

Networking & System Administration Lab

Assignment-5

Submitted by:

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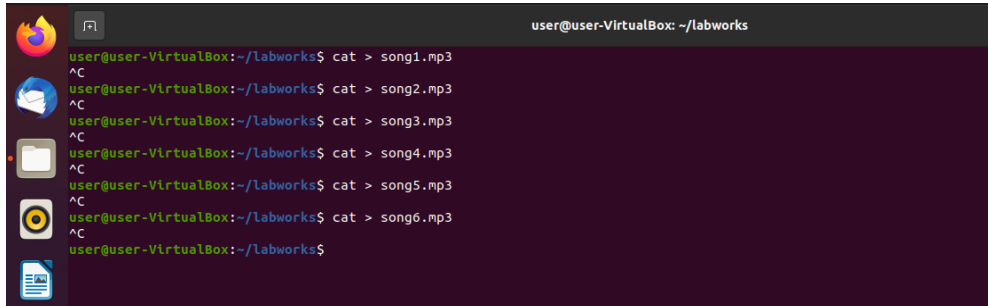
Roll no: 10

S2 RMCA A

Managing Files, Creating Users and Groups Using Command-line tools

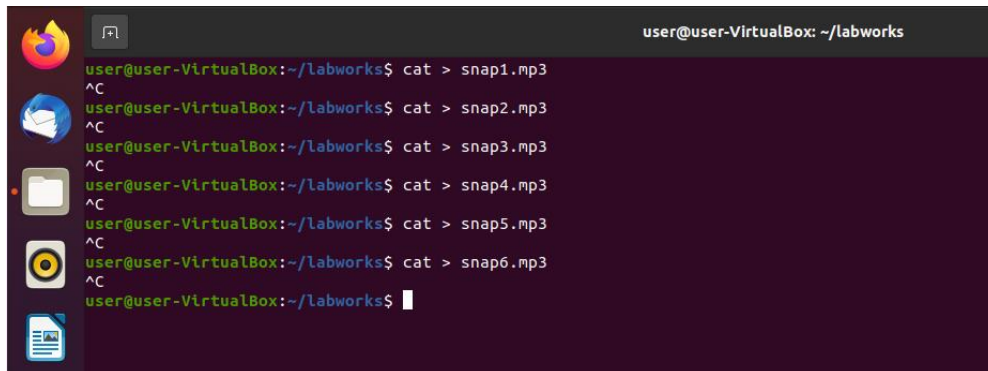
1.

a. Create six files with name of the form songX.mp3

A terminal window titled 'user@user-VirtualBox: ~/labworks' showing a series of commands to create six files named song1.mp3 through song6.mp3. Each command is 'cat > songX.mp3' followed by a carriage return (^C).

```
user@user-VirtualBox:~/labworks$ cat > song1.mp3
^C
user@user-VirtualBox:~/labworks$ cat > song2.mp3
^C
user@user-VirtualBox:~/labworks$ cat > song3.mp3
^C
user@user-VirtualBox:~/labworks$ cat > song4.mp3
^C
user@user-VirtualBox:~/labworks$ cat > song5.mp3
^C
user@user-VirtualBox:~/labworks$ cat > song6.mp3
^C
user@user-VirtualBox:~/labworks$
```

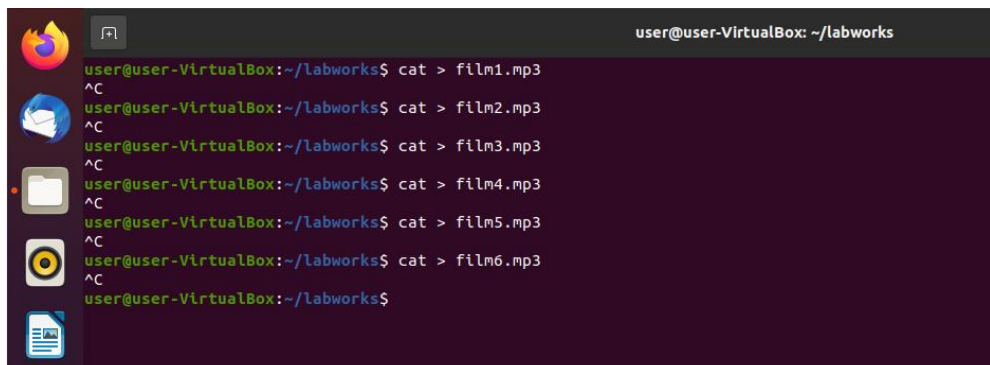
b. Create six files with name of the form snapX.mp3

