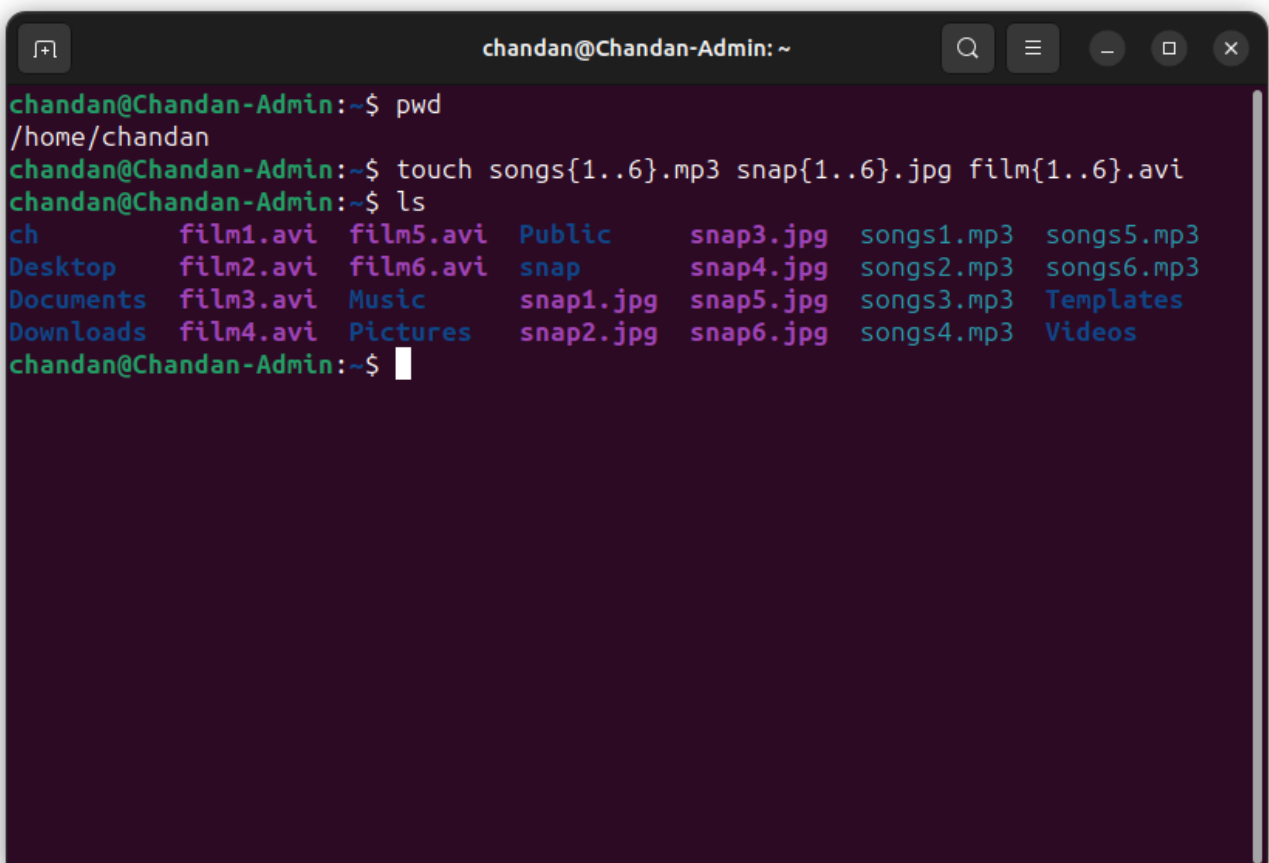


Q1. In your home directory, create sets of empty practice files

- Create 6 files with names of the form songsX.mp3.
- Create 6 files with names of the form snapX.jpg.
- Create 6 files with names of the form filmX.avi.

In each set, replace X with the numbers 1 through 6.

