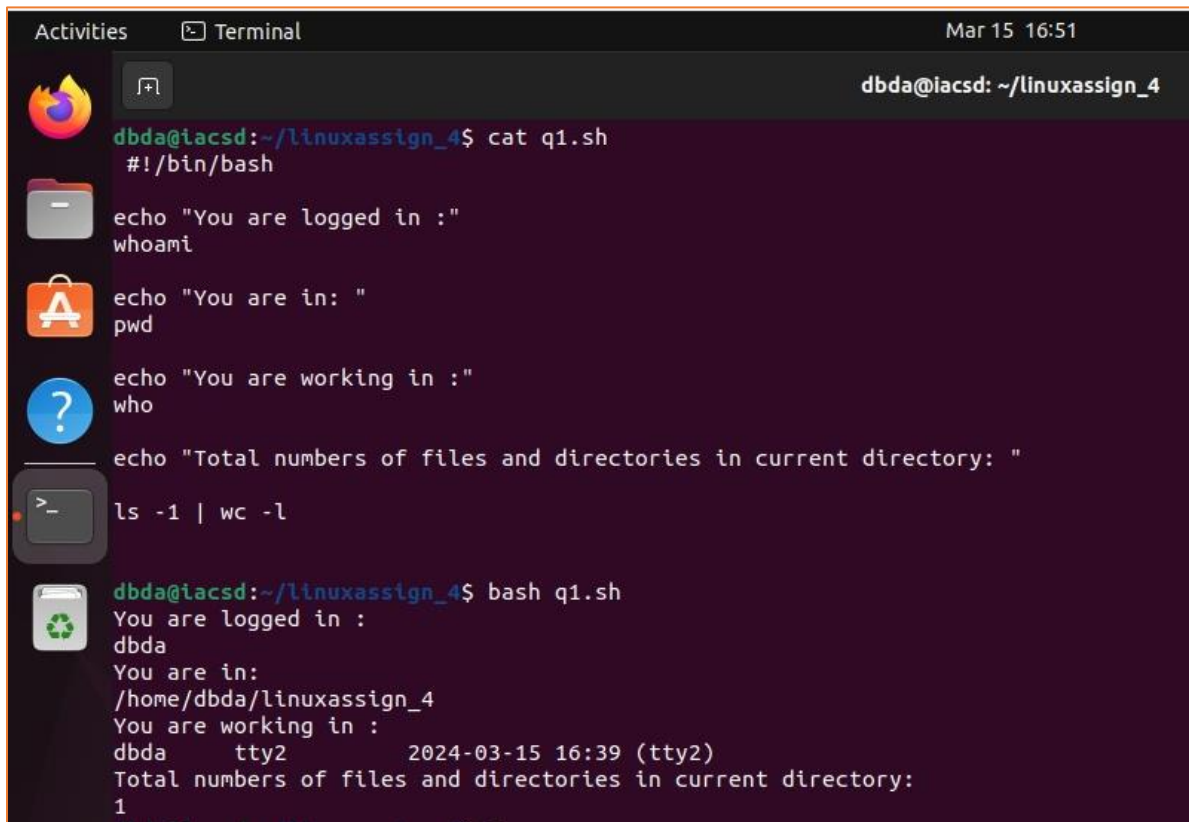


ASS-4

1) Write a shell script to print

- your are logged in as which user
- in which directory you are
- and in which terminal you are working
- total number of files and directories in current directory



The screenshot shows a terminal window titled "Terminal" with the date and time "Mar 15 16:51". The user is logged in as "dbda" at the host "iacsd", and the current directory is "~/linuxassign_4". The user creates a file named "q1.sh" and enters the following commands:

```
dbda@iacsd:~/linuxassign_4$ cat q1.sh
#!/bin/bash

echo "You are logged in : "
whoami

echo "You are in: "
pwd

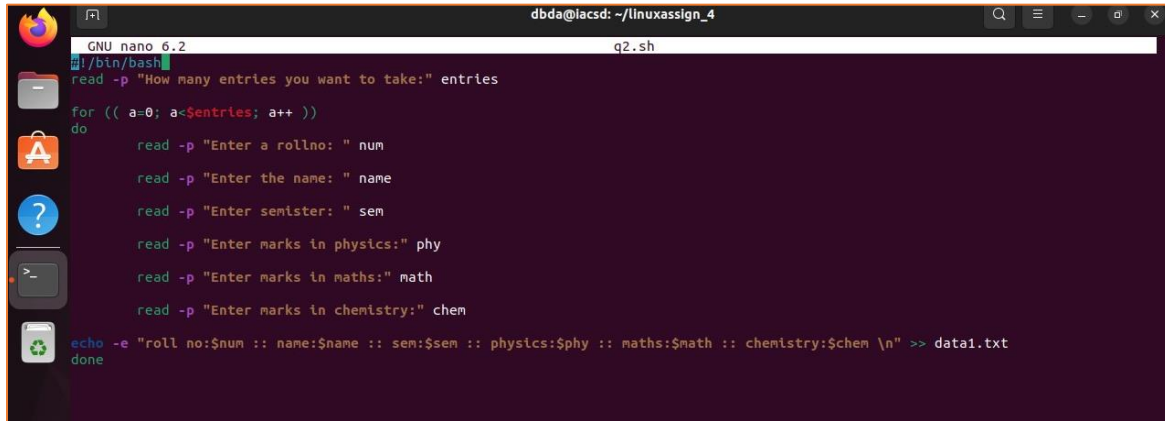
echo "You are working in : "
who

echo "Total numbers of files and directories in current directory: "
```