A terminal window titled 'user@user-VirtualBox: ~/labworks' showing a series of commands to create six files named snap1.mp3 through snap6.mp3. Each command is 'cat > snapX.mp3' followed by a carriage return (^C).

```
user@user-VirtualBox:~/labworks$ cat > snap1.mp3
^C
user@user-VirtualBox:~/labworks$ cat > snap2.mp3
^C
user@user-VirtualBox:~/labworks$ cat > snap3.mp3
^C
user@user-VirtualBox:~/labworks$ cat > snap4.mp3
^C
user@user-VirtualBox:~/labworks$ cat > snap5.mp3
^C
user@user-VirtualBox:~/labworks$ cat > snap6.mp3
^C
user@user-VirtualBox:~/labworks$
```

c. Create six files with name of the form filmX.mp3

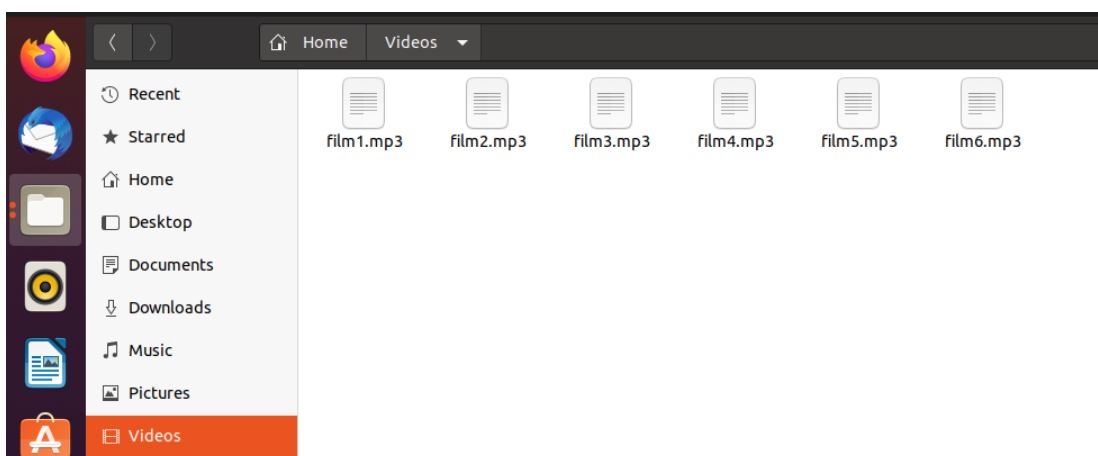
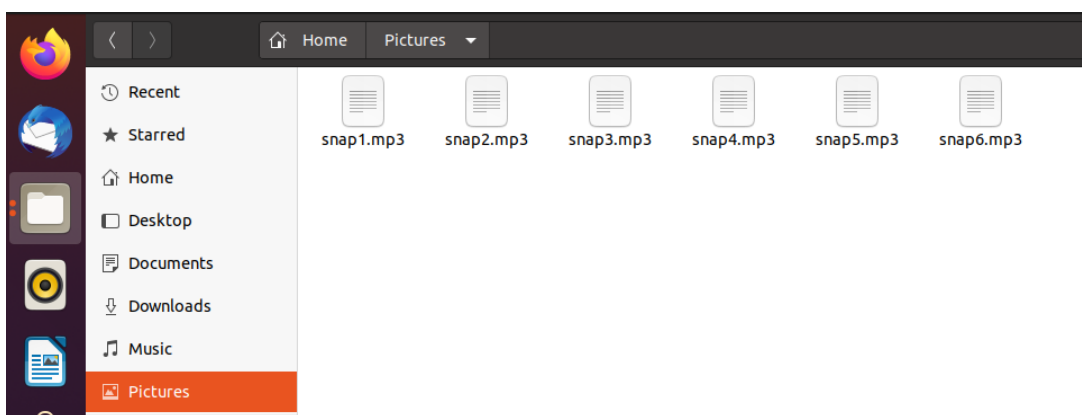
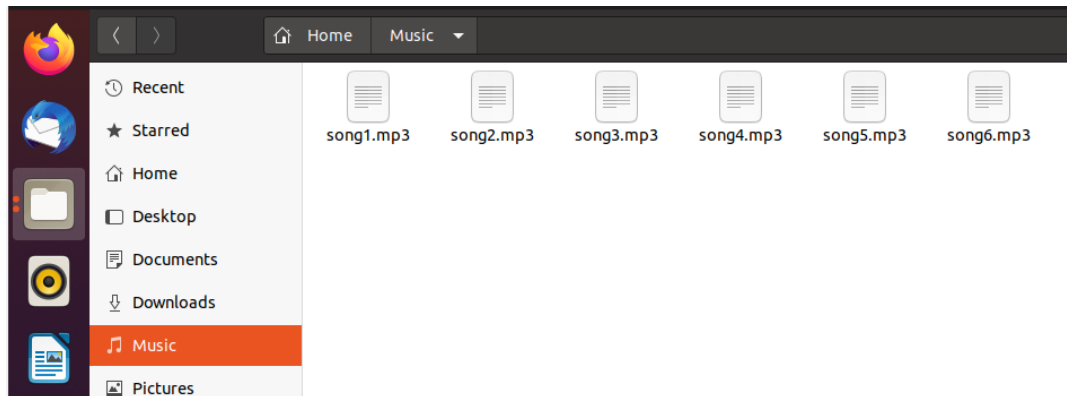
(In each set, replace X with the numbers 1 through 6)

A terminal window titled 'user@user-VirtualBox: ~/labworks' showing a series of commands to create six files named film1.mp3 through film6.mp3. Each command is 'cat > filmX.mp3' followed by a carriage return (^C).