Soln : we can use **touch** command to create files

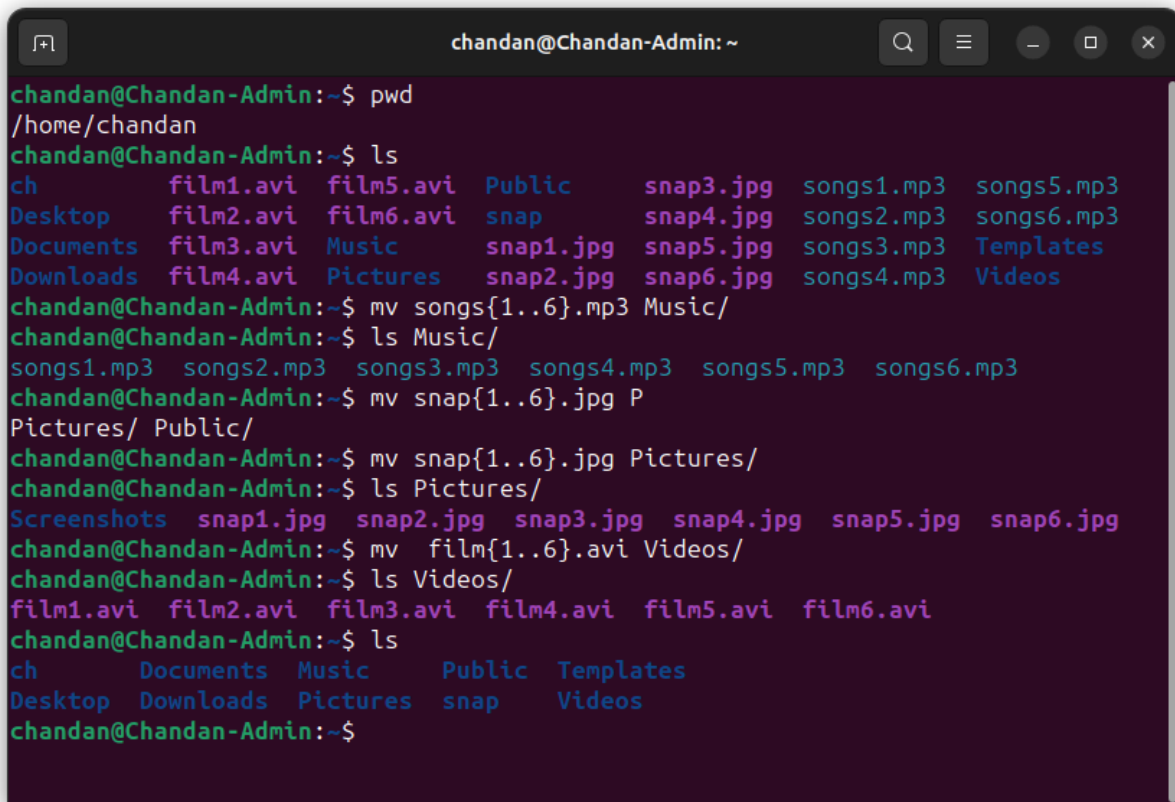
A terminal window titled 'chandan@Chandan-Admin: ~' with standard window controls. The terminal shows the following commands and output:

```
chandan@Chandan-Admin:~$ pwd
/home/chandan
chandan@Chandan-Admin:~$ touch songs{1..6}.mp3 snap{1..6}.jpg film{1..6}.avi
chandan@Chandan-Admin:~$ ls
ch          film1.avi  film5.avi  Public    snap3.jpg  songs1.mp3  songs5.mp3
Desktop    film2.avi  film6.avi  snap      snap4.jpg  songs2.mp3  songs6.mp3
Documents  film3.avi  Music     snap1.jpg  snap5.jpg  songs3.mp3  Templates
Downloads  film4.avi  Pictures   snap2.jpg  snap6.jpg  songs4.mp3  Videos
chandan@Chandan-Admin:~$
```

Q2. From your home directory,

- Move songs file into your Music subdirectory.
- Move snap file into your Pictures subdirectory.
- Move your movie files into Videos subdirectory

