

1. List the user commands and redirect the output to /tmp/commands.list

```
mohamed@mohamed-GF62-8RE:~$ ls /usr/bin > /tmp/commands.list
mohamed@mohamed-GF62-8RE:~$ cat /tmp/commands.list
```

2. Count the number of user commands

```
mohamed@mohamed-GF62-8RE:~$ ls /usr/bin | wc -w
1423
mohamed@mohamed-GF62-8RE:~$
```

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

```
mohamed@mohamed-GF62-8RE:~$ cat /etc/passwd | cut -f1 -d ":" | grep "^g"
games
gnats
geoclue
gnome-initial-setup
gdm
mohamed@mohamed-GF62-8RE:~$
```

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

```
mohamed@mohamed-GF62-8RE:~$ grep "^g" /etc/passwd | cut -f1,5 -d ":"
games:games
gnats:Gnats Bug-Reporting System (admin)
geoclue:
gnome-initial-setup:
gdm:Gnome Display Manager
mohamed@mohamed-GF62-8RE:~$
```

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

```
mohamed@mohamed-GF62-8RE:~$ grep "^g" /etc/passwd | cut -f1,5 -d ":" | sort > sorted.txt
mohamed@mohamed-GF62-8RE:~$ cat sorted.txt
games:games
gdm:Gnome Display Manager
geoclue:
gnats:Gnats Bug-Reporting System (admin)
gnome-initial-setup:
mohamed@mohamed-GF62-8RE:~$ s
```

6. Write two commands: first: to search for all files on the system that named .bash_profile. Second: sorts the output of ls command on / recursively, Saving their output and error in 2 different files and sending them to the background.

```
mohamed@mohamed-GF62-8RE:~$ sudo find / -name bash | sort -r > fileerror
[sudo] password for mohamed:
find: '/run/user/1000/doc': Permission denied
find: '/run/user/1000/gvfs': Permission denied
mohamed@mohamed-GF62-8RE:~$ cat fileerror
/usr/share/menu/bash
/usr/share/lintian/overrides/bash
/usr/share/doc/bash
/usr/bin/bash
/snap/core20/1852/usr/share/menu/bash
/snap/core20/1852/usr/share/lintian/overrides/bash
/snap/core20/1852/usr/share/doc/bash
/snap/core20/1852/usr/bin/bash
/snap/core20/1852/etc/apparmor.d/abstractions/bash
/snap/core20/1828/usr/share/menu/bash
/snap/core20/1828/usr/share/lintian/overrides/bash
/snap/core20/1828/usr/share/doc/bash
/snap/core20/1828/usr/bin/bash
/snap/core20/1828/etc/apparmor.d/abstractions/bash
/snap/core18/2714/usr/share/menu/bash
/snap/core18/2714/usr/share/lintian/overrides/bash
/snap/core18/2714/usr/share/doc/bash
```

7. Display the number of users who is logged now to the system.

```
mohamed@mohamed-GF62-8RE:~$ users | wc -l
1
mohamed@mohamed-GF62-8RE:~$
```

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

```
mohamed@mohamed-GF62-8RE:~$ sed -n '7,10p' /etc/passwd
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
```

9. What happens if you execute:

- cat filename1 | cat filename2

```
mohamed@mohamed-GF62-8RE:~$ cat filename1 | cat filename2
cat: cat: filename1filename2: No such file or directory
: No such file or directory
```

- ls | rm

```
mohamed@mohamed-GF62-8RE:~$ ls | rm
rm: missing operand
Try 'rm --help' for more information.
```

- Ls /etc/passwd | wc -l

```
mohamed@mohamed-GF62-8RE:~$ ls /etc/passwd | wc -l
1
```