The user then runs the script with the command "bash q1.sh". The output of the script is:

```
dbda@iacsd:~/linuxassign_4$ bash q1.sh
You are logged in :
dbda
You are in:
/home/dbda/linuxassign_4
You are working in :
dbda      tty2      2024-03-15 16:39 (tty2)
Total numbers of files and directories in current directory:
1
```

2). Write a shell script to create a menu driven program for adding, deletion or finding a record in a database. Database should have the field like rollno, name, semester and marks of three subjects. Last option of the menu should be to exit the menu.



```
dbda@lacs: ~/linuxassign_4
GNU nano 6.2 q2.sh
#!/bin/bash
read -p "How many entries you want to take:" entries
for (( a=0; a<$entries; a++ ))
do
    read -p "Enter a rollno: " num
    read -p "Enter the name: " name
    read -p "Enter semester: " sem
    read -p "Enter marks in physics:" phy
    read -p "Enter marks in maths:" math
    read -p "Enter marks in chemistry:" chem
    echo -e "roll no:$num :: name:$name :: sem:$sem :: physics:$phy :: maths:$math :: chemistry:$chem \n" >> data1.txt
done
```



```
dbda@lacs: ~/linuxassign_4
GNU nano 6.2 switch_data1.sh
#!/bin/bash
read -p "Enter your choice:" choice
case $choice in
    add)
        bash q2.sh
        ;;
    find)
        read -p "Enter rollno which you want to find:" rollno
        cat data1.txt | grep $rollno
        ;;
    del)
        read -p "Enter roll no.that you want to delete:" rollno name
        grep -v $rollno $name data1.txt > bin.txt && mv bin.txt data1.txt
        cat data1.txt
        #sed "1d"
        #cat data1.txt | sed "/$name/d" > data1.txt
        #cat data1.txt | grep -v '$name' > data2.txt
        ;;
    *)
        echo "wrong entry!"
esac
```

```
dbda@iacsd: ~/linuxassign_4
dbda@iacsd:~/linuxassign_4$ bash q2.sh
How many entries you want to take:2
Enter a rollno: 1
Enter the name: raju
Enter semester: 8
Enter marks in physics:70
Enter marks in maths:80
Enter marks in chemistry:90
Enter a rollno: 2
Enter the name: jaggu
Enter semester: 8
Enter marks in physics:75
Enter marks in maths:86
Enter marks in chemistry:97
dbda@iacsd:~/linuxassign_4$ bash switch_data1.sh
Enter your choice:add
How many entries you want to take:1
Enter a rollno: 3
Enter the name: chutki
Enter semester: 8
Enter marks in physics:76
Enter marks in maths:87
Enter marks in chemistry:98
dbda@iacsd:~/linuxassign_4$
```

```
Enter semester: 8
Enter marks in physics:75
Enter marks in maths:86
Enter marks in chemistry:97
dbda@iacsd:~/linuxassign_4$ bash switch_data1.sh
Enter your choice:add
How many entries you want to take:1
Enter a rollno: 3
Enter the name: chutki
Enter semester: 8
Enter marks in physics:76
Enter marks in maths:87
Enter marks in chemistry:98
dbda@iacsd:~/linuxassign_4$ bash switch_data1.sh
Enter your choice:find
Enter rollno which you want to find:2
roll no:2 :: name:jaggu :: sem:8 :: physics:75 :: maths:86 :: chemistry:97
dbda@iacsd:~/linuxassign_4$ bash switch_data1.sh
Enter your choice:del
Enter roll no.that you want to delete:2

roll no:1 :: name:raju :: sem:8 :: physics:70 :: maths:80 :: chemistry:90

roll no:3 :: name:chutki :: sem:8 :: physics:76 :: maths:87 :: chemistry:98
dbda@iacsd:~/linuxassign_4$
```

