

```
./Linux/194009      x + ^

→ 194009 neofetch
      .-/+o0ssss0o+/-.
      `:+ssssssssssssssssssss+:`-
      -+ssssssssssssssssssyssss+-.
      .osssssssssssssssssdMMMNyssso.
      /sssssssssssshdmmNnmmyNMNMNhssssss/
      +ssssssssssshmydMMMMMMMddddysssssss+
      /ssssssssshNMNMMyhyyyyhmNMNMNhssssss/
      .ssssssssdMMMNhssssssssshNMNMdssssssss.
      +sssshhhyNMNMNyssssssssssyNMNMMyssssss+
      ossyNMNMNyMMhsssssssssssshmmmhssssssso
      ossyNMNMNyMMhsssssssssssshmmmhssssssso
      +sssshhhyNMNMNyssssssssssyNMNMMyssssss+
      .ssssssssdMMMNhssssssssshNMNMdssssssss.
      +ssssssssdmydMMMMMMMddddysssssss+
      /sssssssssssshdmNNNmyNMNMNhssssss/
      .osssssssssssssssssssdMMNMyssso.
      -+ssssssssssssssssyyssss+-.
      `:+ssssssssssssssssss+:`-
      .-/+o0ssss0o+/-.

→ 194009 |
```

## mkdir Command

```
./Linux/194009      x + ^

→ 194009 mkdir --help
Usage: mkdir [OPTION] ... DIRECTORY ...
Create the DIRECTORY(ies), if they do not already exist.

Mandatory arguments to long options are mandatory for short options too.
  -m, --mode=MODE    set file mode (as in chmod), not a=rwx - umask
  -p, --parents      no error if existing, make parent directories as needed
  -v, --verbose      print a message for each created directory
  -Z                 set SELinux security context of each created directory
                    to the default type
  --context[=CTX]   like -Z, or if CTX is specified then set the SELinux
                    or SMACK security context to CTX
  --help            display this help and exit
  --version         output version information and exit

GNU coreutils online help: <https://www.gnu.org/software/coreutils/>
Report mkdir translation bugs to <https://translationproject.org/team/>
Full documentation at: <https://www.gnu.org/software/coreutils/mkdir>
or available locally via: info '(coreutils) mkdir invocation'
→ 194009
```

```
..ts/Semester-6      x + ^

→ Semester-6 mkdir Linux
→ Semester-6 ls -la
total 3396
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 25 14:18 .
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 24 00:17 ..
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 15 01:43 Java
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 25 14:18 Linux
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 11 01:30 NA
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 23 01:44 Python
-rwxrwxrwx 1 samtech2543 samtech2543 3477413 Sep 24 2020 'Syllabus .pdf'
→ Semester-6 |
```

## ls Command

```
..ts/Semester-6 x + v
→ Semester-6 mkdir 194009
→ Semester-6 ls -la
total 3396
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 25 14:22 .
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 24 00:17 ..
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 25 14:22 194009
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 15 01:43 Java
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 25 14:18 Linux
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 11 01:30 NA
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 23 01:44 Python
-rwxrwxrwx 1 samtech2543 samtech2543 3477413 Sep 24 2020 'Syllabus .pdf'
→ Semester-6
```

```
..ester-6/Linux x + v
→ Semester-6 mv 194009 Linux
→ Semester-6 ls -la
total 3396
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 25 14:23 .
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 24 00:17 ..
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 15 01:43 Java
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 25 14:23 Linux
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 11 01:30 NA
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 23 01:44 Python
-rwxrwxrwx 1 samtech2543 samtech2543 3477413 Sep 24 2020 'Syllabus .pdf'
→ Semester-6 cd Linux
→ Linux ls -la
total 0
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 25 14:23 .
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 25 14:23 ..
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 25 14:22 194009
→ Linux |
```

```
..Linux/194009 x + v
→ 194009 mkdir Hello
→ 194009 ls
1.txt Hello My.txt data.csv data2.csv for_v1.txt mytext1.txt toCopy.txt vi.docx vi_demo.txt
→ 194009 ls -d
.
→ 194009 ls -f
. .demo_v1.txt.swo .vi_demo.txt.swo 1.txt data2.csv Hello mytext1.txt vi.docx
.. .demo_v1.txt.swp .vi_demo.txt.swp data.csv for_v1.txt My.txt toCopy.txt vi_demo.txt
→ 194009 ls -la
total 688
drwxrwxrwx 1 samtech2543 samtech2543 512 Apr 1 14:13 .
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 25 14:48 ..
-rwxrwxrwx 1 samtech2543 samtech2543 4096 Mar 29 14:18 .demo_v1.txt.swo
-rwxrwxrwx 1 samtech2543 samtech2543 12288 Mar 29 14:17 .demo_v1.txt.swp
-rwxrwxrwx 1 samtech2543 samtech2543 12288 Mar 29 15:23 .vi_demo.txt.swo
-rwxrwxrwx 1 samtech2543 samtech2543 12288 Mar 29 15:10 .vi_demo.txt.swp
-rwxrwxrwx 1 samtech2543 samtech2543 19 Mar 25 15:09 1.txt
drwxrwxrwx 1 samtech2543 samtech2543 512 Apr 1 14:13 Hello
-rwxrwxrwx 1 samtech2543 samtech2543 183 Mar 29 14:55 My.txt
-rwxrwxrwx 1 samtech2543 samtech2543 0 Mar 25 14:42 data.csv
-rwxrwxrwx 1 samtech2543 samtech2543 0 Mar 25 14:43 data2.csv
-rwxrwxrwx 1 samtech2543 samtech2543 1030 Mar 29 14:50 for_v1.txt
-rwxrwxrwx 1 samtech2543 samtech2543 55 Mar 25 14:35 mytext1.txt
-rwxrwxrwx 1 samtech2543 samtech2543 0 Mar 25 14:48 toCopy.txt
-rwxrwxrwx 1 samtech2543 samtech2543 654325 Mar 29 15:22 vi.docx
-rwxrwxrwx 1 samtech2543 samtech2543 1032 Mar 29 15:21 vi_demo.txt
→ 194009 |
```

### echo Command

```
./Linux/194009
→ 194009 echo "Sarvesh Anand Mankar"
Sarvesh Anand Mankar
→ 194009
```

### touch Command

```
./Linux/194009
→ 194009 touch mytext1.txt
→ 194009 ls -la
total 0
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 25 14:26 .
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 25 14:23 ..
-rwxrwxrwx 1 samtech2543 samtech2543 0 Mar 25 14:26 mytext1.txt
→ 194009
```

### nano Command

```
GNU nano 4.8
Hello, my name is Sarvesh Anand Mankar!
Roll no: 194009
DCP TY
Linux Practical-1|
```

Activate Windows

^G Get Help ^O Write Out ^W Where Is ^K Cut Text ^J Justify ^C Cur Pos M-U Undo Go to Sd M-A Mark Text Windows.  
^X Exit ^R Read File ^Y Replace ^U Paste Text ^T To Spell ^L Go To Line M-E Redo M-6 Copy Text

```
./Linux/194009
→ 194009 nano mytext1.txt
→ 194009 cat mytext1.txt
Hello, my name is Sarvesh Anand Mankar!
Roll no: 194009
DCP TY
Linux Practical-1
→ 194009 |
```

### batcat Command

```
./Linux/194009
→ 194009 batcat mytext1.txt
File: mytext1.txt
1 Hello, my name is Sarvesh Anand Mankar!
2 Roll no: 194009
3 DCP TY
4 Linux Practical-1
→ 194009 |
```

### clear Command

```
./Linux/194009
→ 194009 ls -la
total 0
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 25 14:29 .
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 25 14:23 ..
-rwxrwxrwx 1 samtech2543 samtech2543 81 Mar 25 14:29 mytext1.txt
→ 194009 clear|
```

```
./Linux/194009
→ 194009 |
```

## ll Command

```
./Linux/194009
→ 194009 ll
total 0
-rwxrwxrwx 1 samtech2543 samtech2543 0 Mar 25 14:40 1.txt
-rwxrwxrwx 1 samtech2543 samtech2543 0 Mar 25 14:40 My.txt
-rwxrwxrwx 1 samtech2543 samtech2543 0 Mar 25 14:42 data.csv
-rwxrwxrwx 1 samtech2543 samtech2543 0 Mar 25 14:43 data2.csv
-rwxrwxrwx 1 samtech2543 samtech2543 55 Mar 25 14:35 mytext1.txt
-rwxrwxrwx 1 samtech2543 samtech2543 0 Mar 25 14:48 toCopy.txt
→ 194009 |
```

## cat Command

```
./Linux/194009
→ 194009 cat --help
Usage: cat [OPTION] ... [FILE] ...
Concatenate FILE(s) to standard output.

With no FILE, or when FILE is -, read standard input.

-A, --show-all      equivalent to -vET
-b, --number-nonblank number nonempty output lines, overrides -n
-e                equivalent to -vE
-E, --show-ends    display $ at end of each line
-n, --number       number all output lines
-s, --squeeze-blank suppress repeated empty output lines
-t                equivalent to -vT
-T, --show-tabs   display TAB characters as ^I
-u                (ignored)
-v, --show-nonprinting use ^ and M- notation, except for LFD and TAB
--help            display this help and exit
--version         output version information and exit

Examples:
cat f - g  Output f's contents, then standard input, then g's contents.
cat          Copy standard input to standard output.

GNU coreutils online help: <https://www.gnu.org/software/coreutils/>
Report cat translation bugs to <https://translationproject.org/team/>
Full documentation at: <https://www.gnu.org/software/coreutils/cat>
or available locally via: info '(coreutils) cat invocation'
→ 194009 |
```

```
./Linux/194009 × + ▾
→ 194009 cat > 1.txt
My name is 1.txt!!
^Z
[6] + 684 suspended cat > 1.txt
→ 194009 cat > My.txt
Hello Guys, my name is My.txt!!!!
^Z
[7] + 687 suspended cat > My.txt
→ 194009 cat 1.txt
My name is 1.txt!!
→ 194009 cat My.txt
Hello Guys, my name is My.txt!!!!
→ 194009 |
```

### cat write

```
./Linux/194009 × + ▾
→ 194009 cat > mytext1.txt
Hello!
Basic Cat Command is working!
^Z
[1] + 211 suspended cat > mytext1.txt
→ 194009 cat mytext1.txt
Hello!
Basic Cat Command is working!
→ 194009 |
```

### cat append

```
./Linux/194009
→ 194009 cat >> mytext1.txt
Appending again!

^Z
[2] + 220 suspended cat >> mytext1.txt
→ 194009 cat mytext1.txt
Hello!
Basic Cat Command is working!
Appending again!

→ 194009 |
```

```
./Linux/194009
→ 194009 batcat mytext1.txt
File: mytext1.txt
1 Hello!
2 Basic Cat Command is working!
3 Appending again!
4

→ 194009 |
```

### rmdir Command

```
./Linux/194009
→ 194009 mkdir forDeleting
→ 194009 ls -la
total 0
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 25 14:38 .
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 25 14:23 ..
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 25 14:38 forDeleting
-rwxrwxrwx 1 samtech2543 samtech2543 55 Mar 25 14:35 mytext1.txt
→ 194009 rmdir forDeleting
→ 194009 ls -la
total 0
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 25 14:38 .
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 25 14:23 ..
-rwxrwxrwx 1 samtech2543 samtech2543 55 Mar 25 14:35 mytext1.txt
→ 194009 |
```

```
./Linux/194009
→ 194009 touch 1.txt
→ 194009 touch My.txt
→ 194009 touch my.txt
→ 194009 ls -la
total 0
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 25 14:40 .
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 25 14:23 ..
-rwxrwxrwx 1 samtech2543 samtech2543 0 Mar 25 14:40 1.txt
-rwxrwxrwx 1 samtech2543 samtech2543 0 Mar 25 14:40 My.txt
-rwxrwxrwx 1 samtech2543 samtech2543 55 Mar 25 14:35 mytext1.txt
→ 194009 |
```

### rm command

```
./Linux/194009
→ 194009 ls
1.txt Hello My.txt data.csv data2.csv for_vt.txt mytext1.txt toCopy.txt vi.docx vi_demo.txt
→ 194009 rm *.txt
→ 194009 ls
Hello data.csv data2.csv vi.docx
→ 194009 |
```

### echo Command

```
..ester-6/Linux
→ Linux echo Sarvesh Mankar
Sarvesh Mankar
→ Linux echo -e "Sarvesh" Mankar"
Sarvesh Mankar"
→ Linux |
```

### mv Command

```
..ester-6/Linux
→ Linux ls
194009 194009.txt toCopy.txt
→ Linux mv 194009.txt Sarvesh.txt
→ Linux l
total 0
drwxrwxrwx 1 samtech2543 samtech2543 512 Apr 1 14:42 .
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 29 20:09 ..
drwxrwxrwx 1 samtech2543 samtech2543 512 Apr 1 14:19 Sarvesh.txt
-rwxrwxrwx 1 samtech2543 samtech2543 147 Apr 1 14:25 toCopy.txt
→ Linux |
```

### more Command

```
..ester-6/Linux      X + ▾
→ Linux more Sarvesh.txt
Hello, My name is Sarvesh Anand Mankar!
I'm studying in DCP [T.Y.] from CWIT, Pune.
My Roll No is 194009.
I scored 98% in 5th Semester.
Thank You!
→ Linux |
```

### Regex Commands

```
..Linux/194009      X + ▾
→ 194009 ls [0-9]*
1.txt
→ 194009 |
```

```
..Linux/194009      X + ▾
→ 194009 ls [a-z]*
mytext1.txt
→ 194009 |
```

```
./Linux/194009
→ 194009 ls [A-Z]*
My.txt
→ 194009 |
```

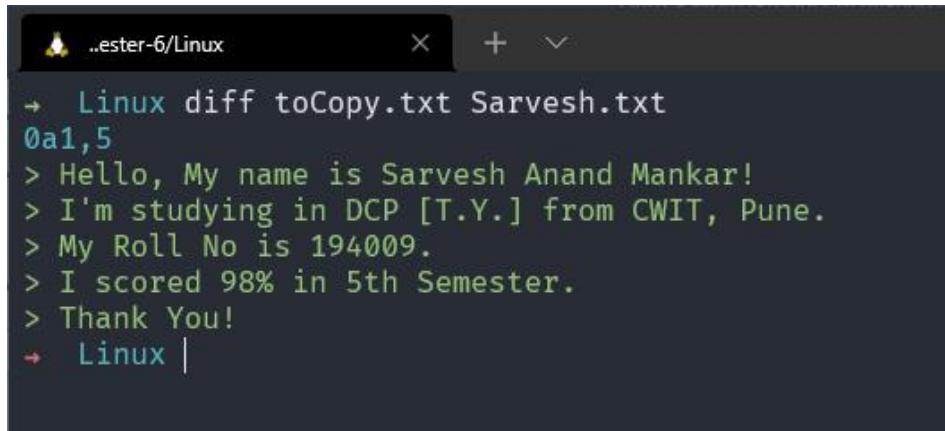
```
→ 194009 ls -la
total 0
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 25 14:40 .
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 25 14:23 ..
-rwxrwxrwx 1 samtech2543 samtech2543 0 Mar 25 14:40 1.txt
-rwxrwxrwx 1 samtech2543 samtech2543 0 Mar 25 14:40 My.txt
-rwxrwxrwx 1 samtech2543 samtech2543 55 Mar 25 14:35 mytext1.txt
→ 194009 touch data.csv
→ 194009 ls -la
total 0
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 25 14:42 .
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 25 14:23 ..
-rwxrwxrwx 1 samtech2543 samtech2543 0 Mar 25 14:40 1.txt
-rwxrwxrwx 1 samtech2543 samtech2543 0 Mar 25 14:40 My.txt
-rwxrwxrwx 1 samtech2543 samtech2543 0 Mar 25 14:42 data.csv
-rwxrwxrwx 1 samtech2543 samtech2543 55 Mar 25 14:35 mytext1.txt
→ 194009 touch data2.csv
→ 194009 ls -la
total 0
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 25 14:43 .
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 25 14:23 ..
-rwxrwxrwx 1 samtech2543 samtech2543 0 Mar 25 14:40 1.txt
-rwxrwxrwx 1 samtech2543 samtech2543 0 Mar 25 14:40 My.txt
-rwxrwxrwx 1 samtech2543 samtech2543 0 Mar 25 14:42 data.csv
-rwxrwxrwx 1 samtech2543 samtech2543 0 Mar 25 14:43 data2.csv
-rwxrwxrwx 1 samtech2543 samtech2543 55 Mar 25 14:35 mytext1.txt
→ 194009 |
```

```
./Linux/194009      × + ▾
→ 194009 ls -la
total 0
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 25 14:43 .
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 25 14:23 ..
-rwxrwxrwx 1 samtech2543 samtech2543 0 Mar 25 14:40 1.txt
-rwxrwxrwx 1 samtech2543 samtech2543 0 Mar 25 14:40 My.txt
-rwxrwxrwx 1 samtech2543 samtech2543 0 Mar 25 14:42 data.csv
-rwxrwxrwx 1 samtech2543 samtech2543 0 Mar 25 14:43 data2.csv
-rwxrwxrwx 1 samtech2543 samtech2543 55 Mar 25 14:35 mytext1.txt
→ 194009 ls ?.txt
1.txt
→ 194009 |
```

```
./Linux/194009      × + ▾
→ 194009 ls -la
total 0
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 25 14:43 .
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 25 14:23 ..
-rwxrwxrwx 1 samtech2543 samtech2543 0 Mar 25 14:40 1.txt
-rwxrwxrwx 1 samtech2543 samtech2543 0 Mar 25 14:40 My.txt
-rwxrwxrwx 1 samtech2543 samtech2543 0 Mar 25 14:42 data.csv
-rwxrwxrwx 1 samtech2543 samtech2543 0 Mar 25 14:43 data2.csv
-rwxrwxrwx 1 samtech2543 samtech2543 55 Mar 25 14:35 mytext1.txt
→ 194009 ls ???.txt
My.txt
→ 194009 |
```

