lines and not the lines which aren't repeated  
uniq -u filename -It allows you to print only unique lines.  
Uniq -I filename - It allows to print non-repeated lines only.
```

A terminal window titled 'rohan@ASUSNOTE: -' showing the execution of the 'uniq' command on a file named 'file.txt'. The file contains several lines, some of which are repeated. The terminal shows the output of 'uniq -c file.txt', which prefixes each line with its count. Then, 'uniq -d file.txt' is run, showing only the repeated lines. Next, 'uniq -u file.txt' is run, showing only the unique lines. Finally, 'uniq -i file.txt' is run, showing the original case of the repeated lines. The Windows taskbar is visible at the bottom.

```
rohan@ASUSNOTE:~$ cat file.txt  
1 imagination  
1 Imagination  
1 IMAGINATION  
2 IMagination  
1 Rohan,Arpit,Bhavya  
1 Shivansh,Kulshrestha  
1 Rishabh,Piyush,Priyanshu  
1 How are you  
1 how are you  
rohan@ASUSNOTE:~$ uniq -c file.txt  
1 imagination  
1 Imagination  
1 IMAGINATION  
2 IMagination  
1 Rohan,Arpit,Bhavya  
1 Shivansh,Kulshrestha  
1 Rishabh,Piyush,Priyanshu  
1 How are you  
1 how are you  
rohan@ASUSNOTE:~$ uniq -d file.txt  
IMagination  
IMagination  
IMAGINATION  
Rohan,Arpit,Bhavya  
Shivansh,Kulshrestha  
Rishabh,Piyush,Priyanshu  
How are you  
how are you  
rohan@ASUSNOTE:~$ uniq -u file.txt  
imagination  
Imagination  
Rohan,Arpit,Bhavya  
Shivansh,Kulshrestha  
Rishabh,Piyush,Priyanshu  
How are you  
rohan@ASUSNOTE:~$ uniq -i file.txt  
imagination  
Imagination  
Rohan,Arpit,Bhavya  
Shivansh,Kulshrestha  
Rishabh,Piyush,Priyanshu  
How are you  
rohan@ASUSNOTE:~$
```

---

## 2. CHMOD

### USED FOR CHANGING FILE PERMISSIONS

#### SYNTAX

`chmod [reference][operator][mode] file`

- 0 No permission
- 1 Execute permission
- 2 Write permission
- 3 Write and execute permissions
- 4 Read permission
- 5 Read and execute permissions
- 6 Read and write permissions
- 7 Read, write and execute permissions

Operator	Description
+	Adds the specified modes to the specified classes
-	Removes the specified modes from the specified classes
=	The modes specified are to be made the exact modes for the specified classes

Reference	Class	Description
u	owner	file's owner
g	group	users who are members of the file's group
o	others	users who are neither the file's owner nor members of the file's group
a	all	All three of the above, same as ugo

