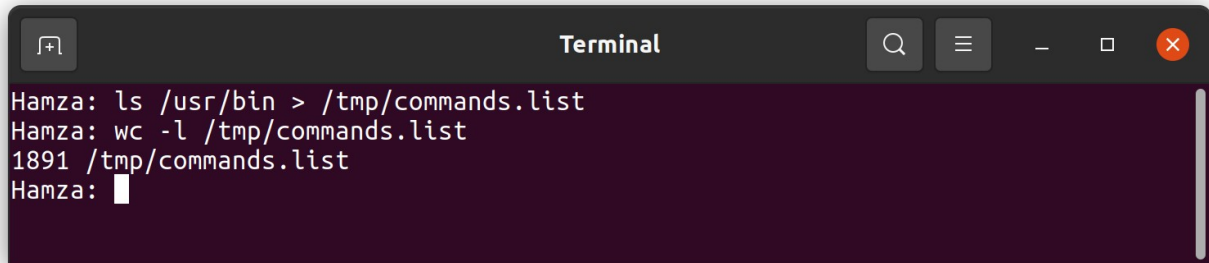# Lab 4
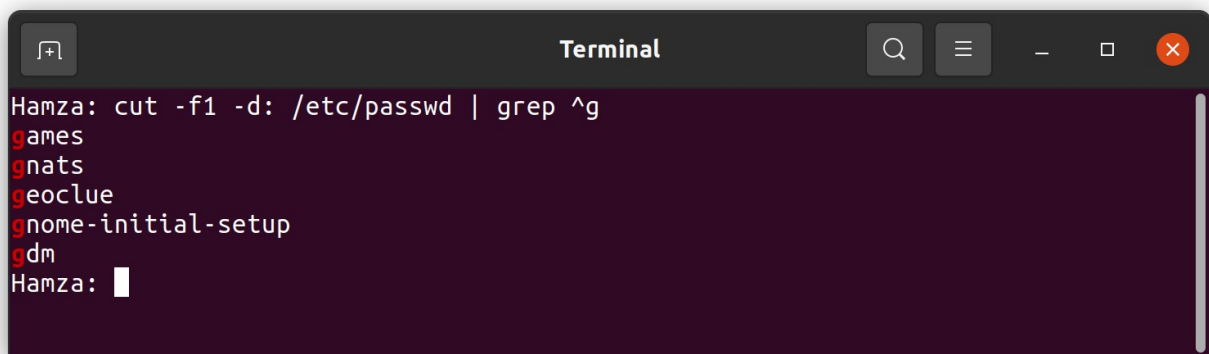
1. List the user commands and redirect the output to /tmp/commands.list
2. Count the number of user commands

```
Hamza: ls /usr/bin > /tmp/commands.list
Hamza: wc -l /tmp/commands.list
1891 /tmp/commands.list
Hamza:
```

There are 1891 user commands

3. Get all the users names whose first character in their login is 'g'.

```
Hamza: cut -f1 -d: /etc/passwd | grep ^g
games
gnats
geoclue
gnome-initial-setup
gdm
Hamza:
```

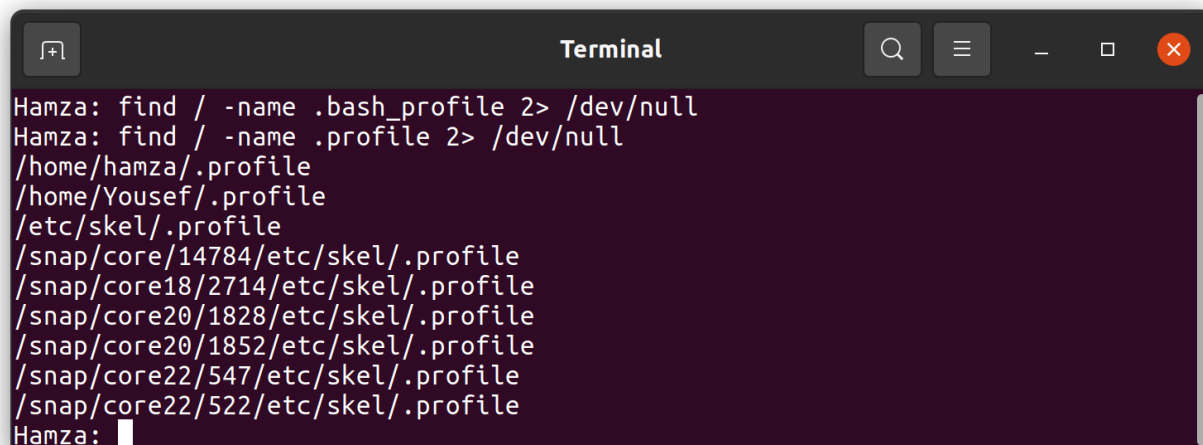4. Get the logins name and full names (comment) of logins starts with "g".

```
Hamza: cut -f1,5 -d: /etc/passwd | grep ^g
games:games
gnats:Gnats Bug-Reporting System (admin)
geoclue:
gnome-initial-setup:
gdm:Gnome Display Manager
Hamza:
```