3) Write a Linux shell script to accept 10 number and tell how many are +tive, -tive and zero.

```
dbda@iacsd: ~/linuxassign_4
dbda@iacsd:~/linuxassign_4$ bash ten.sh
Enter the number: 12
Enter the number: 16
Enter the number: -9
Enter the number: 0
Enter the number: 78
Enter the number: 92
Enter the number: 42
Enter the number: -89
Enter the number: -8
Total positive Numbers are: 5
Total negative Numbers are: 3
Total zero Numbers are: 1
dbda@iacsd:~/linuxassign_4$
```

```
GNU nano 6.2 ten.sh
#!/bin/bash
count_pos=0
count_neg=0
count_zero=0
for (( a=1; a<10; a++ ))
do
    read -p "Enter the number: " num
    if [ $num -gt 0 ]
    then
        ((count_pos++))
    elif [ $num -lt 0 ]
    then
        ((count_neg++))
    else
        ((count_zero++))
    fi
done
echo "Total positive Numbers are:" $count_pos
echo "Total negative Numbers are:" $count_neg
echo "Total zero Numbers are:" $count_zero
```

4) Write a shell script to accept five number and display max and min value.

```
dbda@iacsd: ~/linuxassign_4
GNU nano 6.2 04.sh
#!/bin/bash
max_var=-214783647
min_var=2147453647

echo "Enter Number:"
for((a=0; a<5; a++))
do
    read num
    if [ $num -gt $max_var ]
    then
        (( max_var=num ))
    fi
    if [ $num -lt $min_var ]
    then
        (( min_var=num ))
    fi
done
echo "Max no you have enter is: $max_var"
echo "Min no you have enter is: $min_var"
```

```
dbda@iacsd: ~/linuxassign_4
dbda@iacsd:~/linuxassign_4$ bash Q4.sh
Enter Number:
10
4
-8
7
45
Max no you have enter is: 45
Min no you have enter is: -8
dbda@iacsd:~/linuxassign_4$
```

5) Write a script to find out String is palindrome or not.

```
GNU nano 6.2 Q5.sh
#!/bin/bash
read -p "Enter a name:" name
reverse=$(echo $name | rev )
if [ $name == $reverse ]
then
    echo "$name: Name is palindrome!"
else
    echo "$name: Name is not palindrome!"
fi
```