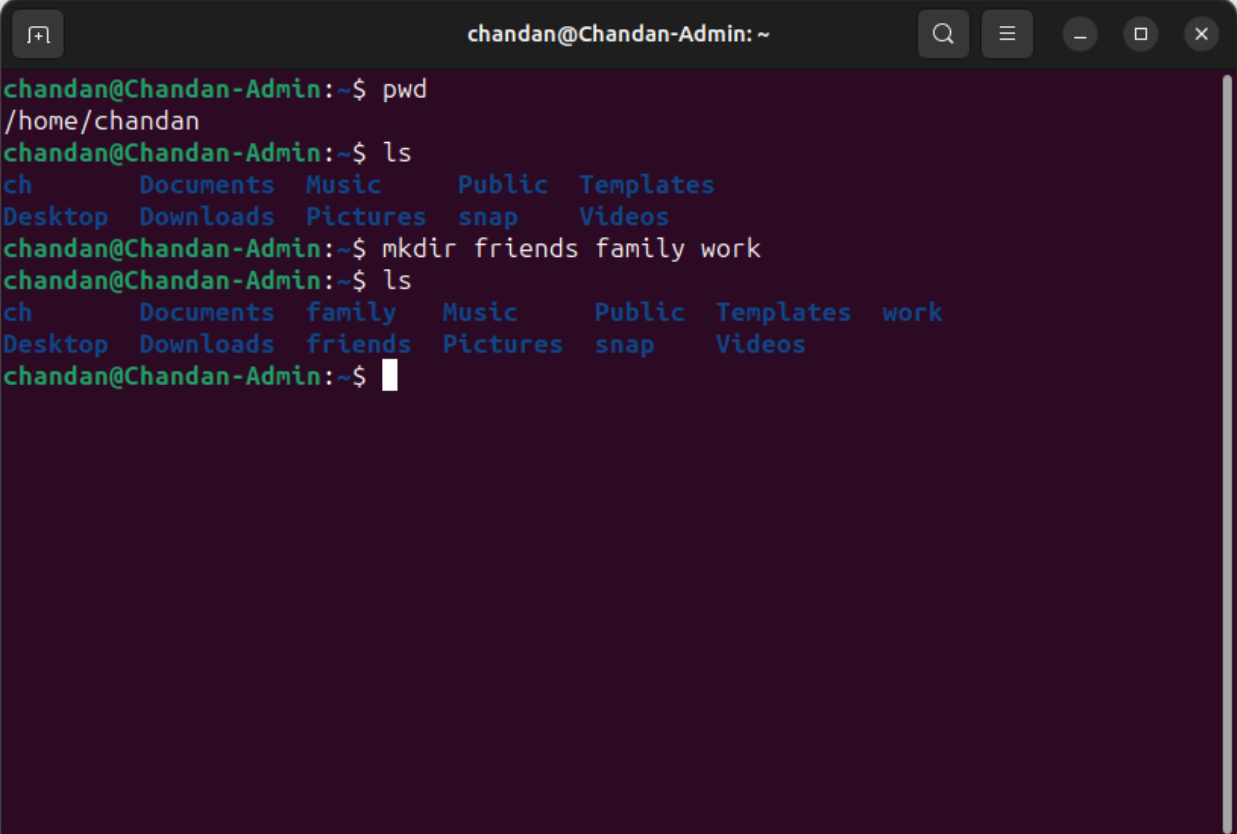
Soln : we can use **mv** command to move file



```
chandan@Chandan-Admin: ~  
chandan@Chandan-Admin:~$ pwd  
/home/chandan  
chandan@Chandan-Admin:~$ ls  
ch          film1.avi  film5.avi  Public      snap3.jpg  songs1.mp3  songs5.mp3  
Desktop    film2.avi  film6.avi  snap        snap4.jpg  songs2.mp3  songs6.mp3  
Documents  film3.avi  Music      snap1.jpg  snap5.jpg  songs3.mp3  Templates  
Downloads  film4.avi  Pictures   snap2.jpg  snap6.jpg  songs4.mp3  Videos  
chandan@Chandan-Admin:~$ mv songs{1..6}.mp3 Music/  
chandan@Chandan-Admin:~$ ls Music/  
songs1.mp3 songs2.mp3 songs3.mp3 songs4.mp3 songs5.mp3 songs6.mp3  
chandan@Chandan-Admin:~$ mv snap{1..6}.jpg P  
Pictures/ Public/  
chandan@Chandan-Admin:~$ mv snap{1..6}.jpg Pictures/  
chandan@Chandan-Admin:~$ ls Pictures/  
Screenshots snap1.jpg snap2.jpg snap3.jpg snap4.jpg snap5.jpg snap6.jpg  
chandan@Chandan-Admin:~$ mv film{1..6}.avi Videos/  
chandan@Chandan-Admin:~$ ls Videos/  
film1.avi film2.avi film3.avi film4.avi film5.avi film6.avi  
chandan@Chandan-Admin:~$ ls  
ch          Documents Music      Public Templates  
Desktop    Downloads Pictures snap      Videos  
chandan@Chandan-Admin:~$
```

Q3. Create 3 subdirectories for organizing your files named friends, family, work

Soln : we can use **mkdir** to create new directories



```
chandan@Chandan-Admin: ~  
chandan@Chandan-Admin:~$ pwd  
/home/chandan  
chandan@Chandan-Admin:~$ ls  
ch      Documents  Music      Public  Templates  
Desktop Downloads  Pictures   snap    Videos  
chandan@Chandan-Admin:~$ mkdir friends family work  
chandan@Chandan-Admin:~$ ls  
ch      Documents  family    Music      Public  Templates  work  
Desktop Downloads  friends   Pictures   snap    Videos  
chandan@Chandan-Admin:~$
```

