Experiment 1:

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Study of Unix general purpose utility command:

man command: Displays help of the following command keyword.

i/p:

```
┌[aadhithan@fedora]─[~]
└─• $man dir
```

o/p:

```
DIR(1)                          User Commands                          DIR(1)

NAME
       dir - list directory contents

SYNOPSIS
       dir [OPTION]... [FILE]...

DESCRIPTION
       List  information  about  the FILEs (the current directory by default).
       Sort entries alphabetically if none of -cftuvSUX nor --sort  is  speci-
       fied.

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

       -a, --all
              do not ignore entries starting with .

       -A, --almost-all
              do not list implied . and ..

       --author
Manual page dir(1) line 1 (press h for help or q to quit)
```

who command: Displays the current users of the system.

```
┌[aadhithan@fedora]─[~]
└─• $who
aadhithan tty2            2021-09-15 18:23 (tty2)
```

cat command: Displays the content of the file in the shell terminal.

```
┌[aadhithan@fedora]─[~/Documents]
└─ $cat README.md
# Fedora

Code is written on Fedora Terminal using the help of VirtualBox
```

cd command: Navigates across directories:

```
┌[aadhithan@fedora]─[~/Documents]
└─ $pwd
/home/aadhithan/Documents
┌[aadhithan@fedora]─[~/Documents]
└─ $cd vlsi/
┌[aadhithan@fedora]─[~/Documents/vlsi]
└─ $pwd
/home/aadhithan/Documents/vlsi
```

ps command: Lists the current working processes

```
┌[aadhithan@fedora]─[~/Documents/vlsi]
└─ $ps
  PID TTY          TIME CMD
 2092 pts/0    00:00:00 bash
 2408 pts/0    00:00:00 cat
 2605 pts/0    00:00:00 ps
```

ls command: lists the content of the directory

```
┌[✗]─[aadhithan@fedora]─[~/Documents/vlsi]
└─ $ls
cad
┌[aadhithan@fedora]─[~/Documents/vlsi]
└─ $cd cad
┌[aadhithan@fedora]─[~/Documents/vlsi/cad]
└─ $ls
perl  python  testVI1.txt  unix
```

cp command: copies the file

```
┌[aadhithan@fedora]─[~/Documents/vlsi/cad]
└─ $ls
perl  python  testVI1.txt  unix
┌[aadhithan@fedora]─[~/Documents/vlsi/cad]
└─ $cp testVI1.txt new_1
┌[aadhithan@fedora]─[~/Documents/vlsi/cad]
└─ $ls
new_1  perl  python  testVI1.txt  unix
```

mv command: moves the file to new destination

```
┌[aadhithan@fedora]─[~/Documents/vlsi/cad]
└─• $ls
new_1  perl  python  testVI1.txt  unix
┌[aadhithan@fedora]─[~/Documents/vlsi/cad]
└─• $mv new_1 new_2
┌[aadhithan@fedora]─[~/Documents/vlsi/cad]
└─• $ls
new_2  perl  python  testVI1.txt  unix
```

rm command: removes/deletes the file

```
┌[aadhithan@fedora]─[~/Documents/vlsi/cad]
└─• $ls
new_2  perl  python  testVI1.txt  unix
┌[aadhithan@fedora]─[~/Documents/vlsi/cad]
└─• $rm new_2
┌[aadhithan@fedora]─[~/Documents/vlsi/cad]
└─• $ls
perl  python  testVI1.txt  unix
```

mkdir command: creates a new directory

```
┌[aadhithan@fedora]─[~/Documents/vlsi]
└─• $ls
cad
┌[aadhithan@fedora]─[~/Documents/vlsi]
└─• $mkdir test
┌[aadhithan@fedora]─[~/Documents/vlsi]
└─• $ls
cad  test
```

rmdir command: deletes an existing directory

```
┌[aadhithan@fedora]─[~/Documents/vlsi]
└─• $ls
cad  test
┌[aadhithan@fedora]─[~/Documents/vlsi]
└─• $rmdir test/
┌[aadhithan@fedora]─[~/Documents/vlsi]
└─• $ls
cad
```

echo command: prints the text that follows the command

```
┌[aadhithan@fedora]─[~/Documents/vlsi]
└─• $echo this prints the following
this prints the following
```

date command: prints the current date and time

```
[aadhithan@fedora]-[~/Documents]
$date
Wed Sep 15 06:51:35 PM IST 2021
```

time command: displays the time required to execute a command

```
[X]-[aadhithan@fedora]-[~/Documents]
$time date
Wed Sep 15 06:54:26 PM IST 2021

real    0m0.003s
user    0m0.001s
sys     0m0.001s
```

history command: Displays the history of commands

```
[X]-[aadhithan@fedora]-[~/Documents]
$history
    1  ~
    2  cd
    3  ls
    4  cd ../
    5  ls
    6  cd Documents
    7  ls -l
    8  cd aadhithan/
    9  ls
   10  ls -l
   11  cd Documents/
   12  ls
   13  mkdir vlsi
   14  ls
   15  cd vlsi
   16  ls
   17  $date
   18  ls
   19  date
   20  who
   21  vi python
   22  ls
```

pwd command: prints current working directory

```
[aadhithan@fedora]-[~/Documents]
$pwd
/home/aadhithan/Documents
```

shutdown command: schedules shutdown to happen in 2 minutes

```
[X]-[aadhithan@fedora]-[~/Documents]
$shutdown
Shutdown scheduled for Wed 2021-09-15 19:08:09 IST, use 'shutdown -c' to cancel.
```

chmod command: used to change preferences of a file

Before changing user preferences:

```
┌─[aadhithan@fedora]─[~/Documents/vlsi/cad]
└─ $ls -l
total 12
-rw-r--r--. 1 aadhithan aadhithan 721 Sep 15 13:09 copy_of_file
-rw-r--r--. 1 aadhithan aadhithan   0 Sep  8 13:33 perl
-rw-r--r--. 1 aadhithan aadhithan  51 Sep  9 12:43 python
-rw-r--r--. 1 aadhithan aadhithan 721 Sep 15 13:07 testVI1.txt
-rw-r--r--. 1 aadhithan aadhithan   0 Sep  8 13:33 unix
```