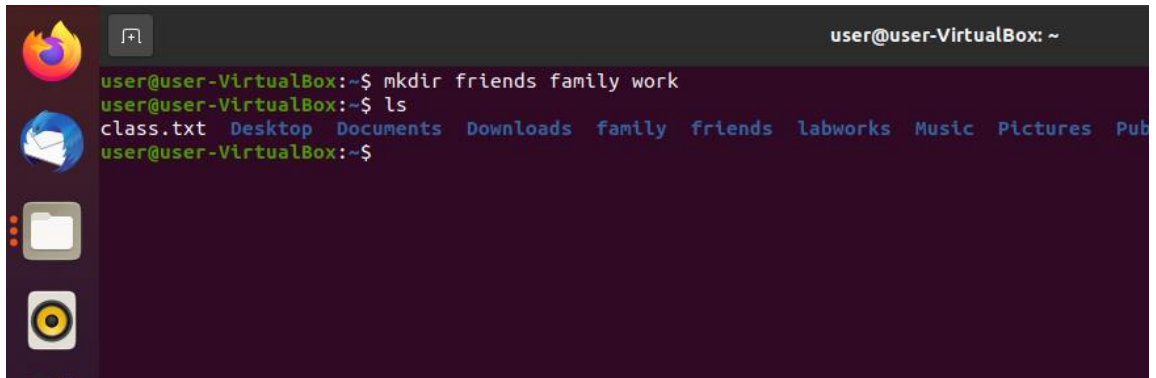
```
user@user-VirtualBox:~/labworks$ cat > film1.mp3
^C
user@user-VirtualBox:~/labworks$ cat > film2.mp3
^C
user@user-VirtualBox:~/labworks$ cat > film3.mp3
^C
user@user-VirtualBox:~/labworks$ cat > film4.mp3
^C
user@user-VirtualBox:~/labworks$ cat > film5.mp3
^C
user@user-VirtualBox:~/labworks$ cat > film6.mp3
^C
user@user-VirtualBox:~/labworks$
```

2. From your home directory, move the song files into your music subdirectory, the snapshot files into your pictures subdirectory, and the movie files into videos subdirectory.

```
user@user-VirtualBox: ~/labworks
user@user-VirtualBox:~/labworks$ ls
film1.mp3 film3.mp3 film5.mp3 snap1.mp3 snap3.mp3 snap5.mp3 song1.mp3 song3.mp3 song5.mp3
film2.mp3 film4.mp3 film6.mp3 snap2.mp3 snap4.mp3 snap6.mp3 song2.mp3 song4.mp3 song6.mp3
user@user-VirtualBox:~/labworks$ mv song1.mp3 song2.mp3 song3.mp3 song4.mp3 song5.mp3 song6.mp3 /home/user/Music
user@user-VirtualBox:~/labworks$ mv snap1.mp3 snap2.mp3 snap3.mp3 snap4.mp3 snap5.mp3 snap6.mp3 /home/user/Pictures
user@user-VirtualBox:~/labworks$ mv film1.mp3 film2.mp3 film3.mp3 film4.mp3 film5.mp3 film6.mp3 /home/user/Videos
user@user-VirtualBox:~/labworks$
```

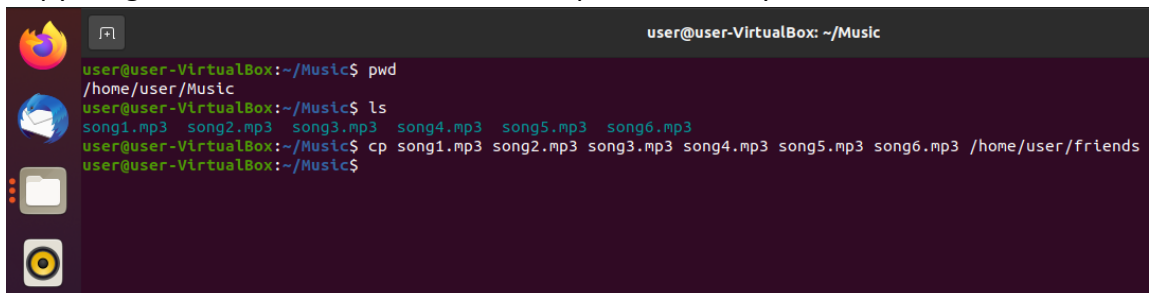


3. In your home directory, create three subdirectories for organizing your files. Call these directories friends, family, and work. Create all three with one command.