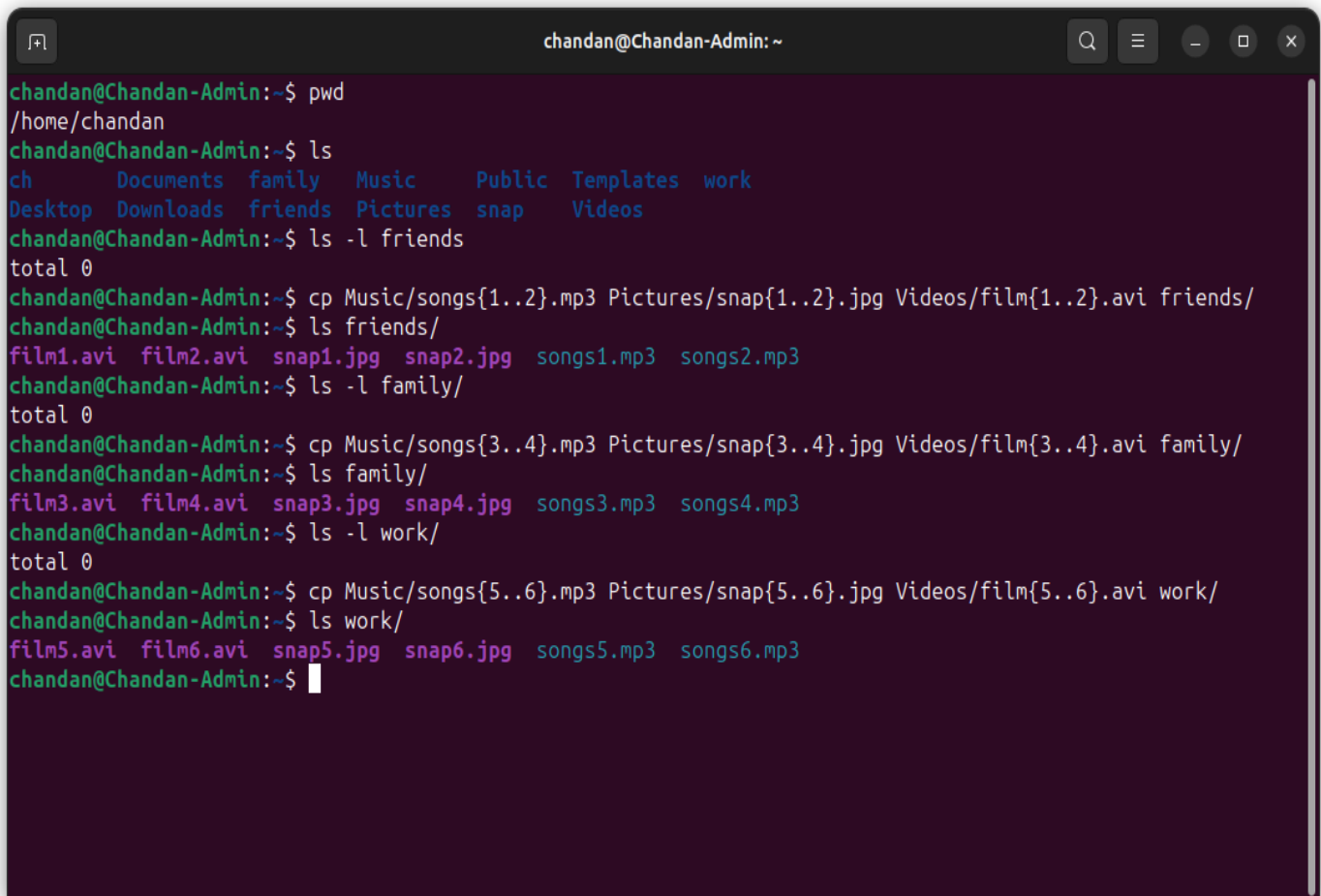
Q4. Copy files (all types ) containing numbers 1 and 2 to the friends folder.

Copy files (all types) containing numbers 3 and 4 to the family folder.

Copy files (all types) containing numbers 5 and 6 to the work folder.

Soln :

