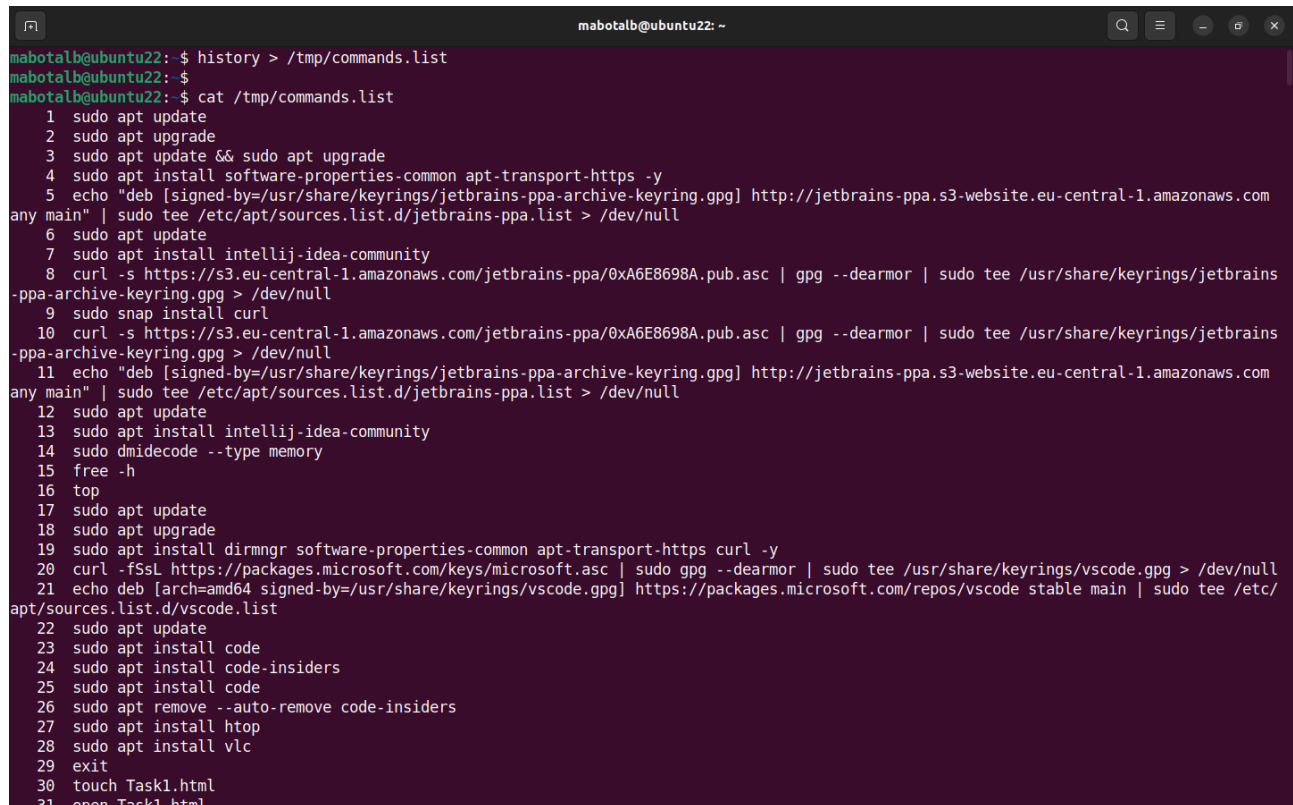# Lab 4 Tasks

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

=> history > /tmp/commands.list

2. Count the number of user commands

=> history | wc -l
=> wc -l /tmp/commands.list

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

=> grep "^g" /etc/passwd | cut -f1 -d:

```
                                    mabotalb@ubuntu22: ~
mabotalb@ubuntu22:~$ grep "^g" /etc/passwd | cut -f1 -d:
games
gnats
geoclue
gnome-initial-setup
gdm
mabotalb@ubuntu22:~$
```

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

=> grep "^g" /etc/passwd | cut -f1,5 -d:

```
                                    mabotalb@ubuntu22: ~
mabotalb@ubuntu22:~$ grep "^g" /etc/passwd | cut -f1,5 -d:
games:games
gnats:Gnats Bug-Reporting System (admin)
geoclue:
gnome-initial-setup:
gdm:Gnome Display Manager
mabotalb@ubuntu22:~$
```