Changing preferences:

```
┌─[aadhithan@fedora]─[~/Documents/vlsi/cad]
└─ $chmod u-w copy_of_file
┌─[aadhithan@fedora]─[~/Documents/vlsi/cad]
└─ $ls -l
total 12
-r--r--r--. 1 aadhithan aadhithan 721 Sep 15 13:09 copy_of_file
-rw-r--r--. 1 aadhithan aadhithan   0 Sep  8 13:33 perl
-rw-r--r--. 1 aadhithan aadhithan  51 Sep  9 12:43 python
-rw-r--r--. 1 aadhithan aadhithan 721 Sep 15 13:07 testVI1.txt
-rw-r--r--. 1 aadhithan aadhithan   0 Sep  8 13:33 unix
```

cal command: Displays the calendar

```
┌─[✗]─[aadhithan@fedora]─[~/Documents]
└─ $cal
    September 2021
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
```

kill command: kills a program that's running

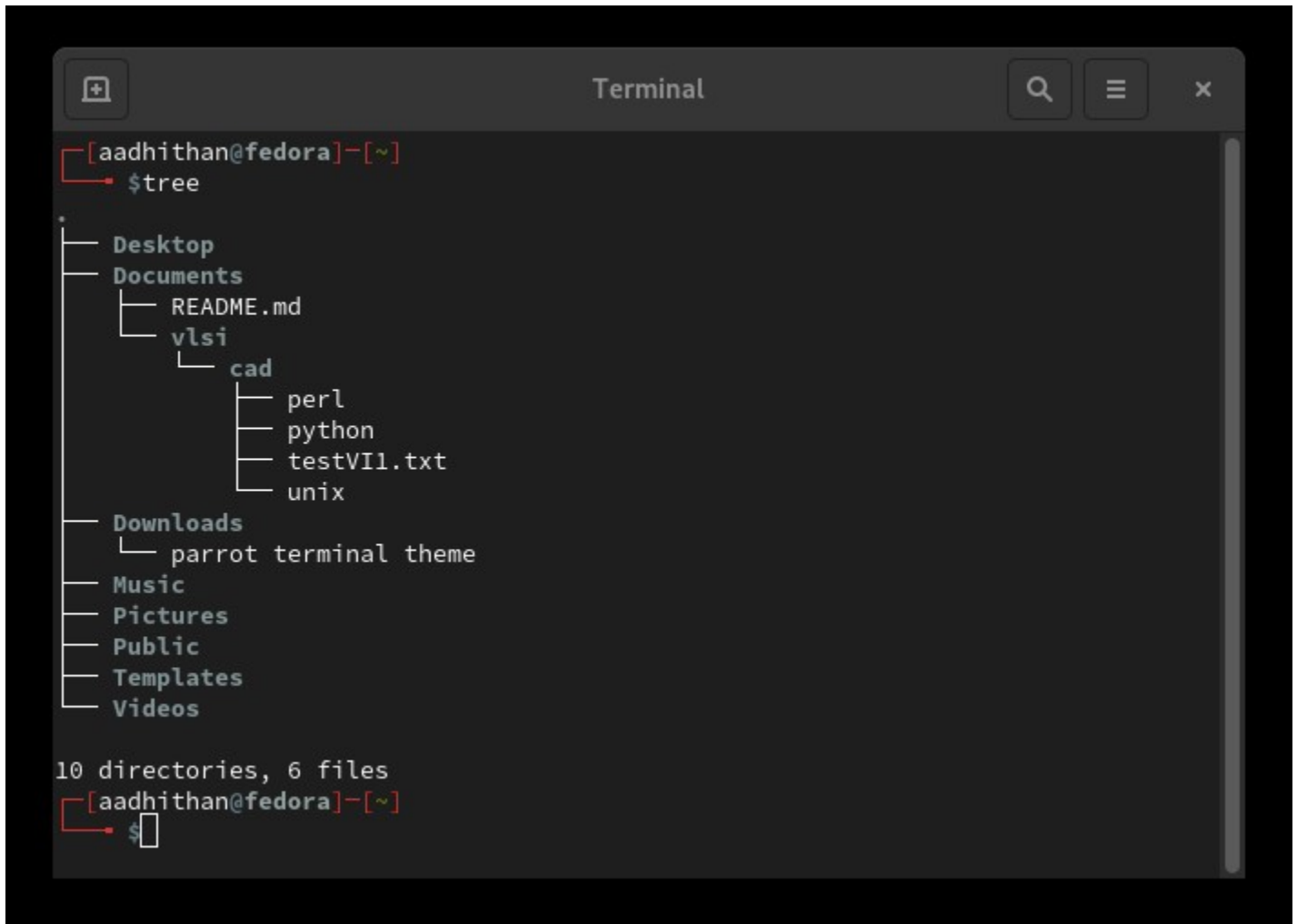**more command:** shifts the file one screen at a time

chown command: change owner of a file

finger command: gets details about a domain

logout command: allows to programmatically logout from the session

To print the list of files created:

Using tree command to display the contents in a tree and branch fashion