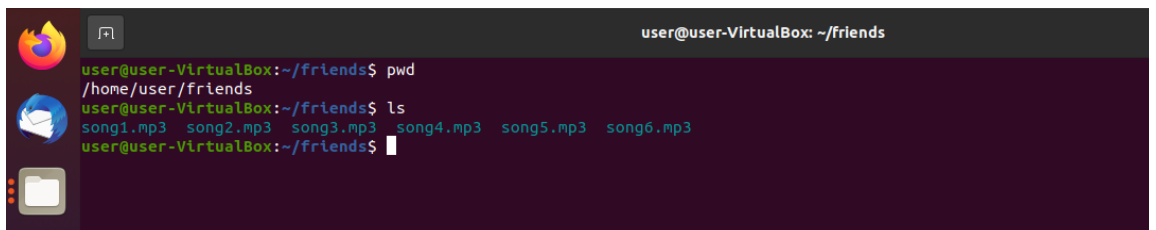


```
user@user-VirtualBox: ~  
user@user-VirtualBox:~$ mkdir friends family work  
user@user-VirtualBox:~$ ls  
class.txt Desktop Documents Downloads family friends labworks Music Pictures Pub  
user@user-VirtualBox:~$
```

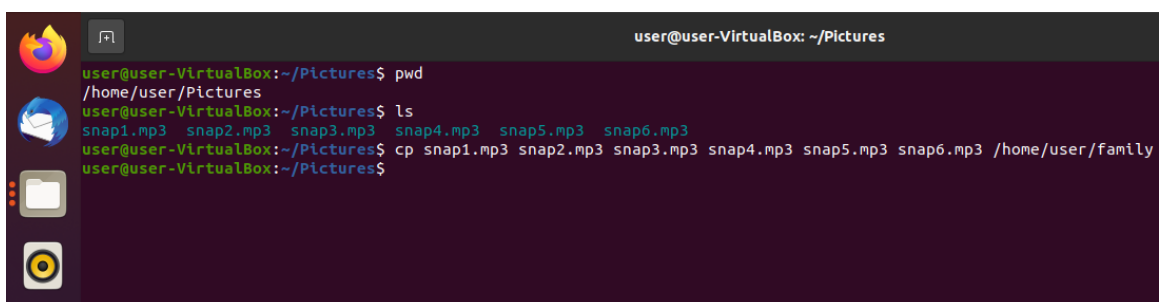
4. Copy song files to the friends folder and snap files to family folder.



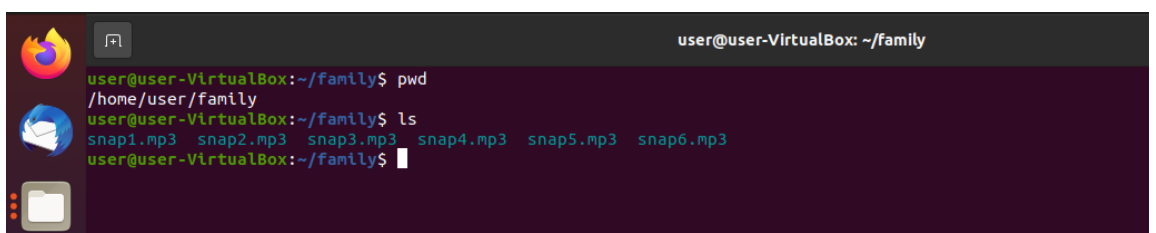
```
user@user-VirtualBox: ~/Music  
user@user-VirtualBox:~/Music$ pwd  
/home/user/Music  
user@user-VirtualBox:~/Music$ ls  
song1.mp3 song2.mp3 song3.mp3 song4.mp3 song5.mp3 song6.mp3  
user@user-VirtualBox:~/Music$ cp song1.mp3 song2.mp3 song3.mp3 song4.mp3 song5.mp3 song6.mp3 /home/user/friends  
user@user-VirtualBox:~/Music$
```



```
user@user-VirtualBox: ~/friends  
user@user-VirtualBox:~/friends$ pwd  
/home/user/friends  
user@user-VirtualBox:~/friends$ ls  
song1.mp3 song2.mp3 song3.mp3 song4.mp3 song5.mp3 song6.mp3  
user@user-VirtualBox:~/friends$
```