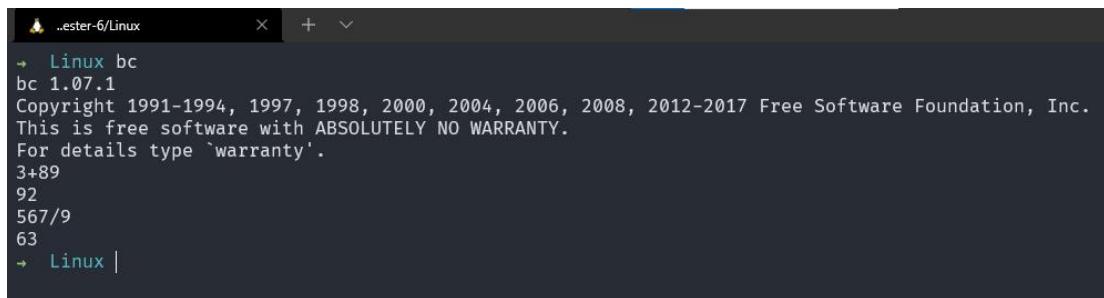
```
./Linux/194009      × + ▾
→ 194009 ls -la
total 0
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 25 14:43 .
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 25 14:23 ..
-rwxrwxrwx 1 samtech2543 samtech2543 0 Mar 25 14:40 1.txt
-rwxrwxrwx 1 samtech2543 samtech2543 0 Mar 25 14:40 My.txt
-rwxrwxrwx 1 samtech2543 samtech2543 0 Mar 25 14:42 data.csv
-rwxrwxrwx 1 samtech2543 samtech2543 0 Mar 25 14:43 data2.csv
-rwxrwxrwx 1 samtech2543 samtech2543 55 Mar 25 14:35 mytext1.txt
→ 194009 ls *.csv
data.csv data2.csv
→ 194009 ls *.txt
1.txt My.txt mytext1.txt
→ 194009 |
```

## diff Command



```
..ester-6/Linux x + ^
→ Linux diff toCopy.txt Sarvesh.txt
0a1,5
> Hello, My name is Sarvesh Anand Mankar!
> I'm studying in DCP [T.Y.] from CWIT, Pune.
> My Roll No is 194009.
> I scored 98% in 5th Semester.
> Thank You!
→ Linux |
```

## bc Command



```
..ester-6/Linux x + ^
→ Linux bc
bc 1.07.1
Copyright 1991-1994, 1997, 1998, 2000, 2004, 2006, 2008, 2012-2017 Free Software Foundation, Inc.
This is free software with ABSOLUTELY NO WARRANTY.
For details type `warranty'.
3+89
92
567/9
63
→ Linux |
```

## man Command : man mkdir



```
MKDIR(1) User Commands MKDIR(1)
NAME
    mkdir - make directories
SYNOPSIS
    mkdir [OPTION] ... DIRECTORY...
DESCRIPTION
    Create the DIRECTORY(ies), if they do not already exist.

    Mandatory arguments to long options are mandatory for short options too.

    -m, --mode=MODE
        set file mode (as in chmod), not a=rwx - umask

    -p, --parents
        no error if existing, make parent directories as needed

    -v, --verbose
        print a message for each created directory

    -Z      set SELinux security context of each created directory to the default type

    --context[=<CTX>]
        like -Z, or if CTX is specified then set the SELinux or SMACK security context to CTX

    --help display this help and exit

    --version
        output version information and exit

AUTHOR
    Manual page mkdir(1) line 1 (press h for help or q to quit)
```

## calendar Command

```
..ester-6/Linux x + < Linux calendar
Apr 01 Yourdon, Inc. founded, 1974 (It figures.)
Apr 01 People of superb intelligence, savoir-faire, etc. born this day.
Apr 01 Youth Day in Benin
Apr 01 Sergej Rachmaninow is born in Oneg, Russia, 1873
Apr 01 Ben Collins became Debian Project Leader, 2001
Apr 01 Primera misa en territorio argentino, 1520
Apr 01 World fair in Bruxelles : 45,000,000 of visitors, 1958
Apr 01 1 april
Apr 01 Matthew Jacob <mjacobs@FreeBSD.org> born in San Francisco, California, United States, 1958
Apr 01 Alexander V. Chernikov <melifarao@FreeBSD.org> born in Moscow, Russian Federation, 1984
Apr 01 Bill Fenner <fenner@FreeBSD.org> born in Bellefonte, Pennsylvania, United States, 1971
Apr 01 Peter Edwards <peddar@FreeBSD.org> born in Dublin, Ireland, 1973
Apr 01 Votre fichier calendar est corrompu.
Apr 01 N'oubliez pas les Hugues !
Apr 01 Avril entrant,
    Coucou chantant,
    Sonnailles tintant.
Apr 01 Organisierter Boykott jüdischer Geschäfte, 1933
Apr 01 Sergej Rachmaninow in Oneg geboren, 1873
Apr 01 Hugo
Apr 01 День специалиста по ядерному обеспечению
Apr 01 День космических войск
Apr 01 Новогодние каникулы
Apr 01 День народного единства
Apr 01 День освобождения Москвы силами народного ополчения под руководством Кузьмы Минина и Дмитрия Пожарского от польских интервентов (1612 год)
Apr 01 Введение во храм Пресвятой Богородицы
Apr 01 Civil Service Day (วันข้าราชการไทย) in Thailand
Apr 01 April Fool's Day
```

## date Command

```
..ester-6/Linux x + < ./Linux/194009
→ 194009 date
Fri Mar 25 14:47:38 IST 2022
→ 194009 |
```

```
..ester-6/Linux x + < Linux date +%d
01
→  Linux date +%m
04
→  Linux date +%Y
2022
→  Linux |
```

```
ester-6/Linux x + ▾
→ 194009 touch toCopy.txt
→ 194009 ls -la
total 0
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 25 14:48 .
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 25 14:23 ..
-rwxrwxrwx 1 samtech2543 samtech2543 0 Mar 25 14:40 1.txt
-rwxrwxrwx 1 samtech2543 samtech2543 0 Mar 25 14:40 My.txt
-rwxrwxrwx 1 samtech2543 samtech2543 0 Mar 25 14:42 data.csv
-rwxrwxrwx 1 samtech2543 samtech2543 0 Mar 25 14:43 data2.csv
-rwxrwxrwx 1 samtech2543 samtech2543 55 Mar 25 14:35 mytext1.txt
-rwxrwxrwx 1 samtech2543 samtech2543 0 Mar 25 14:48 toCopy.txt
→ 194009 cp toCopy.txt ..
→ 194009 cd ..
→ Linux ls -la
total 0
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 25 14:48 .
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 25 14:23 ..
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 25 14:48 194009
-rwxrwxrwx 1 samtech2543 samtech2543 0 Mar 25 14:48 toCopy.txt
→ Linux |
```

### wc Command

```
ester-6/Linux x + ▾
→ 194009 wc mytext1.txt
 4 8 55 mytext1.txt
→ 194009 |
```

```
ester-6/Linux x + ▾
→ Linux vi 194009.txt
→ Linux wc 194009.txt
 5 28 147 194009.txt
→ Linux wc -l 194009.txt
5 194009.txt
→ Linux wc -c 194009.txt
147 194009.txt
→ Linux wc -w 194009.txt
28 194009.txt
→ Linux |
```

### pwd Command

```
./Linux/194009
x + ▾
→ 194009 pwd
/mnt/d/Best_Projects/Semester-6/Linux/194009
→ 194009 |
```

### passwd Command

```
→ Linux passwd
Changing password for samtech2543.
Current password:
New password:
Retype new password:
passwd: password updated successfully
→ Linux sudo su
[sudo] password for samtech2543:
root@DESKTOP-7K7PU8Q:/mnt/d/Best_Projects/Semester-6/Linux#
```

### history Command

```
./Linux/194009
x + ▾
→ 194009 history|
```

```
./Linux/194009
x + v

555 ls *.txt
556 clear
557 ls -la
558 ls [9]*
559 clear
560 ls -la
561 ls [z]*
562 cls
563 clear
564 ls -la
565 cat --help
566 clear
567 cat --help
568 clear
569 date
570 clear
571 touch toCopy.txt
572 ls -la
573 cp toCopy.txt ..
574 cd ..
575 ls -la
576 cd 194009
577 clear
578 wc --help
579 clear
580 wc mytext1.txt
581 clear
582 pwd --help
583 pwd
584 clear
585 pwd
586 history
587 clear
→ 194009 |
```

### cmp Command

```
→ 194009 cmp 1.txt My.txt
1.txt My.txt differ: byte 1, line 1
→ 194009 |
```

```
..../Linux/194009 × + ▾
→ 194009 zsh --version
zsh 5.8 (x86_64-ubuntu-linux-gnu)
→ 194009 |
```

```
..../Linux/194009 × + ▾
→ 194009 exit
zsh: you have suspended jobs.
→ 194009 |
```

### shutdown Command

```
..../Linux/194009 × + ▾
→ 194009 shutdown|
```

## cp Command

```
./Linux/194009
+ Linux ls
194009 'Linux Practical-2.docx' 194009 toCopy.txt vi.docx
'Linux Practical-1.pdf'  Linux.docx Sarvesh.txt typescript '~$nux Practical-2.docx'
+ Linux cd 194009
+ 194009 ls
194009 data.csv data2.csv for_vi.txt
+ 194009 cd ..
+ Linux cp toCopy.txt 194009
+ Linux cd 194009
+ 194009 ls
194009 data.csv data2.csv for_vi.txt toCopy.txt
+ 194009 |
```

## mv Command

```
./ester-6/Linux
+ Linux ls
194009 194009.txt toCopy.txt
+ Linux mv 194009.txt Sarvesh.txt
+ Linux l
total 0
drwxrwxrwx 1 samtech2543 samtech2543 512 Apr  1 14:42 194009
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 29 20:09 Sarvesh.txt
drwxrwxrwx 1 samtech2543 samtech2543 512 Apr  1 14:19 194009
-rw-rw-rwx 1 samtech2543 samtech2543 147 Apr  1 14:25 Sarvesh.txt
-rw-rw-rwx 1 samtech2543 samtech2543 0 Mar 25 14:48 toCopy.txt
+ Linux |
```

## mkdir Command

```
./Linux/194009
+ 194009 mkdir --help
Usage: mkdir [OPTION] ... DIRECTORY ...
Create the DIRECTORY(ies), if they do not already exist.

Mandatory arguments to long options are mandatory for short options too.
-m, --mode=MODE    set file mode (as in chmod), not a=rwx - umask
-p, --parents      no error if existing, make parent directories as needed
-v, --verbose      print a message for each created directory
-Z                 set SELinux security context of each created directory
                  to the default type
--context[=CTX]   like -Z, or if CTX is specified then set the SELinux
                  or SMACK security context to CTX
--help            display this help and exit
--version         output version information and exit

GNU coreutils online help: <https://www.gnu.org/software/coreutils/>
Report mkdir translation bugs to <https://translationproject.org/team/>
Full documentation at: <https://www.gnu.org/software/coreutils/mkdir>
or available locally via: info '(coreutils) mkdir invocation'
+ 194009
```

```
..ts/Semester-6
→ Semester-6 mkdir Linux
→ Semester-6 ls -la
total 3396
drwxrwxrwx 1 samtech2543 samtech2543      512 Mar 25 14:18 Linux
drwxrwxrwx 1 samtech2543 samtech2543      512 Mar 24 00:17 ...
drwxrwxrwx 1 samtech2543 samtech2543      512 Mar 15 01:43 ...
drwxrwxrwx 1 samtech2543 samtech2543      512 Mar 25 14:18 ...
drwxrwxrwx 1 samtech2543 samtech2543      512 Mar 11 01:30 ...
drwxrwxrwx 1 samtech2543 samtech2543      512 Mar 23 01:44 ...
-rwxrwxrwx 1 samtech2543 samtech2543 3477413 Sep 24 2020 'Syllabus .pdf'
→ Semester-6 |
```

## cd Command

```
..ester-6/Linux
→ Linux ls
194009      'Linux Practical-2.docx'    Notes      toCopy.txt  vi.docx
'Linux Practical-1.pdf'   Linux.docx          Sarvesh.txt  typescript  '~$nux Practical-2.docx'
→ Linux cd 194009
→ 194009 ls
Notes  data.csv  data2.csv  for_vt.txt  toCopy.txt
→ 194009 cd ..
→ Linux
```

## rmdir Command

```
..ester-6/Linux
→ Linux mkdir mydir
→ Linux ls
194009      Linux.docx    Notes      vi.docx
'Linux Practical-1.pdf'  Notes      toCopy.txt  '~$nux Practical-2.docx'
'Linux Practical-2.docx' Sarvesh.txt  typescript  '~WRL0003.tmp'
→ Linux rmdir mydir
→ Linux ls
194009      Linux.docx    toCopy.txt  '~$nux Practical-2.docx'
'Linux Practical-1.pdf'  Notes      typescript  '~WRL0003.tmp'
'Linux Practical-2.docx' Sarvesh.txt  vi.docx
→ Linux
```

## rm Command

```
..ester-6/Linux
→ Linux ls
194009      Linux.docx    toCopy.txt  '~$nux Practical-2.docx'
'Linux Practical-1.pdf'  Notes      typescript  '~WRL0003.tmp'
'Linux Practical-2.docx' Sarvesh.txt  vi.docx
→ Linux rm toCopy.txt
→ Linux ls
194009      'Linux Practical-2.docx'  Notes      typescript  '$nux Practical-2.docx'
'Linux Practical-1.pdf'   Linux.docx          Sarvesh.txt  vi.docx  '~WRL0003.tmp'
→ Linux
```