```
rohan@ASUSNOTE:~$ chmod 754 file.txt
rohan@ASUSNOTE:~$ ls -l
total 0
drwxr-x-wx 1 rohan rohan 4096 Jul 27 23:51
-rw-rw-rw- 1 rohan rohan 68 Jul 27 23:08 file
-rwxr-xr-- 1 rohan rohan 149 Aug 4 11:38 file.txt
-rw-r----- 1 rohan rohan 1 Aug 1 09:55 nano.save
drwxrwxrwx 1 rohan rohan 4096 Jul 14 22:26
drwxrwxrwx 1 rohan rohan 107 Jul 28 13:45 prog.sh
drwxrwxrwx 1 rohan rohan 4096 Jul 27 22:58
-rw-rw-rw- 1 rohan rohan 4 Jul 30 20:20 rohan.jpg
drwxrwxrwx 1 rohan rohan 42 Jul 30 21:39 script1
-rw-rw-rw- 1 rohan rohan 55 Aug 4 10:42 script1.sh
-rw-rw-rw- 1 rohan rohan 16 Jul 30 22:35 script1.sh.save
-rw-rw-rw- 1 rohan rohan 138 Jul 30 23:19 script2.sh
-rw-rw-rw- 1 rohan rohan 319 Jul 31 00:18 script3.sh
drwxrwxrwx 1 rohan rohan 4096 Jul 14 22:26
drwxrwxrwx 1 rohan rohan 4096 Jul 14 22:26
drwxrwxrwx 1 rohan rohan 4096 Jul 14 22:43
rohan@ASUSNOTE:~$ chmod uwx,gr file.txt
rohan@ASUSNOTE:~$ ls -l
total 0
drwxr-x-wx 1 rohan rohan 4096 Jul 27 23:51
-rw-rw-rw- 1 rohan rohan 68 Jul 27 23:08 file
-rwxr-xr-- 1 rohan rohan 149 Aug 4 11:38 file.txt
-rw-r----- 1 rohan rohan 1 Aug 1 09:55 nano.save
drwxrwxrwx 1 rohan rohan 4096 Jul 14 22:26
drwxrwxrwx 1 rohan rohan 107 Jul 28 13:45 prog.sh
drwxrwxrwx 1 rohan rohan 4096 Jul 27 22:58
-rw-rw-rw- 1 rohan rohan 4 Jul 30 20:20 rohan.jpg
drwxrwxrwx 1 rohan rohan 42 Jul 30 21:39 script1
-rw-rw-rw- 1 rohan rohan 55 Aug 4 10:42 script1.sh
-rw-rw-rw- 1 rohan rohan 16 Jul 30 22:35 script1.sh.save
-rw-rw-rw- 1 rohan rohan 138 Jul 30 23:19 script2.sh
-rw-rw-rw- 1 rohan rohan 319 Jul 31 00:18 script3.sh
drwxrwxrwx 1 rohan rohan 4096 Jul 14 22:26
drwxrwxrwx 1 rohan rohan 4096 Jul 14 22:26
drwxrwxrwx 1 rohan rohan 4096 Jul 14 22:43
rohan@ASUSNOTE:~$
```

```
rohan@ASUSNOTE:~$ chmod 754 file.txt
rohan@ASUSNOTE:~$ ls -l file.txt
-rwxr-xr-- 1 rohan rohan 149 Aug 4 11:38 file.txt
rohan@ASUSNOTE:~$ chmod 727 file.txt
rohan@ASUSNOTE:~$ ls -l file.txt
-rwx-w-rwx 1 rohan rohan 149 Aug 4 11:38 file.txt
rohan@ASUSNOTE:~$ chmod g-w file.txt
rohan@ASUSNOTE:~$ ls -l file.txt
-rwx---rwx 1 rohan rohan 149 Aug 4 11:38 file.txt
rohan@ASUSNOTE:~$ chmod o-x file.txt
rohan@ASUSNOTE:~$ ls -l file.txt
-rwx---rw- 1 rohan rohan 149 Aug 4 11:38 file.txt
rohan@ASUSNOTE:~$
```

### 3. DU

**DU COMMAND**, SHORT FOR DISK USAGE, IS USED TO ESTIMATE FILE SPACE USAGE.

THE DU COMMAND CAN BE USED TO TRACK THE FILES AND DIRECTORIES WHICH ARE CONSUMING EXCESSIVE AMOUNT OF SPACE ON HARD DISK DRIVE.

-0, -null : end each output line with NULL

- a, -all : write count of all files, not just directories
- apparent-size : print apparent sizes, rather than disk usage.
- B, -block-size=SIZE : scale sizes to SIZE before printing on console
- c, -total : produce grand total
- d, -max-depth=N : print total for directory only if it is N or fewer levels below command line argument
- h, -human-readable : print sizes in human readable format
- S, -separate-dirs : for directories, don't include size of subdirectories
- s, -summarize : display only total for each directory
- time : show time of last modification of any file or directory.
- exclude=PATTERN : exclude files that match PATTERN

```

rohan@ASUSNOTE: ~
rohan@ASUSNOTE:~$ du
0  ./landscape
0  ./local/share/nano
0  ./local/share
0  ./local
0  ./dir1
0  ./one
0  ./roah
0  ./roha
0  ./rohaa
0  ./three
0  ./two
0  ./world
0
rohan@ASUSNOTE:~$ du -h
0  ./landscape
0  ./local/share/nano
0  ./local/share
0  ./local
0  ./dir1
0  ./one
0  ./roah
0  ./roha
0  ./rohaa
0  ./three
0  ./two
0  ./world
0
rohan@ASUSNOTE:~$

```