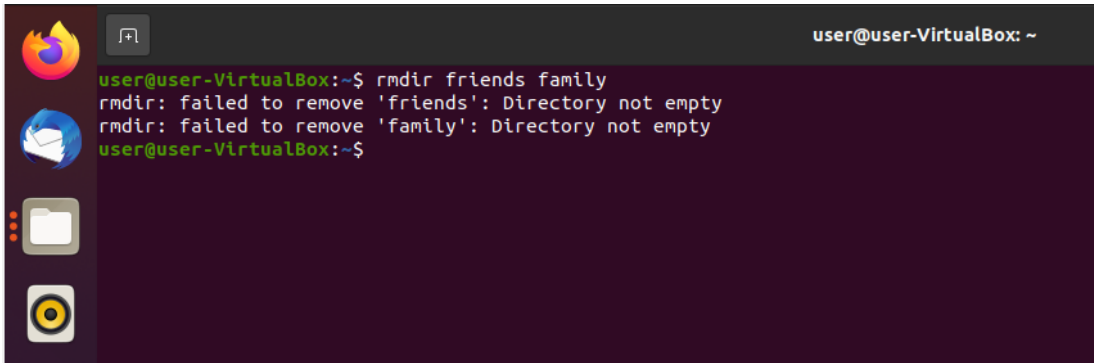


```
user@user-VirtualBox: ~/Pictures  
user@user-VirtualBox:~/Pictures$ pwd  
/home/user/Pictures  
user@user-VirtualBox:~/Pictures$ ls  
snap1.mp3 snap2.mp3 snap3.mp3 snap4.mp3 snap5.mp3 snap6.mp3  
user@user-VirtualBox:~/Pictures$ cp snap1.mp3 snap2.mp3 snap3.mp3 snap4.mp3 snap5.mp3 snap6.mp3 /home/user/family  
user@user-VirtualBox:~/Pictures$
```



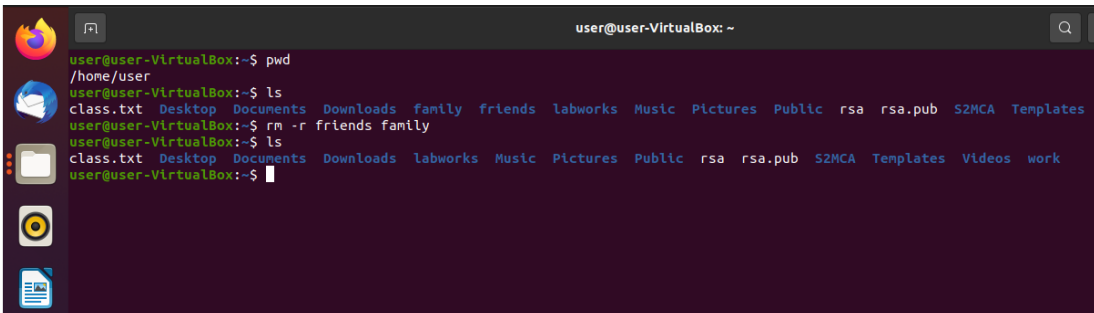
```
user@user-VirtualBox: ~/family  
user@user-VirtualBox:~/family$ pwd  
/home/user/family  
user@user-VirtualBox:~/family$ ls  
snap1.mp3 snap2.mp3 snap3.mp3 snap4.mp3 snap5.mp3 snap6.mp3  
user@user-VirtualBox:~/family$
```

5. Attempt to delete both family and friends projects with a single rmdir command.



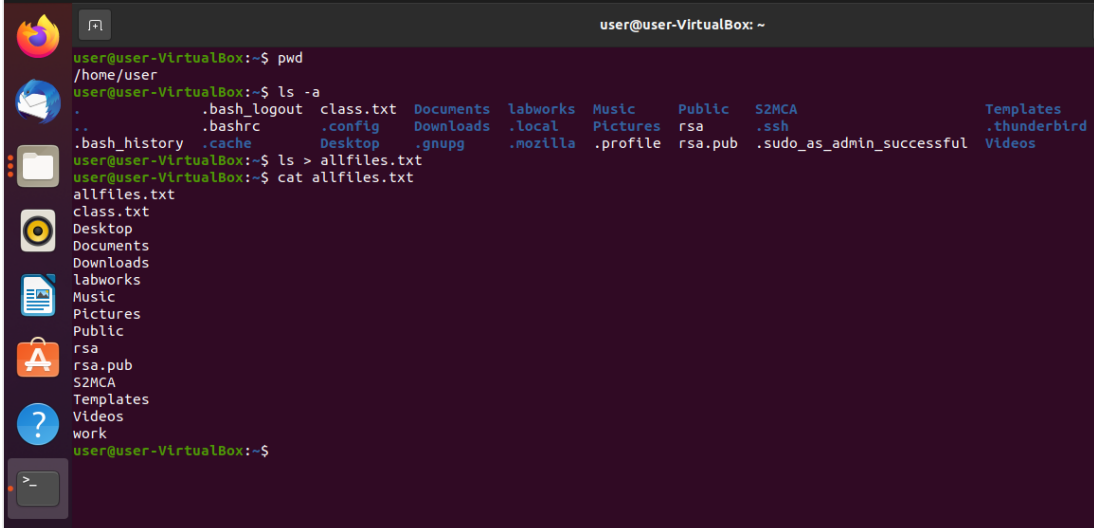
```
user@user-VirtualBox: ~  
user@user-VirtualBox:~$ rmdir friends family  
rmdir: failed to remove 'friends': Directory not empty  
rmdir: failed to remove 'family': Directory not empty  
user@user-VirtualBox:~$
```

