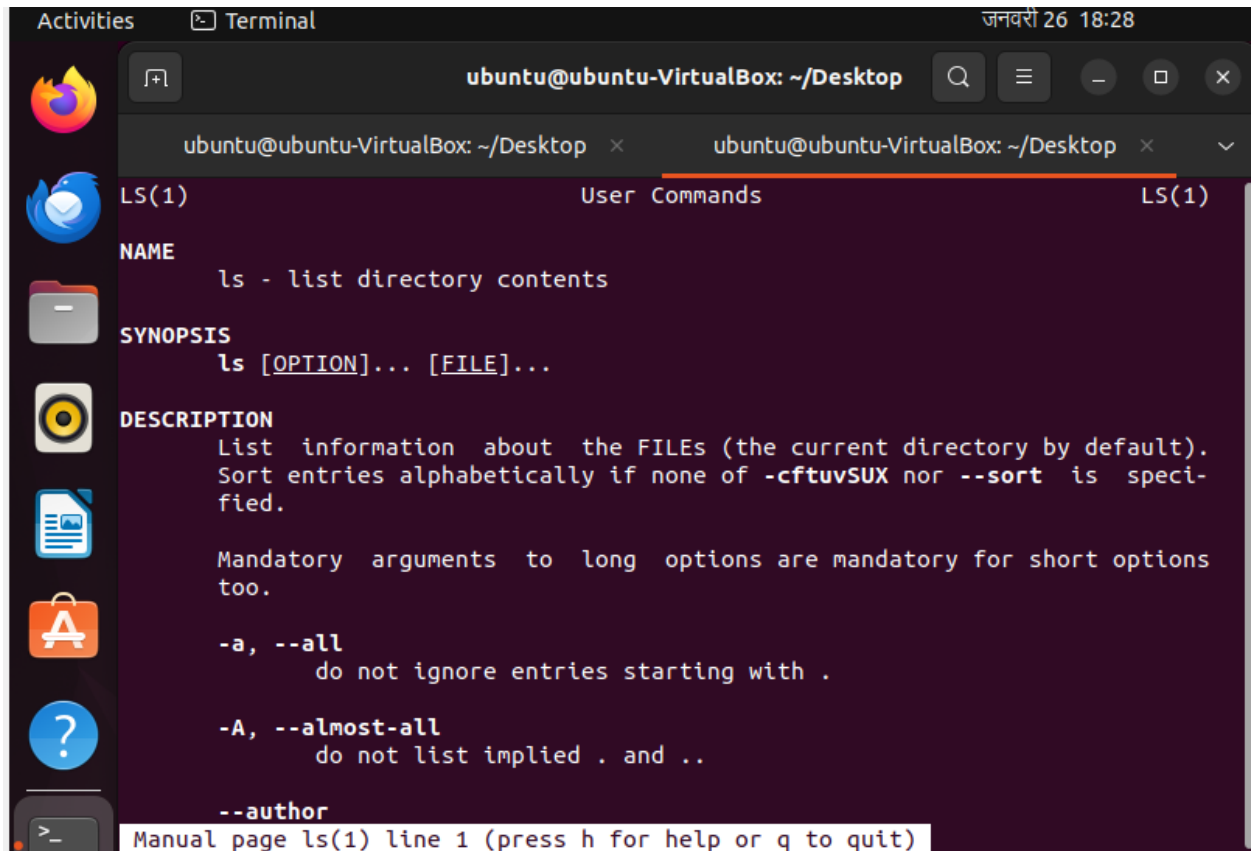


LINUX Commands

Basic Commands:

- **man**: This command will help to get manual for usages of any command. Suppose, it is command for **man ls**:



```
ubuntu@ubuntu-VirtualBox: ~/Desktop
LS(1)                                User Commands                                LS(1)

NAME
    ls - list directory contents

SYNOPSIS
    ls [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.

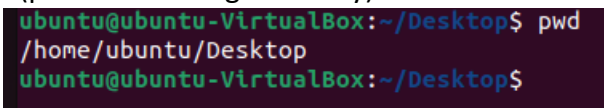
    Mandatory arguments to long options are mandatory for short options
    too.

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

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

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

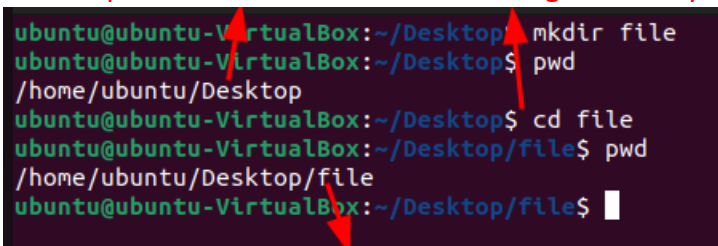
- **pwd** (present working directory): It will show in which directory we are working.