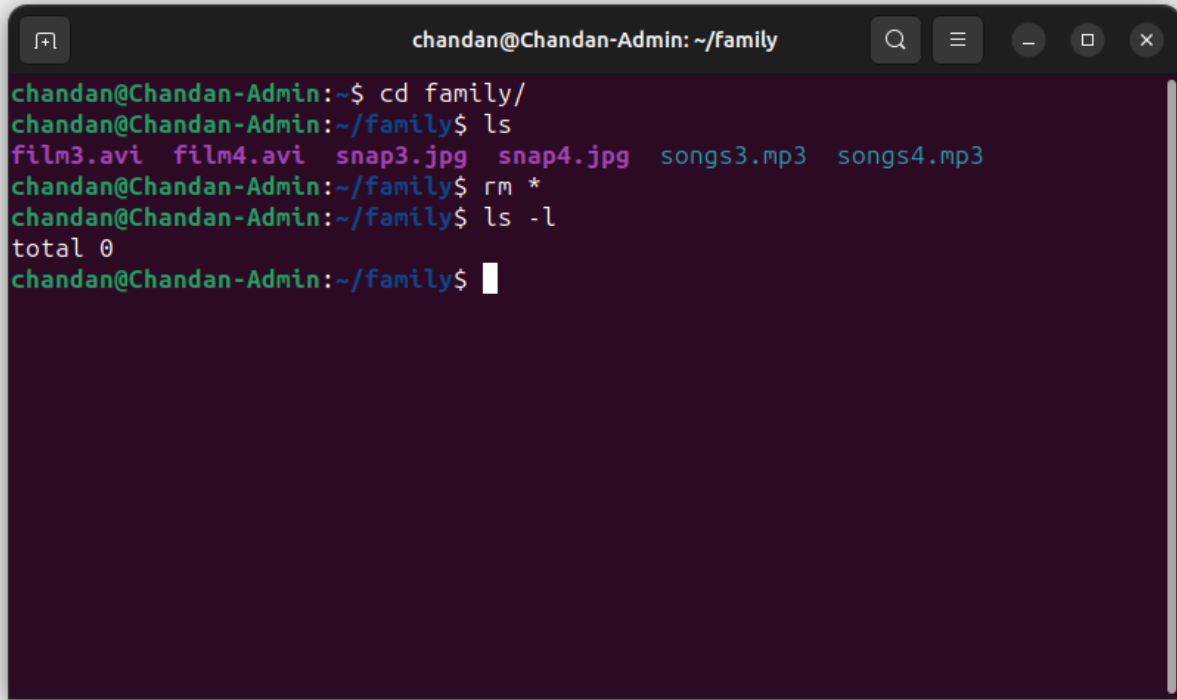
Used **cp** command to copy files

A terminal window titled 'chandan@Chandan-Admin: ~' with standard window controls. The terminal shows a series of commands and their outputs. First, 'pwd' returns '/home/chandan'. Then, 'ls' lists the home directory contents: 'ch', 'Documents', 'family', 'Music', 'Public', 'Templates', 'work', 'Desktop', 'Downloads', 'friends', 'Pictures', 'snap', and 'Videos'. Next, 'ls -l friends' shows an empty directory. Then, a 'cp' command copies files from 'Music/songs{1..2}.mp3', 'Pictures/snap{1..2}.jpg', and 'Videos/film{1..2}.avi' to the 'friends/' directory. This is followed by 'ls friends/' which lists the copied files. Then, 'ls -l family/' shows an empty directory. Next, a 'cp' command copies files from 'Music/songs{3..4}.mp3', 'Pictures/snap{3..4}.jpg', and 'Videos/film{3..4}.avi' to the 'family/' directory. This is followed by 'ls family/' which lists the copied files. Then, 'ls -l work/' shows an empty directory. Finally, a 'cp' command copies files from 'Music/songs{5..6}.mp3', 'Pictures/snap{5..6}.jpg', and 'Videos/film{5..6}.avi' to the 'work/' directory. The terminal ends with 'ls work/' which lists the copied files.

```
chandan@Chandan-Admin:~$ pwd
/home/chandan
chandan@Chandan-Admin:~$ ls
ch      Documents  family     Music      Public     Templates  work
Desktop Downloads friends    Pictures   snap       Videos
chandan@Chandan-Admin:~$ ls -l friends
total 0
chandan@Chandan-Admin:~$ cp Music/songs{1..2}.mp3 Pictures/snap{1..2}.jpg Videos/film{1..2}.avi friends/
chandan@Chandan-Admin:~$ ls friends/
film1.avi  film2.avi  snap1.jpg  snap2.jpg  songs1.mp3  songs2.mp3
chandan@Chandan-Admin:~$ ls -l family/
total 0
chandan@Chandan-Admin:~$ cp Music/songs{3..4}.mp3 Pictures/snap{3..4}.jpg Videos/film{3..4}.avi family/
chandan@Chandan-Admin:~$ ls family/
film3.avi  film4.avi  snap3.jpg  snap4.jpg  songs3.mp3  songs4.mp3
chandan@Chandan-Admin:~$ ls -l work/
total 0
chandan@Chandan-Admin:~$ cp Music/songs{5..6}.mp3 Pictures/snap{5..6}.jpg Videos/film{5..6}.avi work/
chandan@Chandan-Admin:~$ ls work/
film5.avi  film6.avi  snap5.jpg  snap6.jpg  songs5.mp3  songs6.mp3
chandan@Chandan-Admin:~$
```

Q6. Delete all files in family subdirectory.

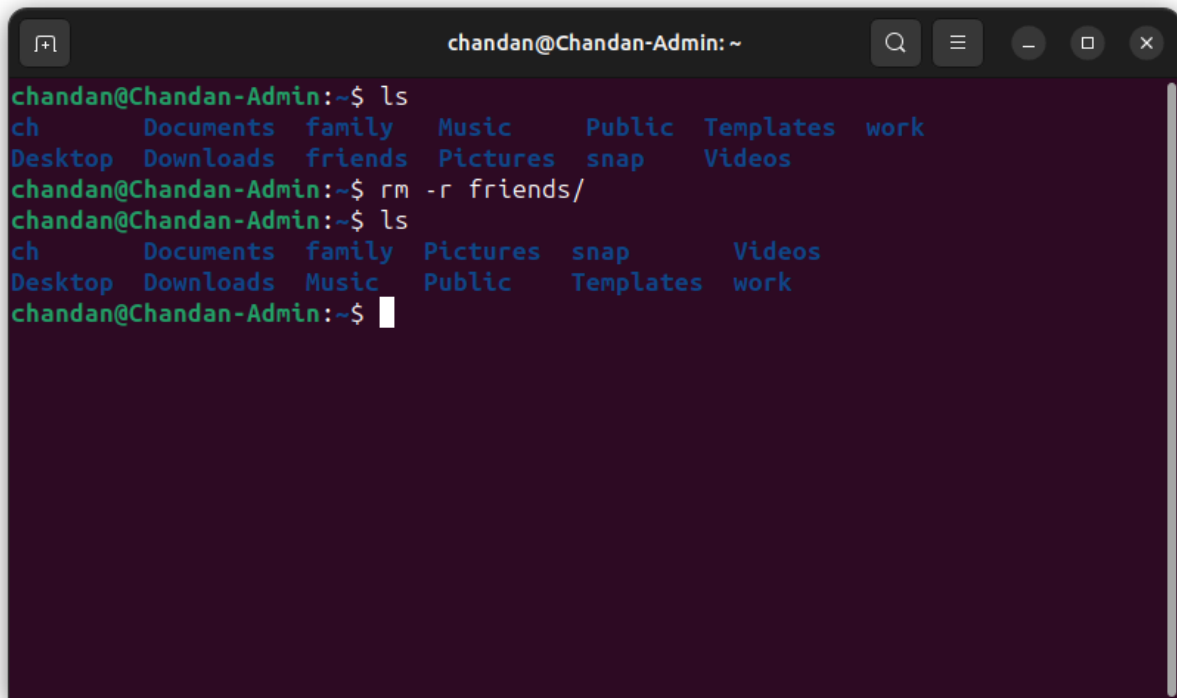
Soln : Use **rm \*** command to remove all files