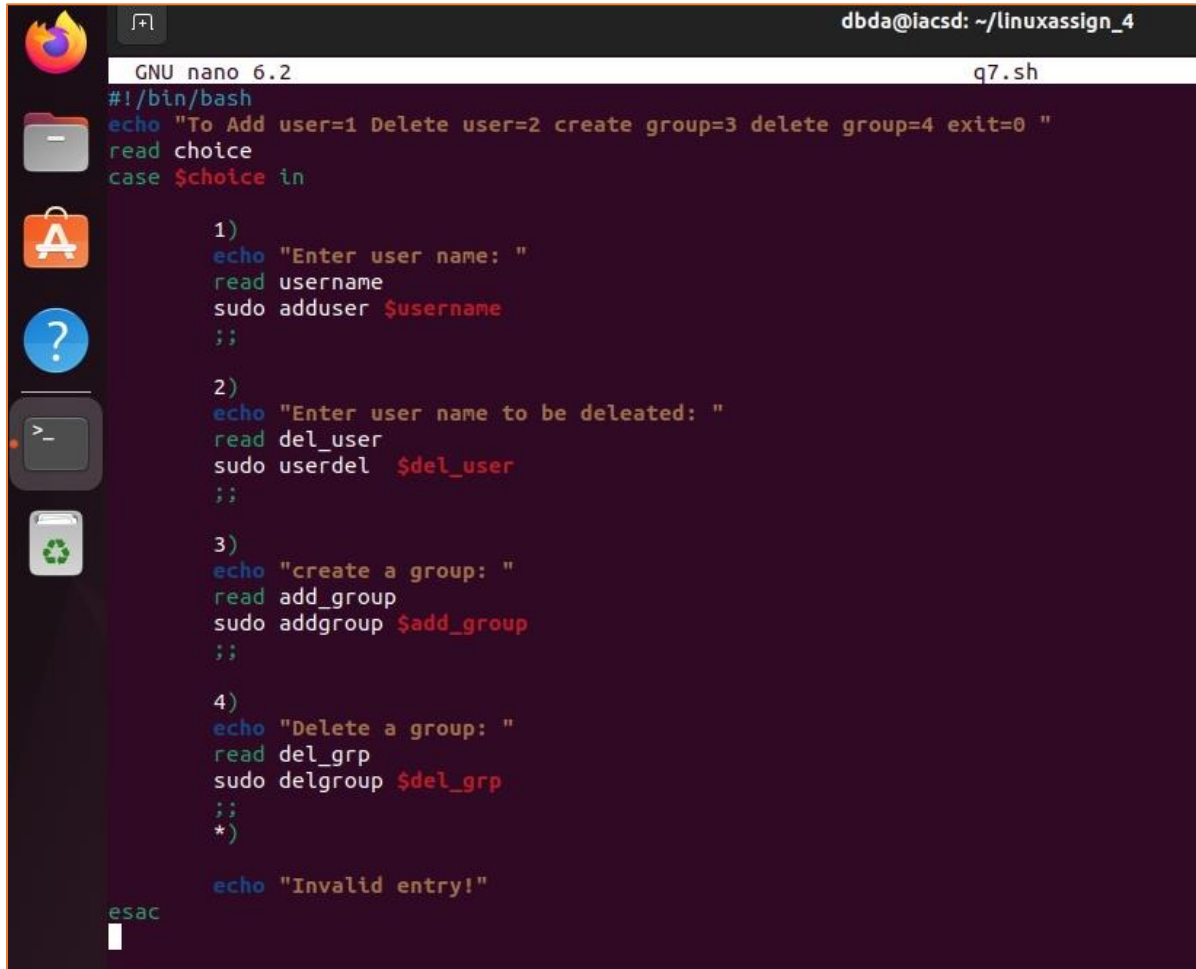
```
dbda@iacsd:~/linuxassign_4$ bash Q5.sh
Enter a name:malayalam
malayalam: Name is palindrome!
dbda@iacsd:~/linuxassign_4$ bash Q5.sh
Enter a name:nitin
nitin: Name is palindrome!
dbda@iacsd:~/linuxassign_4$ bash Q5.sh
Enter a name:bun
bun: Name is not palindrome!
dbda@iacsd:~/linuxassign_4$ bash Q5.sh
Enter a name:nun
nun: Name is palindrome!
dbda@iacsd:~/linuxassign_4$
```

6) Write a shell script to print given number's sum of all digits (eg. If number is 123, then it's sum of all digits will be $1+2+3=6$)

```
dbda@iacsd:~/linuxassign_4$ cat q6.sh
#!/bin/bash
read -p "Enter a number:" num
sum=0
mod=0
add=0
while [ $num != 0 ]
do
    mod=`expr $num % 10 `
    #sum=`expr $sum + $mod `
    num=`expr $num / 10 `
    add=`expr $mod + $add `
done
echo " sum of all digits will be: $add "
dbda@iacsd:~/linuxassign_4$ bash q6.sh
Enter a number:123
sum of all digits will be: 6
dbda@iacsd:~/linuxassign_4$
```

