Introduction to Linux

1. Create a directory "exercise" inside your home directory and create nested(dir1/dir2/dir3) directory structure inside "exce

rise" with single command.

2. Create two empty files inside dir2 directory: emptyFile1,emptyFile2 in single command

3. Create one file file1.txt containing text "hello world" and save it.

```
File  Edit  View  Search  Terminal  Help
utkarsh@utkarsh:~$ cd dir2
utkarsh@utkarsh:~/dir2$ touch emptyFile{1..2}.txt
utkarsh@utkarsh:~/dir2$ ls -l
total 0
-rw-r--r-- 1 utkarsh utkarsh 0 Feb  3 14:08 emptyFile1.txt
-rw-r--r-- 1 utkarsh utkarsh 0 Feb  3 14:08 emptyFile2.txt
utkarsh@utkarsh:~/dir2$ cat > file1.txt
hello world
^D
utkarsh@utkarsh:~/dir2$ ls -l file1.txt
-rw-r--r-- 1 utkarsh utkarsh 15 Feb  3 14:13 file1.txt
utkarsh@utkarsh:~/dir2$ cat file1.txt
hello world
^D
utkarsh@utkarsh:~/dir2$ ▯
```

4. Find a "passwd" file using find command inside /etc. copy this files as passwd_copy and then rename this file as passwd_backu


```
14:25                                                              ⬆ ⬤ ⬛ ▼
                         utkarsh@utkarsh: ~/dir2                    ⊖ ▢ ✕
File  Edit  View  Search  Terminal  Help


utkarsh@utkarsh:~/dir2$ find passwd /etc
find: 'passwd': No such file or directory
/etc
/etc/pcmcia
/etc/pcmcia/config.opts
/etc/apparmor
/etc/apparmor/parser.conf
/etc/apparmor/init
/etc/apparmor/init/network-interface-security
/etc/apparmor/init/network-interface-security/sbin.dhclient
/etc/apparmor/subdomain.conf
/etc/modprobe.d
/etc/modprobe.d/blacklist-firewire.conf
/etc/modprobe.d/blacklist-ath_pci.conf
/etc/modprobe.d/blacklist-modem.conf
/etc/modprobe.d/blacklist.conf
/etc/modprobe.d/amd64-microcode-blacklist.conf
/etc/modprobe.d/intel-microcode-blacklist.conf
/etc/modprobe.d/blacklist-framebuffer.conf
/etc/modprobe.d/iwlwifi.conf
/etc/modprobe.d/blacklist-rare-network.conf
/etc/modprobe.d/blacklist-oss.conf
/etc/modprobe.d/alsa-base.conf
/etc/firefox
/etc/firefox/pref
/etc/firefox/pref/apturl.js
/etc/firefox/syspref.js
/etc/rc1.d
/etc/rc1.d/K01alsa-utils
/etc/rc1.d/K01rsyslog
/etc/rc1.d/K01kerneloops
/etc/rc1.d/K01ufw
/etc/rc1.d/K01cups
/etc/rc1.d/K01gdm3
/etc/rc1.d/K01avahi-daemon
```

```
                              utkarsh@utkarsh: ~
File  Edit  View  Search  Terminal  Help

utkarsh@utkarsh:~$ mv passwd_copy passwd_backup
utkarsh@utkarsh:~$ cat passwd_backup
root:x:0:0:root:/root:/bin/bash
daemon:x:1:1:daemon:/usr/sbin:/usr/sbin/nologin
bin:x:2:2:bin:/bin:/usr/sbin/nologin
sys:x:3:3:sys:/dev:/usr/sbin/nologin
sync:x:4:65534:sync:/bin:/bin/sync
games:x:5:60:games:/usr/games:/usr/sbin/nologin
man:x:6:12:man:/var/cache/man:/usr/sbin/nologin
lp:x:7:7:lp:/var/spool/lpd:/usr/sbin/nologin
mail:x:8:8:mail:/var/mail:/usr/sbin/nologin
news:x:9:9:news:/var/spool/news:/usr/sbin/nologin
uucp:x:10:10:uucp:/var/spool/uucp:/usr/sbin/nologin
proxy:x:13:13:proxy:/bin:/usr/sbin/nologin
www-data:x:33:33:www-data:/var/www:/usr/sbin/nologin
backup:x:34:34:backup:/var/backups:/usr/sbin/nologin
list:x:38:38:Mailing List Manager:/var/list:/usr/sbin/nologin
irc:x:39:39:ircd:/var/run/ircd:/usr/sbin/nologin
gnats:x:41:41:Gnats Bug-Reporting System (admin):/var/lib/gnats:/usr/s
bin/nologin
nobody:x:65534:65534:nobody:/nonexistent:/usr/sbin/nologin
systemd-network:x:100:102:systemd Network Management,,,:/run/systemd/n
etif:/usr/sbin/nologin
systemd-resolve:x:101:103:systemd Resolver,,,:/run/systemd/resolve:/us
r/sbin/nologin
syslog:x:102:106::/home/syslog:/usr/sbin/nologin
messagebus:x:103:107::/nonexistent:/usr/sbin/nologin
_apt:x:104:65534::/nonexistent:/usr/sbin/nologin
uuidd:x:105:111::/run/uuidd:/usr/sbin/nologin
avahi-autoipd:x:106:112:Avahi autoip daemon,,,:/var/lib/avahi-autoipd:
/usr/sbin/nologin
usbmux:x:107:46:usbmux daemon,,,:/var/lib/usbmux:/usr/sbin/nologin
dnsmasq:x:108:65534:dnsmasq,,,:/var/lib/misc:/usr/sbin/nologin
rtkit:x:109:114:RealtimeKit,,,:/proc:/usr/sbin/nologin
cups-pk-helper:x:110:116:user for cups-pk-helper service,,,:/home/cups
-pk-helper:/usr/sbin/nologin
speech-dispatcher:x:111:29:Speech Dispatcher   :/var/run/speech-dispat
```