```

rohan@ASUSNOTE: ~
rohan@ASUSNOTE:~$ du -a
0  ./bash_history
0  ./bash_logout
0  ./bashrc
0  ./landscape/sysinfo.log
0  ./landscape
0  ./local/share/nano
0  ./local/share
0  ./local
0  ./motd_shown
4  ./profile
0  ./sudo_as_admin_successful
12  ./swm
12  ./sws
12  ./sup
0  ./viminfo
0  ./dir1
0  ./file
0  ./file.txt
0  ./nano.save
0  ./one
0  ./prog.sh
0  ./roah
0  ./roh
0  ./roha
0  ./rohaa
0  ./rohan.jpg
0  ./script1
0  ./script1.sh
0  ./script1.sh.save
0  ./script2.sh
0  ./script3.sh
0  ./three
0  ./two
0  ./world/r1
0  ./world
0
rohan@ASUSNOTE:~$ du ~/one ~/dir1
0  /home/rohan/one
0  /home/rohan/dir1
rohan@ASUSNOTE:~$

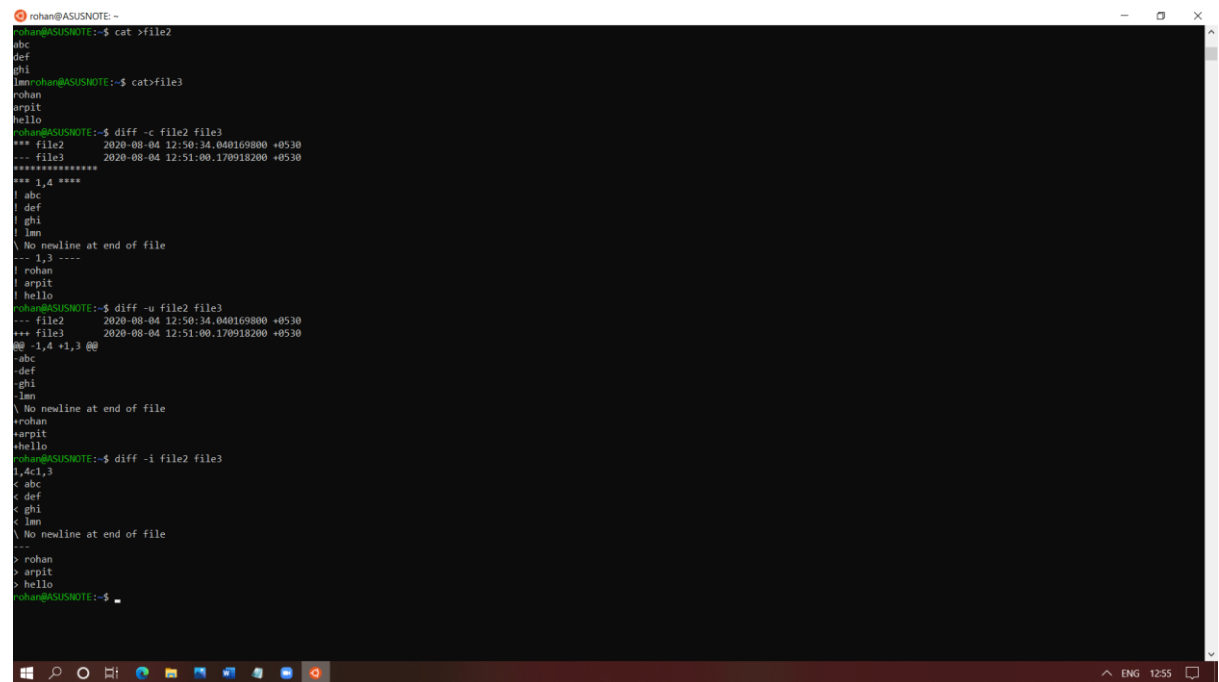
```

---

## 4. DIFF

THIS COMMAND IS USED TO DISPLAY THE DIFFERENCES IN THE FILES BY COMPARING THE FILES LINE BY LINE.

1. -c context mode
2. -u unified mode
3. -i(case insensitive)