## ls Command

```
..ts/Semester-6
→ Semester-6 mkdir 194009
→ Semester-6 ls -la
total 3396
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 25 14:22 .
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 24 00:17 ..
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 25 14:22 194009
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 15 01:43 Java
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 25 14:18 Linux
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 11 01:30 NA
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 23 01:44 Python
-rwxrwxrwx 1 samtech2543 samtech2543 3477413 Sep 24 2020 'Syllabus .pdf'
→ Semester-6
```

```
..ester-6/Linux
→ Semester-6 mv 194009 Linux
→ Semester-6 ls -la
total 3396
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 25 14:23 .
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 24 00:17 ..
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 15 01:43 Java
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 25 14:23 Linux
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 11 01:30 NA
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 23 01:44 Python
-rwxrwxrwx 1 samtech2543 samtech2543 3477413 Sep 24 2020 'Syllabus .pdf'
→ Semester-6 cd Linux
→ Linux ls -la
total 0
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 25 14:23 .
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 25 14:23 ..
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 25 14:22 194009
→ Linux |
```

```
./Linux/194009
→ 194009 mkdir Hello
→ 194009 ls
1.txt Hello My.txt data.csv data2.csv for_vi.txt mytext1.txt toCopy.txt vi.docx vi_demo.txt
→ 194009 ls -d
→ 194009 ls -f
. .demo_vi.txt.swo .vi_demo.txt.swo 1.txt data2.csv Hello mytext1.txt vi.docx
.. .demo_vi.txt.swp .vi_demo.txt.swp data.csv for_vi.txt My.txt toCopy.txt vi_demo.txt
→ 194009 ls -la
total 688
drwxrwxrwx 1 samtech2543 samtech2543 512 Apr 1 14:13 .
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 25 14:48 ..
-rwxrwxrwx 1 samtech2543 samtech2543 4096 Mar 29 14:18 .demo_vi.txt.swo
-rwxrwxrwx 1 samtech2543 samtech2543 12288 Mar 29 14:17 .demo_vi.txt.swp
-rwxrwxrwx 1 samtech2543 samtech2543 12288 Mar 29 15:23 .vi_demo.txt.swo
-rwxrwxrwx 1 samtech2543 samtech2543 12288 Mar 29 15:10 .vi_demo.txt.swp
-rwxrwxrwx 1 samtech2543 samtech2543 19 Mar 25 15:09 1.txt
drwxrwxrwx 1 samtech2543 samtech2543 512 Apr 1 14:13 Hello
-rwxrwxrwx 1 samtech2543 samtech2543 183 Mar 29 14:55 My.txt
-rwxrwxrwx 1 samtech2543 samtech2543 0 Mar 25 14:42 data.csv
-rwxrwxrwx 1 samtech2543 samtech2543 0 Mar 25 14:43 data2.csv
-rwxrwxrwx 1 samtech2543 samtech2543 1030 Mar 29 14:50 for_vi.txt
-rwxrwxrwx 1 samtech2543 samtech2543 55 Mar 25 14:35 mytext1.txt
-rwxrwxrwx 1 samtech2543 samtech2543 0 Mar 25 14:48 toCopy.txt
-rwxrwxrwx 1 samtech2543 samtech2543 654325 Mar 29 15:22 vi.docx
-rwxrwxrwx 1 samtech2543 samtech2543 1032 Mar 29 15:21 vi_demo.txt
→ 194009 |
```

### wc Command

```
..~/Linux/194009
→ 194009 wc mytext1.txt
 4 8 55 mytext1.txt
→ 194009 |
```

```
..ester-6/Linux
→ Linux vi 194009.txt
→ Linux wc 194009.txt
 5 28 147 194009.txt
→ Linux wc -l 194009.txt
5 194009.txt
→ Linux wc -c 194009.txt
147 194009.txt
→ Linux wc -w 194009.txt
28 194009.txt
→ Linux |
```

### more Command

```
..ester-6/Linux
→ Linux more Sarvesh.txt
Hello, My name is Sarvesh Anand Mankar!
I'm studying in DCP [T.Y.] from CWIT, Pune.
My Roll No is 194009.
I scored 98% in 5th Semester.
Thank You!
→ Linux |
```

### Wildcard Commands

```
..~/Linux/194009
→ 194009 ls [0-9]*
1.txt
→ 194009 |
```

```
./Linux/194009
→ 194009 ls [a-z]*
mytext1.txt
→ 194009 |
```

```
./Linux/194009
→ 194009 ls [A-Z]*
My.txt
→ 194009 |
```

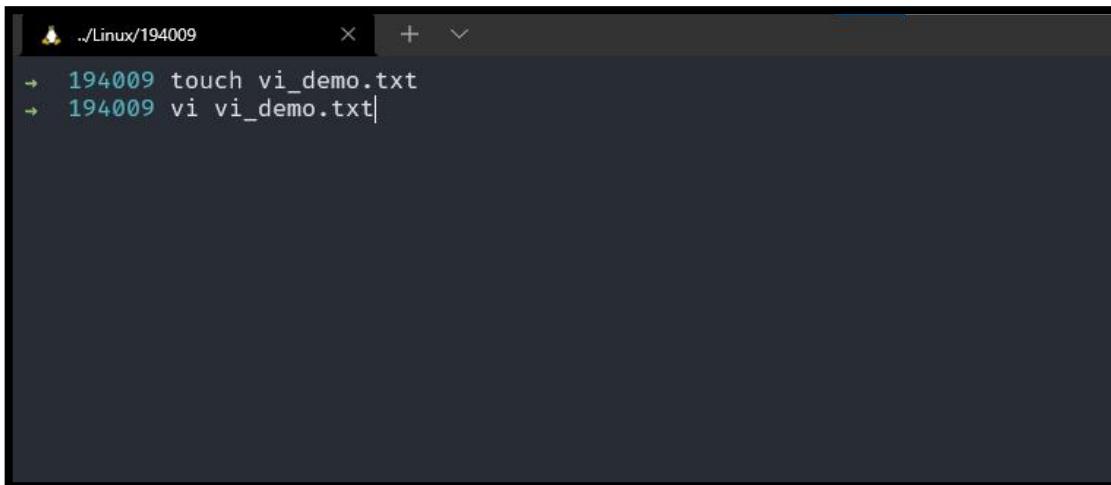
```
→ 194009 ls -la
total 0
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 25 14:40 .
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 25 14:23 ..
-rwxrwxrwx 1 samtech2543 samtech2543 0 Mar 25 14:40 1.txt
-rwxrwxrwx 1 samtech2543 samtech2543 0 Mar 25 14:40 My.txt
-rwxrwxrwx 1 samtech2543 samtech2543 55 Mar 25 14:35 mytext1.txt
→ 194009 touch data.csv
→ 194009 ls -la
total 0
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 25 14:42 .
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 25 14:23 ..
-rwxrwxrwx 1 samtech2543 samtech2543 0 Mar 25 14:40 1.txt
-rwxrwxrwx 1 samtech2543 samtech2543 0 Mar 25 14:40 My.txt
-rwxrwxrwx 1 samtech2543 samtech2543 0 Mar 25 14:42 data.csv
-rwxrwxrwx 1 samtech2543 samtech2543 55 Mar 25 14:35 mytext1.txt
→ 194009 touch data2.csv
→ 194009 ls -la
total 0
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 25 14:43 .
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 25 14:23 ..
-rwxrwxrwx 1 samtech2543 samtech2543 0 Mar 25 14:40 1.txt
-rwxrwxrwx 1 samtech2543 samtech2543 0 Mar 25 14:40 My.txt
-rwxrwxrwx 1 samtech2543 samtech2543 0 Mar 25 14:42 data.csv
-rwxrwxrwx 1 samtech2543 samtech2543 0 Mar 25 14:43 data2.csv
-rwxrwxrwx 1 samtech2543 samtech2543 55 Mar 25 14:35 mytext1.txt
→ 194009 |
```

```
./Linux/194009
+ 194009 ls -la
total 0
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 25 14:43 .
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 25 14:23 ..
-rwxrwxrwx 1 samtech2543 samtech2543 0 Mar 25 14:40 1.txt
-rwxrwxrwx 1 samtech2543 samtech2543 0 Mar 25 14:40 My.txt
-rwxrwxrwx 1 samtech2543 samtech2543 0 Mar 25 14:42 data.csv
-rwxrwxrwx 1 samtech2543 samtech2543 0 Mar 25 14:43 data2.csv
-rwxrwxrwx 1 samtech2543 samtech2543 55 Mar 25 14:35 mytext1.txt
+ 194009 ls ?.txt
1.txt
+ 194009 |
```

```
./Linux/194009
+ 194009 ls -la
total 0
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 25 14:43 .
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 25 14:23 ..
-rwxrwxrwx 1 samtech2543 samtech2543 0 Mar 25 14:40 1.txt
-rwxrwxrwx 1 samtech2543 samtech2543 0 Mar 25 14:40 My.txt
-rwxrwxrwx 1 samtech2543 samtech2543 0 Mar 25 14:42 data.csv
-rwxrwxrwx 1 samtech2543 samtech2543 0 Mar 25 14:43 data2.csv
-rwxrwxrwx 1 samtech2543 samtech2543 55 Mar 25 14:35 mytext1.txt
+ 194009 ls ???.txt
My.txt
+ 194009 |
```

```
./Linux/194009
+ 194009 ls -la
total 0
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 25 14:43 .
drwxrwxrwx 1 samtech2543 samtech2543 512 Mar 25 14:23 ..
-rwxrwxrwx 1 samtech2543 samtech2543 0 Mar 25 14:40 1.txt
-rwxrwxrwx 1 samtech2543 samtech2543 0 Mar 25 14:40 My.txt
-rwxrwxrwx 1 samtech2543 samtech2543 0 Mar 25 14:42 data.csv
-rwxrwxrwx 1 samtech2543 samtech2543 0 Mar 25 14:43 data2.csv
-rwxrwxrwx 1 samtech2543 samtech2543 55 Mar 25 14:35 mytext1.txt
+ 194009 ls *.csv
data.csv data2.csv
+ 194009 ls *.txt
1.txt My.txt mytext1.txt
+ 194009 |
```

Creating a file and opening it in vi Editor.

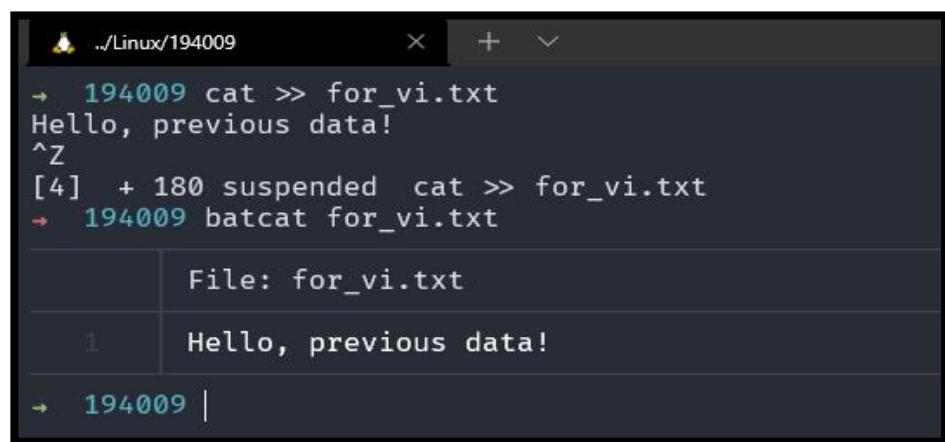


A terminal window titled ..../Linux/194009. It shows three commands being run:

```
194009 touch vi_demo.txt
194009 vi vi_demo.txt
```



A vi editor window titled vi. The buffer contains a single character, a tilde (~). The status bar at the bottom right shows "vi\_demo.txt" 0L, 0C, 0,0-1, All.



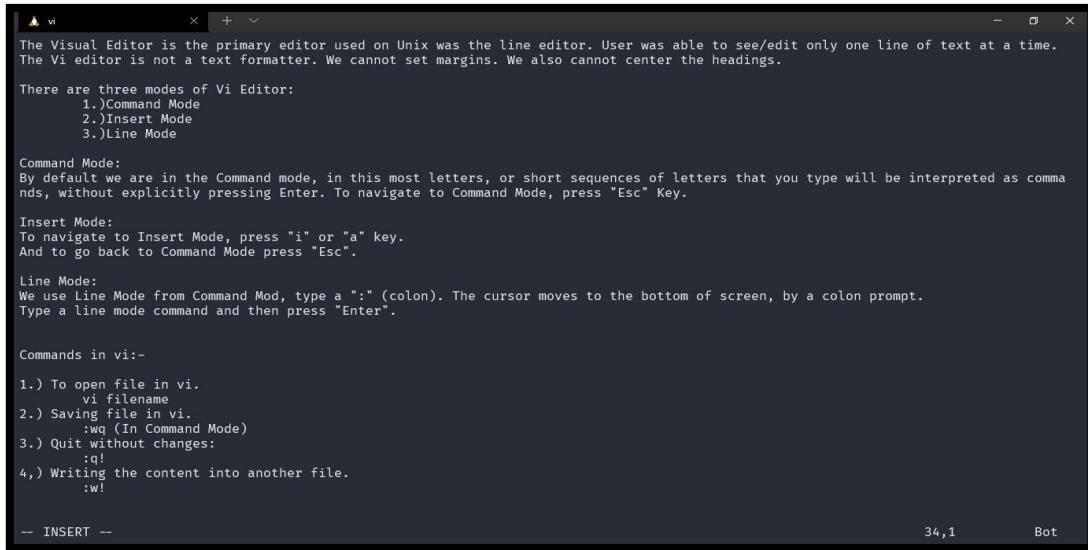
A terminal window titled ..../Linux/194009. It shows several commands being run:

```
cat >> for_vi.txt
Hello, previous data!
^Z
[4] + 180 suspended cat >> for_vi.txt
batcat for_vi.txt
```

The output shows the contents of the file:

	File: for_vi.txt
1	Hello, previous data!