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

=> grep "^g" /etc/passwd | cut -f1,5 -d: | sort -t: -k2 > sorted_file

```
                                    mabotalb@ubuntu22: ~
mabotalb@ubuntu22:~$ grep "^g" /etc/passwd | cut -f1,5 -d: | sort -t: -k2 > sorted_file
mabotalb@ubuntu22:~$
mabotalb@ubuntu22:~$
mabotalb@ubuntu22:~$
mabotalb@ubuntu22:~$ cat sorted_file
geoclue:
gnome-initial-setup:
games:games
gnats:Gnats Bug-Reporting System (admin)
gdm:Gnome Display Manager
mabotalb@ubuntu22:~$
```

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
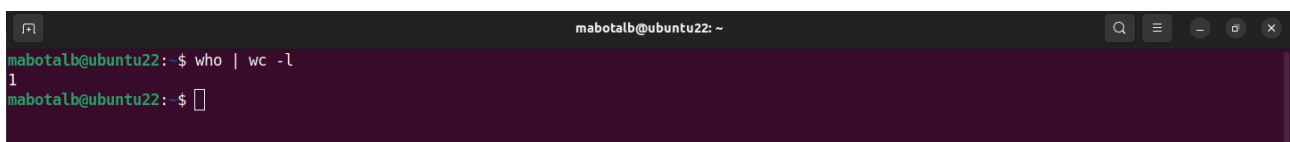background.

=> find / -type f -name ".bash_profile" 2> /dev/null
=> ls / | sort -r > ls_sorted_output 2> ls_errors

find / -type f -name ".bash_profile" 2> /dev/null && ls / | sort -r >
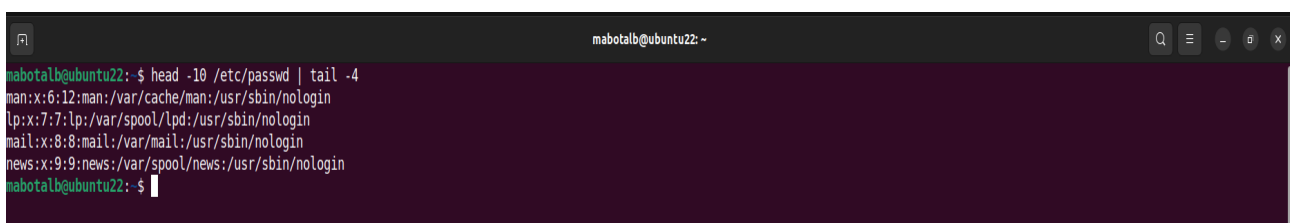ls_sorted_output 2> ls_errors &

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

=> who | wc -l

```
mabotalb@ubuntu22: ~

mabotalb@ubuntu22:~$ who | wc -l
1
mabotalb@ubuntu22:~$
```

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

=> head -10 /etc/passwd | tail -4

```
mabotalb@ubuntu22: ~

mabotalb@ubuntu22:~$ 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
mabotalb@ubuntu22:~$
```

9. What happens if you execute:
    cat filename1 | cat filename2 => only the content of
filename2 will be displayed
    ls | rm => error "missing operand on rm command"

ls /etc/passwd | wc -l => print 1

```
mabotalb@ubuntu22:~$ cat mycv | cat sorted_file
geoclue:
gnome-initial-setup:
games:games
gnats:Gnats Bug-Reporting System (admin)
gdm:Gnome Display Manager
mabotalb@ubuntu22:~$
mabotalb@ubuntu22:~$
mabotalb@ubuntu22:~$
mabotalb@ubuntu22:~$ ls | rm
rm: missing operand
Try 'rm --help' for more information.
mabotalb@ubuntu22:~$
mabotalb@ubuntu22:~$
mabotalb@ubuntu22:~$
mabotalb@ubuntu22:~$ ls /etc/passwd | wc -l
1
mabotalb@ubuntu22:~$
```

10. Issue the command sleep 100.
=> this command will pause the execution of the current shell session for 100 seconds

```
mabotalb@ubuntu22:~$ sleep 100
```

11. Stop the last command => Ctrl + z

```
mabotalb@ubuntu22:~$ sleep 100
^Z
[1]+  Stopped                 sleep 100
mabotalb@ubuntu22:~$
```