```
ubuntu@ubuntu-VirtualBox: ~/Desktop$ pwd
/home/ubuntu/Desktop
ubuntu@ubuntu-VirtualBox: ~/Desktop$
```

- **cd**: change directory

current path command to change directory to inside file

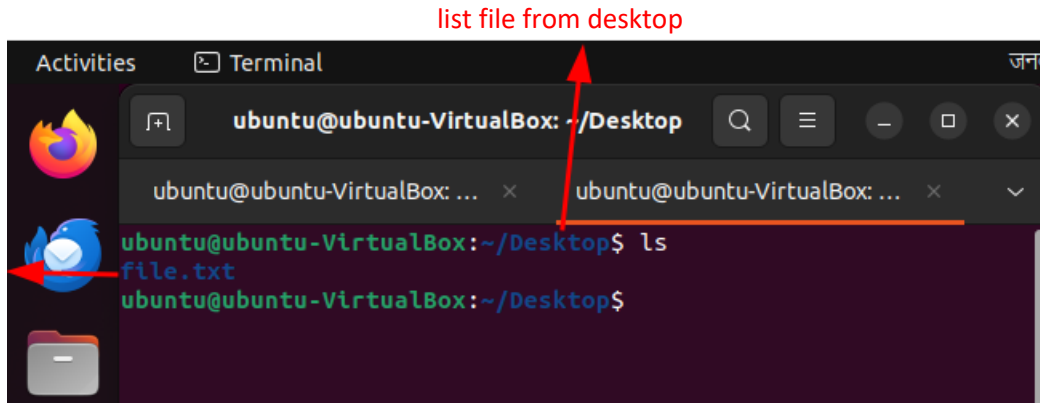


```
ubuntu@ubuntu-VirtualBox:~/Desktop$ mkdir file
ubuntu@ubuntu-VirtualBox:~/Desktop$ pwd
/home/ubuntu/Desktop
ubuntu@ubuntu-VirtualBox:~/Desktop$ cd file
ubuntu@ubuntu-VirtualBox:~/Desktop/file$ pwd
/home/ubuntu/Desktop/file
ubuntu@ubuntu-VirtualBox:~/Desktop/file$ ls
```

Now current directory is file

- ls: list all files.

list file from desktop

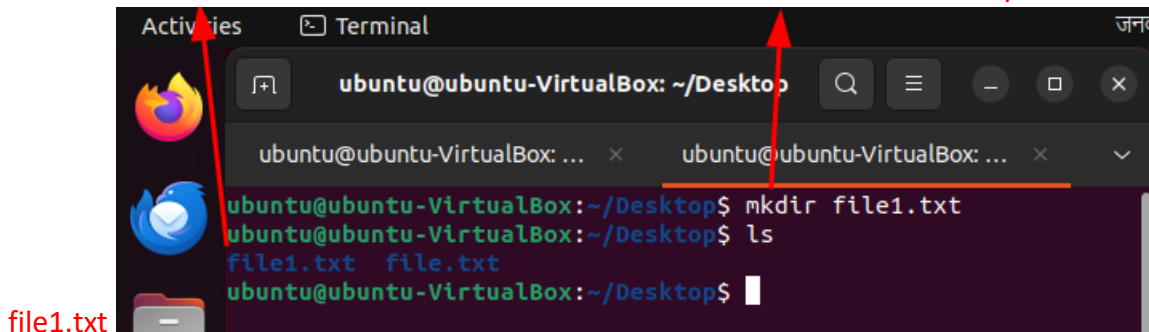