```
rohan@ASUSNOTE: ~  
rohan@ASUSNOTE:~$ cat >file2  
abc  
def  
ghi  
lmn  
rohan@ASUSNOTE:~$ cat>file3  
rohan  
arpit  
hello  
rohan@ASUSNOTE:~$ diff -c file2 file3  
*** file2      2020-08-04 12:50:34.040169800 +0530  
--- file3      2020-08-04 12:51:00.170918200 +0530  
*****  
*** 1,4 ****  
| abc  
| def  
| ghi  
| lm  
\ No newline at end of file  
--- 1,3 ----  
| rohan  
| arpit  
| hello  
rohan@ASUSNOTE:~$ diff -u file2 file3  
--- file2      2020-08-04 12:50:34.040169800 +0530  
+++ file3      2020-08-04 12:51:00.170918200 +0530  
@@ -1,4 +1,3 @@  
-abc  
-def  
-ghi  
-lm  
\ No newline at end of file  
+rohan  
+arpit  
+hello  
rohan@ASUSNOTE:~$ diff -i file2 file3  
1,4c1,3  
< abc  
< def  
< ghi  
< lm  
\ No newline at end of file  
---  
> rohan  
> arpit  
> hello  
rohan@ASUSNOTE:~$
```

---

## 5. HISTORY

HISTORY COMMAND IS USED TO VIEW THE PREVIOUSLY EXECUTED COMMAND.

Syntax :-

- history –show the history
- history -d 3 – to delete that number in history
- history – clear the history

```
rohan@ASUSNOTE: ~
667 cat >file9
668 grep "name" file9
669 grep -v "name" file9
670 grep -n "name" file9
671 grep -l "name" file9
672 history
673 history -d 670
674 history
675 history --help
676 history
rohan@ASUSNOTE:~$ history -c
rohan@ASUSNOTE:~$ history
1 history
rohan@ASUSNOTE:~$
```

---

6. LAST –IT IS USED TO VIEW THE LAST LOGIN OF THE USER

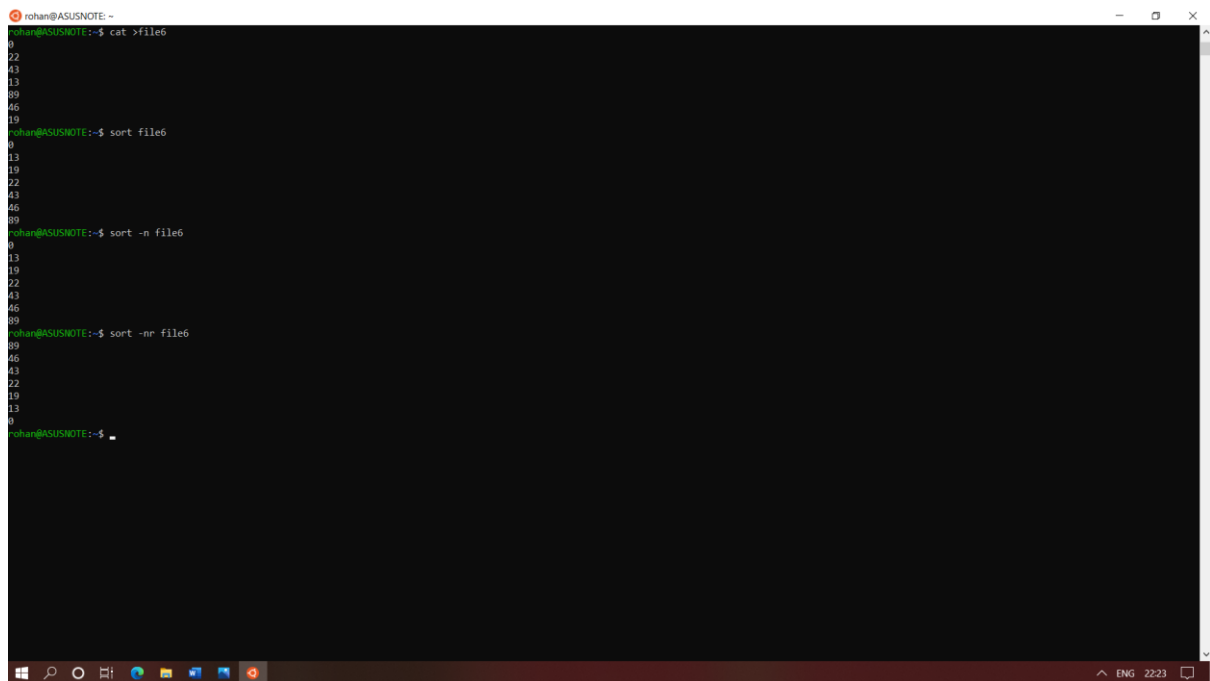
```
rohan@ASUSNOTE: ~
rohan@ASUSNOTE:~$ last
wtap begins Thu Jul 9 09:54:06 2020
rohan@ASUSNOTE:~$
```

---

7.SORT – IT IS USED TO SORT THE CONTENTS OF A FILE

## SYNTAX –

- `sort filename` –sort the contents of a file(for numbers it only sort the first digit of a number)
- `sort -n filename` –sort according to numbers
- `sort -nr filename` –sort numbers in reverse order
- `sort -r filename` – sort alphabetically
- `sort -o file1 file2` – sort and save the contents of file2 in file1
- `sort -o file1 -r file2` –sort and save the contents of file2 in file 1 in reverse order

A terminal window titled 'rohan@ASUSNOTE' showing the execution of the 'sort' command. The user first runs 'cat >file6' to create a file with numbers 0, 22, 43, 13, 89, 46, and 19. Then, they run 'sort file6', which sorts the numbers in ascending order (0, 13, 19, 22, 43, 46, 89). Next, they run 'sort -n file6', which produces the same sorted output. Finally, they run 'sort -nr file6', which sorts the numbers in descending order (89, 46, 43, 22, 19, 13, 0). The terminal window has a dark background and a Windows taskbar is visible at the bottom.