12. Resume the last command in the background => bg

```
mabotalb@ubuntu22:~$ sleep 100
^Z
[1]+  Stopped                 sleep 100
mabotalb@ubuntu22:~$
mabotalb@ubuntu22:~$
mabotalb@ubuntu22:~$ bg
[1]+ sleep 100 &
mabotalb@ubuntu22:~$
```

13. Issue the jobs command and see its output.

=> jobs will give my created processes (sleep 100) and its status Running then Done

14. Send the sleep command to the foreground and send it again to the background.

=> bg && fg

15. Kill the sleep command. => kill %1

16. Display your processes only => ps -u mabotalb
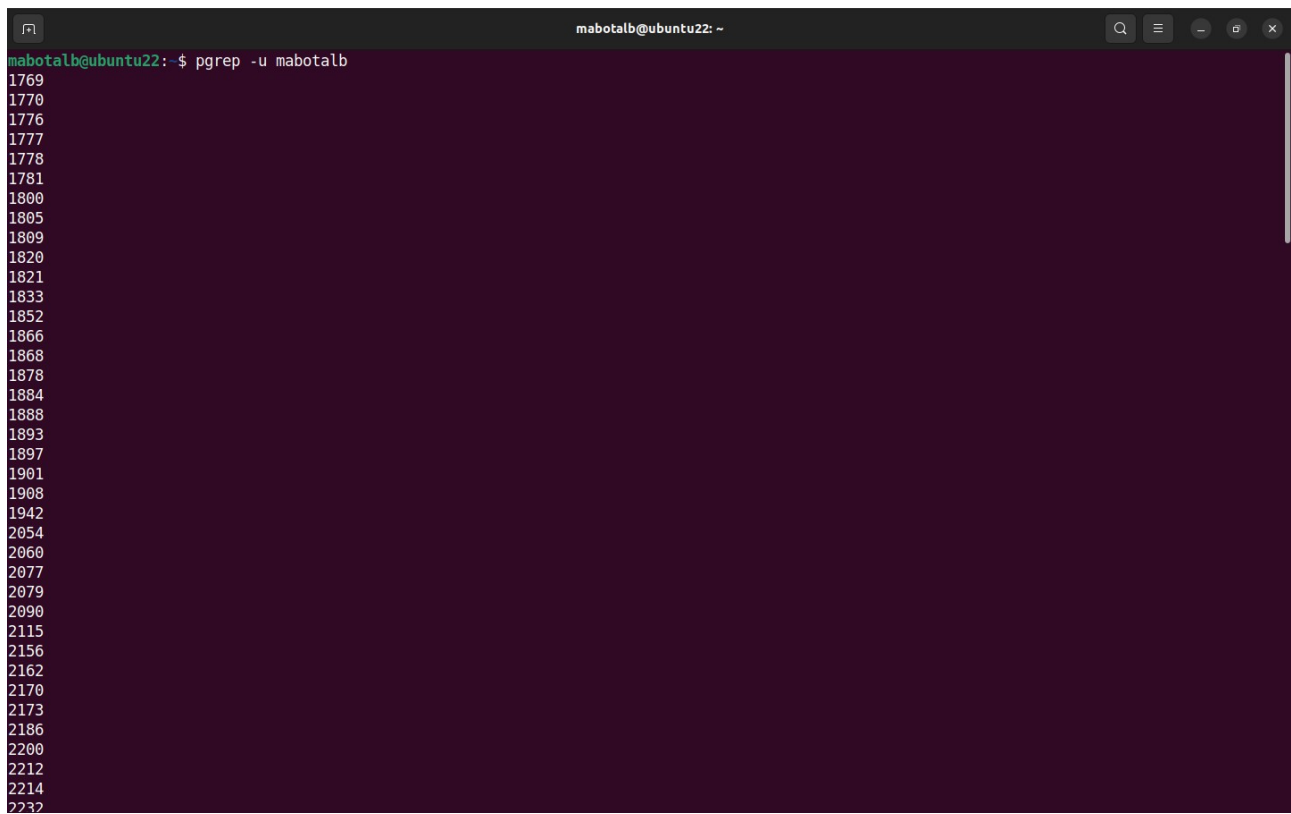
```
mabotalb@ubuntu22:~$ ps -u mabotalb
  PID TTY          TIME CMD
 1769 ?        00:00:01 systemd
 1770 ?        00:00:00 (sd-pam)
 1776 ?        00:00:00 pipewire
 1777 ?        00:00:00 pipewire-media-
 1778 ?        00:00:31 pulseaudio
 1781 ?        00:00:00 ubuntu-report
 1800 ?        00:00:00 gnome-keyring-d
 1805 ?        00:00:02 dbus-daemon
 1809 ?        00:00:00 gvfsd
 1820 ?        00:00:00 gvfsd-fuse
 1821 ?        00:00:00 xdg-document-po
 1833 ?        00:00:00 xdg-permission-
 1852 ?        00:00:02 tracker-miner-f
 1866 tty2     00:00:00 gdm-x-session
 1868 tty2     00:16:19 Xorg
 1878 ?        00:00:00 gvfs-udisks2-vo
 1884 ?        00:00:00 gvfs-gphoto2-vo
 1888 ?        00:00:00 gvfs-afc-volume
 1893 ?        00:00:00 gvfs-mtp-volume
 1897 ?        00:00:00 gvfs-goa-volume
 1901 ?        00:00:00 goa-daemon
 1908 ?        00:00:00 goa-identity-se
 1942 tty2     00:00:00 gnome-session-b
 2054 ?        00:00:00 at-spi-bus-laun
 2060 ?        00:00:00 dbus-daemon
 2077 ?        00:00:00 gnome-remote-de
 2079 ?        00:00:00 gnome-session-c
 2090 ?        00:00:00 gnome-session-b
 2115 ?        00:16:39 gnome-shell
 2156 ?        00:00:00 gnome-shell-cal
 2162 ?        00:00:00 evolution-sourc
 2170 ?        00:00:00 dconf-service
 2173 ?        00:00:00 evolution-calen
 2186 ?        00:00:00 evolution-addre
 2200 ?        00:00:00 gvfsd-trash
 2212 ?        00:00:00 gjs
 2214 ?        00:00:01 at-spi2-registr
```