5. Try reading passwd_backup file in multiple tools: less,more,cat,strings etc and find the difference in their usage.

```
                          utkarsh@utkarsh: ~                      ⊖ ⊡ ⊗

  File  Edit  View  Search  Terminal  Help

utkarsh@utkarsh:~$ more passwd_backup
root:x:0:0:root:/root:/bin/bash
daemon:x:1:1:daemon:/usr/sbin:/usr/sbin/nologin
bin:x:2:2:bin:/bin:/usr/sbin/nologin
sys:x:3:3:sys:/dev:/usr/sbin/nologin
sync:x:4:65534:sync:/bin:/bin/sync
games:x:5:60:games:/usr/games:/usr/sbin/nologin
man:x:6:12:man:/var/cache/man:/usr/sbin/nologin
lp:x:7:7:lp:/var/spool/lpd:/usr/sbin/nologin
mail:x:8:8:mail:/var/mail:/usr/sbin/nologin
news:x:9:9:news:/var/spool/news:/usr/sbin/nologin
uucp:x:10:10:uucp:/var/spool/uucp:/usr/sbin/nologin
proxy:x:13:13:proxy:/bin:/usr/sbin/nologin
www-data:x:33:33:www-data:/var/www:/usr/sbin/nologin
backup:x:34:34:backup:/var/backups:/usr/sbin/nologin
list:x:38:38:Mailing List Manager:/var/list:/usr/sbin/nologin
irc:x:39:39:ircd:/var/run/ircd:/usr/sbin/nologin
gnats:x:41:41:Gnats Bug-Reporting System (admin):/var/lib/gnats:/usr/s
bin/nologin
nobody:x:65534:65534:nobody:/nonexistent:/usr/sbin/nologin
systemd-network:x:100:102:systemd Network Management,,,:/run/systemd/n
etif:/usr/sbin/nologin
systemd-resolve:x:101:103:systemd Resolver,,,:/run/systemd/resolve:/us
r/sbin/nologin
syslog:x:102:106::/home/syslog:/usr/sbin/nologin
messagebus:x:103:107::/nonexistent:/usr/sbin/nologin
_apt:x:104:65534::/nonexistent:/usr/sbin/nologin
uuidd:x:105:111::/run/uuidd:/usr/sbin/nologin
avahi-autoipd:x:106:112:Avahi autoip daemon,,,:/var/lib/avahi-autoipd:
/usr/sbin/nologin
usbmux:x:107:46:usbmux daemon,,,:/var/lib/usbmux:/usr/sbin/nologin
dnsmasq:x:108:65534:dnsmasq,,,:/var/lib/misc:/usr/sbin/nologin
rtkit:x:109:114:RealtimeKit,,,:/proc:/usr/sbin/nologin
cups-pk-helper:x:110:116:user for cups-pk-helper service,,,:/home/cups
-pk-helper:/usr/sbin/nologin
speech-dispatcher:x:111:29:Speech Dispatcher,,,:/var/run/speech-dispat
cher:/bin/false
```

```
lp:x:7:7:lp:/var/spool/lpd:/usr/sbin/nologin
mail:x:8:8:mail:/var/mail:/usr/sbin/nologin
news:x:9:9:news:/var/spool/news:/usr/sbin/nologin
uucp:x:10:10:uucp:/var/spool/uucp:/usr/sbin/nologin
proxy:x:13:13:proxy:/bin:/usr/sbin/nologin
www-data:x:33:33:www-data:/var/www:/usr/sbin/nologin
backup:x:34:34:backup:/var/backups:/usr/sbin/nologin
list:x:38:38:Mailing List Manager:/var/list:/usr/sbin/nologin
irc:x:39:39:ircd:/var/run/ircd:/usr/sbin/nologin
gnats:x:41:41:Gnats Bug-Reporting System (admin):/var/lib/gnats:/usr/s
bin/nologin
nobody:x:65534:65534:nobody:/nonexistent:/usr/sbin/nologin