## Typing data in vi Editor Navigating to Insert mode by pressing “a” key.



```
vi      x + 
The Visual Editor is the primary editor used on Unix was the line editor. User was able to see/edit only one line of text at a time.
The Vi editor is not a text formatter. We cannot set margins. We also cannot center the headings.

There are three modes of Vi Editor:
  1.)Command Mode
  2.)Insert Mode
  3.)Line Mode

Command Mode:
By default we are in the Command mode, in this most letters, or short sequences of letters that you type will be interpreted as commands, without explicitly pressing Enter. To navigate to Command Mode, press "Esc" Key.

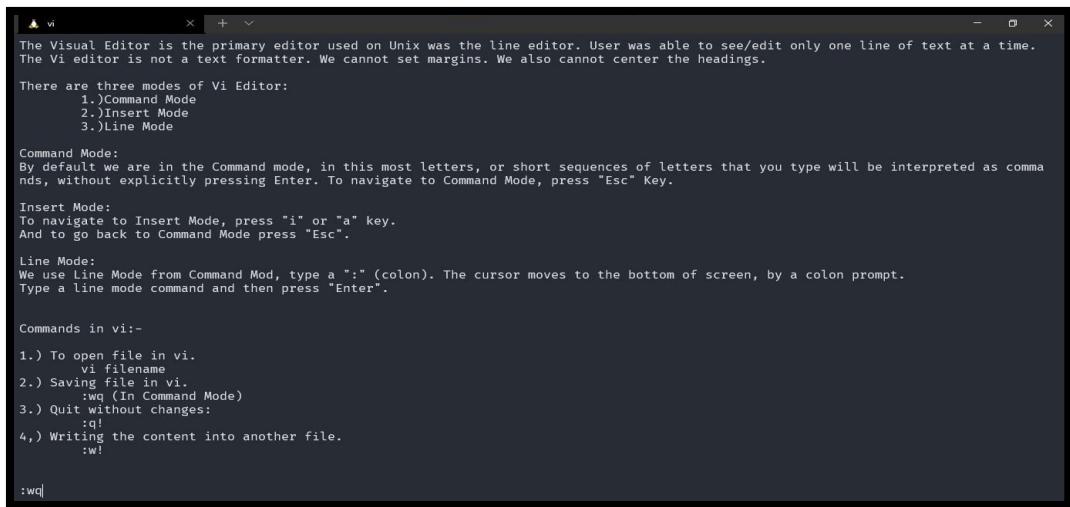
Insert Mode:
To navigate to Insert Mode, press "i" or "a" key.
And to go back to Command Mode press "Esc".

Line Mode:
We use Line Mode from Command Mod, type a ":" (colon). The cursor moves to the bottom of screen, by a colon prompt.
Type a line mode command and then press "Enter".

Commands in vi:-
1.) To open file in vi.
   vi filename
2.) Saving file in vi.
   :wq (In Command Mode)
3.) Quit without changes:
   :q!
4.) Writing the content into another file.
   :w!

-- INSERT --
34,1          Bot
```

Command Mode :wq command to save and exit the file.



```
vi      x + 
The Visual Editor is the primary editor used on Unix was the line editor. User was able to see/edit only one line of text at a time.
The Vi editor is not a text formatter. We cannot set margins. We also cannot center the headings.

There are three modes of Vi Editor:
  1.)Command Mode
  2.)Insert Mode
  3.)Line Mode

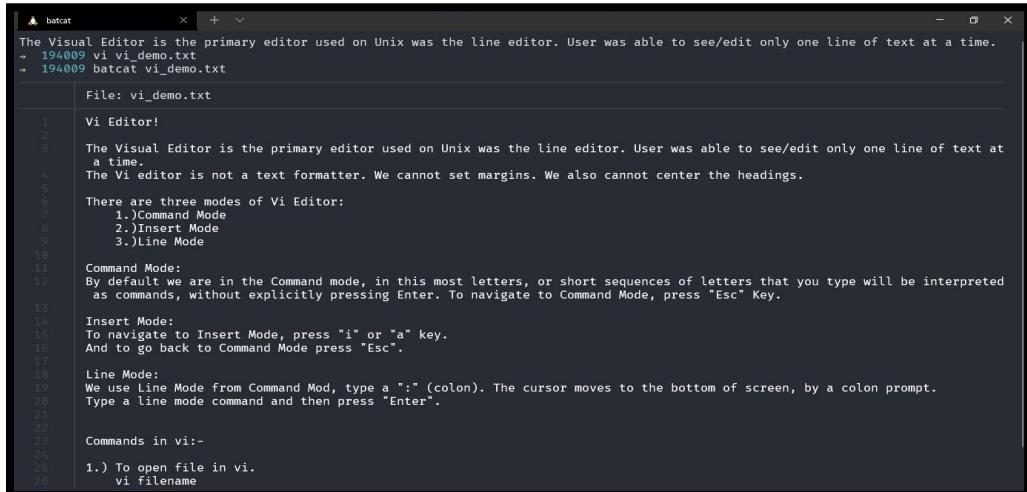
Command Mode:
By default we are in the Command mode, in this most letters, or short sequences of letters that you type will be interpreted as commands, without explicitly pressing Enter. To navigate to Command Mode, press "Esc" Key.

Insert Mode:
To navigate to Insert Mode, press "i" or "a" key.
And to go back to Command Mode press "Esc".

Line Mode:
We use Line Mode from Command Mod, type a ":" (colon). The cursor moves to the bottom of screen, by a colon prompt.
Type a line mode command and then press "Enter".

Commands in vi:-
1.) To open file in vi.
   vi filename
2.) Saving file in vi.
   :wq (In Command Mode)
3.) Quit without changes:
   :q!
4.) Writing the content into another file.
   :w!

:wq
```



```
batcat      x + 
The Visual Editor is the primary editor used on Unix was the line editor. User was able to see/edit only one line of text at a time.
+ 194009 vi vi_demo.txt
+ 194009 batcat vi_demo.txt

File: vi_demo.txt
1
2
3 The Visual Editor is the primary editor used on Unix was the line editor. User was able to see/edit only one line of text at a time.
4 The Vi editor is not a text formatter. We cannot set margins. We also cannot center the headings.
5
6 There are three modes of Vi Editor:
7   1.)Command Mode
8   2.)Insert Mode
9   3.)Line Mode
10
11 Command Mode:
12 By default we are in the Command mode, in this most letters, or short sequences of letters that you type will be interpreted as commands, without explicitly pressing Enter. To navigate to Command Mode, press "Esc" Key.
13
14 Insert Mode:
15 To navigate to Insert Mode, press "i" or "a" key.
16 And to go back to Command Mode press "Esc".
17
18 Line Mode:
19 We use Line Mode from Command Mod, type a ":" (colon). The cursor moves to the bottom of screen, by a colon prompt.
20 Type a line mode command and then press "Enter".
21
22 Commands in vi:-
23
24 1.) To open file in vi.
25   vi filename
```

**:w! command to write the above content to particular file.**

```
vi
The Visual Editor is the primary editor used on Unix was the line editor. User was able to see/edit only one line of text at a time.
The Vi editor is not a text formatter. We cannot set margins. We also cannot center the headings.

There are three modes of Vi Editor:
 1.)Command Mode
 2.)Insert Mode
 3.)Line Mode

Command Mode:
By default we are in the Command mode, in this most letters, or short sequences of letters that you type will be interpreted as commands, without explicitly pressing Enter. To navigate to Command Mode, press "Esc" Key.

Insert Mode:
To navigate to Insert Mode, press "i" or "a" key.
And to go back to Command Mode press "Esc".

Line Mode:
We use Line Mode from Command Mod, type a ":" (colon). The cursor moves to the bottom of screen, by a colon prompt.
Type a line mode command and then press "Enter".

Commands in vi:-
1.) To open file in vi.
   vi filename
2.) Saving file in vi.
   :wq (In Command Mode)
3.) Quit without changes:
   :q!
4.) Writing the content into another file.
   :w!

:w! for_vi.txt|
```

```
"for_vi.txt" 34L, 1030C written
```

```
batcat
File: for_vi.txt
1 Vi Editor!
2
3 The Visual Editor is the primary editor used on Unix was the line editor. User was able to see/edit only one line of text at a time.
4 The Vi editor is not a text formatter. We cannot set margins. We also cannot center the headings.
5
6 There are three modes of Vi Editor:
 1.)Command Mode
 2.)Insert Mode
 3.)Line Mode
7
8 Command Mode:
9 By default we are in the Command mode, in this most letters, or short sequences of letters that you type will be interpreted as commands, without explicitly pressing Enter. To navigate to Command Mode, press "Esc" Key.
10
11 Insert Mode:
12 To navigate to Insert Mode, press "i" or "a" key.
13 And to go back to Command Mode press "Esc".
14
15 Line Mode:
16 We use Line Mode from Command Mod, type a ":" (colon). The cursor moves to the bottom of screen, by a colon prompt.
17 Type a line mode command and then press "Enter".
18
19 Commands in vi:-
20
21 1.) To open file in vi.
22   vi filename
23 2.) Saving file in vi.
24   :wq (In Command Mode)
25
26
27
28
```

: n, m w! command to write from line n to m at particular file.

```
:4, 10 w! My.txt
```

```
"My.txt" 7L, 183C written
```

A screenshot of a terminal window titled 'Linux/194009'. The window shows the command history: '194009 vi vi\_demo.txt' and '194009 batcat My.txt'. The main pane displays the contents of 'My.txt' which includes a note about Vi Editor's limitations and a list of three modes: Command Mode, Insert Mode, and Line Mode. The bottom status bar shows the number '194009'.

```
File: My.txt
1 The Vi editor is not a text formatter. We cannot set margins. We also cannot center the headings.
2 There are three modes of Vi Editor:
3   1.)Command Mode
4   2.)Insert Mode
5   3.)Line Mode
6
7
194009 |
```

:q! – Quit file without saving

A screenshot of a terminal window titled 'Linux/194009'. The window shows the command history: '194009 batcat for\_vi.txt'. The main pane displays the contents of 'for\_vi.txt' which describes the vi editor, its modes (Command, Insert, Line), and the Command Mode. The bottom status bar shows the number '194009'.

```
File: for_vi.txt
1 The vi Editor is the primary editor used on Unix was the line editor, User was able to view/edit only one line at a time. The vi Editor is no a text formatter. We cannot enter the margins and also cannot enter the text as center heading.
2
3 There are three modes in vi editor:
4   1.) Command Mode
5   2.) Insert Mode
6   3.) Line Mode
7
8 Command Mode:
9 By default mode were we can execute the commands to manipulate through the text.
10
11 Insert Mode:
12 In this mode we can enter the text to the file.
13
14 Line Mode:
15 We use Line Mode from Command Mode, type colon (:). The Cursor moves to the bottom of the prompt. Type line mode command and press "Enter".
16
17
18
19
194009 |
```

```
vi
The vi Editor is the primary editor used on Unix was the line editor, User was able to view/edit only one line at a time. The vi Editor is no a text formatter. We cannot enter the margins and also cannot enter the text as center heading.

There are three modes in vi editor:
1.) Command Mode
2.) Insert Mode
3.) Line Mode

Command Mode:
By default mode were we can execute the commands to manipulate through the text.

Insert Mode:
In this mode we can enter the text to the file.

Line Mode:
We use Line Mode from Command Mode, type colon (:). The Cursor moves to the bottom of the prompt. Type line mode command and press "Enter".

This Text will not be saved as we will close this file with :w! Command.
Thank You!
~  
~  
~  
~  
~  
~  
:q!
```

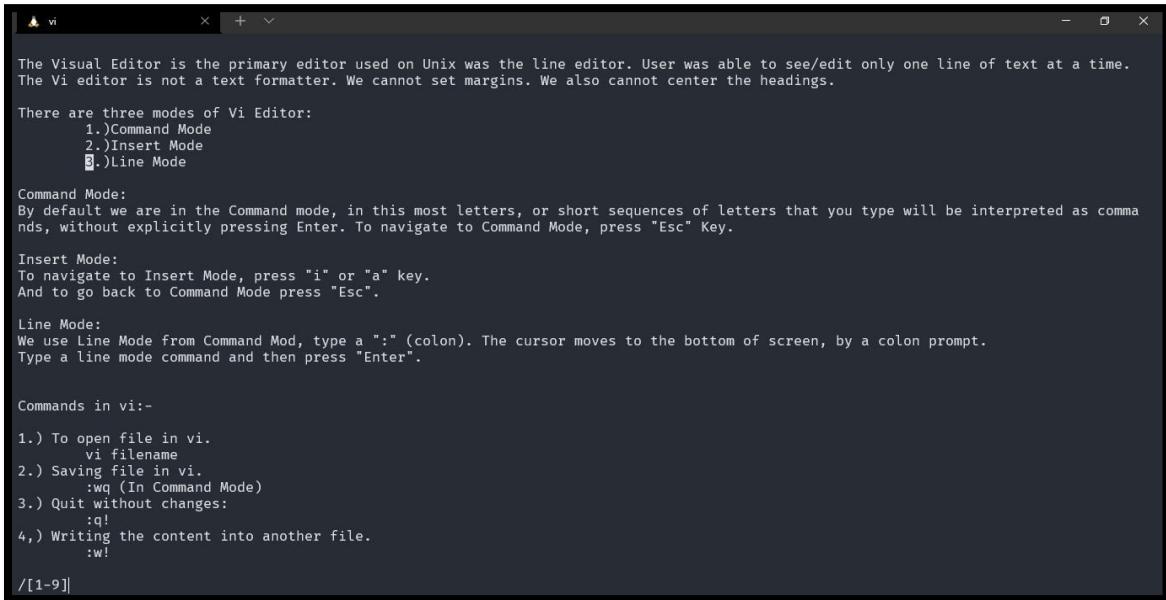
```
./Linux/194009
+ 194009 batcat for_vi.txt
File: for_vi.txt

1 The vi Editor is the primary editor used on Unix was the line editor, User was able to view/edit only one line at a time. The vi Editor is no a text formatter. We cannot enter the margins and also cannot enter the text as center heading.

2 There are three modes in vi editor:
3   1.) Command Mode
4   2.) Insert Mode
5   3.) Line Mode
6
7 Command Mode:
8 By default mode were we can execute the commands to manipulate through the text.
9
10 Insert Mode:
11 In this mode we can enter the text to the file.
12
13 Line Mode:
14 We use Line Mode from Command Mode, type colon (:). The Cursor moves to the bottom of the prompt. Type line mode command and press "Enter".
15

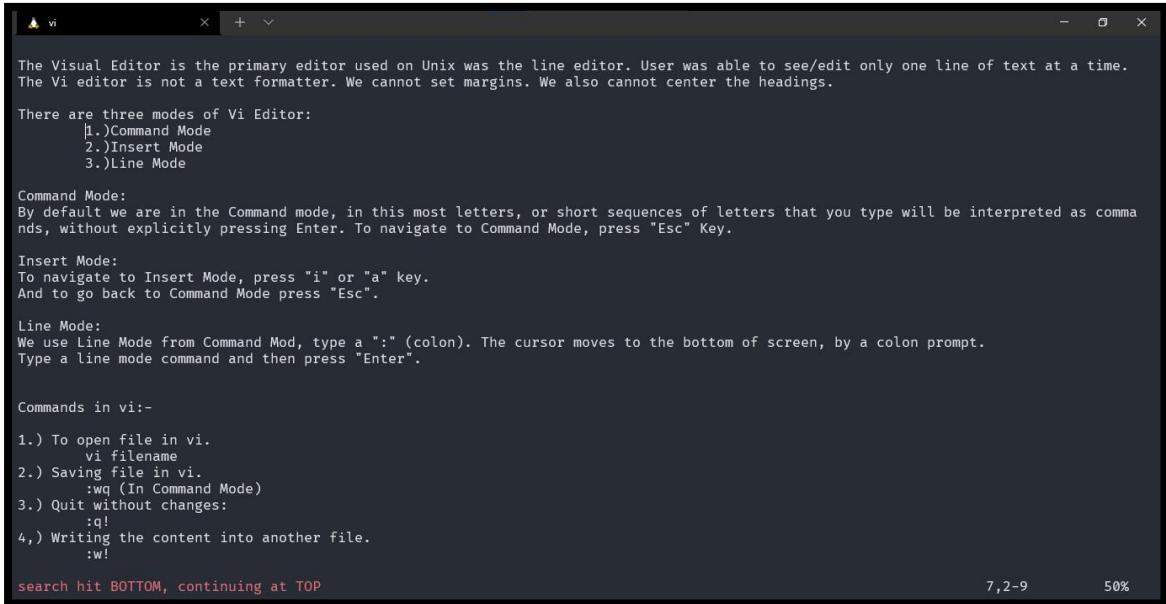
+ 194009 |
```

## Searching text in vi Editor / and ? commands



```
The Visual Editor is the primary editor used on Unix was the line editor. User was able to see/edit only one line of text at a time.  
The Vi editor is not a text formatter. We cannot set margins. We also cannot center the headings.  
There are three modes of Vi Editor:  
    1.)Command Mode  
    2.)Insert Mode  
    3.)Line Mode  
  
Command Mode:  
By default we are in the Command mode, in this most letters, or short sequences of letters that you type will be interpreted as commands, without explicitly pressing Enter. To navigate to Command Mode, press "Esc" Key.  
  
Insert Mode:  
To navigate to Insert Mode, press "i" or "a" key.  
And to go back to Command Mode press "Esc".  
  
Line Mode:  
We use Line Mode from Command Mod, type a ":" (colon). The cursor moves to the bottom of screen, by a colon prompt.  
Type a line mode command and then press "Enter".  
  
Commands in vi:-  
1.) To open file in vi.  
    vi filename  
2.) Saving file in vi.  
    :wq (In Command Mode)  
3.) Quit without changes:  
    :q!  
4.) Writing the content into another file.  
    :w!  
/[1-9]
```

Press “n” key to repeat last command



```
The Visual Editor is the primary editor used on Unix was the line editor. User was able to see/edit only one line of text at a time.  
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There are three modes of Vi Editor:  
    1.)Command Mode  
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Command Mode:  
By default we are in the Command mode, in this most letters, or short sequences of letters that you type will be interpreted as commands, without explicitly pressing Enter. To navigate to Command Mode, press "Esc" Key.  
  
Insert Mode:  
To navigate to Insert Mode, press "i" or "a" key.  
And to go back to Command Mode press "Esc".  
  
Line Mode:  
We use Line Mode from Command Mod, type a ":" (colon). The cursor moves to the bottom of screen, by a colon prompt.  
Type a line mode command and then press "Enter".  
  
Commands in vi:-  
1.) To open file in vi.  
    vi filename  
2.) Saving file in vi.  
    :wq (In Command Mode)  
3.) Quit without changes:  
    :q!  
4.) Writing the content into another file.  
    :w!  
search hit BOTTOM, continuing at TOP
```



## Copy and Paste Commands

```
vi
```

The vi Editor is the primary editor used on Unix was the line editor, User was able to view/edit only one line at a time. The vi Editor is no a text formatter. We cannot enter the margins and also cannot enter the text as center heading.