7) Create a script to

Create user , Delete user , Create group , delete Group using case

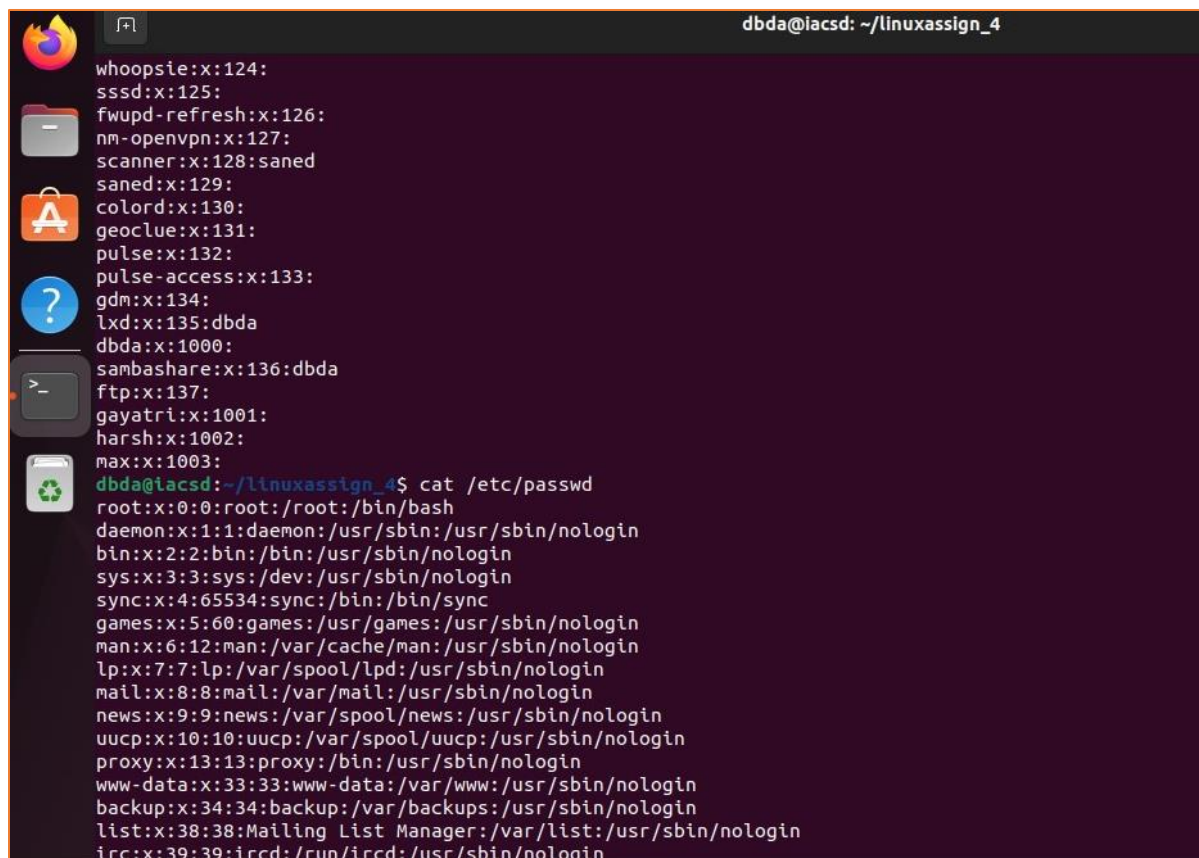


```
dbda@iacsd: ~/linuxassign_4
GNU nano 6.2 q7.sh
#!/bin/bash
echo "To Add user=1 Delete user=2 create group=3 delete group=4 exit=0 "
read choice
case $choice in
    1)
        echo "Enter user name: "
        read username
        sudo adduser $username
        ;;
    2)
        echo "Enter user name to be deleted: "
        read del_user
        sudo userdel $del_user
        ;;
    3)
        echo "create a group: "
        read add_group
        sudo addgroup $add_group
        ;;
    4)
        echo "Delete a group: "
        read del_grp
        sudo delgroup $del_grp
        ;;
    *)
        echo "Invalid entry!"
esac
```



```
dbda@iacsd:~/linuxassign_4$ bash q7.sh
To Add user=1 Delete user=2 create group=3 delete group=4 exit=0
1
Enter user name:
harsh
[sudo] password for dbda:
Adding user `harsh' ...
Adding new group `harsh' (1002) ...
Adding new user `harsh' (1002) with group `harsh' ...
Creating home directory `/home/harsh' ...
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 harsh
Enter the new value, or press ENTER for the default
    Full Name []: harsh
    Room Number []:
    Work Phone []:
    Home Phone []:
    Other []:
Is the information correct? [Y/n] y
dbda@iacsd:~/linuxassign_4$ bash q7.sh
To Add user=1 Delete user=2 create group=3 delete group=4 exit=0
3
create a group:
max
Adding group `max' (GID 1003) ...
Done.
dbda@iacsd:~/linuxassign_4$ ls -l
total 40
```