systemd-network:x:100:102:systemd Network Management,,,:/run/systemd/n
etif:/usr/sbin/nologin
systemd-resolve:x:101:103:systemd Resolver,,,:/run/systemd/resolve:/us
r/sbin/nologin
syslog:x:102:106::/home/syslog:/usr/sbin/nologin
messagebus:x:103:107::/nonexistent:/usr/sbin/nologin
_apt:x:104:65534::/nonexistent:/usr/sbin/nologin
uuidd:x:105:111::/run/uuidd:/usr/sbin/nologin
avahi-autoipd:x:106:112:Avahi autoip daemon,,,:/var/lib/avahi-autoipd:
/usr/sbin/nologin
usbmux:x:107:46:usbmux daemon,,,:/var/lib/usbmux:/usr/sbin/nologin
dnsmasq:x:108:65534:dnsmasq,,,:/var/lib/misc:/usr/sbin/nologin
rtkit:x:109:114:RealtimeKit,,,:/proc:/usr/sbin/nologin
cups-pk-helper:x:110:116:user for cups-pk-helper service,,,:/home/cups
-pk-helper:/usr/sbin/nologin
speech-dispatcher:x:111:29:Speech Dispatcher,,,:/var/run/speech-dispat
cher:/bin/false
whoopsie:x:112:117::/nonexistent:/bin/false
kernoops:x:113:65534:Kernel Oops Tracking Daemon,,,:/:/usr/sbin/nologi
n
saned:x:114:119::/var/lib/saned:/usr/sbin/nologin
pulse:x:115:120:PulseAudio daemon,,,:/var/run/pulse:/usr/sbin/nologin
avahi:x:116:122:Avahi mDNS daemon,,,:/var/run/avahi-daemon:/usr/sbin/n
ologin
colord:x:117:123:colord colour management daemon,,,:/var/lib/colord:/u
--More--(86%)
```

```
utkarsh@utkarsh:~$ less passwd_backup
utkarsh@utkarsh:~$
```

```
utkarsh@utkarsh:~$ cat passwd_backup
root:x:0:0:root:/root:/bin/bash
daemon:x:1:1:daemon:/usr/sbin:/usr/sbin/nologin
bin:x:2:2:bin:/bin:/usr/sbin/nologin
sys:x:3:3:sys:/dev:/usr/sbin/nologin
sync:x:4:65534:sync:/bin:/bin/sync
games:x:5:60:games:/usr/games:/usr/sbin/nologin
man:x:6:12:man:/var/cache/man:/usr/sbin/nologin
lp:x:7:7:lp:/var/spool/lpd:/usr/sbin/nologin
mail:x:8:8:mail:/var/mail:/usr/sbin/nologin
news:x:9:9:news:/var/spool/news:/usr/sbin/nologin
uucp:x:10:10:uucp:/var/spool/uucp:/usr/sbin/nologin
proxy:x:13:13:proxy:/bin:/usr/sbin/nologin
www-data:x:33:33:www-data:/var/www:/usr/sbin/nologin
backup:x:34:34:backup:/var/backups:/usr/sbin/nologin
list:x:38:38:Mailing List Manager:/var/list:/usr/sbin/nologin
irc:x:39:39:ircd:/var/run/ircd:/usr/sbin/nologin
gnats:x:41:41:Gnats Bug-Reporting System (admin):/var/lib/gnats:/usr/s
bin/nologin
nobody:x:65534:65534:nobody:/nonexistent:/usr/sbin/nologin
systemd-network:x:100:102:systemd Network Management,,,:/run/systemd/n
etif:/usr/sbin/nologin
systemd-resolve:x:101:103:systemd Resolver,,,:/run/systemd/resolve:/us
r/sbin/nologin
syslog:x:102:106::/home/syslog:/usr/sbin/nologin
messagebus:x:103:107::/nonexistent:/usr/sbin/nologin
_apt:x:104:65534::/nonexistent:/usr/sbin/nologin
uuidd:x:105:111::/run/uuidd:/usr/sbin/nologin