6. Use another command that will succeed in deleting both the family and friends folder.



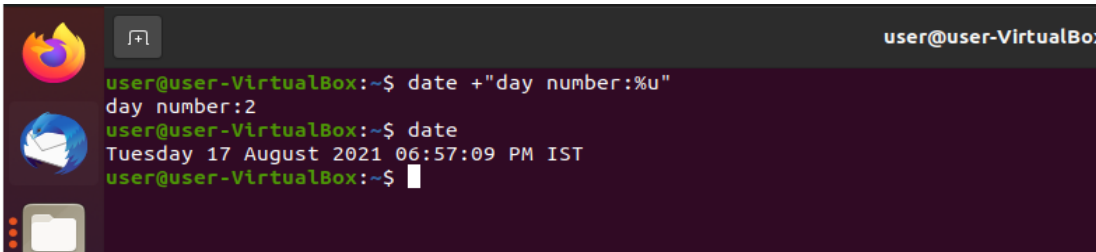
```
user@user-VirtualBox: ~  
user@user-VirtualBox:~$ pwd  
/home/user  
user@user-VirtualBox:~$ ls  
class.txt Desktop Documents Downloads family friends labworks Music Pictures Public rsa rsa.pub S2MCA Templates  
user@user-VirtualBox:~$ rm -r friends family  
user@user-VirtualBox:~$ ls  
class.txt Desktop Documents Downloads labworks Music Pictures Public rsa rsa.pub S2MCA Templates Videos work  
user@user-VirtualBox:~$
```

7. Redirect a long listing of all home directory files, including hidden, into a file named allfiles.txt. Confirm that the file contains the listing.



```
user@user-VirtualBox: ~  
user@user-VirtualBox:~$ pwd  
/home/user  
user@user-VirtualBox:~$ ls -a  
.. .bash_logout class.txt Documents labworks Music Public S2MCA Templates  
.. .bashrc .config Downloads .local Pictures rsa .ssh .thunderbird  
.bash_history .cache Desktop .gnupg .mozilla .profile rsa.pub .sudo_as_admin_successful Videos  
user@user-VirtualBox:~$ ls > allfiles.txt  
user@user-VirtualBox:~$ cat allfiles.txt  
allfiles.txt  
class.txt  
Desktop  
Documents  
Downloads  
labworks  
Music  
Pictures  
Public  
rsa  
rsa.pub  
S2MCA  
Templates  
Videos  
work  
user@user-VirtualBox:~$
```

8. In the command window, display today's date with day of the week, month, date and year.



```
user@user-VirtualBox:~$ date +"day number:%u"  
day number:2  
user@user-VirtualBox:~$ date  
Tuesday 17 August 2021 06:57:09 PM IST  
user@user-VirtualBox:~$
```

9. Add the user Juliet.

```
user@user-VirtualBox: ~  
user@user-VirtualBox:~$ sudo useradd juliet  
[sudo] password for user:  
user@user-VirtualBox:~$ cat /etc/passwd  
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  
nm-openvpn:x:118:124:NetworkManager OpenVPN,,:/var/lib/openvpn/chroot:/usr/sbin/nologin  
hplip:x:119:7:HPLIP system user,,:/run/hplip:/bin/false  
whoopsie:x:120:125:nonexistent:/bin/false  
colord:x:121:126:colord colour management daemon,,:/var/lib/colord:/usr/sbin/nologin  
geoclue:x:122:127:/var/lib/geoclue:/usr/sbin/nologin  
pulse:x:123:128:PulseAudio daemon,,:/var/run/pulse:/usr/sbin/nologin  
gnome-initial-setup:x:124:65534:/run/gnome-initial-setup:/bin/false  
gdm:x:125:130:Gnome Display Manager:/var/lib/gdm3:/bin/false  
user:x:1000:1000:User,,:/home/user:/bin/bash  
systemd-coredump:x:999:999:systemd Core Dumper:/usr/sbin/nologin  
juliet:x:1001:1001:/home/juliet:/bin/sh  
user@user-VirtualBox:~$ cat /etc/passwd
```

10. Confirm that Juliet has been added by examining the /etc/passwd file

```
user@user-VirtualBox: ~  
user@user-VirtualBox:~$ cat /etc/passwd  
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  
nm-openvpn:x:118:124:NetworkManager OpenVPN,,:/var/lib/openvpn/chroot:/usr/sbin/nologin  
hplip:x:119:7:HPLIP system user,,:/run/hplip:/bin/false  
whoopsie:x:120:125:nonexistent:/bin/false  
colord:x:121:126:colord colour management daemon,,:/var/lib/colord:/usr/sbin/nologin  
geoclue:x:122:127:/var/lib/geoclue:/usr/sbin/nologin  
pulse:x:123:128:PulseAudio daemon,,:/var/run/pulse:/usr/sbin/nologin  
gnome-initial-setup:x:124:65534:/run/gnome-initial-setup:/bin/false  
gdm:x:125:130:Gnome Display Manager:/var/lib/gdm3:/bin/false  
user:x:1000:1000:User,,:/home/user:/bin/bash  
systemd-coredump:x:999:999:systemd Core Dumper:/usr/sbin/nologin  
juliet:x:1001:1001:/home/juliet:/bin/sh  
user@user-VirtualBox:~$ cat /etc/passwd
```