```
rohan@ASUSNOTE:~$ cat >file6
0
22
43
13
89
46
19
rohan@ASUSNOTE:~$ sort file6
0
13
19
22
43
46
89
rohan@ASUSNOTE:~$ sort -n file6
0
13
19
22
43
46
89
rohan@ASUSNOTE:~$ sort -nr file6
89
46
43
22
19
13
0
rohan@ASUSNOTE:~$
```



```
rohan@ASUSNOTE: ~  
rohan@ASUSNOTE:~$ cat file5  
98  
67  
27  
79  
8  
34-rohan@ASUSNOTE:~$ sort -o file5 file6  
rohan@ASUSNOTE:~$ cat file5  
9  
13  
19  
22  
43  
46  
89  
rohan@ASUSNOTE:~$ sort -o file6 -r file5  
rohan@ASUSNOTE:~$ cat file5  
9  
13  
19  
22  
43  
46  
89  
rohan@ASUSNOTE:~$ cat file6  
89  
46  
43  
22  
19  
13  
9  
rohan@ASUSNOTE:~$
```

---

8. SED IS A POWERFUL TEXT STREAM EDITOR. CAN DO INSERTION, DELETION, SEARCH AND REPLACE(SUBSTITUTION).

- sed '0/n/n2/' file7 – to change the first occurrence of n
- sed 's/n/n2/g' file7 – to change all occurrence of n
- sed 's/n/n2/2' file7 – to change upto 2 line
- sed 's/n/n2/2g' file7 – to change from 2<sup>nd</sup> to the last line

```
rohan@ASUSNOTE: ~  
rohan@ASUSNOTE:~$ cat file7  
name main rohan train  
new  
newest newyear few arpit  
bhavya  
desk table  
main query  
rohan@ASUSNOTE:~$ cat file7  
name main rohan train  
new  
newest newyear few arpit  
bhavya  
desk table  
main query  
rohan@ASUSNOTE:~$ sed 's/n/x/' file7  
name main rohan train  
new  
newest newyear few arpit  
bhavya  
desk table  
maix query  
rohan@ASUSNOTE:~$ sed 's/n/x/g' file7  
name maix rohax traix  
new  
newest xewyear few arpit  
bhavya  
desk table  
maix query  
rohan@ASUSNOTE:~$ sed 's/n/x/2' file7  
name maix rohan train  
new  
newest xewyear few arpit  
bhavya  
desk table  
main query  
rohan@ASUSNOTE:~$ sed 's/n/x/2g' file7  
name maix rohax traix  
new  
newest xewyear few arpit  
bhavya  
desk table  
main query  
rohan@ASUSNOTE:~$
```

---

## 9.SED – TO DELETE

- sed '4d' file7 – delete fourth line
- sed '\$d' file7 –to delete last line
- sed '3,4d' file7 -- to delete 3 – 4<sup>th</sup> line
- sed '3,\$d' file7 –to delete 3<sup>rd</sup> to last line
- sed '/m/d' file7 – to delete 'm' from file
- sed '/m/d ; /o/d' file7 –to delete 'm' and 'o' from file