avahi-autoipd:x:106:112:Avahi autoip daemon,,,:/var/lib/avahi-autoipd:
/usr/sbin/nologin
usbmux:x:107:46:usbmux daemon,,,:/var/lib/usbmux:/usr/sbin/nologin
dnsmasq:x:108:65534:dnsmasq,,,:/var/lib/misc:/usr/sbin/nologin
rtkit:x:109:114:RealtimeKit,,,:/proc:/usr/sbin/nologin
cups-pk-helper:x:110:116:user for cups-pk-helper service,,,:/home/cups
-pk-helper:/usr/sbin/nologin
speech-dispatcher:x:111:29:Speech Dispatcher,,,:/var/run/speech-dispat
cher:/bin/false
whoopsie:x:112:117::/nonexistent:/bin/false
```

```
utkarsh@utkarsh: ~
File  Edit  View  Search  Terminal  Help
utkarsh@utkarsh:~$ strings passwd_backup
root:x:0:0:root:/root:/bin/bash
daemon:x:1:1:daemon:/usr/sbin:/usr/sbin/nologin
bin:x:2:2:bin:/bin:/usr/sbin/nologin
sys:x:3:3:sys:/dev:/usr/sbin/nologin
sync:x:4:65534:sync:/bin:/bin/sync
games:x:5:60:games:/usr/games:/usr/sbin/nologin
man:x:6:12:man:/var/cache/man:/usr/sbin/nologin
lp:x:7:7:lp:/var/spool/lpd:/usr/sbin/nologin
mail:x:8:8:mail:/var/mail:/usr/sbin/nologin
news:x:9:9:news:/var/spool/news:/usr/sbin/nologin
uucp:x:10:10:uucp:/var/spool/uucp:/usr/sbin/nologin
proxy:x:13:13:proxy:/bin:/usr/sbin/nologin
www-data:x:33:33:www-data:/var/www:/usr/sbin/nologin
backup:x:34:34:backup:/var/backups:/usr/sbin/nologin
list:x:38:38:Mailing List Manager:/var/list:/usr/sbin/nologin
irc:x:39:39:ircd:/var/run/ircd:/usr/sbin/nologin
gnats:x:41:41:Gnats Bug-Reporting System (admin):/var/lib/gnats:/usr/s
bin/nologin
nobody:x:65534:65534:nobody:/nonexistent:/usr/sbin/nologin
systemd-network:x:100:102:systemd Network Management,,,:/run/systemd/n
etif:/usr/sbin/nologin
systemd-resolve:x:101:103:systemd Resolver,,,:/run/systemd/resolve:/us
r/sbin/nologin
syslog:x:102:106::/home/syslog:/usr/sbin/nologin
messagebus:x:103:107::/nonexistent:/usr/sbin/nologin
_apt:x:104:65534::/nonexistent:/usr/sbin/nologin
uuidd:x:105:111::/run/uuidd:/usr/sbin/nologin
avahi-autoipd:x:106:112:Avahi autoip daemon,,,:/var/lib/avahi-autoipd:
/usr/sbin/nologin
usbmux:x:107:46:usbmux daemon,,,:/var/lib/usbmux:/usr/sbin/nologin
dnsmasq:x:108:65534:dnsmasq,,,:/var/lib/misc:/usr/sbin/nologin
rtkit:x:109:114:RealtimeKit,,,:/proc:/usr/sbin/nologin
cups-pk-helper:x:110:116:user for cups-pk-helper service,,,:/home/cups
-pk-helper:/usr/sbin/nologin
speech-dispatcher:x:111:29:Speech Dispatcher,,,:/var/run/speech-dispat
cher:/bin/false
whoopsie:x:112:117::/nonexistent:/bin/false
```
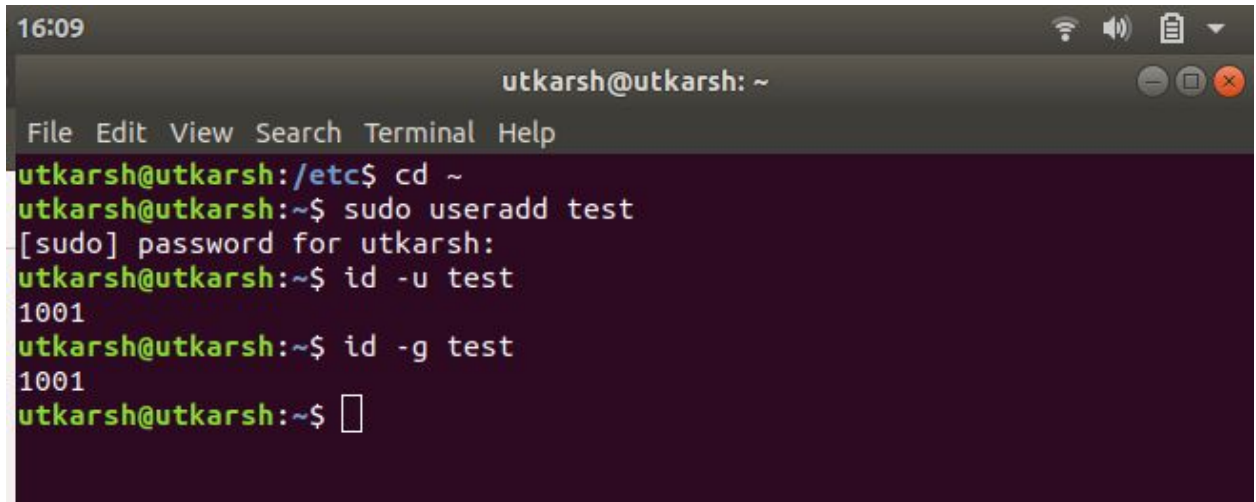
6. Find out the number of line in password_backup containing "/bin/false".

```
utkarsh@utkarsh:~$ grep -c "/bin/false" passwd_backup
5
utkarsh@utkarsh:~$
```