11. Use the passwd command to initialize Juliet's password

```
user@user-VirtualBox: ~  
user@user-VirtualBox:~$ sudo passwd -S juliet  
juliet L 08/17/2021 0 99999 7 -1  
user@user-VirtualBox:~$ sudo passwd juliet  
New password:  
Retype new password:  
passwd: password updated successfully  
user@user-VirtualBox:~$
```

12. Create a supplementary group called Shakespeare with a group id of 30000.

```
user@user-VirtualBox: ~  
user@user-VirtualBox:~$ sudo groupadd -g 30000 shakespeare  
user@user-VirtualBox:~$ cat /etc/group  
root:x:0:  
daemon:x:1:  
bin:x:2:  
sys:x:3:  
adm:x:4:syslog,user  
tty:x:5:syslog  
shakespeare:x:30000:
```

13. Create a supplementary group called artists.

```
user@user-VirtualBox: ~  
user@user-VirtualBox:~$ sudo groupadd artists  
user@user-VirtualBox:~$ cat /etc/group  
root:x:0:  
daemon:x:1:  
bin:x:2:  
sys:x:3:  
adm:x:4:syslog,user  
tty:x:5:syslog  
disk:x:6:  
lp:x:7:  
mail:x:8:  
news:x:9:  
uucp:x:10:  
man:x:12:  
proxy:x:13:  
kmem:x:15:  
/etc/group
```

14. Confirm that Shakespeare and artists have been added by examining the /etc/group file.

```
user@user-VirtualBox: ~  
user@user-VirtualBox:~$ cat /etc/group  
root:x:0:  
daemon:x:1:  
bin:x:2:  
sys:x:3:  
adm:x:4:syslog,user  
tty:x:5:syslog  
disk:x:6:  
gdm:x:130:  
lxd:x:131:user  
user:x:1000:  
sambashare:x:132:user  
systemd-coredump:x:999:  
Shakespeare:x:30000:  
juliet:x:1001:  
shakespeare:x:3000:  
artists:x:30001:  
user@user-VirtualBox:~$
```

15. Add the Juliet user to the Shakespeare group as a supplementary group.

```
user@user-VirtualBox: ~  
user@user-VirtualBox:~$ sudo usermod -a -G shakespeare juliet  
user@user-VirtualBox:~$ groups juliet  
juliet : juliet shakespeare  
user@user-VirtualBox:~$
```

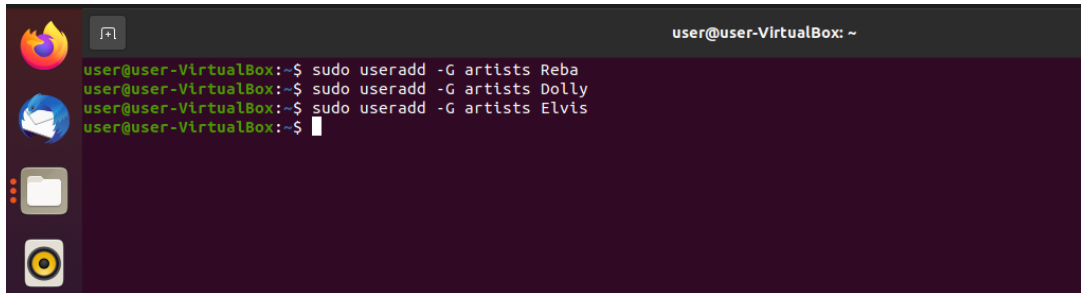
16. Confirm that Juliet has been added using the id command.

```
user@user-VirtualBox: ~  
user@user-VirtualBox:~$ id juliet  
uid=1001(juliet) gid=1001(juliet) groups=1001(juliet),3000(shakespeare)  
user@user-VirtualBox:~$
```