17. Display all processes except yours => ps -d -u mabotalb


```
mabotalb@ubuntu22:~$ ps -d -u mabotalb
  PID TTY          TIME CMD
    2 ?        00:00:00 kthreadd
    3 ?        00:00:00 rcu_gp
    4 ?        00:00:00 rcu_par_gp
    5 ?        00:00:00 slub_flushwq
    6 ?        00:00:00 netns
    8 ?        00:00:00 kworker/0:0H-events_highpri
   10 ?        00:00:00 mm_percpu_wq
   11 ?        00:00:00 rcu_tasks_kthread
   12 ?        00:00:00 rcu_tasks_rude_kthread
   13 ?        00:00:00 rcu_tasks_trace_kthread
   14 ?        00:00:00 ksoftirqd/0
   15 ?        00:00:23 rcu_preempt
   16 ?        00:00:00 migration/0
   17 ?        00:00:00 idle_inject/0
   19 ?        00:00:00 cpuhp/0
   20 ?        00:00:00 cpuhp/1
   21 ?        00:00:00 idle_inject/1
   22 ?        00:00:06 migration/1
   23 ?        00:00:00 ksoftirqd/1
   25 ?        00:00:00 kworker/1:0H-events_highpri
   26 ?        00:00:00 cpuhp/2
   27 ?        00:00:00 idle_inject/2
   28 ?        00:00:00 migration/2
   29 ?        00:00:00 ksoftirqd/2
   31 ?        00:00:00 kworker/2:0H-events_highpri
   32 ?        00:00:00 cpuhp/3
   33 ?        00:00:00 idle_inject/3
   34 ?        00:00:07 migration/3
   35 ?        00:00:00 ksoftirqd/3
   37 ?        00:00:00 kworker/3:0H-events_highpri
   38 ?        00:00:00 cpuhp/4
   39 ?        00:00:00 idle_inject/4
   40 ?        00:00:05 migration/4
   41 ?        00:00:00 ksoftirqd/4
   43 ?        00:00:00 kworker/4:0H-events_highpri
   44 ?        00:00:00 cpuhp/5
   45 ?        00:00:00 idle_inject/5
```

18. Use the pgrep command to list your processes only

=> pgrep -u mabotalb

19. Kill your processes only.

=> pkill -u mabotalb