7. Get the first 5 lines of a file "password_backup" and Redirect the output of the above commands into file "output".


```
utkarsh@utkarsh:~$ head -5 passwd_backup
root:x:0:0:root:/root:/bin/bash
daemon:x:1:1:daemon:/usr/sbin:/usr/sbin/nologin
bin:x:2:2:bin:/bin:/usr/sbin/nologin
sys:x:3:3:sys:/dev:/usr/sbin/nologin
sync:x:4:65534:sync:/bin:/bin/sync
utkarsh@utkarsh:~$ (head -5 passwd_backup)> output
utkarsh@utkarsh:~$ cat output
root:x:0:0:root:/root:/bin/bash
daemon:x:1:1:daemon:/usr/sbin:/usr/sbin/nologin
bin:x:2:2:bin:/bin:/usr/sbin/nologin
sys:x:3:3:sys:/dev:/usr/sbin/nologin
sync:x:4:65534:sync:/bin:/bin/sync
utkarsh@utkarsh:~$
```

8. Create a "test" user,create its password and find out its uid and gid.

9. Change the timestamp of emptyFile1,emptyFile2 which are exist in dir2
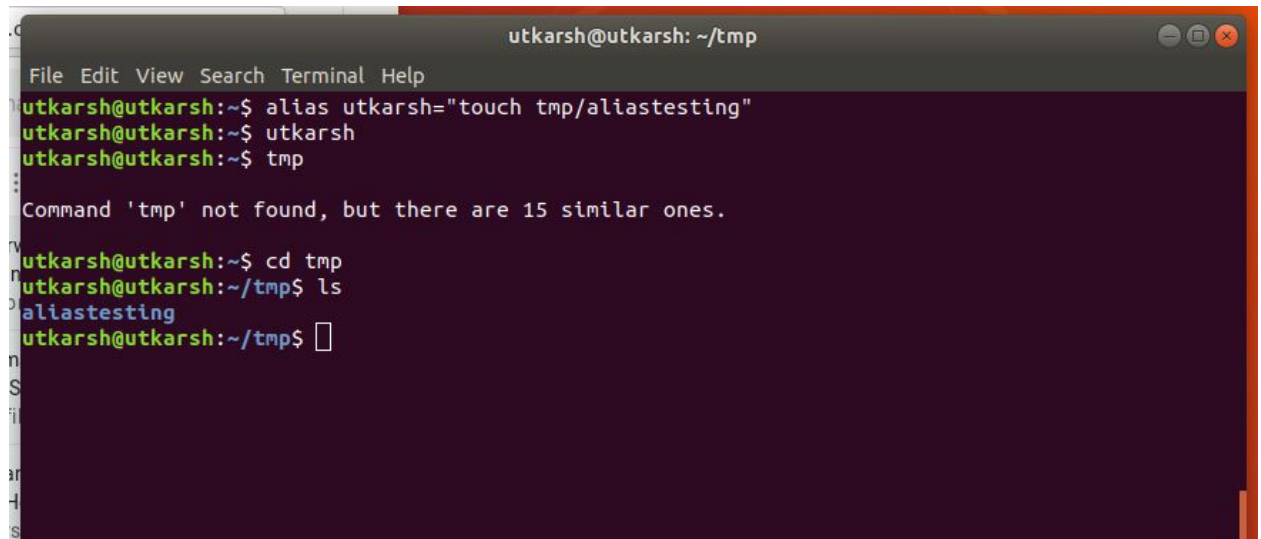
```
                    utkarsh@utkarsh: ~/exercise/dir1/dir2

File  Edit  View  Search  Terminal  Help
utkarsh@utkarsh:~$ cd exercise
utkarsh@utkarsh:~/exercise$ cd dir1/dir2
utkarsh@utkarsh:~/exercise/dir1/dir2$ touch -a emptyFile1
utkarsh@utkarsh:~/exercise/dir1/dir2$ touch -a emptyFile2
utkarsh@utkarsh:~/exercise/dir1/dir2$ stat emptyFile1
  File: emptyFile1
  Size: 0               Blocks: 0          IO Block: 4096    regular em
pty file
Device: 805h/2053d      Inode: 8913381     Links: 1
Access: (0644/-rw-r--r--)  Uid: ( 1000/ utkarsh)   Gid: ( 1000/ utkars
h)
Access: 2020-02-03 16:15:01.840874587 +0530
Modify: 2020-02-03 16:15:01.836874534 +0530
Change: 2020-02-03 16:15:01.840874587 +0530
 Birth: -
utkarsh@utkarsh:~/exercise/dir1/dir2$ stat emptyFile2
  File: emptyFile2
  Size: 0               Blocks: 0          IO Block: 4096    regular em
pty file
Device: 805h/2053d      Inode: 8914261     Links: 1
Access: (0644/-rw-r--r--)  Uid: ( 1000/ utkarsh)   Gid: ( 1000/ utkars
h)
Access: 2020-02-03 16:15:10.612991026 +0530
Modify: 2020-02-03 16:15:10.612991026 +0530
Change: 2020-02-03 16:15:10.612991026 +0530
 Birth: -
utkarsh@utkarsh:~/exercise/dir1/dir2$ ▯
```