```
ubuntu@ubuntu-VirtualBox: ~/Desktop
ubuntu@ubuntu-VirtualBox: ~/Desktop$ ls
file.txt
ubuntu@ubuntu-VirtualBox: ~/Desktop$
```

- mkdir: make directory

file1.txt has been created

command to make new directory named



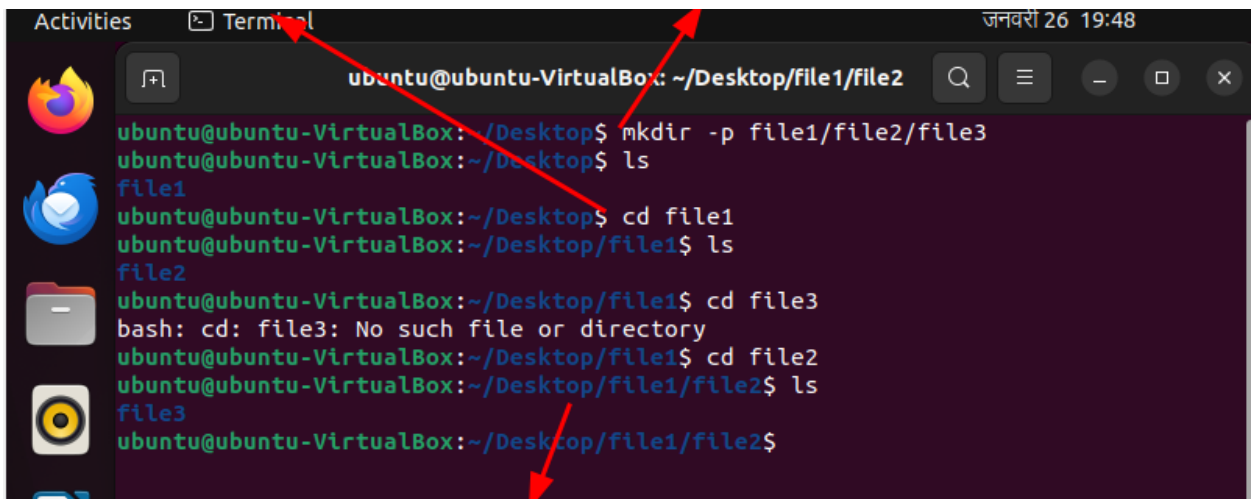
```
ubuntu@ubuntu-VirtualBox: ~/Desktop
ubuntu@ubuntu-VirtualBox: ~/Desktop$ mkdir file1.txt
ubuntu@ubuntu-VirtualBox: ~/Desktop$ ls
file1.txt file.txt
ubuntu@ubuntu-VirtualBox: ~/Desktop$
```

file1.txt

- To make directory recursively

Change directory

Command to create directory recursively



A terminal window titled 'Terminal' showing a series of commands to create and navigate through a directory structure. The commands are: `mkdir -p file1/file2/file3`, `ls`, `cd file1`, `ls`, `cd file3` (which results in an error 'bash: cd: file3: No such file or directory'), `cd file2`, `ls`, and `cd file3`. Red arrows point from the text 'Changing directories' to the `cd` commands in the terminal.

```
ubuntu@ubuntu-VirtualBox: ~/Desktop/file1/file2
ubuntu@ubuntu-VirtualBox: ~/Desktop$ mkdir -p file1/file2/file3
ubuntu@ubuntu-VirtualBox: ~/Desktop$ ls
file1
ubuntu@ubuntu-VirtualBox: ~/Desktop$ cd file1
ubuntu@ubuntu-VirtualBox: ~/Desktop/file1$ ls
file2
ubuntu@ubuntu-VirtualBox: ~/Desktop/file1$ cd file3
bash: cd: file3: No such file or directory
ubuntu@ubuntu-VirtualBox: ~/Desktop/file1$ cd file2
ubuntu@ubuntu-VirtualBox: ~/Desktop/file1/file2$ ls
file3
ubuntu@ubuntu-VirtualBox: ~/Desktop/file1/file2$
```

Changing directories

- `rmdir`: remove directory

present files

command to remove files



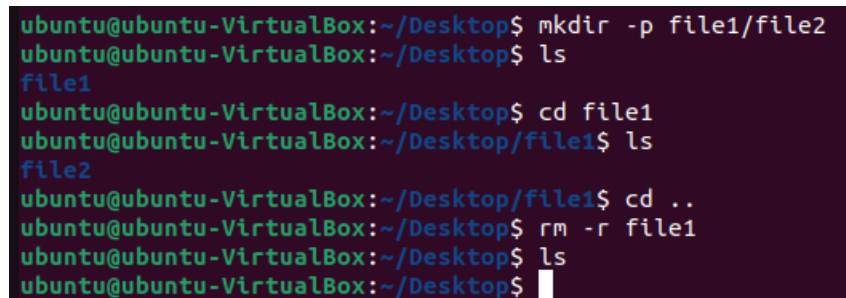
A terminal window showing the removal of files. The commands are: `ls` (showing `file1.txt` and `file.txt`), `rmdir file.txt file1.txt`, and `ls` (showing an empty directory). Red arrows point from the text 'present files' to the files listed in the first `ls` command, and from 'command to remove files' to the `rmdir` command.