17. Add Romeo and Hamlet to the Shakespeare group.

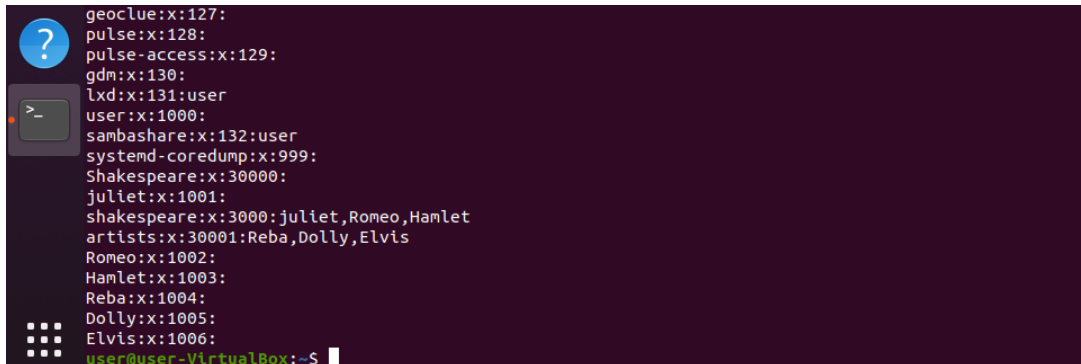
```
user@user-VirtualBox: ~  
user@user-VirtualBox:~$ sudo useradd -G artists Reba  
user@user-VirtualBox:~$ sudo useradd -G artists Dolly  
user@user-VirtualBox:~$ sudo useradd -G artists Elvis  
user@user-VirtualBox:~$
```

18. Add Reba, Dolly and Elvis to the artists group.



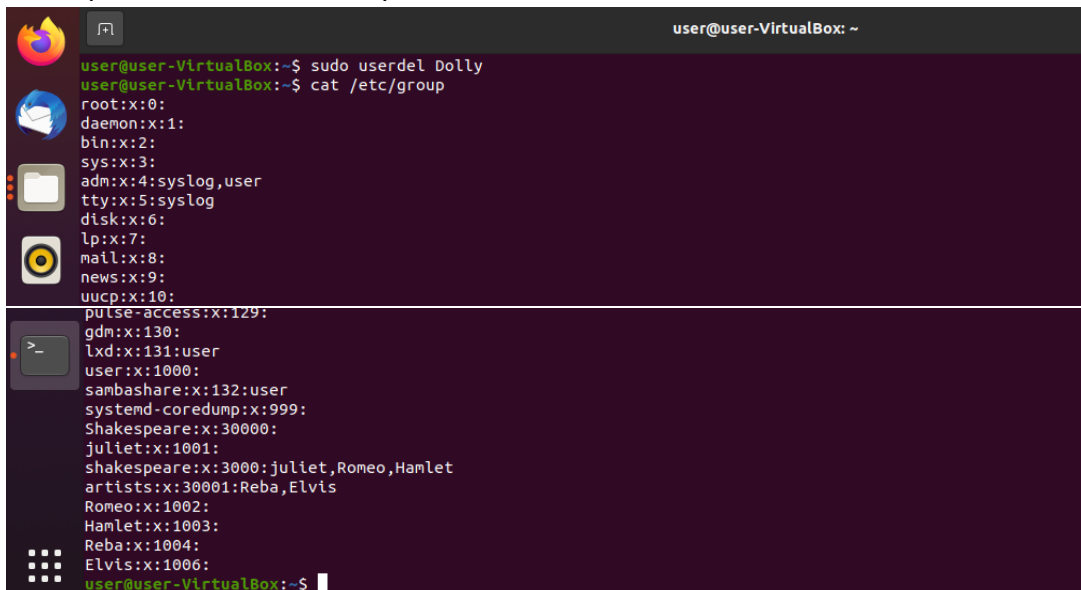
```
user@user-VirtualBox: ~  
user@user-VirtualBox:~$ sudo useradd -G artists Reba  
user@user-VirtualBox:~$ sudo useradd -G artists Dolly  
user@user-VirtualBox:~$ sudo useradd -G artists Elvis  
user@user-VirtualBox:~$
```

19. Verify the supplemental group memberships by examining the /etc/group file.



```
geoclue:x:127:  
pulse:x:128:  
pulse-access:x:129:  
gdm:x:130:  
lxd:x:131:user  
user:x:1000:  
sambashare:x:132:user  
systemd-coredump:x:999:  
Shakespeare:x:30000:  
juliet:x:1001:  
shakespeare:x:3000:juliet,Romeo,Hamlet  
artists:x:30001:Reba,Dolly,Elvis  
Romeo:x:1002:  
Hamlet:x:1003:  
Reba:x:1004:  
Dolly:x:1005:  
Elvis:x:1006:  
user@user-VirtualBox:~$
```

20. Attempt to remove user Dolly.



```
user@user-VirtualBox:~$ sudo userdel Dolly  
user@user-VirtualBox:~$ cat /etc/group  
root:x:0:  
daemon:x:1:  
bin:x:2:  
sys:x:3:  
adm:x:4:syslog,user  
tty:x:5:syslog  
disk:x:6:  
lp:x:7:  
mail:x:8:  
news:x:9:  
uucp:x:10:  
pulse-access:x:129:  
gdm:x:130:  
lxd:x:131:user  
user:x:1000:  
sambashare:x:132:user  
systemd-coredump:x:999:  
Shakespeare:x:30000:  
juliet:x:1001:  
shakespeare:x:3000:juliet,Romeo,Hamlet  
artists:x:30001:Reba,Elvis  
Romeo:x:1002:  
Hamlet:x:1003:  
Reba:x:1004:  
Elvis:x:1006:  
user@user-VirtualBox:~$
```