10. Login as test user and edit the "output" file created above. Since the permission wont allow you to save the changes. Configure such that test user can edit it.

   1. Add group owner of the "output" file as the secondary group of testuser and check/change the "output" file permission if it is editable by group. Once done revert the changes

   2. Make the file editable to the world so that test user can access it. Revert the changes after verification

   3. Change the ownership to edit the file.

```
                              utkarsh@utkarsh: ~

File  Edit  View  Search  Terminal  Help
utkarsh@utkarsh:~$ sudo  adduser test utkarsh
[sudo] password for utkarsh:
Adding user `test' to group `utkarsh' ...
Adding user test to group utkarsh
Done.
utkarsh@utkarsh:~$ ls -l output
-rwxr-xr-x 1 utkarsh utkarsh 189 Feb  3 15:22 output
utkarsh@utkarsh:~$ chmod g-x output
utkarsh@utkarsh:~$ ls -l output
-rwxr--r-x 1 utkarsh utkarsh 189 Feb  3 15:22 output
utkarsh@utkarsh:~$ chmod g+w output
utkarsh@utkarsh:~$ su test
Password:
$ echo "hi" >> output
$ cat output
root:x:0:0:root:/root:/bin/bash
daemon:x:1:1:daemon:/usr/sbin:/usr/sbin/nologin
bin:x:2:2:bin:/bin:/usr/sbin/nologin
sys:x:3:3:sys:/dev:/usr/sbin/nologin
sync:x:4:65534:sync:/bin:/bin/sync
hi
$ exit
utkarsh@utkarsh:~$  chmod g-w output
utkarsh@utkarsh:~$ ls -l output
-rwxr--r-x 1 utkarsh utkarsh 192 Feb  3 23:18 output
utkarsh@utkarsh:~$ chown test output
chown: changing ownership of 'output': Operation not permitted
utkarsh@utkarsh:~$ sudo chown test output
utkarsh@utkarsh:~$ ls -l output
-rwxr--r-x 1 test utkarsh 192 Feb  3 23:18 output
utkarsh@utkarsh:~$ 
```

11. Create alias with your name so that it creates a file as "/tmp/aliastesting".

```
                              utkarsh@utkarsh: ~/tmp

 File  Edit  View  Search  Terminal  Help
utkarsh@utkarsh:~$ alias utkarsh="touch tmp/aliastesting"
utkarsh@utkarsh:~$ utkarsh
utkarsh@utkarsh:~$ tmp

Command 'tmp' not found, but there are 15 similar ones.

utkarsh@utkarsh:~$ cd tmp
utkarsh@utkarsh:~/tmp$ ls
aliastesting
utkarsh@utkarsh:~/tmp$ []
```