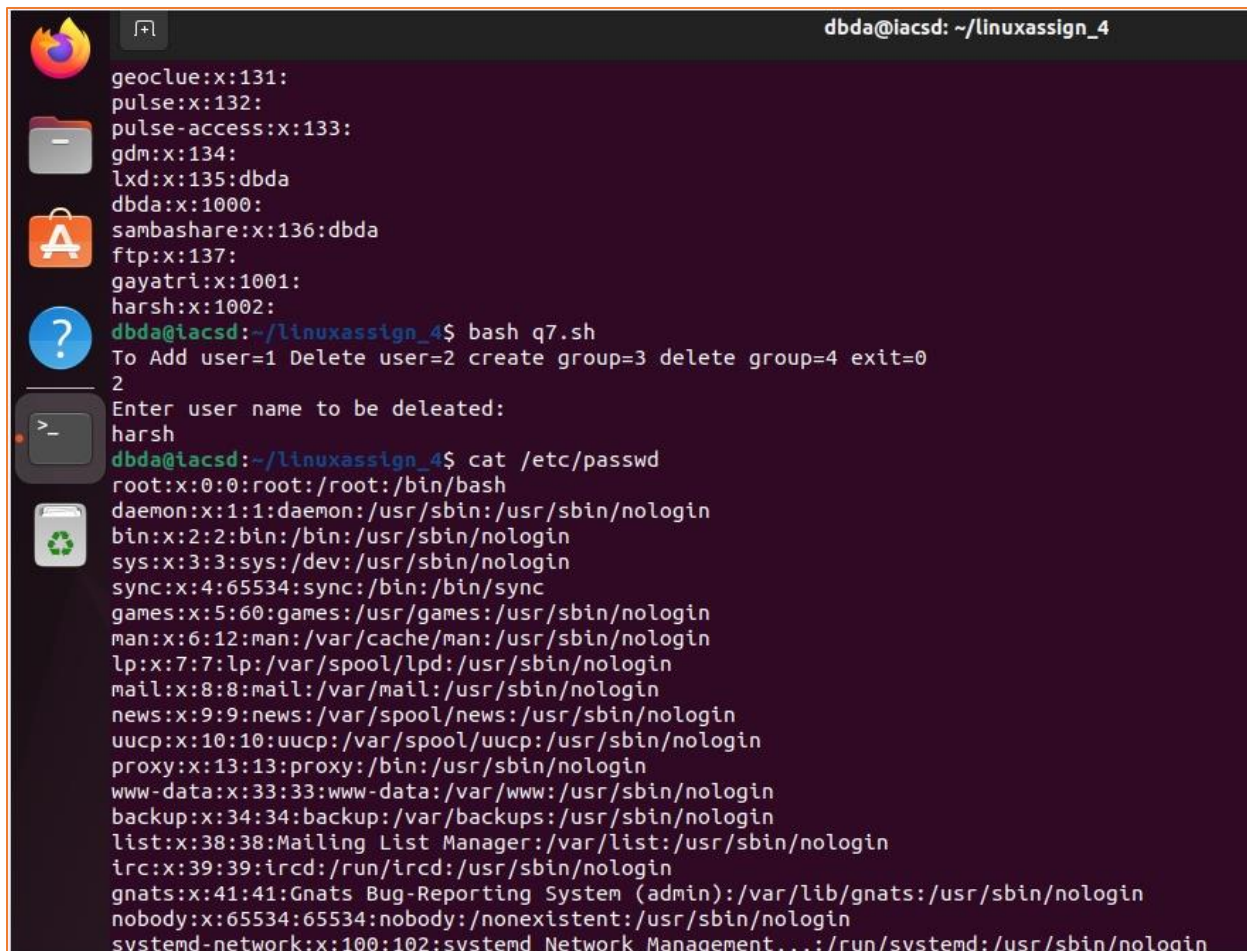
```
dbda@iacsd: ~/linuxassign_4
3
create a group:
max
Adding group `max' (GID 1003) ...
Done.
dbda@iacsd:~/linuxassign_4$ ls -l
total 40
-rw-rw-r-- 1 dbda dbda  9 Mar 15 18:52 data1.txt
-rw-rw-r-- 1 dbda dbda 194 Mar 15 18:45 q1.sh
-rw-rw-r-- 1 dbda dbda 443 Mar 15 19:03 q2.sh
-rw-rw-r-- 1 dbda dbda  87 Mar 15 19:52 Q4.sh
-rwx----- 1 dbda dbda 187 Mar 15 20:35 Q5.sh
-rw-rw-r-- 1 dbda dbda 231 Mar 15 20:18 q6.sh
-rwx----- 1 dbda dbda 464 Mar 15 21:39 q7.sh
-rw-rw-r-- 1 dbda dbda 473 Mar 15 19:02 switch_data1.sh
-rw-rw-r-- 1 dbda dbda 374 Mar 15 19:38 ten.sh
-rwx----- 1 dbda dbda  38 Mar 15 20:46 test.sh
dbda@iacsd:~/linuxassign_4$ cat /etc/group
root:x:0:
daemon:x:1:
bin:x:2:
sys:x:3:
adm:x:4:syslog,dbda
tty:x:5:
disk:x:6:
lp:x:7:
mail:x:8:
news:x:9:
uucp:x:10:
man:x:12:
proxy:x:13:
kmem:x:15:
dialout:x:20:
fax:x:21:
voice:x:22:
```