There are three modes in vi editor:

- 1.) Command Mode
- 2.) Insert Mode
- 3.) Line Mode

|Command Mode:  
By default mode were we can execute the commands to manipulate through the text.

## xp Command : Transpose two Characters

```
vi
```

The vi Editor is the primary editor used on Unix was the line editor, User was able to view/edit only one line at a time. The vi Editor is no a text formatter. We cannot enter the margins and also cannot enter the text as center heading.

There are three modes in vi editor:

- 1.) Command Mode
- 2.) Insert Mode
- 3.) Line Mode

|Command Mode:  
By default mode were we can execute the commands to manipulate through the text.

## yy Command : Copy to General Buffer “3yy” and then “p”

```
vi
```

The vi Editor is the primary editor used on Unix was the line editor, User was able to view/edit only one line at a time. The vi Editor is no a text formatter. We cannot enter the margins and also cannot enter the text as center heading.

There are three modes in vi editor:

- 1.) Command Mode
- 2.) Insert Mode
- 3.) Line Mode

|Command Mode:  
By default mode were we can execute the commands to manipulate through the text.

|Insert Mode:  
In this mode we can enter the text to the file.

|Insert Mode:  
In this mode we can enter the text to the file.

Line Mode:  
We use Line Mode from Command Mode, type colon (:). The Cursor moves to the bottom of the prompt. Type line mode command and press "Enter".

~  
~  
~  
~  
~  
~  
~  
3 more lines

14,1 All

Storing Yank into buffered name “ayy on 4th line  
will save that line into buffer named “a”

“**b**” on 5th line will save that line into buffer named “**b**”

“aP to print text on next line which is in buffered named “a”

```
vi
x + -
1 The vi Editor is the primary editor used on Unix was the line editor, User was able to view/edit only one
   line at a time. The vi Editor is no a text formatter. We cannot enter the margins and also cannot enter
   the text as center heading.
2
3 There are three modes in vi editor:
4     1.) Command Mode
5     2.) Insert Mode
6     3.) Line Mode
7
8
9         |1.) Command Mode
10
11 oCommand Mode:
12 By default mode were we can execute the commands to manipulate through the text.
13
14 Insert Mode:
15 In this mode we can enter the text to the file.
16
17 Line Mode:
18 We use Line Mode from Command Mode, type colon (:). The Cursor moves to the bottom of the prompt. Type l
   ine mode command and press "Enter".
~
```

“bp to print text which is in buffered named “b”

```
vi
x + ~
1 The vi Editor is the primary editor used on Unix was the line editor, User was able to view/edit only one
   line at a time. The vi Editor is no a text formatter. We cannot enter the margins and also cannot enter
   the text as center heading.
2
3 There are three modes in vi editor:
4     1.) Command Mode
5     2.) Insert Mode
6     3.) Line Mode
7
8
9         1.) Command Mode
10
11         2.) Insert Mode
12 oCommand Mode:
13 By default mode were we can execute the commands to manipulate through the text.
14
15 Insert Mode:
16 In this mode we can enter the text to the file.
17
18 Line Mode:
19 We use Line Mode from Command Mode, type colon (:). The Cursor moves to the bottom of the prompt. Type l
   ine mode command and press "Enter".
~
```

## Customize the vi Editor using :set Commands

### :set nu Command

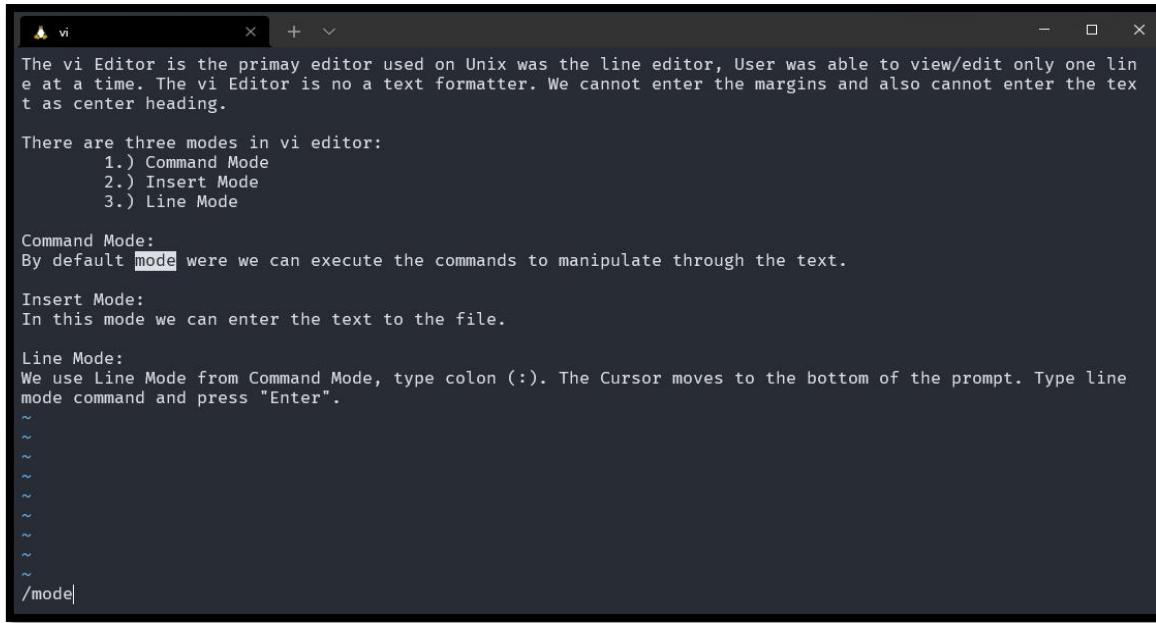
:set showmode command, shows us the Mode at bottom of prompt

```
vi x + ~ The vi Editor is the primary editor used on Unix was the line editor, User was able to view/edit only one line at a time. The vi Editor is no a text formatter. We cannot enter the margins and also cannot enter the text as center heading.  
There are three modes in vi editor:  
1.) Command Mode  
2.) Insert Mode  
3.) Line Mode  
  
Command Mode:  
By default mode were we can execute the commands to manipulate through the text.  
  
Insert Mode:  
In this mode we can enter the text to the file.  
  
Line Mode:  
We use Line Mode from Command Mode, type colon (:). The Cursor moves to the bottom of the prompt. Type line mode command and press "Enter".  
~  
~  
~  
~  
~  
~  
~  
~  
~  
-- INSERT --
```

:set nowrapmode Command, does not show the mode of vi editor.

## Ignore Case for Searching and Replacing

By default vi Editor is Case Sensitive.



```
The vi Editor is the primary editor used on Unix was the line editor, User was able to view/edit only one line at a time. The vi Editor is no a text formatter. We cannot enter the margins and also cannot enter the text as center heading.

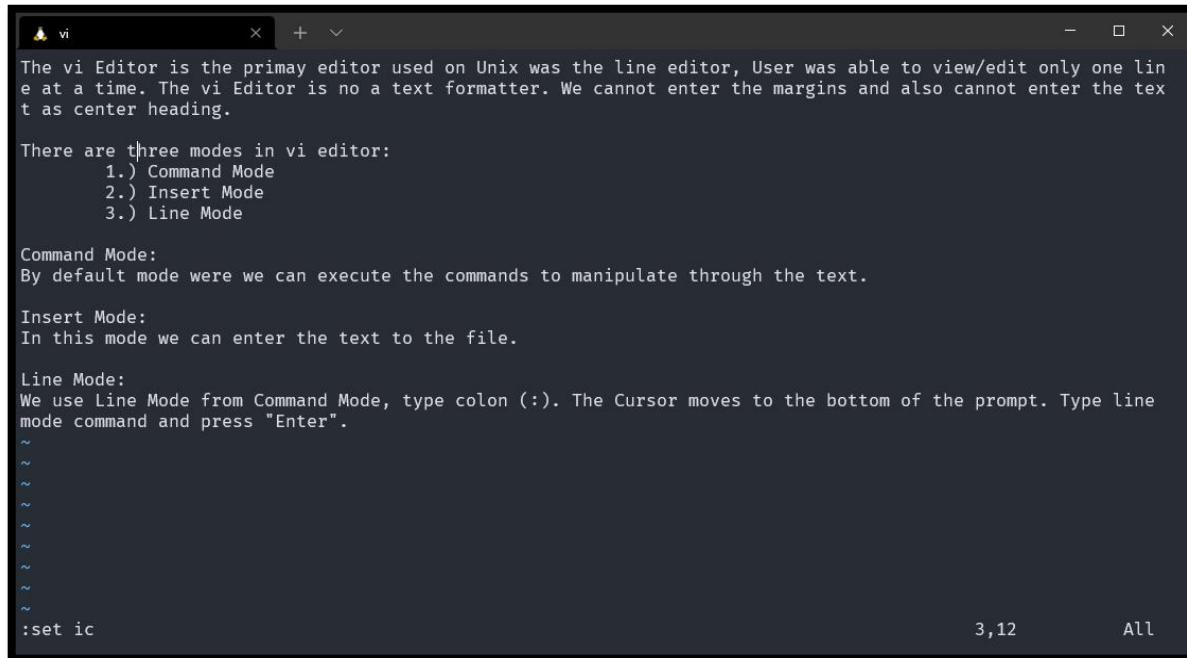
There are three modes in vi editor:
  1.) Command Mode
  2.) Insert Mode
  3.) Line Mode

Command Mode:
By default mode were we can execute the commands to manipulate through the text.

Insert Mode:
In this mode we can enter the text to the file.

Line Mode:
We use Line Mode from Command Mode, type colon (:). The Cursor moves to the bottom of the prompt. Type line mode command and press "Enter".
~
~
~
~
~
~
~
~
~/mode|
```

:set ic – For ignoring case.



```
The vi Editor is the primary editor used on Unix was the line editor, User was able to view/edit only one line at a time. The vi Editor is no a text formatter. We cannot enter the margins and also cannot enter the text as center heading.

There are three modes in vi editor:
  1.) Command Mode
  2.) Insert Mode
  3.) Line Mode

Command Mode:
By default mode were we can execute the commands to manipulate through the text.

Insert Mode:
In this mode we can enter the text to the file.

Line Mode:
We use Line Mode from Command Mode, type colon (:). The Cursor moves to the bottom of the prompt. Type line mode command and press "Enter".
~

:set ic          3,12      All
```

```
wi + - □ ×
The vi Editor is the primary editor used on Unix was the line editor, User was able to view/edit only one line at a time. The vi Editor is no a text formatter. We cannot enter the margins and also cannot enter the text as center heading.

There are three modes in vi editor:
  1.) Command Mode
  2.) Insert Mode
  3.) Line Mode

Command Mode:
By default mode were we can execute the commands to manipulate through the text.

Insert Mode:
In this mode we can enter the text to the file.

Line Mode:
We use Line Mode from Command Mode, type colon (:). The Cursor moves to the bottom of the prompt. Type line mode command and press "Enter".
~
~
~
~
~
~
~
~
~/mode
5,13-20 All
```

:set noic – For setting mode as Case Sensitive

```
vi + x - □ ×

The vi Editor is the primary editor used on Unix was the line editor, User was able to view/edit only one line at a time. The vi Editor is no a text formatter. We cannot enter the margins and also cannot enter the text as center heading.

There are three modes in vi editor:
    1.) Command Mode
    2.) Insert Mode
    3.) Line Mode

Command Mode:
By default mode were we can execute the commands to manipulate through the text.

Insert Mode:
In this mode we can enter the text to the file.

Line Mode:
We use Line Mode from Command Mode, type colon (:). The Cursor moves to the bottom of the prompt. Type line mode command and press "Enter".
~
~
~
~
~
~
~
~
~/mode|
```

## Print the Greatest Number

The terminal window shows the execution of a shell script named greater.sh. The script prompts the user for two numbers and prints the greater one. The output shows that 88 is greater than 67.

```
[sarvesh@fedora 194009]$ bat greater.sh
File: greater.sh
1 echo -e "Enter First Number: \c"
2 read num1
3
4 echo -e "Enter Second Number: \c"
5 read num2
6
7 if [ $num1 -gt $num2 ]
8 then
9     echo "Greater Number is:" $num1
10 else
11     echo "Greater Number is:" $num2
12 fi

[sarvesh@fedora 194009]$ bash greater.sh
Enter First Number: 67
Enter Second Number: 88
Greater Number is: 88
[sarvesh@fedora 194009]$
```

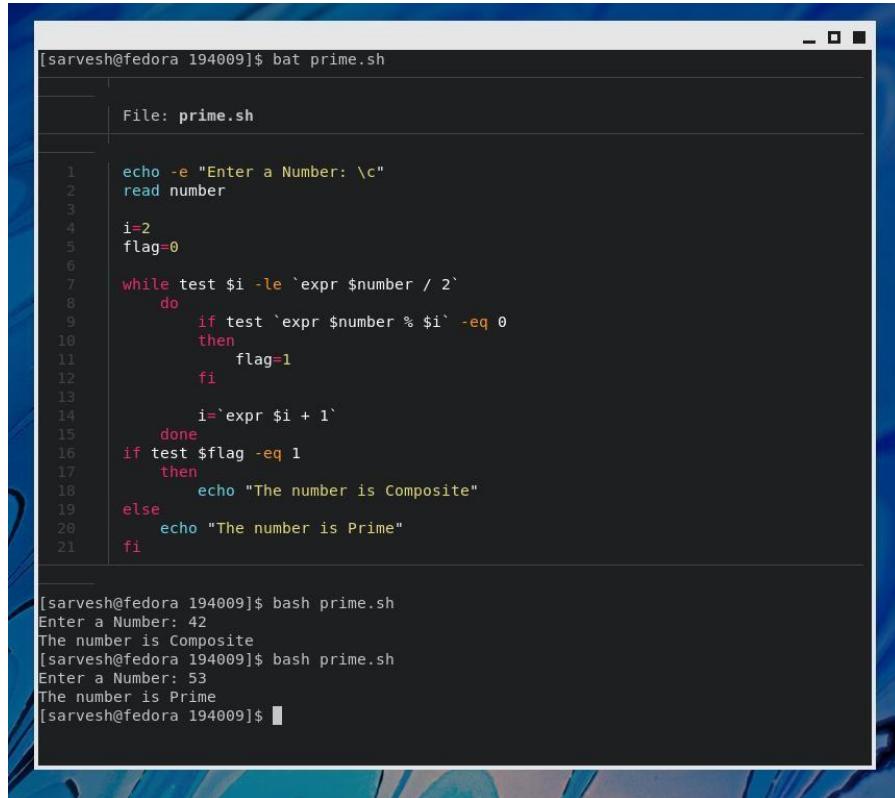
## Number Tables

The terminal window shows the execution of a shell script named table.sh. The script prompts the user for a number and prints its multiplication table from 1 to 10. The output shows the multiplication table for the number 4.

```
[sarvesh@fedora 194009]$ bat table.sh
File: table.sh
1 echo -e "Enter a Number: \c"
2 read num
3
4 for i in `seq 1 10`
5 do
6     let a=$i*$num
7     echo $num "x" $i "=" $a
8 done

[sarvesh@fedora 194009]$ bash table.sh
Enter a Number: 4
4 x 1 = 4
4 x 2 = 8
4 x 3 = 12
4 x 4 = 16
4 x 5 = 20
4 x 6 = 24
4 x 7 = 28
4 x 8 = 32
4 x 9 = 36
4 x 10 = 40
[sarvesh@fedora 194009]$
```