12. Edit ~/.bashrc file such that when you change to "test" user it should clear the screen
    and print "Welcome".

```
utkarsh@utkarsh:~$ su - test1
Password:
test1@utkarsh:~$ nano .bashrc
test1@utkarsh:~$ 
```

```
                          test1@utkarsh: ~

 File  Edit  View  Search  Terminal  Help
  GNU nano 2.9.3                        .bashrc

# ~/.bashrc: executed by bash(1) for non-login shells.
# see /usr/share/doc/bash/examples/startup-files (in the package bash-doc)
# for examples

# If not running interactively, don't do anything
case $- in
    *i*) ;;
      *) return;;
esac
echo "welcome"
# don't put duplicate lines or lines starting with space in the history.
# See bash(1) for more options
HISTCONTROL=ignoreboth

# append to the history file, don't overwrite it
shopt -s histappend

# for setting history length see HISTSIZE and HISTFILESIZE in bash(1)
HISTSIZE=1000
                        [ Read 117 lines ]
^G Get Help   ^O Write Out ^W Where Is   ^K Cut Text  ^J Justify   ^C Cur Pos
^X Exit       ^R Read File ^\ Replace    ^U Uncut Text^T To Spell  ^  Go To Line
```
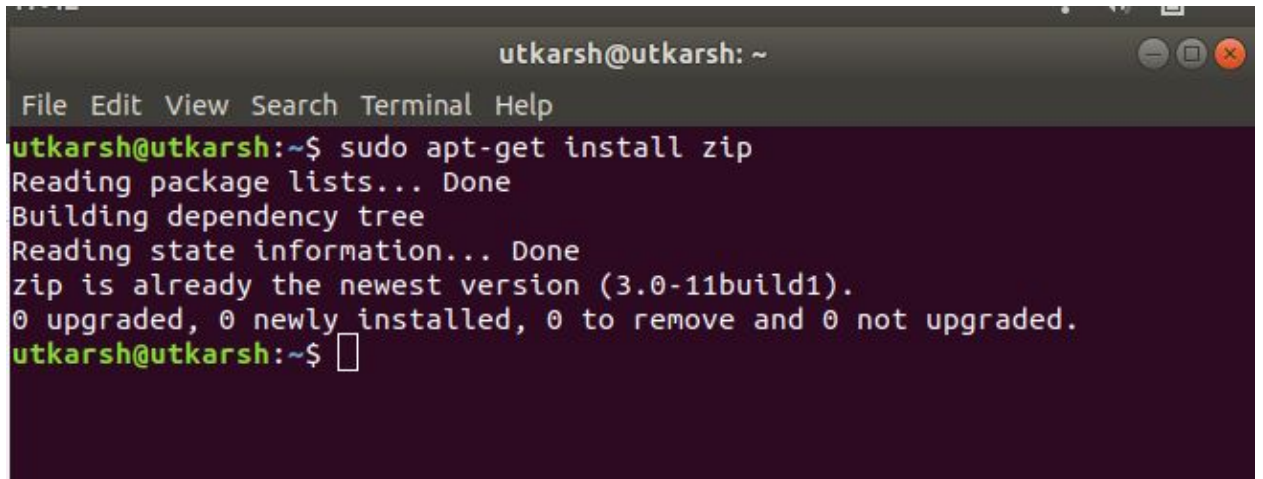
```
                          test1@utkarsh: ~

 File  Edit  View  Search  Terminal  Help
utkarsh@utkarsh:~$ su - test1
Password:
welcome
test1@utkarsh:~$ 
```

13. Install "zip" package.

```
utkarsh@utkarsh: ~
File  Edit  View  Search  Terminal  Help
utkarsh@utkarsh:~$ sudo apt-get install zip
Reading package lists... Done
Building dependency tree
Reading state information... Done
zip is already the newest version (3.0-11build1).
0 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
utkarsh@utkarsh:~$
```
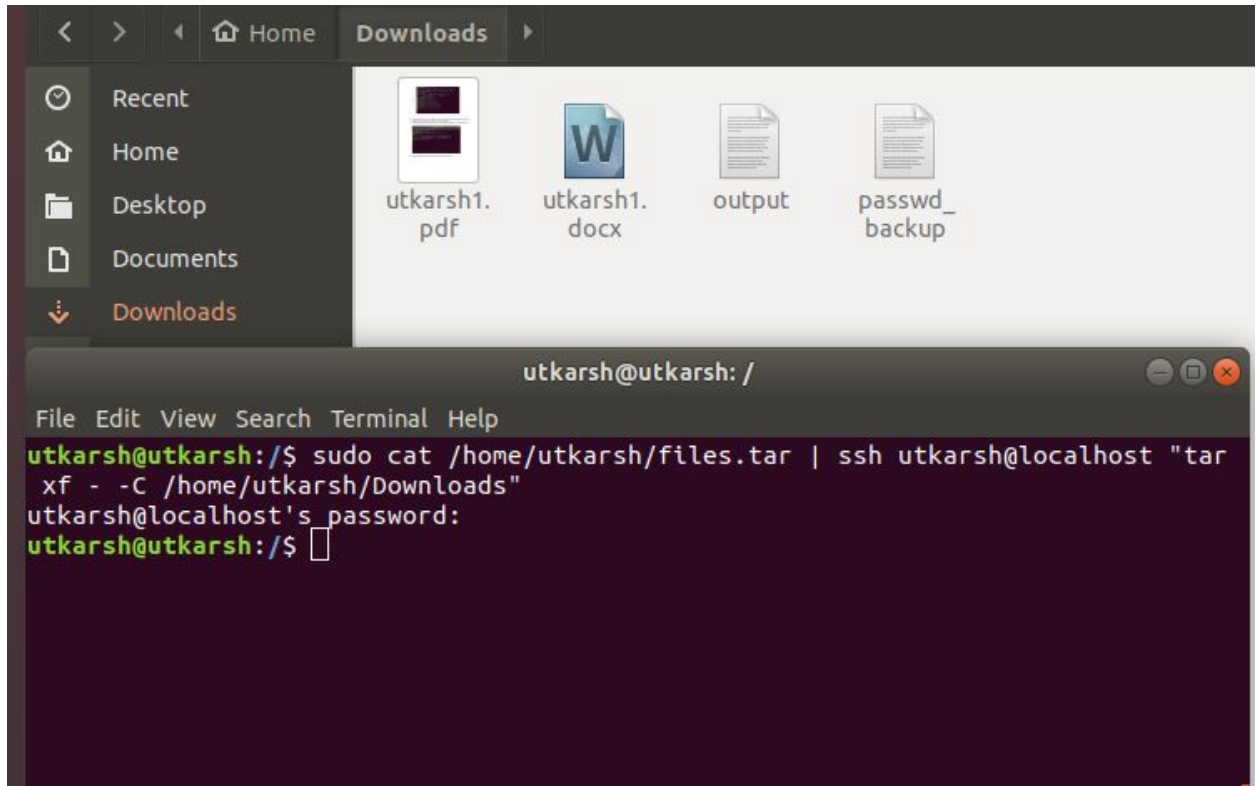
14. Compress "output" and "password_backup" files into a tar ball. List the files present
    inside the tar created.

```
utkarsh@utkarsh: ~

File  Edit  View  Search  Terminal  Help
utkarsh@utkarsh:~$ ls
Desktop   dir3         examples.desktop   Music        Pictures    tmp
dir1      Documents    exercise           output       Public      Videos
dir2      Downloads    files.tar          passwd_backup Templates
utkarsh@utkarsh:~$ tar -cvf files.tar output.txt psswd_backup
tar: output.txt: Cannot stat: No such file or directory
tar: psswd_backup: Cannot stat: No such file or directory
tar: Exiting with failure status due to previous errors
utkarsh@utkarsh:~$ sudo tar -cvf files.tar output.txt psswd_backup
[sudo] password for utkarsh:
tar: output.txt: Cannot stat: No such file or directory
tar: psswd_backup: Cannot stat: No such file or directory
tar: Exiting with failure status due to previous errors
utkarsh@utkarsh:~$ tar -cvf files.tar output psswd_backup
output
tar: psswd_backup: Cannot stat: No such file or directory
tar: Exiting with failure status due to previous errors
utkarsh@utkarsh:~$ tar -cvf files.tar output passwd_backup
output
passwd_backup
utkarsh@utkarsh:~$ ls
Desktop   dir3         examples.desktop   Music        Pictures    tmp
dir1      Documents    exercise           output       Public      Videos
dir2      Downloads    files.tar          passwd_backup Templates
utkarsh@utkarsh:~$ tar -tvf files.tar
-rw-rw-r-- utkarsh/utkarsh 189 2020-02-03 23:45 output
-rw-r--r-- utkarsh/utkarsh 2423 2020-02-03 14:41 passwd_backup
utkarsh@utkarsh:~$ []
```