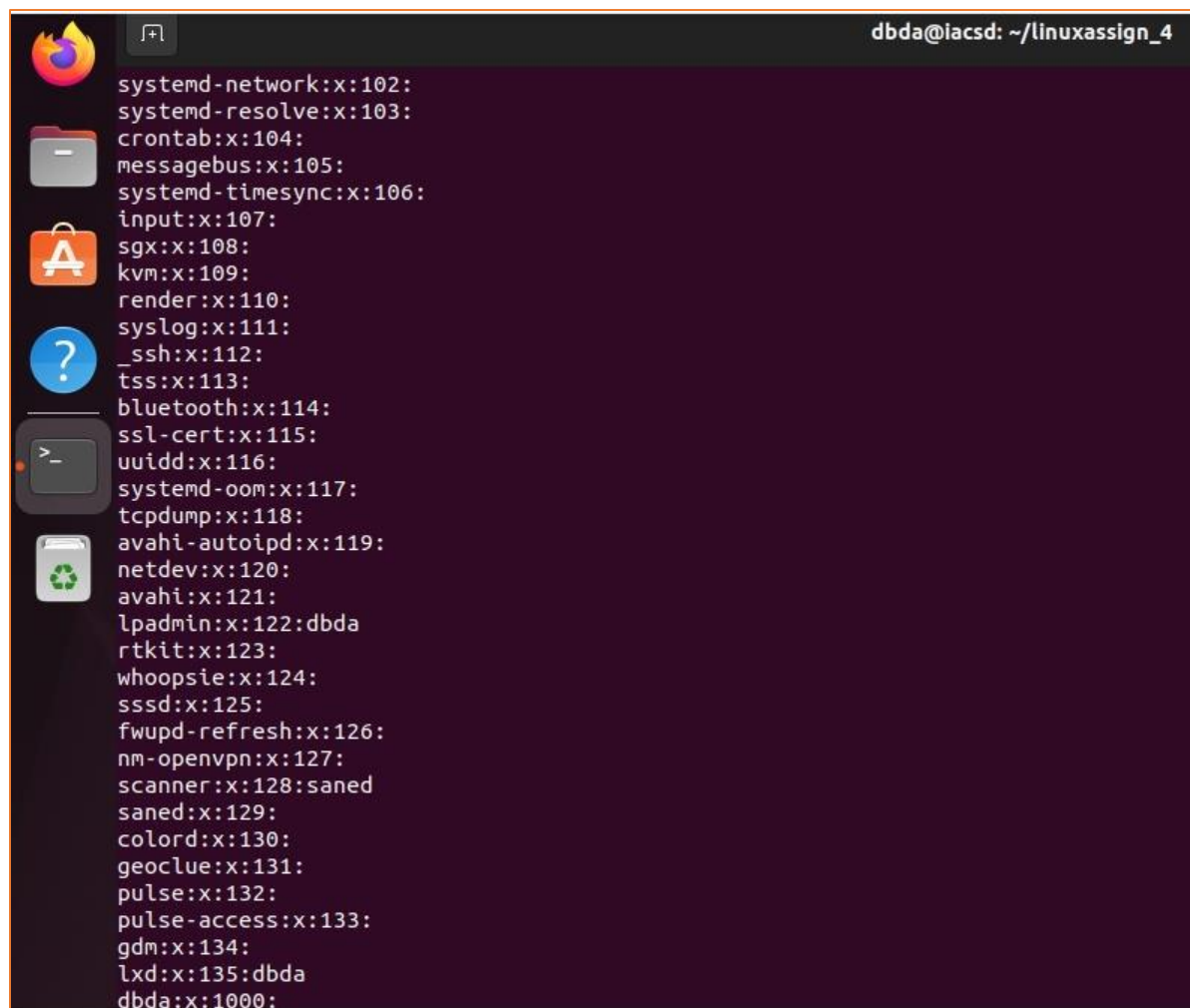
A terminal window titled "dbda@iacsd: ~/linuxassign_4" displays the contents of the /etc/passwd file. The window has a dark purple background and a sidebar on the left with icons for a file manager, application store, help, and other system utilities. The output shows a list of system and user accounts, including whoopsie, sssd, fwupd-refresh, nm-openvpn, scanner, saned, colord, geoclue, pulse, pulse-access, gdm, lxd, dbda, sambashare, ftp, gayatri, harsh, max, root, daemon, bin, sys, sync, games, man, lp, mail, news, uucp, proxy, www-data, backup, list, and irc.

```
dbda@iacsd: ~/linuxassign_4$ cat /etc/passwd
whoopsie:x:124:
sssd:x:125:
fwupd-refresh:x:126:
nm-openvpn:x:127:
scanner:x:128:saned
saned:x:129:
colord:x:130:
geoclue:x:131:
pulse:x:132:
pulse-access:x:133:
gdm:x:134:
lxd:x:135:dbda
dbda:x:1000:
sambashare:x:136:dbda
ftp:x:137:
gayatri:x:1001:
harsh:x:1002:
max:x:1003:
dbda@iacsd:~/linuxassign_4$ 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
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:/run/ircd:/usr/sbin/nologin
```

```
dbda@lacsds: ~/linuxassign_4
hplip:x:127:7:HPLIP system user,,,:/run/hplip:/bin/false
gdm:x:128:134:Gnome Display Manager:/var/lib/gdm3:/bin/false
dbda:x:1000:1000:dbda,,,:/home/dbda:/bin/bash
sshd:x:129:65534::/run/sshd:/usr/sbin/nologin
ftp:x:130:137:ftp daemon,,,:/srv/ftp:/usr/sbin/nologin
gayatri:x:1001:1001:gayatri,,,:/home/gayatri:/bin/bash
harsh:x:1002:1002:harsh,,,:/home/harsh:/bin/bash
dbda@lacsds:~/linuxassign_4$ bash q7.sh
To Add user=1 Delete user=2 create group=3 delete group=4 exit=0
4
Delete a group:
max
Removing group `max' ...
Done.
dbda@lacsds:~/linuxassign_4$ cat /etc/group
root:x:0:
daemon:x:1:
bin:x:2:
sys:x:3:
adm:x:4:syslog,dbda
tty:x:5:
disk:x:6:
lp:x:7:
mail:x:8:
news:x:9:
uucp:x:10:
man:x:12:
proxy:x:13:
kmem:x:15:
dialout:x:20:
fax:x:21:
voice:x:22:
cdrom:x:24:dbda
floppy:x:25:
tape:x:26:
```



```
dbda@iacsd: ~/linuxassign_4
geoclue:x:131:
pulse:x:132:
pulse-access:x:133:
gdm:x:134:
lxd:x:135:dbda
dbda:x:1000:
sambashare:x:136:dbda
ftp:x:137:
gayatri:x:1001:
harsh:x:1002:
dbda@iacsd:~/linuxassign_4$ bash q7.sh
To Add user=1 Delete user=2 create group=3 delete group=4 exit=0
2
Enter user name to be deleted:
harsh
dbda@iacsd:~/linuxassign_4$ 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
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:/run/ircd:/usr/sbin/nologin
gnats:x:41:41:Gnats Bug-Reporting System (admin):/var/lib/gnats:/usr/sbin/nologin
nobody:x:65534:65534:nobody:/nonexistent:/usr/sbin/nologin
systemd-network:x:100:102:systemd Network Management,,:/run/systemd:/usr/sbin/nologin
```