```
ubuntu@ubuntu-VirtualBox: ~/Desktop$ ls
file1.txt  file.txt
ubuntu@ubuntu-VirtualBox: ~/Desktop$ rmdir file.txt file1.txt
ubuntu@ubuntu-VirtualBox: ~/Desktop$ ls
ubuntu@ubuntu-VirtualBox: ~/Desktop$
```

Files has been removed

Note: `rmdir` is used for empty directory.

- `rm -r` : remove with recursive



A terminal window showing the recursive removal of a directory. The commands are: `mkdir -p file1/file2`, `ls`, `cd file1`, `ls`, `cd ..`, `rm -r file1`, and `ls`. The final `ls` command shows an empty directory.

```
ubuntu@ubuntu-VirtualBox: ~/Desktop$ mkdir -p file1/file2
ubuntu@ubuntu-VirtualBox: ~/Desktop$ ls
file1
ubuntu@ubuntu-VirtualBox: ~/Desktop$ cd file1
ubuntu@ubuntu-VirtualBox: ~/Desktop/file1$ ls
file2
ubuntu@ubuntu-VirtualBox: ~/Desktop/file1$ cd ..
ubuntu@ubuntu-VirtualBox: ~/Desktop$ rm -r file1
ubuntu@ubuntu-VirtualBox: ~/Desktop$ ls
ubuntu@ubuntu-VirtualBox: ~/Desktop$
```

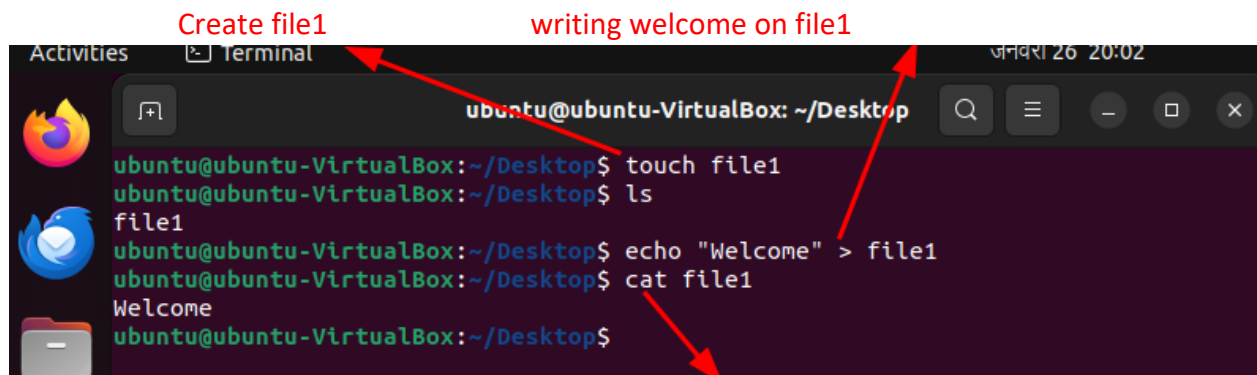
- `cd ..` : This command will help to roll back to previous directory.

```
ubuntu@ubuntu-VirtualBox:~/Desktop$ mkdir file
ubuntu@ubuntu-VirtualBox:~/Desktop$ pwd
/home/ubuntu/Desktop
ubuntu@ubuntu-VirtualBox:~/Desktop$ cd file
ubuntu@ubuntu-VirtualBox:~/Desktop/file$ pwd
/home/ubuntu/Desktop/file
ubuntu@ubuntu-VirtualBox:~/Desktop/file$ cd ..
ubuntu@ubuntu-VirtualBox:~/Desktop$ pwd
/home/ubuntu/Desktop
ubuntu@ubuntu-VirtualBox:~/Desktop$
```

- touch: creating file