A terminal window titled 'chandan@Chandan-Admin: ~/family' with standard window controls. The terminal shows the following commands and output:

```
chandan@Chandan-Admin:~$ cd family/  
chandan@Chandan-Admin:~/family$ ls  
film3.avi  film4.avi  snap3.jpg  snap4.jpg  songs3.mp3  songs4.mp3  
chandan@Chandan-Admin:~/family$ rm *  
chandan@Chandan-Admin:~/family$ ls -l  
total 0  
chandan@Chandan-Admin:~/family$
```

Q7. Delete friends subdirectory

Soln : Used **rm -r [directory name]** command to delete directory containing files

A terminal window titled 'chandan@Chandan-Admin: ~' with standard window controls. The terminal shows the following commands and output:

```
chandan@Chandan-Admin:~$ ls
ch      Documents  family    Music     Public   Templates work
Desktop Downloads  friends  Pictures  snap     Videos
chandan@Chandan-Admin:~$ rm -r friends/
chandan@Chandan-Admin:~$ ls
ch      Documents  family    Pictures  snap     Videos
Desktop Downloads  Music     Public    Templates work
chandan@Chandan-Admin:~$
```

Q8. Create user tom , bob , sam , prince

Soln : Used command **adduser** [name] command to add user

1 . add user tom

```
chandan@Chandan-Admin:~$ sudo adduser tom
[sudo] password for chandan:
info: Adding user `tom' ...
info: Selecting UID/GID from range 1000 to 59999 ...
info: Adding new group `tom' (1001) ...
info: Adding new user `tom' (1001) with group `tom (1001)' ...
warn: The home directory `/home/tom' already exists. Not touching this directory.
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: password updated successfully
Changing the user information for tom
Enter the new value, or press ENTER for the default
    Full Name []: Tom
    Room Number []:
    Work Phone []:
    Home Phone []:
    Other []:
Is the information correct? [Y/n]
info: Adding new user `tom' to supplemental / extra groups `users' ...
info: Adding user `tom' to group `users' ...
```

2. Add user bob

```
chandan@Chandan-Admin:~$ sudo adduser bob
info: Adding user `bob' ...
info: Selecting UID/GID from range 1000 to 59999 ...
info: Adding new group `bob' (1002) ...
info: Adding new user `bob' (1002) with group `bob (1002)' ...
info: Creating home directory `/home/bob' ...
info: Copying files from `/etc/skel' ...
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: password updated successfully
Changing the user information for bob
Enter the new value, or press ENTER for the default
    Full Name []: Bob
    Room Number []:
    Work Phone []:
    Home Phone []:
    Other []:
Is the information correct? [Y/n]
info: Adding new user `bob' to supplemental / extra groups `users' ...
info: Adding user `bob' to group `users' ...
```

### 3. Add user sam

```
chandan@Chandan-Admin:~$ sudo adduser sam
info: Adding user `sam' ...
info: Selecting UID/GID from range 1000 to 59999 ...
info: Adding new group `sam' (1003) ...
info: Adding new user `sam' (1003) with group `sam (1003)' ...
warn: The home directory `/home/sam' already exists. Not touching this directory.
warn: Warning: The home directory `/home/sam' does not belong to the user you are currently creating.
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: password updated successfully
Changing the user information for sam
Enter the new value, or press ENTER for the default
    Full Name []: Sam
    Room Number []:
    Work Phone []:
    Home Phone []:
    Other []:
Is the information correct? [Y/n]
info: Adding new user `sam' to supplemental / extra groups `users' ...
info: Adding user `sam' to group `users' ...
```

### 4. Add user prince;

```
chandan@Chandan-Admin:~$ sudo adduser prince
info: Adding user `prince' ...
info: Selecting UID/GID from range 1000 to 59999 ...
info: Adding new group `prince' (1007) ...
info: Adding new user `prince' (1007) with group `prince (1007)' ...
warn: The home directory `/home/prince' already exists. Not touching this directory.
warn: Warning: The home directory `/home/prince' does not belong to the user you are currently creating.
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: password updated successfully
Changing the user information for prince
Enter the new value, or press ENTER for the default
    Full Name []: Prince
    Room Number []:
    Work Phone []:
    Home Phone []:
    Other []:
Is the information correct? [Y/n]
info: Adding new user `prince' to supplemental / extra groups `users' ...
info: Adding user `prince' to group `users' ...
```