15. scp this file to test user

```
Edit  View  Search  Terminal  Help
sh@utkarsh:~$ scp files.tar test@localhost
sh@utkarsh:~$ []
```

16. Unzip this tar bar by logging into the remote server

17. Download any image from web and move to desktop

18. How to get help of commands usages.

utkarsh@utkarsh: ~

File Edit View Search Terminal Help

utkarsh@utkarsh:~$ man mv
utkarsh@utkarsh:~$ ▯

utkarsh@utkarsh: ~

File Edit View Search Terminal Help

MV(1)   User Commands   MV(1)

NAME
        mv - move (rename) files

SYNOPSIS
        mv [OPTION]... [-T] SOURCE DEST
        mv [OPTION]... SOURCE... DIRECTORY
        mv [OPTION]... -t DIRECTORY SOURCE...

DESCRIPTION
        Rename SOURCE to DEST, or move SOURCE(s) to DIRECTORY.

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

        --backup[=CONTROL]
                make a backup of each existing destination file

        -b   like --backup but does not accept an argument

        -f, --force
                do not prompt before overwriting

        -i, --interactive
                prompt before overwrite

        -n, --no-clobber
                do not overwrite an existing file

        If you specify more than one of -i, -f, -n, only the final one takes
        effect.

Manual page mv(1) line 1 (press h for help or q to quit)▯

19. Create a symlink of /etc/services into /tmp/ports-info

```
                        utkarsh@utkarsh: /                    ⊖ ⊡ ⊗

 File  Edit  View  Search  Terminal  Help
 utkarsh@utkarsh:~$ cd /
 utkarsh@utkarsh:/$ ln -s /etc/services /tmp/ports-info
 utkarsh@utkarsh:/$ ▯
```

20. You are appointed as a Software/DevOps Engineer in ABC media services. On your first day you need to troubleshoot a problem. There is a command "xyz" somewhere installed in that linux system. But as a new joinee you do not have any idea about where is that Installed. How can you check that?

```
                        utkarsh@utkarsh: ~                    ⊖ ⊡ ⊗

 File  Edit  View  Search  Terminal  Help
 utkarsh@utkarsh:~$ whereis mv
 mv: /bin/mv /usr/share/man/man1/mv.1.gz
 utkarsh@utkarsh:~$ ▯
```