```
ubuntu@ubuntu-VirtualBox:~/Desktop$ touch file1
ubuntu@ubuntu-VirtualBox:~/Desktop$ ls
file1
ubuntu@ubuntu-VirtualBox:~/Desktop$
```

- echo : To write something to file



The image shows a terminal window with the following commands and output:

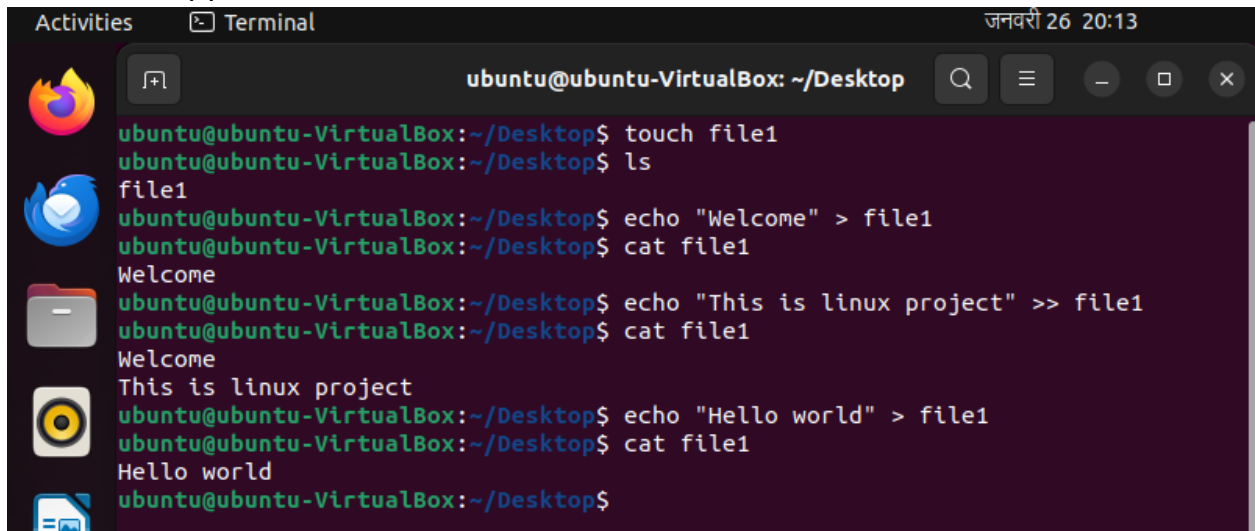
```
ubuntu@ubuntu-VirtualBox: ~/Desktop
ubuntu@ubuntu-VirtualBox:~/Desktop$ touch file1
ubuntu@ubuntu-VirtualBox:~/Desktop$ ls
file1
ubuntu@ubuntu-VirtualBox:~/Desktop$ echo "Welcome" > file1
ubuntu@ubuntu-VirtualBox:~/Desktop$ cat file1
Welcome
ubuntu@ubuntu-VirtualBox:~/Desktop$
```

Red arrows point to specific parts of the terminal output:

- An arrow points to the `touch file1` command with the label "Create file1".
- An arrow points to the `echo "Welcome" > file1` command with the label "writing welcome on file1".
- An arrow points to the output of the `cat file1` command, which is "Welcome", with the label "cat command is used to display content of file1".

cat command is used to display content of file1

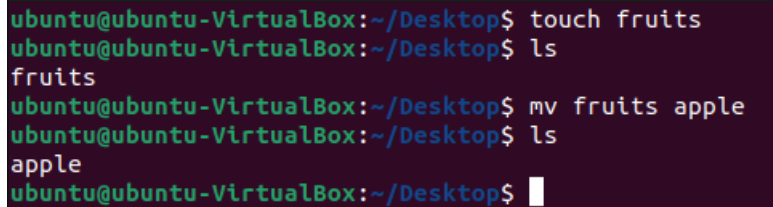
- >> is used for append and > is used for overwrite.



A screenshot of a terminal window titled 'Terminal' with the path 'ubuntu@ubuntu-VirtualBox: ~/Desktop'. The terminal shows the following commands and output:

```
ubuntu@ubuntu-VirtualBox:~/Desktop$ touch file1
ubuntu@ubuntu-VirtualBox:~/Desktop$ ls
file1
ubuntu@ubuntu-VirtualBox:~/Desktop$ echo "Welcome" > file1
ubuntu@ubuntu-VirtualBox:~/Desktop$ cat file1
Welcome
ubuntu@ubuntu-VirtualBox:~/Desktop$ echo "This is linux project" >> file1
ubuntu@ubuntu-VirtualBox:~/Desktop$ cat file1
Welcome
This is linux project
ubuntu@ubuntu-VirtualBox:~/Desktop$ echo "Hello world" > file1
ubuntu@ubuntu-VirtualBox:~/Desktop$ cat file1
Hello world
ubuntu@ubuntu-VirtualBox:~/Desktop$
```

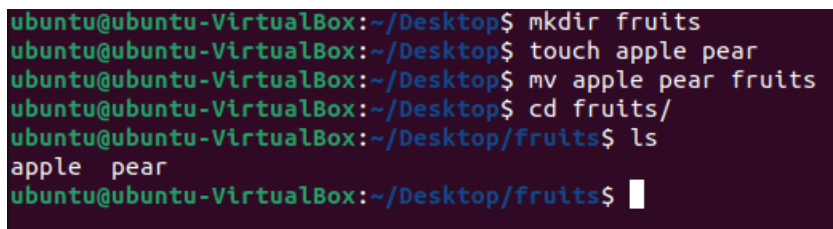
- mv: move command is used for two purpose:
to rename the name of file



A screenshot of a terminal window showing the following commands and output:

```
ubuntu@ubuntu-VirtualBox:~/Desktop$ touch fruits
ubuntu@ubuntu-VirtualBox:~/Desktop$ ls
fruits
ubuntu@ubuntu-VirtualBox:~/Desktop$ mv fruits apple
ubuntu@ubuntu-VirtualBox:~/Desktop$ ls
apple
ubuntu@ubuntu-VirtualBox:~/Desktop$
```

- to move document to any directory or file



A screenshot of a terminal window showing the following commands and output:

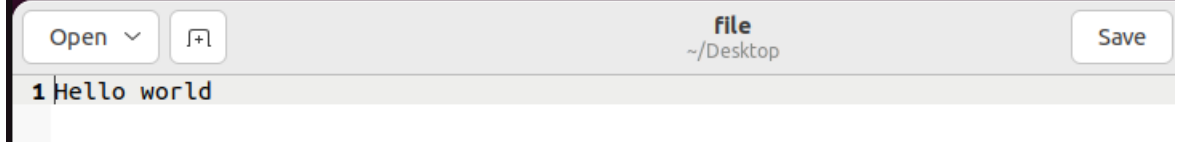
```
ubuntu@ubuntu-VirtualBox:~/Desktop$ mkdir fruits
ubuntu@ubuntu-VirtualBox:~/Desktop$ touch apple pear
ubuntu@ubuntu-VirtualBox:~/Desktop$ mv apple pear fruits
ubuntu@ubuntu-VirtualBox:~/Desktop$ cd fruits/
ubuntu@ubuntu-VirtualBox:~/Desktop/fruits$ ls
apple pear
ubuntu@ubuntu-VirtualBox:~/Desktop/fruits$
```

- cp : to copy the content of file

```
ubuntu@ubuntu-VirtualBox:~/Desktop$ touch file
ubuntu@ubuntu-VirtualBox:~/Desktop$ echo "Hello world" >> file
ubuntu@ubuntu-VirtualBox:~/Desktop$ cat file
Hello world
ubuntu@ubuntu-VirtualBox:~/Desktop$ touch file2
ubuntu@ubuntu-VirtualBox:~/Desktop$ cp file file2
ubuntu@ubuntu-VirtualBox:~/Desktop$ cat file2
Hello world
ubuntu@ubuntu-VirtualBox:~/Desktop$
```

- open: to open any file

```
ubuntu@ubuntu-VirtualBox:~/Desktop$ open file
ubuntu@ubuntu-VirtualBox:~/Desktop$
```

A screenshot of a graphical file editor window. The title bar shows the filename 'file' and the path '~/Desktop'. There are buttons for 'Open', a file icon, and 'Save'. The main text area contains the text 'Hello world' on the first line, with a cursor at the end of the line.

- find: to find any file or folder with certain search pattern

```
ubuntu@ubuntu-VirtualBox:~/Desktop$ find *".txt"
file1.txt
file2.txt
file.txt
ubuntu@ubuntu-VirtualBox:~/Desktop$
```

- ping : to check connectivity

```

ubuntu@ubuntu-VirtualBox:~/Desktop$ ping google.com
PING google.com (142.250.194.110) 56(84) bytes of data.
64 bytes from del12s04-in-f14.1e100.net (142.250.194.110): icmp_seq=1 ttl=114 time=108 ms
64 bytes from del12s04-in-f14.1e100.net (142.250.194.110): icmp_seq=2 ttl=114 time=121 ms
64 bytes from del12s04-in-f14.1e100.net (142.250.194.110): icmp_seq=3 ttl=114 time=29.9 ms
64 bytes from del12s04-in-f14.1e100.net (142.250.194.110): icmp_seq=4 ttl=114 time=75.8 ms
64 bytes from del12s04-in-f14.1e100.net (142.250.194.110): icmp_seq=5 ttl=114 time=221 ms
64 bytes from del12s04-in-f14.1e100.net (142.250.194.110): icmp_seq=6 ttl=114 time=69.5 ms
64 bytes from del12s04-in-f14.1e100.net (142.250.194.110): icmp_seq=7 ttl=114 time=36.4 ms
64 bytes from del12s04-in-f14.1e100.net (142.250.194.110): icmp_seq=8 ttl=114 time=30.1 ms
^C
--- google.com ping statistics ---
8 packets transmitted, 8 received, 0% packet loss, time 7535ms
rtt min/avg/max/mdev = 29.870/86.466/220.748/60.207 ms
ubuntu@ubuntu-VirtualBox:~/Desktop$

```

- tail: to print last 10 lines of an file

```

ubuntu@ubuntu-VirtualBox:~/Desktop$ cat file
cat
dog
goat
parrot
hall
tree
cat
dog
goat
parrot
hall
tree
ubuntu@ubuntu-VirtualBox:~/Desktop$ tail file
goat
parrot
hall
tree
cat
dog
goat
parrot
hall
tree
ubuntu@ubuntu-VirtualBox:~/Desktop$

```

- cat : To display content of an file

```

(rakshya@kali)-[~/Desktop]
$ cat text.txt
This is text.txt file.