Q9. Create Group dac , dbda ,ditiss

Soln : Used command **addgroup** [name] command to add group

```
chandan@Chandan-Admin:~$ sudo addgroup dac
info: Selecting GID from range 1000 to 59999 ...
info: Adding group `dac' (GID 1004) ...
chandan@Chandan-Admin:~$ sudo addgroup dbda
info: Selecting GID from range 1000 to 59999 ...
info: Adding group `dbda' (GID 1005) ...
chandan@Chandan-Admin:~$ sudo addgroup ditiss
info: Selecting GID from range 1000 to 59999 ...
info: Adding group `ditiss' (GID 1006) ...
chandan@Chandan-Admin:~$
```

For confirming if group are created we go in **cat /etc/group**

```
color:x:125:
colord:x:126:
gdm:x:127:
nm-openvpn:x:128:
lxd:x:129:
gamemode:x:993:
gnome-initial-setup:x:992:
chandan:x:1000:
dac:x:1004:
dbda:x:1005:
ditiss:x:1006:
tom:x:1001:
bob:x:1002:
sam:x:1003:
prince:x:1007:
chandan@Chandan-Admin:~$
```

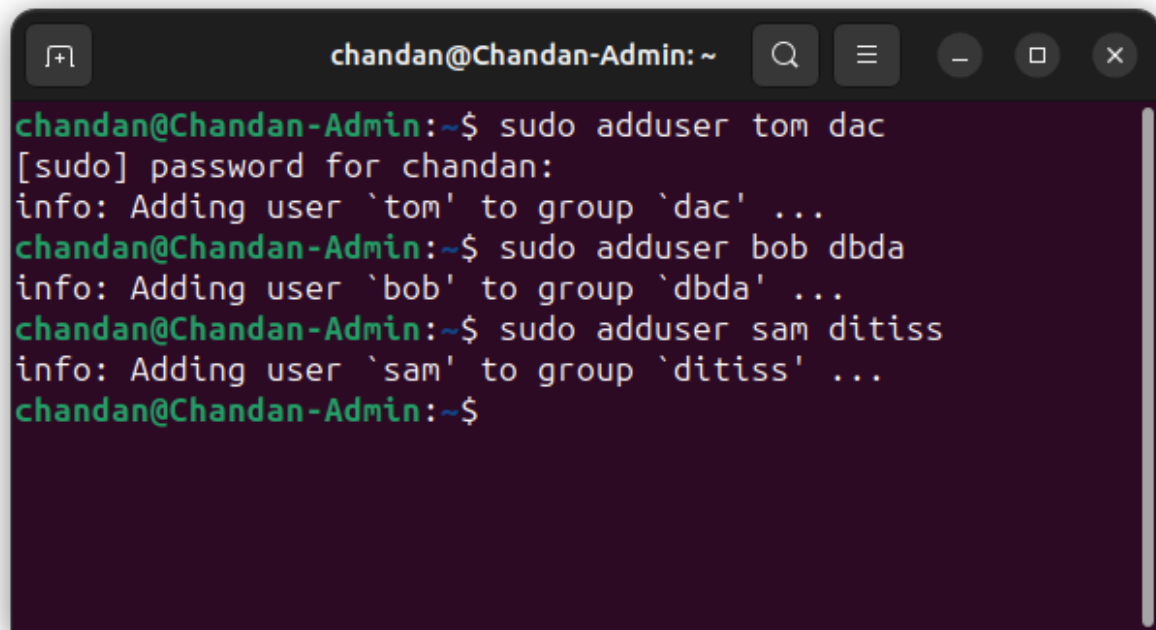
Q10. add user

Tom in dac

Bob in dbda

Sam in ditiss

Soln : Used command **adduser [username] [groupname]**



```
chandan@Chandan-Admin: ~  
chandan@Chandan-Admin:~$ sudo adduser tom dac  
[sudo] password for chandan:  
info: Adding user `tom' to group `dac' ...  
chandan@Chandan-Admin:~$ sudo adduser bob dbda  
info: Adding user `bob' to group `dbda' ...  
chandan@Chandan-Admin:~$ sudo adduser sam ditiss  
info: Adding user `sam' to group `ditiss' ...  
chandan@Chandan-Admin:~$
```

To confirm that users are added to the group we can use **cat /etc/group**

```
nm-openvpn:x:128:  
lxd:x:129:  
gamemode:x:993:  
gnome-initial-setup:x:992:  
chandan:x:1000:  
dac:x:1004:tom  
dbda:x:1005:bob  
ditiss:x:1006:sam  
tom:x:1001:  
bob:x:1002:  
sam:x:1003:  
prince:x:1007:  
chandan@Chandan-Admin:~$
```

Q11. login as prince and create iacsd directory in /tmp and create 4 files in iacsd with name project-1 project-2 upto 4