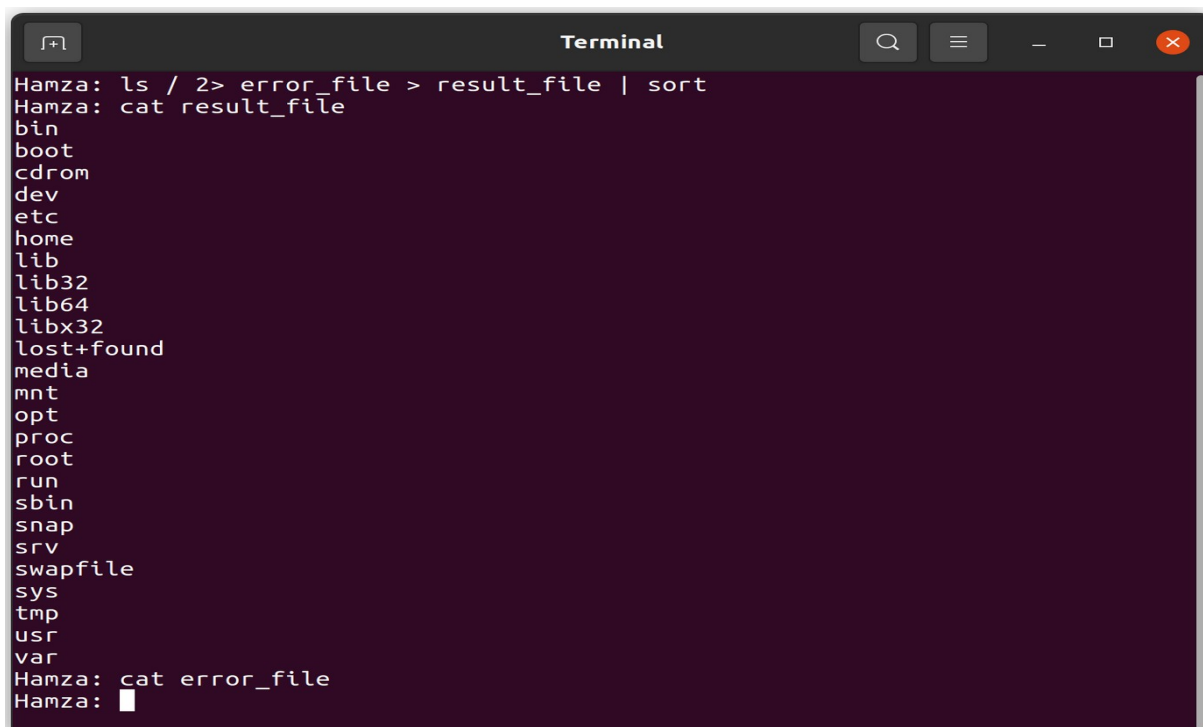5. Save the output of the last command sorted by their full names in a file.

```
Hamza: cut -f1,5 -d: /etc/passwd | grep ^g | sort -t : -k2 > Users_g
Hamza: cat Users_g
geoclue:
gnome-initial-setup:
games:games
gnats:Gnats Bug-Reporting System (admin)
gdm:Gnome Display Manager
Hamza:
```

6. Write two commands: first: to search for all files on the system that named .bash_profile.
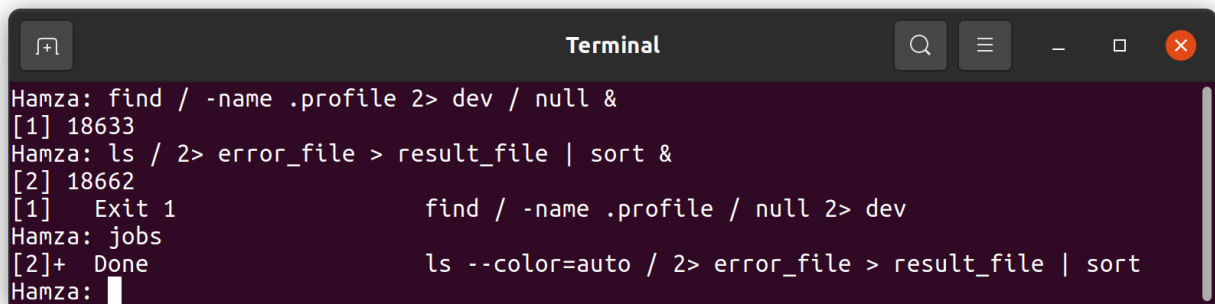
```
Hamza: find / -name .bash_profile 2> /dev/null
Hamza: find / -name .profile 2> /dev/null
/home/hamza/.profile
/home/Yousef/.profile
/etc/skel/.profile
/snap/core/14784/etc/skel/.profile
/snap/core18/2714/etc/skel/.profile
/snap/core20/1828/etc/skel/.profile
/snap/core20/1852/etc/skel/.profile
/snap/core22/547/etc/skel/.profile
/snap/core22/522/etc/skel/.profile
Hamza:
```