## Check if Number is Prime or Composite



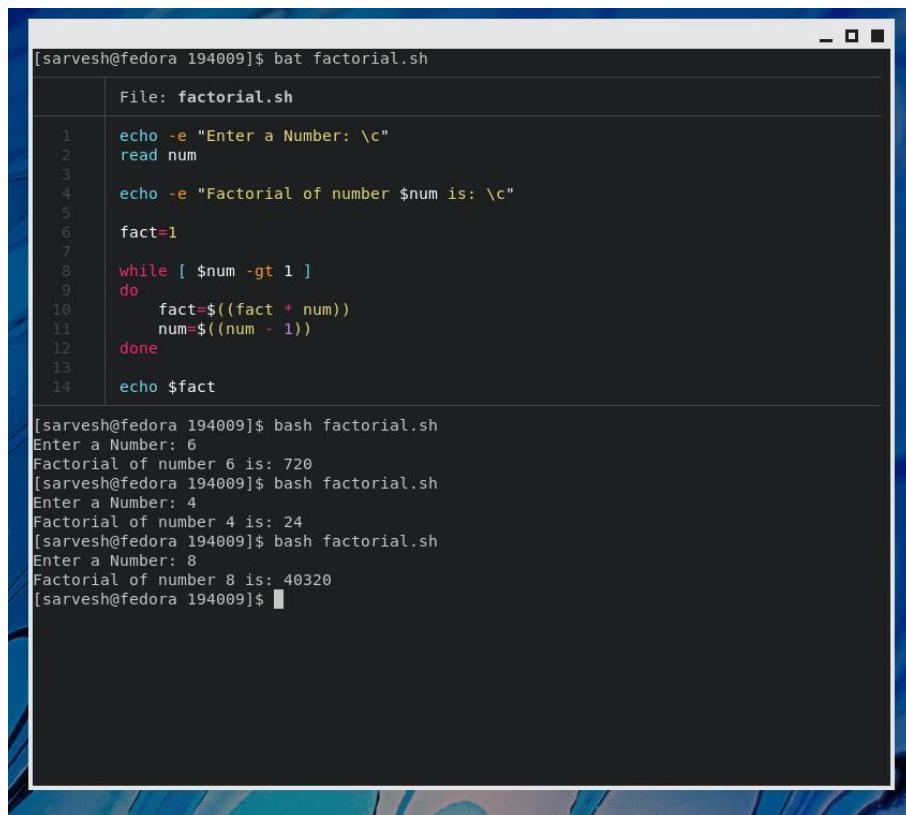
The terminal window shows the contents of the file prime.sh and its execution:

```
[sarvesh@fedora 194009]$ bat prime.sh
File: prime.sh

1 echo -e "Enter a Number: \c"
2 read number
3
4 i=2
5 flag=0
6
7 while test $i -le `expr $number / 2`
8 do
9     if test `expr $number % $i` -eq 0
10    then
11        flag=1
12    fi
13
14    i=`expr $i + 1`
15 done
16 if test $flag -eq 1
17 then
18     echo "The number is Composite"
19 else
20     echo "The number is Prime"
21 fi

[sarvesh@fedora 194009]$ bash prime.sh
Enter a Number: 42
The number is Composite
[sarvesh@fedora 194009]$ bash prime.sh
Enter a Number: 53
The number is Prime
[sarvesh@fedora 194009]$
```

## Factorial of a Number



The terminal window shows the contents of the file factorial.sh and its execution:

```
[sarvesh@fedora 194009]$ bat factorial.sh
File: factorial.sh

1 echo -e "Enter a Number: \c"
2 read num
3
4 echo -e "Factorial of number $num is: \c"
5
6 fact=1
7
8 while [ $num -gt 1 ]
9 do
10     fact=$((fact * num))
11     num=$((num - 1))
12 done
13
14 echo $fact

[sarvesh@fedora 194009]$ bash factorial.sh
Enter a Number: 6
Factorial of number 6 is: 720
[sarvesh@fedora 194009]$ bash factorial.sh
Enter a Number: 4
Factorial of number 4 is: 24
[sarvesh@fedora 194009]$ bash factorial.sh
Enter a Number: 8
Factorial of number 8 is: 40320
[sarvesh@fedora 194009]$
```

```
[sarvesh@fedora 194009]$ bat fibonacci.sh
File: fibonacci.sh

1 echo -e "Enter number of items required in Fiboancci Series: \c"
2 read num
3
4 n1=0
5 n2=1
6 n3=0
7
8 for i in `seq 1 $num`
9 do
10     n3=$((n1+n2))
11     echo $n3
12     n1=$((n2))
13     n2=$((n3))
14 done
15

[sarvesh@fedora 194009]$ bash fibonacci.sh
Enter number of items required in Fiboancci Series: 5
1
2
3
5
8
[sarvesh@fedora 194009]$ bash fibonacci.sh
Enter number of items required in Fiboancci Series: 9
1
2
3
5
8
13
21
34
55
[sarvesh@fedora 194009]$ S
```

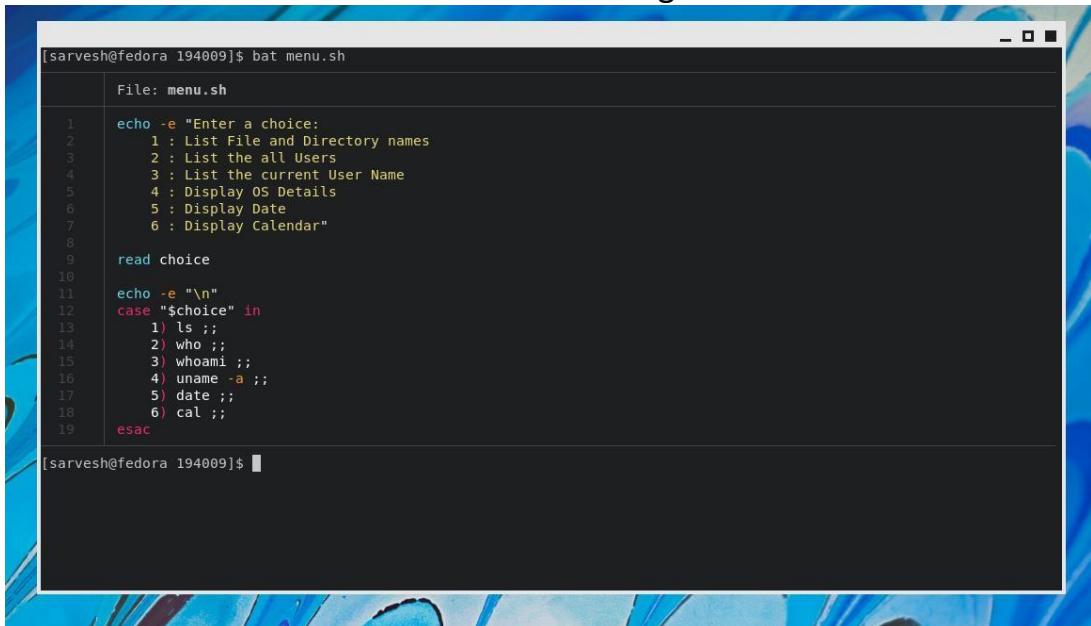
## Fibonacci Series

```
[sarvesh@fedora 194009]$ bat palindrome.sh
File: palindrome.sh

1 echo -e "Enter a Word: \c"
2 read word
3
4 revr=""
5
6 l=${#word}
7
8 i=1
9 until [ $i -ge $((l+1)) ]
10 do
11     r=${word:l-i:1}
12     revr="$revr$r"
13     i=$((i+1))
14 done
15
16 echo -e "$word is \c"
17
18 if [ "$word" = "$revr" ]
19 then
20     echo "Palindrome!"
21 else
22     echo "Not Palindrome!"
23 fi
24

[sarvesh@fedora 194009]$
```

## Palindrome String



```
[sarvesh@fedora 194009]$ bat menu.sh
File: menu.sh

1 echo -e "Enter a choice:
2   1 : List File and Directory names
3   2 : List the all Users
4   3 : List the current User Name
5   4 : Display OS Details
6   5 : Display Date
7   6 : Display Calendar"
8
9  read choice
10
11 echo -e "\n"
12 case "$choice" in
13   1) ls ;;
14   2) who ;;
15   3) whoami ;;
16   4) uname -a ;;
17   5) date ;;
18   6) cal ;;
19 esac
[sarvesh@fedora 194009]$
```

## Menu Driven Program using CASE Statement

```
[sarvesh@fedora 194009]$ bash menu.sh
Enter a choice:
1 : List File and Directory names
2 : List the Users
3 : List the current User Name
4 : Display OS Details
5 : Display Date
6 : Display Calendar
1

factorial.sh  file1.txt  for_loop.sh  menu.sh      newfile.txt  prime.sh  table.sh
fibonacci.sh  file.tar    greater.sh   myfile.txt  palindrome.sh  script.sh
[sarvesh@fedora 194009]$
```

```
[sarvesh@fedora 194009]$ bash menu.sh
Enter a choice:
1 : List File and Directory names
2 : List the Users
3 : List the current User Name
4 : Display OS Details
5 : Display Date
6 : Display Calendar
2

sarvesh  tty2          2022-05-06 13:26 (tty2)
[sarvesh@fedora 194009]$
```

```
[sarvesh@fedora 194009]$ bash menu.sh
Enter a choice:
 1 : List File and Directory names
 2 : List the all Users
 3 : List the current User Name
 4 : Display OS Details
 5 : Display Date
 6 : Display Calendar
3
```

```
sarvesh
[sarvesh@fedora 194009]$
```

```
[sarvesh@fedora 194009]$ bash menu.sh
Enter a choice:
 1 : List File and Directory names
 2 : List the all Users
 3 : List the current User Name
 4 : Display OS Details
 5 : Display Date
 6 : Display Calendar
4

Linux fedora 5.17.4-200.fc35.x86_64 #1 SMP PREEMPT Wed Apr 20 15:37:53 UTC 2022 x86_64 x86_64 x86_64 GNU/Linux
[sarvesh@fedora 194009]$
```

```
[sarvesh@fedora 194009]$ bash menu.sh
Enter a choice:
 1 : List File and Directory names
 2 : List the all Users
 3 : List the current User Name
 4 : Display OS Details
 5 : Display Date
 6 : Display Calendar
5
```

```
Friday 06 May 2022 03:04:23 PM IST
[sarvesh@fedora 194009]$
```

```
[sarvesh@fedora 194009]$ bash menu.sh
Enter a choice:
 1 : List File and Directory names
 2 : List the all Users
 3 : List the current User Name
 4 : Display OS Details
 5 : Display Date
 6 : Display Calendar
6
```

```
      May 2022
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 31
```

```
[sarvesh@fedora 194009]$
```

```
[sarvesh@fedora 194009]$ bat armstrong.sh
File: armstrong.sh

1  echo -e "Enter a Number: \c"
2  read num
3
4  revr=""
5
6  l=${#num}
7  s=0
8
9  i=0
10 until [ $i -ge $((l+1)) ]
11 do
12     r=$((num:i:1))
13     a=$((r*r*r))
14     s=$((s+a))
15     i=$((i+1))
16 done
17
18 if [ $num = $s ]
19 then
20     echo "Armstrong Number!"
21 else
22     echo "Not an Armstrong Number!"
23 fi

[sarvesh@fedora 194009]$ bash armstrong.sh
Enter a Number: 153
Armstrong Number!
[sarvesh@fedora 194009]$ bash armstrong.sh
Enter a Number: 124
Not an Armstrong Number!
[sarvesh@fedora 194009]$
```