Soln : created directory iacsd with files project 1,2,3,4,5, using command **mkdir** for creating dir and **touch** command to create project files

```
prince@Chandan-Admin:~$ pwd
/home/prince
prince@Chandan-Admin:~$ mkdir /tmp/iacsd
prince@Chandan-Admin:~$ cd /tmp
prince@Chandan-Admin:/tmp$ ls
dbus-BUGrPNHG
dbus-W8j0SRR7
iacsd
snap-private-tmp
systemd-private-101afde2ed2445e09402e66a91d39be4-bluetooth.service-718fuK
systemd-private-101afde2ed2445e09402e66a91d39be4-colord.service-gFgbXK
systemd-private-101afde2ed2445e09402e66a91d39be4-fwupd.service-R6HgFX
systemd-private-101afde2ed2445e09402e66a91d39be4-ModemManager.service-jzmHak
systemd-private-101afde2ed2445e09402e66a91d39be4-polkit.service-X66qMf
systemd-private-101afde2ed2445e09402e66a91d39be4-power-profiles-daemon.service-IuAjoz
systemd-private-101afde2ed2445e09402e66a91d39be4-switcheroo-control.service-0xkYKH
systemd-private-101afde2ed2445e09402e66a91d39be4-systemd-logind.service-sJMFhB
systemd-private-101afde2ed2445e09402e66a91d39be4-systemd-oomd.service-Xab7gV
systemd-private-101afde2ed2445e09402e66a91d39be4-systemd-resolved.service-7QtLrL
systemd-private-101afde2ed2445e09402e66a91d39be4-systemd-timesyncd.service-j4ww60
systemd-private-101afde2ed2445e09402e66a91d39be4-upower.service-i5pNHk
VMwareDnD
vmware-root_780-2957124724
prince@Chandan-Admin:/tmp$ cd iacsd
prince@Chandan-Admin:/tmp/iacsd$ touch project-{1..4}
prince@Chandan-Admin:/tmp/iacsd$ ls
project-1 project-2 project-3 project-4
prince@Chandan-Admin:/tmp/iacsd$
```

Q12. assign permissions to project files as below

Project-1 – tom should be owner of this

Project-2 – dac should be owner of this

Project-3 --- others should not have any permission but tom should have rw access

Project-4 – dbda group should have rwx permissions.

Soln :

For 1>

```
root@Chandan-Admin: /tmp/iacsd
prince@Chandan-Admin:/tmp/iacsd$ whoami
prince
prince@Chandan-Admin:/tmp/iacsd$ ls -l
total 0
-rw-rw-r-- 1 prince prince 0 Mar 10 19:35 project-1
-rw-rw-r-- 1 prince prince 0 Mar 10 19:35 project-2
-rw-rw-r-- 1 prince prince 0 Mar 10 19:35 project-3
-rw-rw-r-- 1 prince prince 0 Mar 10 19:35 project-4
prince@Chandan-Admin:/tmp/iacsd$ #only root user can change owner
prince@Chandan-Admin:/tmp/iacsd$ su chandan
Password:
chandan@Chandan-Admin:/tmp/iacsd$ sudo su #changing to root
root@Chandan-Admin:/tmp/iacsd# chown tom project-1
root@Chandan-Admin:/tmp/iacsd# ls -l
total 0
-rw-rw-r-- 1 tom    prince 0 Mar 10 19:35 project-1
-rw-rw-r-- 1 prince prince 0 Mar 10 19:35 project-2
-rw-rw-r-- 1 prince prince 0 Mar 10 19:35 project-3
-rw-rw-r-- 1 prince prince 0 Mar 10 19:35 project-4
root@Chandan-Admin:/tmp/iacsd#
```

For 2,3,4 >

```
root@Chandan-Admin: /tmp/iacsd
root@Chandan-Admin:/tmp/iacsd# chgrp dac project-2
root@Chandan-Admin:/tmp/iacsd# ls -l
total 0
-rw-rw-r-- 1 tom    prince 0 Mar 10 19:35 project-1
-rw-rw-r-- 1 prince dac    0 Mar 10 19:35 project-2
-rw-rw-r-- 1 prince prince 0 Mar 10 19:35 project-3
-rw-rw-r-- 1 prince prince 0 Mar 10 19:35 project-4
root@Chandan-Admin:/tmp/iacsd# # for project 3 tom have rw rights and others have none
root@Chandan-Admin:/tmp/iacsd# #first we have to change owner to tom
root@Chandan-Admin:/tmp/iacsd# chown tom project-3
root@Chandan-Admin:/tmp/iacsd# chmod 600 project-3 #changing permissions
root@Chandan-Admin:/tmp/iacsd# ls -l
total 0
-rw-rw-r-- 1 tom    prince 0 Mar 10 19:35 project-1
-rw-rw-r-- 1 prince dac    0 Mar 10 19:35 project-2
-rw----- 1 tom    prince 0 Mar 10 19:35 project-3
-rw-rw-r-- 1 prince prince 0 Mar 10 19:35 project-4
root@Chandan-Admin:/tmp/iacsd# chgrp dbda project-4
root@Chandan-Admin:/tmp/iacsd# chmod 070 project-4
root@Chandan-Admin:/tmp/iacsd# ls -l
total 0
-rw-rw-r-- 1 tom    prince 0 Mar 10 19:35 project-1
-rw-rw-r-- 1 prince dac    0 Mar 10 19:35 project-2
-rw----- 1 tom    prince 0 Mar 10 19:35 project-3
----rwx--- 1 prince dbda   0 Mar 10 19:35 project-4
root@Chandan-Admin:/tmp/iacsd#
```