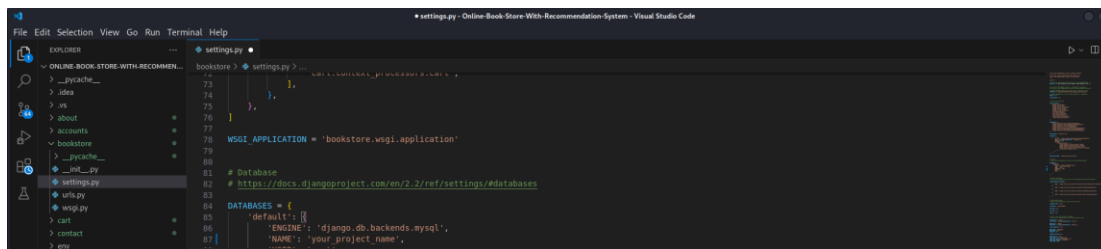
(rakshya@kali)-[~/Desktop]
$ █

```

- code . : To display an file through visual studio editor.

```
(rakshya@kali)-[~/Desktop/project/Online-Book-Store-With-Recommendation-System]
$ code .

(rakshya@kali)-[~/Desktop/project/Online-Book-Store-With-Recommendation-System]
$
```



- rep: The grep command

G

in Linux is used to search for a specific string in file or output.

```
(rakshya@kali)-[~/Desktop]
$ cat text.txt
After a long day of hiking through the orchard, picking apples from the trees and feeling the sun's warmth on my skin, I settled down under the shade of a sprawling apple tree, its branches heavy with ripe fruit, and indulged in the simple pleasure of biting into a freshly-picked, sweet and tangy apple, savoring every juicy bite as the flavors burst in my mouth.

(rakshya@kali)-[~/Desktop]
$ grep -c "After" text.txt
1

(rakshya@kali)-[~/Desktop]
$ grep -H "After" text.txt
text.txt:After a long day of hiking through the orchard, picking apples from the trees and feeling the sun's warmth on my skin, I settled down under the shade of a sprawling apple tree, its branches heavy with ripe fruit, and indulged in the simple pleasure of biting into a freshly-picked, sweet and tangy apple, savoring every juicy bite as the flavors burst in my mouth.

(rakshya@kali)-[~/Desktop]
$ grep -w "After" text.txt
After a long day of hiking through the orchard, picking apples from the trees and feeling the sun's warmth on my skin, I settled down under the shade of a sprawling apple tree, its branches heavy with ripe fruit, and indulged in the simple pleasure of biting into a freshly-picked, sweet and tangy apple, savoring every juicy bite as the flavors burst in my mouth.

(rakshya@kali)-[~/Desktop]
$
```


Permission and Ownership

- whoami : current working user

```
(rakshya@kali)-[~/Desktop]
$ whoami
rakshya

(rakshya@kali)-[~/Desktop]
$
```

- sudo su : go to root user

```
(rakshya@kali)-[~/Desktop]
$ sudo su
[sudo] password for rakshya:
(root@kali)-[/home/rakshya/Desktop]
#
```

- exit: to switch to normal user

```
(rakshya@kali)-[~/Desktop]
$ sudo su
[sudo] password for rakshya:
(root@kali)-[/home/rakshya/Desktop]
# exit

(rakshya@kali)-[~/Desktop]
$
```

- ll (long list) : list of file with permission and ownership

```
(rakshya@kali)-[~/Desktop]
$ ll
total 60
-rw-r--r-- 1 rakshya rakshya 35516 Jul 22 2021 mysql-apt-config_0.8.18-1_all.deb
drwxr-xr-x 4 rakshya rakshya 4096 Feb 24 07:09 project
drwxr-xr-x 3 rakshya rakshya 4096 Feb 25 22:12 project1
drwxr-xr-x 3 rakshya rakshya 4096 Feb 26 02:29 project13
drwxr-xr-x 3 rakshya rakshya 4096 Feb 26 06:08 project14
drwxr-xr-x 4 rakshya rakshya 4096 Feb 21 21:34 test-demo
-rw-r--r-- 1 root root 365 Mar 8 06:51 text.txt
Button Click Listener Program
(rakshya@kali)-[~/Desktop]
$
```

- chmod : changing permission on file
 - 7: indicate read,write and execute
 - 6: read and write
 - 5: read and execute
 - 1: execute
 - 2 : write
 - 4: read