```
rohan@ASUSNOTE: ~  
rohan@ASUSNOTE:~$ cat> file8  
rohan  
verma  
arpit  
mittal  
rohan@ASUSNOTE:~$ sed '4d' file8  
rohan  
verma  
arpit  
rohan@ASUSNOTE:~$ sed '4d' file8  
rohan  
verma  
arpit  
rohan@ASUSNOTE:~$ sed '2,3d' file8  
rohan  
mittal  
rohan@ASUSNOTE:~$ sed '3,$d' file8  
rohan  
verma  
rohan@ASUSNOTE:~$ sed '/m/d' file8  
rohan  
arpit  
rohan@ASUSNOTE:~$ sed '/m/d ; /o/d' file8  
arpit  
rohan@ASUSNOTE:~$
```

---

## 10.GREP

THE GREP FILTER SEARCHES A FILE FOR A PARTICULAR PATTERN OF CHARACTERS, AND DISPLAYS ALL LINES THAT CONTAIN THAT PATTERN.

SYNTAX:

```
grep [options] pattern [files]
```

- grep “name” file9 –line which match “name”
- grep -v “name” file9 –lines which do not contain “name”
- grep -c “name” file9 –no of lines match
- grep -n “name”file9 – no of line +line
- grep -I “name” file9 – to consider uppercase and lowercase

```
rohan@ASUSNOTE:~$ cat >file9
rohan verma
arpit mittal
what is your name
my name is rohan
dd name
Ume
say your NAME
rohan@ASUSNOTE:~$ grep "name" file9
what is your name
my name is rohan
dd name
rohan@ASUSNOTE:~$ grep -v "name" file9
rohan verma
arpit mittal
Ume
say your NAME
rohan@ASUSNOTE:~$ grep -c "name" file9
3
rohan@ASUSNOTE:~$ grep -n "name" file9
1:what is your name
2:my name is rohan
3:dd name
rohan@ASUSNOTE:~$ grep -i "name" file9
what is your name
my name is rohan
dd name
Ume
say your NAME
rohan@ASUSNOTE:~$
```

---

## 11.CUT COMMAND—

- cut -c 1 filename ----- to take out the first character from the file
- cut -c 3 filename -----to take out the 3<sup>rd</sup> character from the file
- cut -c 3- filename -----to take out the characters from 3 to last from the file
- cut -c 3-5 filename ---- to take out the characters from 3 to the fifth characters from the file
- cut -d “,” -f 1 filename – to take out characters from the file from the “,” delimiter

```
rohan@ASUSNOTE:~$ cat >file10
1
2
3
4
R
A
D
A
Roh
Adi
bha
Arp
Rohan,Btech
Aditya,Btech
bhavya,Btech
Arpit mittal,Bsc
rohan@ASUSNOTE:~$ cut -c 1 file10
1
2
3
4
R
A
D
A
rohan@ASUSNOTE:~$ cut -c 3 file10
Roh
Adi
bha
Arp
rohan@ASUSNOTE:~$ cut -c 3- file10
Rohan,Btech
Aditya,Btech
bhavya,Btech
Arpit mittal,Bsc
rohan@ASUSNOTE:~$ cut -d "," -f 1 file10
1
2
3
4
rohan@ASUSNOTE:~$ cut -d "," -f 2 file10
Rohan
Aditya
bhavya
Arpit mittal
rohan@ASUSNOTE:~$ cut -d "," -f 3 file10
Btech
Btech
Btech
Bsc
rohan@ASUSNOTE:~$ cut -d " " -f 2 file10
1,Rohan,Btech
2,Aditya,Btech
3,bhavya,Btech
4,Arpit mittal,Bsc
rohan@ASUSNOTE:~$
```