## Armstrong Number

## Simple AWK Programs

```
[sarvesh@fedora 194009]$ bat mylist.lst
File: mylist.lst
1 10 | Sarvesh Mankar | DCP | 98
2 20 | Anand Mankar | DCP | 96
3 30 | Om Mankar | DEE | 95
4 40 | Shyam Saksena | DME | 94
5 50 | J.B. Saksena | DCE | 96
[sarvesh@fedora 194009]$ awk -F " |" '/Sa[kx]s*ena/' mylist.lst
40 | Shyam Saksena | DME | 94
50 | J.B. Saksena | DCE | 96
[sarvesh@fedora 194009]$
```

```
[sarvesh@fedora 194009]$ bat mylist.lst
File: mylist.lst
1 10 | Sarvesh Mankar | DCP | 98
2 20 | Anand Mankar | DCP | 96
3 30 | Om Mankar | DEE | 95
4 40 | Shyam Saksena | DME | 94
5 50 | J.B. Saksena | DCE | 96
[sarvesh@fedora 194009]$ awk -F " |" '/DCP/' mylist.lst
10 | Sarvesh Mankar | DCP | 98
20 | Anand Mankar | DCP | 96
[sarvesh@fedora 194009]$
```

```
[sarvesh@fedora 194009]$ bat mylist.lst
File: mylist.lst
1 10 | Sarvesh Mankar | DCP | 98
2 20 | Anand Mankar | DCP | 96
3 30 | Om Mankar | DEE | 95
4 40 | Shyam Saksena | DME | 94
5 50 | J.B. Saksena | DCE | 96
[sarvesh@fedora 194009]$ awk -F "|" '{ print $1 $2 $3 $4/2 }' mylist.lst
10 Sarvesh Mankar DCP 49
20 Anand Mankar DCP 48
30 Om Mankar DEE 47.5
40 Shyam Saksena DME 47
50 J.B. Saksena DCE 48
[sarvesh@fedora 194009]$
```

```
[sarvesh@fedora 194009]$ bat mylist.lst
File: mylist.lst
1 10 | Sarvesh Mankar | DCP | 98
2 20 | Anand Mankar | DCP | 96
3 30 | Om Mankar | DEE | 95
4 40 | Shyam Saksena | DME | 94
5 50 | J.B. Saksena | DCE | 96
[sarvesh@fedora 194009]$ awk -F "|" '{print $1 $2 $3 $4}' mylist.lst
10 Sarvesh Mankar DCP 98
20 Anand Mankar DCP 96
30 Om Mankar DEE 95
40 Shyam Saksena DME 94
50 J.B. Saksena DCE 96
[sarvesh@fedora 194009]$ awk -F "|" '{printf "%5d %-20s %5d %5d\n", $1, $2, $3, $4}' mylist.lst
10 Sarvesh Mankar          0    98
20 Anand Mankar          0    96
30 Om Mankar             0    95
40 Shyam Saksena         0    94
50 J.B. Saksena          0    96
[sarvesh@fedora 194009]$
```

```
[sarvesh@fedora 194009]$ bat mylist.lst
File: mylist.lst
1 10 | Sarvesh Mankar | DCP | 98
2 20 | Anand Mankar | DCP | 96
3 30 | Om Mankar | DEE | 95
4 40 | Shyam Saksena | DME | 94
5 50 | J.B. Saksena | DCE | 96
[sarvesh@fedora 194009]$ awk -F " | " '$4>95 {print $2 $4}' mylist.lst
Sarvesh Mankar 98
Anand Mankar 96
J.B. Saksena 96
[sarvesh@fedora 194009]$
```

```
[sarvesh@fedora 194009]$ bat add.awk
File: add.awk
1 {
2     n1=10
3     n2=20
4
5     print n1 "+" n2 "=" n1+n2
6     exit
7 }
```

```
[sarvesh@fedora 194009]$ awk -f add.awk
10+20=30
[sarvesh@fedora 194009]$
```

```
[sarvesh@fedora 194009]$ bat greater.awk
File: greater.awk
1 {
2     n1=10
3     n2=10
4
5     print "Number 1 = " n1
6     print "Number 2 = " n2
7
8     if (n1>n2){
9         print "n1>n2"
10    }
11    else if (n1<n2){
12        print "n1<n2"
13    }
14    else{
15        print "n1=n2"
16    }
17    exit 0
18 }
19

[sarvesh@fedora 194009]$ awk -f greater.awk
Number 1 = 10
Number 2 = 10
n1=n2
[sarvesh@fedora 194009]$
```

```
[sarvesh@fedora 194009]$ bat even.awk
File: even.awk
1 {
2     i=0
3     for (i=0; i<=10; ++i){
4         if (i%2==0) {
5             print i
6         }
7     }
8     exit 0
9 }
```

```
[sarvesh@fedora 194009]$ awk -f even.awk
0
2
4
6
8
10
[sarvesh@fedora 194009]$
```

```
[sarvesh@fedora 194009]$ bat factorial.awk
File: factorial.awk

1 BEGIN {
2     print "Enter a Number:"
3     getline n < "-"
4 }
5 {
6     fact=1
7     i=1
8
9     while (i<=n){
10         fact*=i
11         i+=1
12     }
13
14     print "Factorial of " n " is = " fact
15
16     exit 0
17 }
18
```

```
[sarvesh@fedora 194009]$ awk -f factorial.awk
Enter a Number:
6

Factorial of 6 is = 720
[sarvesh@fedora 194009]$ awk -f factorial.awk
Enter a Number:
5

Factorial of 5 is = 120
[sarvesh@fedora 194009]$
```

```
[sarvesh@fedora 194009]$ bat mobile.awk
```

```
File: mobile.awk

1 BEGIN {
2     print "Enter a 10 Digit Mobile Number: "
3     getline num > "-"
4 }
5 {
6     print num
7     if (num ~ /[0-9]/ && length(num)==10){
8         print "Valid!"
9     }
10    else{
11        print "Invalid!"
12    }
13    exit 0
14 }
```

```
[sarvesh@fedora 194009]$
```

```
[sarvesh@fedora 194009]$ awk -f mobile.awk
Enter a 10 Digit Mobile Number:
sarvesh

sarvesh
Invalid!
[sarvesh@fedora 194009]$ awk -f mobile.awk
Enter a 10 Digit Mobile Number:
1235a

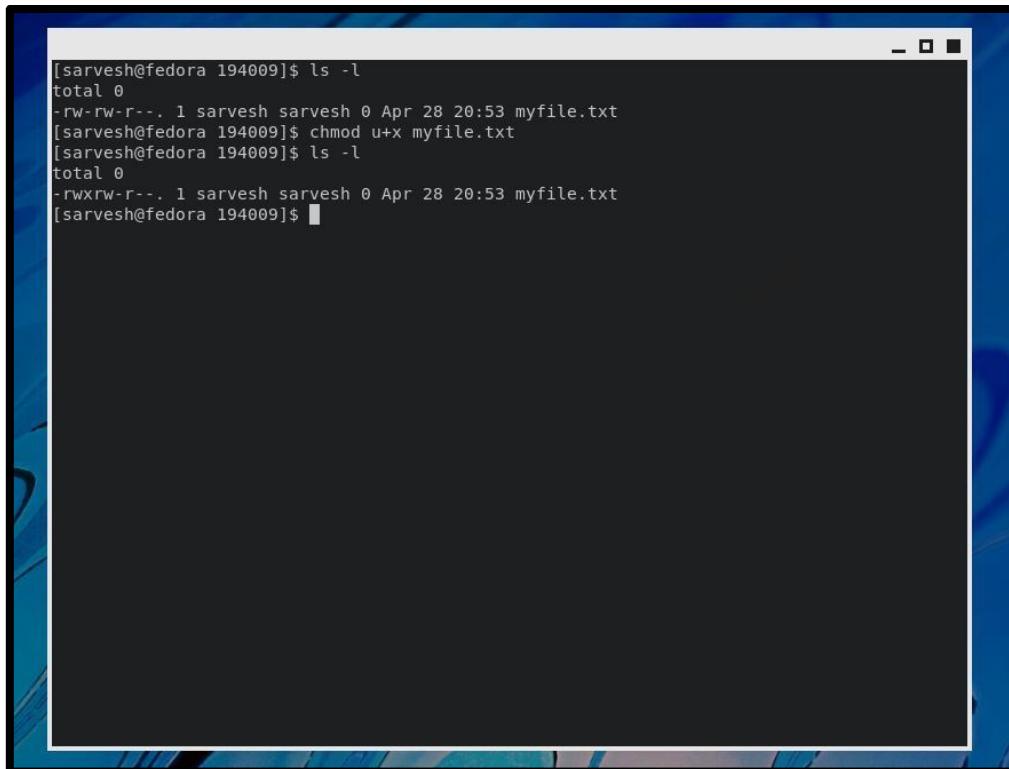
1235a
Invalid!
[sarvesh@fedora 194009]$ awk -f mobile.awk
Enter a 10 Digit Mobile Number:
12568

12568
Invalid!
[sarvesh@fedora 194009]$ awk -f mobile.awk
Enter a 10 Digit Mobile Number:
98765432199

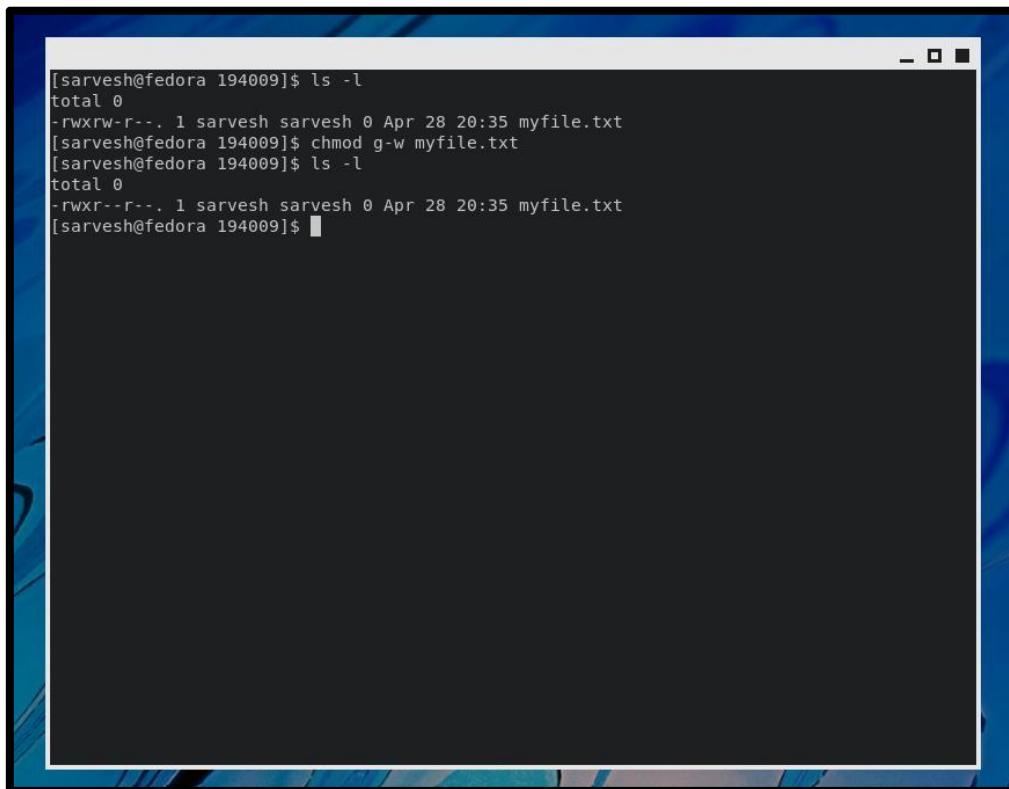
98765432199
Invalid!
[sarvesh@fedora 194009]$ awk -f mobile.awk
Enter a 10 Digit Mobile Number:
9876543210

9876543210
Valid!
[sarvesh@fedora 194009]$
```

## Chmod Command



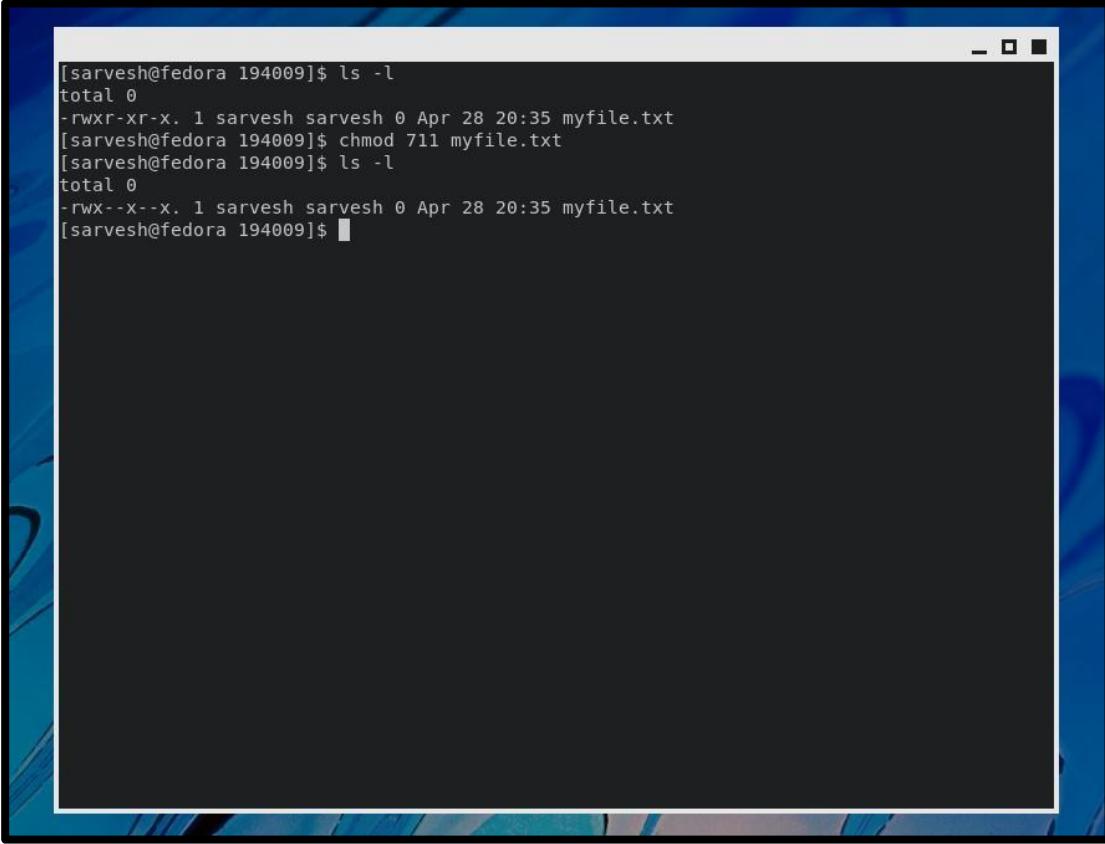
```
[sarvesh@fedora 194009]$ ls -l
total 0
-rw-rw-r--. 1 sarvesh sarvesh 0 Apr 28 20:53 myfile.txt
[sarvesh@fedora 194009]$ chmod u+x myfile.txt
[sarvesh@fedora 194009]$ ls -l
total 0
-rwxrwxr--. 1 sarvesh sarvesh 0 Apr 28 20:53 myfile.txt
[sarvesh@fedora 194009]$
```



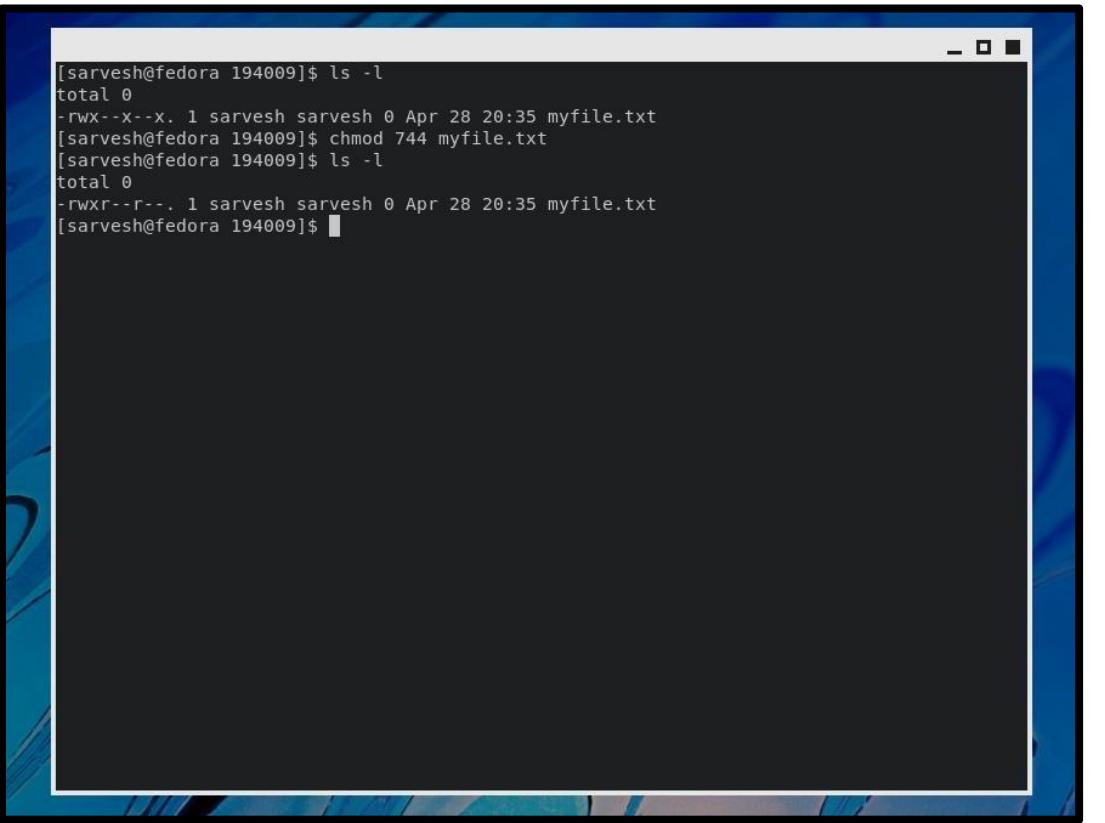
```
[sarvesh@fedora 194009]$ ls -l
total 0
-rwxrwxr--. 1 sarvesh sarvesh 0 Apr 28 20:35 myfile.txt
[sarvesh@fedora 194009]$ chmod g-w myfile.txt
[sarvesh@fedora 194009]$ ls -l
total 0
-rwxr--r--. 1 sarvesh sarvesh 0 Apr 28 20:35 myfile.txt
[sarvesh@fedora 194009]$
```

```
[sarvesh@fedora 194009]$ ls -l
total 0
-rwxr--r--. 1 sarvesh sarvesh 0 Apr 28 20:35 myfile.txt
[sarvesh@fedora 194009]$ chmod o=x,g=rx myfile.txt
[sarvesh@fedora 194009]$ ls -l
total 0
-rwxr-x--x. 1 sarvesh sarvesh 0 Apr 28 20:35 myfile.txt
[sarvesh@fedora 194009]$
```

```
[sarvesh@fedora 194009]$ ls -l
total 0
-rwxr-x--x. 1 sarvesh sarvesh 0 Apr 28 20:35 myfile.txt
[sarvesh@fedora 194009]$ chmod a+r myfile.txt
[sarvesh@fedora 194009]$ ls -l
total 0
-rwxr-xr-x. 1 sarvesh sarvesh 0 Apr 28 20:35 myfile.txt
[sarvesh@fedora 194009]$
```



```
[sarvesh@fedora 194009]$ ls -l
total 0
-rwxr-xr-x. 1 sarvesh sarvesh 0 Apr 28 20:35 myfile.txt
[sarvesh@fedora 194009]$ chmod 711 myfile.txt
[sarvesh@fedora 194009]$ ls -l
total 0
-rwx--x--x. 1 sarvesh sarvesh 0 Apr 28 20:35 myfile.txt
[sarvesh@fedora 194009]$ █
```



```
[sarvesh@fedora 194009]$ ls -l
total 0
-rwx--x--x. 1 sarvesh sarvesh 0 Apr 28 20:35 myfile.txt
[sarvesh@fedora 194009]$ chmod 744 myfile.txt
[sarvesh@fedora 194009]$ ls -l
total 0
-rwxr--r--. 1 sarvesh sarvesh 0 Apr 28 20:35 myfile.txt
[sarvesh@fedora 194009]$ █
```

```
[sarvesh@fedora 194009]$ ls -l
total 0
-rwxr--r--. 1 sarvesh sarvesh 0 Apr 28 20:35 myfile.txt
[sarvesh@fedora 194009]$ chmod 777 myfile.txt
[sarvesh@fedora 194009]$ ls -l
total 0
-rwxrwxrwx. 1 sarvesh sarvesh 0 Apr 28 20:35 myfile.txt
[sarvesh@fedora 194009]$ █
```