A terminal window with a dark purple background and a light green border. The title bar at the top shows the user 'dbda@iacsd' and the directory '~/linuxassign_4'. On the left side of the terminal, there is a vertical dock with several application icons: a Firefox browser icon, a file manager icon, an application store icon, a help icon (a blue circle with a white question mark), a terminal icon, and a trash icon. The main area of the terminal displays a list of system users, each on a new line. The users are listed in the format 'username:x:uid:', where 'x' represents the password field and 'uid' is the user ID. The users listed are: systemd-network, systemd-resolve, crontab, messagebus, systemd-timesync, input, sgx, kvm, render, syslog, _ssh, tss, bluetooth, ssl-cert, uidd, systemd-oom, tcpdump, avahi-autoipd, netdev, avahi, lpadmin, rtkit, whoopsie, sssd, fwupd-refresh, nm-openvpn, scanner, saned, colord, geoclue, pulse, pulse-access, gdm, lxd, and dbda.

```
dbda@iacsd: ~/linuxassign_4
systemd-network:x:102:
systemd-resolve:x:103:
crontab:x:104:
messagebus:x:105:
systemd-timesync:x:106:
input:x:107:
sgx:x:108:
kvm:x:109:
render:x:110:
syslog:x:111:
_ssh:x:112:
tss:x:113:
bluetooth:x:114:
ssl-cert:x:115:
uidd:x:116:
systemd-oom:x:117:
tcpdump:x:118:
avahi-autoipd:x:119:
netdev:x:120:
avahi:x:121:
lpadmin:x:122:dbda
rtkit:x:123:
whoopsie:x:124:
sssd:x:125:
fwupd-refresh:x:126:
nm-openvpn:x:127:
scanner:x:128:saned
saned:x:129:
colord:x:130:
geoclue:x:131:
pulse:x:132:
pulse-access:x:133:
gdm:x:134:
lxd:x:135:dbda
dbda:x:1000:
```