Second: sorts the output of ls command on / recursively, Saving their output and error in 2 different files

```
Hamza: ls / 2> error_file > result_file | sort
Hamza: cat result_file
bin
boot
cdrom
dev
etc
home
lib
lib32
lib64
libx32
lost+found
media
mnt
opt
proc
root
run
sbin
snap
srv
swapfile
sys
tmp
usr
var
Hamza: cat error_file
Hamza:
```

and sending them to the background.
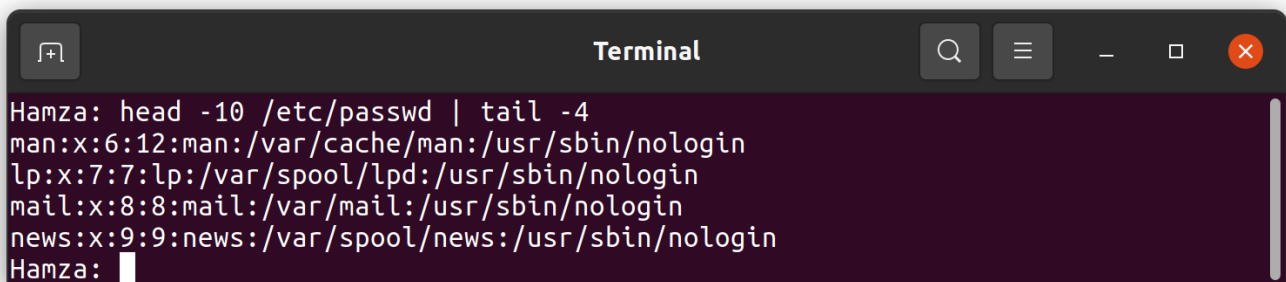
```
Hamza: find / -name .profile 2> dev / null &
[1] 18633
Hamza: ls / 2> error_file > result_file | sort &
[2] 18662
[1]   Exit 1                find / -name .profile / null 2> dev
Hamza: jobs
[2]+  Done                  ls --color=auto / 2> error_file > result_file | sort
Hamza:
```

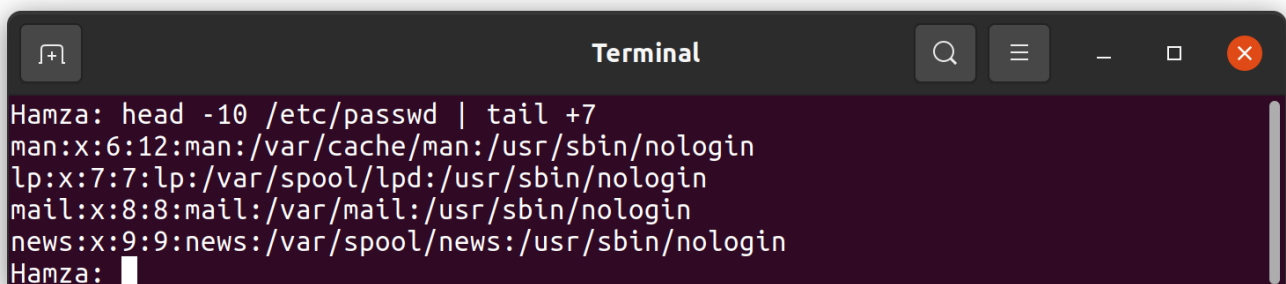7. Display the number of users who is logged now to the system.
   users | wc -w

8. Display lines 7 to line 10 of /etc/passwd file

```
Hamza: head -10 /etc/passwd | tail -4
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
Hamza:
```

Another solution:

```
Hamza: head -10 /etc/passwd | tail +7
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
Hamza:
```

9. What happens if you execute:
   - cat filename1 | cat filename2
     The contents of filename 2 will be displayed on the screen

   - ls | rm
     An error will occur, because the output of the ls command isn't a file.

   - ls /etc/passwd | wc –l
     The output will be 1, because ls will show only one line containing /etc/passwd