## Create and Manager Users and Groups

### Creating a User

```
[root@fedora home]# ls  
myUser1  sarvesh  test  
[root@fedora home]# useradd -u 1111 MyUser2  
[root@fedora home]# ls  
myUser1  MyUser2  sarvesh  test  
[root@fedora home]#
```

### Updating a User

```
[root@fedora home]# usermod -e 2022-5-27 MyUser2  
[root@fedora home]# id MyUser2  
uid=1111(MyUser2)  gid=1111(MyUser2)  groups=1111(MyUser2)  
[root@fedora home]#
```

```
[root@fedora home]# usermod -u 2022 myUser1  
[root@fedora home]# id myUser1  
uid=2022(myUser1)  gid=1001(myUser1)  groups=1001(myUser1)  
[root@fedora home]#
```

## Adding a Group

```
[root@fedora sarvesh]# groupadd MyGroup  
[root@fedora sarvesh]#
```

```
[root@fedora sarvesh]# getent group
```

```
pipewire:x:989:  
geoclue:x:988:  
brlapi:x:987:  
chrony:x:986:  
saslauth:x:76:  
radvd:x:75:  
rpc:x:32:  
libvirt:x:985:  
openvpn:x:984:  
nm-openvpn:x:983:  
colord:x:982:  
rpcuser:x:29:  
abrt:x:173:  
flatpak:x:981:  
gdm:x:42:  
gnome-initial-setup:x:980:  
vboxsf:x:979:  
sshd:x:74:  
power:x:978:  
tcpdump:x:72:  
slocate:x:21:  
sarvesh:x:1000:  
myUser1:x:1001:  
MyUser2:x:1111:  
myGroup1:x:1112:  
MyGroup:x:1113:  
[root@fedora sarvesh]#
```

## Adding User to Group

```
[root@fedora sarvesh]# id MyUser2
uid=1111(MyUser2) gid=1111(MyUser2) groups=1111(MyUser2)
[root@fedora sarvesh]# usermod -a -G MyGroup MyUser2
[root@fedora sarvesh]# usermod -a -G MyGroup MyUser2
[root@fedora sarvesh]# id MyUser2
uid=1111(MyUser2) gid=1111(MyUser2) groups=1111(MyUser2),1113(MyGroup)
[root@fedora sarvesh]#
```

```
pipewire:x:989:
geoclue:x:988:
brlapi:x:987:
chrony:x:986:
saslauth:x:76:
radvd:x:75:
rpc:x:32:
libvirt:x:985:
openvpn:x:984:
nm-openvpn:x:983:
colord:x:982:
rpcuser:x:29:
abrt:x:173:
flatpak:x:981:
gdm:x:42:
gnome-initial-setup:x:980:
vboxsf:x:979:
sshd:x:74:
power:x:978:
tcpdump:x:72:
slocate:x:21:
sarvesh:x:1000:
myUser1:x:1001:
MyUser2:x:1111:
myGroup1:x:1112:
MyGroup:x:1113:MyUser2,myUser1
[root@fedora sarvesh]#
```

## Updating a Group

```
[root@fedora sarvesh]# groupmod -p MyPassword MyGroup  
[root@fedora sarvesh]#
```

```
[root@fedora sarvesh]# groupdel MyGroup  
[root@fedora sarvesh]# getent group
```

```
rtkit:x:172:  
pipewire:x:989:  
geoclue:x:988:  
brlapi:x:987:  
chrony:x:986:  
saslauth:x:76:  
radvd:x:75:  
rpc:x:32:  
libvirt:x:985:  
openvpn:x:984:  
nm-openvpn:x:983:  
colord:x:982:  
rpcuser:x:29:  
abrt:x:173:  
flatpak:x:981:  
gdm:x:42:  
gnome-initial-setup:x:980:  
vboxsf:x:979:  
sshd:x:74:  
power:x:978:  
tcpdump:x:72:  
slocate:x:21:  
sarvesh:x:1000:  
myUser1:x:1001:  
MyUser2:x:1111:  
myGroup1:x:1112:  
[root@fedora sarvesh]#
```

## Monitor Disk Usage

### df Command

```
[sarvesh@fedora ~]$ df
Filesystem      1K-blocks    Used Available Use% Mounted on
devtmpfs          4096      0     4096   0% /dev
tmpfs            1989008      0   1989008   0% /dev/shm
tmpfs            795604    1856   793748   1% /run
/dev/nvme0n1p2  51379200  4879072  46188608 10% /
tmpfs            1989008      56   1988952   1% /tmp
/dev/nvme0n1p2  51379200  4879072  46188608 10% /home
/dev/nvme0n1p1  996780   270620   657348 30% /boot
tmpfs            397800     120   397680   1% /run/user/1000
[sarvesh@fedora ~]$
```

```
[sarvesh@fedora ~]$ df -a
Filesystem      1K-blocks    Used Available Use% Mounted on
proc              0      0      0   - /proc
sysfs             0      0      0   - /sys
devtmpfs          4096      0     4096   0% /dev
securityfs        0      0      0   - /sys/kernel/security
tmpfs            1989008      0   1989008   0% /dev/shm
devpts             0      0      0   - /dev/pts
tmpfs            795604    1856   793748   1% /run
cgroup2            0      0      0   - /sys/fs/cgroup
pstore             0      0      0   - /sys/fs/pstore
bpf                0      0      0   - /sys/fs/bpf
/dev/nvme0n1p2  51379200  4879792  46187888 10% /
selinuxfs          0      0      0   - /sys/fs/selinux
systemd-1           0      0      0   - /proc/sys/fs/binfmt_misc
hugetlbfs            0      0      0   - /dev/hugepages
mqueue             0      0      0   - /dev/mqueue
debugfs             0      0      0   - /sys/kernel/debug
tracefs             0      0      0   - /sys/kernel/tracing
fusectl             0      0      0   - /sys/fs/fuse/connections
configfs            0      0      0   - /sys/kernel/config
vmware-vmblock       0      0      0   - /run/vmblock-fuse
tmpfs            1989008      56   1988952   1% /tmp
/dev/nvme0n1p2  51379200  4879792  46187888 10% /home
/dev/nvme0n1p1  996780   270620   657348 30% /boot
sunrpc              0      0      0   - /var/lib/nfs/rpc_pipefs
tmpfs            397800     120   397680   1% /run/user/1000
gvfsd-fuse           0      0      0   - /run/user/1000/gvfs
[sarvesh@fedora ~]$
```

```
[sarvesh@fedora ~]$ df -a 194009/  
Filesystem      1K-blocks   Used Available Use% Mounted on  
/dev/nvme0n1p2    51379200  4879792  46187888  10% /home  
[sarvesh@fedora ~]$
```

## du Command

```
[sarvesh@fedora ~]$ du
```

```
0      ./local/share/pki  
0      ./local/share/sounds  
0      ./local/share/icc  
0      ./local/share/gnome-settings-daemon  
320    ./local/share/nautilus/tags  
0      ./local/share/nautilus/scripts  
320    ./local/share/nautilus  
2960   ./local/share/gnome-photos/tracker3/private  
2960   ./local/share/gnome-photos/tracker3  
2960   ./local/share/gnome-photos  
0      ./local/share/folks  
0      ./local/share/gegl-0.4/plug-ins  
0      ./local/share/gegl-0.4  
0      ./local/share/backgrounds  
3468   ./local/share  
16     ./local/state/wireplumber  
16     ./local/state  
3484   ./local  
0      ./Desktop  
0      ./Downloads  
0      ./Templates  
0      ./Public  
0      ./Documents  
0      ./Music  
1400   ./Pictures  
0      ./Videos  
92    ./194009  
0      ./Chap6/folder1  
0      ./Chap6/folder3  
0      ./Chap6/folder2  
8      ./Chap6  
168248 .  
[sarvesh@fedora ~]$
```

```
[sarvesh@fedora ~]$ du -a 194009/
12    194009/file.tar
4    194009/file1.txt
4    194009/myfile.txt
4    194009/newfile.txt
4    194009/greater.sh
4    194009/for_loop.sh
4    194009/table.sh
4    194009/prime.sh
4    194009/factorial.sh
4    194009/fibonacci.sh
4    194009/palindrome.sh
4    194009/script.sh
4    194009/menu.sh
4    194009/armstrong.sh
4    194009/data.lst
4    194009/mylist.lst
4    194009/add.awk
4    194009/greater.awk
4    194009/even.awk
4    194009/factorial.awk
4    194009/mobile.awk
92    194009/
[sarvesh@fedora ~]$
```

```
[sarvesh@fedora ~]$ du -s
168248 .
[sarvesh@fedora ~]$
```

## find Command

```
[sarvesh@fedora Chap6]$ find
.
./folder1
./folder1/f1
./folder1/f2
./folder1/f3
./folder3
./folder2
./folder2/f4
./folder2/f5
[sarvesh@fedora Chap6]$ find folder1
folder1
folder1/f1
folder1/f2
folder1/f3
[sarvesh@fedora Chap6]$
```

## dd Command

```
[root@fedora 194009]# dd if=file1.txt of=/Backup  
2+0 records in  
2+0 records out  
1024 bytes (1.0 kB, 1.0 KiB) copied, 0.000194319 s, 5.3 MB/s  
[root@fedora 194009]#
```

## Gcc Command

```
[root@fedora 194009]# chmod 777 Hello.c  
[root@fedora 194009]# bat Hello.c  


|   |                                                      |
|---|------------------------------------------------------|
|   | File: Hello.c                                        |
| 1 | #include<stdio.h>                                    |
| 2 | int main(){                                          |
| 3 | printf("Hello! My name is Sarvesh Anand Mankar!\n"); |
| 4 | return 0;                                            |
| 5 | }                                                    |

  
[root@fedora 194009]# ls -l a.out  
-rwxr-xr-x. 1 root root 24936 May 24 00:53 a.out  
[root@fedora 194009]# ./a.out  
Hello! My name is Sarvesh Anand Mankar![root@fedora 194009]#
```

```
[root@fedora 194009]# gcc Hello.c -o Hello  
[root@fedora 194009]# ls -l Hello  
-rwxr-xr-x. 1 root root 24936 May 24 00:57 Hello  
[root@fedora 194009]#
```

```
[root@fedora 194009]# gcc -time Hello.c  
# cc1 0.00 0.00  
# as 0.00 0.00  
# collect2 0.01 0.00  
[root@fedora 194009]#
```

## Redirection

```
root@tryit-exotic:~# ls
In  p11  p12  p13  p14  p15
root@tryit-exotic:~# cat > p11
Hello! in p11!
root@tryit-exotic:~# cat p11
Hello! in p11!

root@tryit-exotic:~# ls -la | cat > p22
root@tryit-exotic:~# cat p22
total 4
drwx----- 1 root root 54 Jan 13 00:50 .
drwxr-xr-x 1 root root 172 Jan 13 00:46 ..
drwxr-x--- 1 root root 6 Jan 13 00:46 .config
-rw-r--r-- 1 root root 0 Jan 13 00:48 In
-rw-r--r-- 1 root root 15 Jan 13 00:49 p11
-rw-r--r-- 1 root root 0 Jan 13 00:46 p12
-rw-r--r-- 1 root root 0 Jan 13 00:46 p13
-rw-r--r-- 1 root root 0 Jan 13 00:46 p14
-rw-r--r-- 1 root root 0 Jan 13 00:46 p15
-rw-r--r-- 1 root root 0 Jan 13 00:50 p22
root@tryit-exotic:~# 

root@tryit-exotic:~# ls -la | wc | cat > p2
root@tryit-exotic:~# cat p2
      12      101      491
root@tryit-exotic:~# ls | wc | cat >> p2
root@tryit-exotic:~# cat p2
      12      101      491
      8       8       30
root@tryit-exotic:~# 

root@tryit-exotic:~# ls
In  p11  p12  p13  p14  p15  p2  p22
root@tryit-exotic:~# wc -c < p11
15
root@tryit-exotic:~# cat p11
Hello! in p11!
root@tryit-exotic:~#
```

## Grep Command

```
root@tryit-exotic:~# cat p22
total 4
drwx----- 1 root root 54 Jan 13 00:50 .
drwxr-xr-x 1 root root 172 Jan 13 00:46 ..
drwxr-x--- 1 root root 6 Jan 13 00:46 .config
-rw-r--r-- 1 root root 0 Jan 13 00:48 In
-rw-r--r-- 1 root root 15 Jan 13 00:49 p11
-rw-r--r-- 1 root root 0 Jan 13 00:46 p12
-rw-r--r-- 1 root root 0 Jan 13 00:46 p13
-rw-r--r-- 1 root root 0 Jan 13 00:46 p14
-rw-r--r-- 1 root root 0 Jan 13 00:46 p15
-rw-r--r-- 1 root root 0 Jan 13 00:50 p22
root@tryit-exotic:~# grep -i "p22" p22
-rw-r--r-- 1 root root 0 Jan 13 00:50 p22
root@tryit-exotic:~#
```

```
root@tryit-exotic:~# cat p22
total 4
drwx----- 1 root root 54 Jan 13 00:50 .
drwxr-xr-x 1 root root 172 Jan 13 00:46 ..
drwxr-x--- 1 root root 6 Jan 13 00:46 .config
-rw-r--r-- 1 root root 0 Jan 13 00:48 In
-rw-r--r-- 1 root root 15 Jan 13 00:49 p11
-rw-r--r-- 1 root root 0 Jan 13 00:46 p12
-rw-r--r-- 1 root root 0 Jan 13 00:46 p13
-rw-r--r-- 1 root root 0 Jan 13 00:46 p14
-rw-r--r-- 1 root root 0 Jan 13 00:46 p15
-rw-r--r-- 1 root root 0 Jan 13 00:50 p22
root@tryit-exotic:~# grep -c "00:46" p22
6
root@tryit-exotic:~#
```

```
root@tryit-exotic:~# grep -i "rOOT" p22
drwx----- 1 root root 54 Jan 13 00:50 .
drwxr-xr-x 1 root root 172 Jan 13 00:46 ..
drwxr-x--- 1 root root 6 Jan 13 00:46 .config
-rw-r--r-- 1 root root 0 Jan 13 00:48 In
-rw-r--r-- 1 root root 15 Jan 13 00:49 p11
-rw-r--r-- 1 root root 0 Jan 13 00:46 p12
-rw-r--r-- 1 root root 0 Jan 13 00:46 p13
-rw-r--r-- 1 root root 0 Jan 13 00:46 p14
-rw-r--r-- 1 root root 0 Jan 13 00:46 p15
-rw-r--r-- 1 root root 0 Jan 13 00:50 p22
root@tryit-exotic:~#
```