```
(rakshya@kali)-[~/Desktop]
$ ll
total 60
-rw-r--r-- 1 rakshya rakshya 35516 Jul 22 2021 mysql-apt-config_0.8.18-1_all.deb
drwxr-xr-x 4 rakshya rakshya 4096 Feb 24 07:09 project
drwxr-xr-x 3 rakshya rakshya 4096 Feb 25 22:12 project1
drwxr-xr-x 3 rakshya rakshya 4096 Feb 26 02:29 project13
drwxr-xr-x 3 rakshya rakshya 4096 Feb 26 06:08 project14
drwxr-xr-x 4 rakshya rakshya 4096 Feb 21 21:34 test-demo
-rw-r--r-- 1 root root 365 Mar 8 06:51 text.txt

(rakshya@kali)-[~/Desktop]
$ chmod 777 text.txt
chmod: changing permissions of 'text.txt': Operation not permitted

(rakshya@kali)-[~/Desktop]
$ sudo chmod 777 text.txt
[sudo] password for rakshya:
Sorry, try again.
[sudo] password for rakshya:

(rakshya@kali)-[~/Desktop]
$ ll
total 60
-rw-r--r-- 1 rakshya rakshya 35516 Jul 22 2021 mysql-apt-config_0.8.18-1_all.deb
drwxr-xr-x 4 rakshya rakshya 4096 Feb 24 07:09 project
drwxr-xr-x 3 rakshya rakshya 4096 Feb 25 22:12 project1
drwxr-xr-x 3 rakshya rakshya 4096 Feb 26 02:29 project13
drwxr-xr-x 3 rakshya rakshya 4096 Feb 26 06:08 project14
drwxr-xr-x 4 rakshya rakshya 4096 Feb 21 21:34 test-demo
-rwxrwxrwx 1 root root 365 Mar 8 06:51 text.txt

(rakshya@kali)-[~/Desktop]
$
```

- useradd & passwd : To create user and password

```
(rakshya@kali)-[~/Desktop]
$ sudo useradd user1

(rakshya@kali)-[~/Desktop]
$ sudo passwd user1
New password:
Retype new password:
passwd: password updated successfully
```

- cat etc/passwd : we can see how many user are there in location etc/passwd.
- Userdel : to delete user

```
(rakshya@kali)-[~/Desktop]
$ sudo userdel user1

(rakshya@kali)-[~/Desktop]
$
```

- groupadd : to create new group

\

```
(rakshya@kali)-[~/Desktop]  
$ sudo groupadd group1
```

- cat /etc/group : to see created group, display the location etc/group
- groupdel : to delete group

```
(rakshya@kali)-[~/Desktop]  
$ sudo groupdel group1
```

- usermod : to add user into a group
a = append
G = group

```
(rakshya@kali)-[~/Desktop]  
$ sudo usermod -a -G group1 user1
```

- chown : to change ownership in an file

```
(rakshya@kali)-[~/Desktop]
$ ll
total 60
-rw-r--r-- 1 rakshya rakshya 35516 Jul 22 2021 mysql-apt-config_0.8.18-1_all.deb
drwxr-xr-x 4 rakshya rakshya 4096 Feb 24 07:09 project
drwxr-xr-x 3 rakshya rakshya 4096 Feb 25 22:12 project1
drwxr-xr-x 3 rakshya rakshya 4096 Feb 26 02:29 project13
drwxr-xr-x 3 rakshya rakshya 4096 Feb 26 06:08 project14
drwxr-xr-x 4 rakshya rakshya 4096 Feb 21 21:34 test-demo
-rwxrwxrwx 1 root root 365 Mar 8 06:51 text.txt

(rakshya@kali)-[~/Desktop]
$ sudo chown root:group1 text.txt

(rakshya@kali)-[~/Desktop]
$ ll
total 60
-rw-r--r-- 1 rakshya rakshya 35516 Jul 22 2021 mysql-apt-config_0.8.18-1_all.deb
drwxr-xr-x 4 rakshya rakshya 4096 Feb 24 07:09 project
drwxr-xr-x 3 rakshya rakshya 4096 Feb 25 22:12 project1
drwxr-xr-x 3 rakshya rakshya 4096 Feb 26 02:29 project13
drwxr-xr-x 3 rakshya rakshya 4096 Feb 26 06:08 project14
drwxr-xr-x 4 rakshya rakshya 4096 Feb 21 21:34 test-demo
-rwxrwxrwx 1 root group1 365 Mar 8 06:51 text.txt

(rakshya@kali)-[~/Desktop]
$
```