

1. Count the number of users at your Machine

```
aya@aya-virtual-machine: /home/aya$ wc -l /etc/passwd
49 /etc/passwd
aya@aya-virtual-machine: /home/aya$
```

2. Search on user name "games" at your machine

```
aya@aya-virtual-machine: /home/aya$ grep "games" /etc/passwd
games:x:5:60:games:/usr/games:/usr/sbin/nologin
aya@aya-virtual-machine: /home/aya$ grep "games" /etc/passwd | cut -d: -f1
games
```

3. Get the logins names of Users.

```
aya@aya-virtual-machine: /home/aya$ cut -d: -f1 /etc/passwd
root
daemon
bin
sys
sync
games
man
lp
mail
news
uucp
proxy
www-data
backup
list
irc
gnats
nobody
systemd-network
systemd-resolve
messagebus
systemd-timesync
syslog
_apt
tss
```

4. Get the full names (comment) of Users.

```
aya@aya-virtual-machine: /home/aya$ cut -d: -f5 /etc/passwd
root
daemon
bin
sys
sync
games
man
lp
mail
news
uucp
proxy
www-data
backup
Mailing List Manager
ircd
Gnats Bug-Reporting System (admin)
nobody
systemd Network Management,,,
systemd Resolver,,,
systemd Time Synchronization,,,
TPM software stack,,,

```

5. Issue the command sleep 100.
6. Stop the last command.

```
aya@aya-virtual-machine:~$ sleep 100
^Z
[1]+  Stopped                  sleep 100
aya@aya-virtual-machine:~$
```

7. Resume the last command in the background
8. Issue the jobs command and see its output.

```
aya@aya-virtual-machine:~$ sleep 100 &
[1] 3327
aya@aya-virtual-machine:~$ kill -STOP %1
aya@aya-virtual-machine:~$ jobs
[1]+  Stopped                  sleep 100
aya@aya-virtual-machine:~$ kill -CON %1
bash: kill: CON: invalid signal specification
aya@aya-virtual-machine:~$ kill -CONT %1
aya@aya-virtual-machine:~$ jobs
[1]+  Done                    sleep 100
aya@aya-virtual-machine:~$
```

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

```
[1]+  Stopped                  sleep 100
aya@aya-virtual-machine:~$ sleep 100 &
[2] 3483
aya@aya-virtual-machine:~$ fg %1
sleep 100
^Z
[1]+  Stopped                  sleep 100
aya@aya-virtual-machine:~$ bg %1
[1]+ sleep 100 &
aya@aya-virtual-machine:~$ jobs
[1]-  Running                  sleep 100 &
[2]+  Running                  sleep 100 &
aya@aya-virtual-machine:~$
```

10. Kill the sleep command.

```
aya@aya-virtual-machine:~$ sleep 100 &
[2] 3490
aya@aya-virtual-machine:~$ jobs
[1]+  Stopped                  sleep 100
[2]-  Running                  sleep 100 &
aya@aya-virtual-machine:~$ kill -KILL %2
aya@aya-virtual-machine:~$ jobs
[1]+  Stopped                  sleep 100
[2]-  Killed                   sleep 100
aya@aya-virtual-machine:~$
```

11. Display your processes only (process started by your username)

```
aya@aya-virtual-machine:~$ ps -u aya
```

PID	TTY	TIME	CMD
1028	?	00:00:02	systemd
1029	?	00:00:00	(sd-pam)
1068	?	00:00:00	pipewire
1069	?	00:00:00	pipewire-media-
1070	?	00:00:00	pulseaudio
1074	?	00:00:00	ubuntu-report
1082	?	00:00:00	gnome-keyring-d
1090	tty2	00:00:00	gdm-wayland-ses
1092	?	00:00:01	dbus-daemon
1122	tty2	00:00:00	gnome-session-b
1139	?	00:00:00	xdg-document-po
1150	?	00:00:00	xdg-permission-
1260	?	00:00:00	gnome-session-c
1262	?	00:00:00	gvfsd
1286	?	00:00:00	gvfsd-fuse
1287	?	00:00:00	gnome-session-b
1331	?	00:00:00	at-spi-bus-laun
1332	?	00:01:02	gnome-shell
1341	?	00:00:00	dbus-daemon
2136	?	00:00:00	snapd-desktop-i
2203	?	00:00:04	snapd-desktop-i
2207	?	00:00:00	xdg-desktop-por

12. Use the pgrep command to list your processes only

```
aya@aya-virtual-machine:~$ pgrep -u aya
1028
1029
1068
1069
1070
1074
1082
1090
1092
1122
1139
1150
1260
1262
1286
1287
1331
1332
1341
2136
2203
2207
```

13. List the user commands(in /bin) and redirect the output to /tmp/commands.list

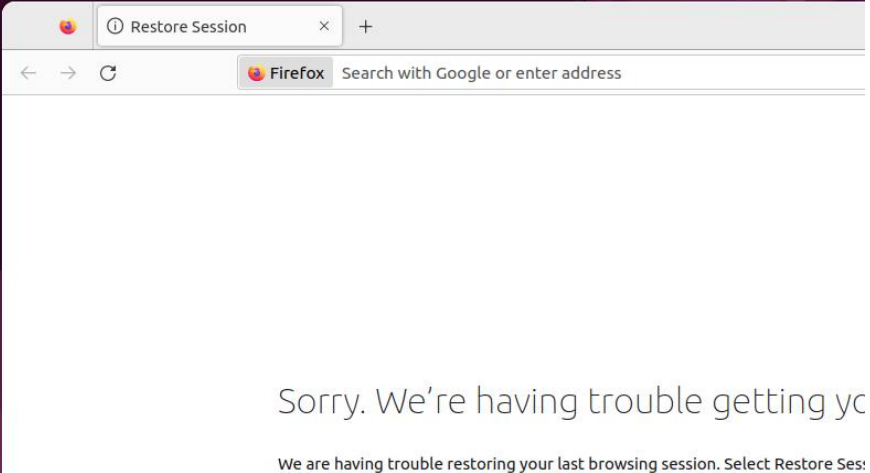
```
aya@aya-virtual-machine:~$ sudo ls /bin > /tmp/commands.list
aya@aya-virtual-machine:~$
```

14. (based on previous Question) Count the number of user commands

```
aya@aya-virtual-machine:~$ sudo ls /bin > /tmp/commands.list
aya@aya-virtual-machine:~$ wc -l /tmp/commands.list
1315 /tmp/commands.list
aya@aya-virtual-machine:~$
```

15. Start firefox application

```
aya@aya-virtual-machine:~$ firefox &
[1] 6071
aya@aya-virtual-machine:~$ Gtk-Message: 13:10:06.881: Not loading module "atk-br
idge": The functionality is provided by GTK natively. Please try to not load it.
```



16. Send Signal kill to firefox

```
[1]+  Killed                  firefox
aya@aya-virtual-machine:~$ firefox &
[1] 6071
aya@aya-virtual-machine:~$ Gtk-Message: 13:10:06.881: Not loading module "atk-bridge": The functionality is provided by GTK natively. Please try to not load it.
kill -KILL %1
aya@aya-virtual-machine:~$ jobs
[1]+  Killed                  firefox
aya@aya-virtual-machine:~$
```

17. Get the logins name and full names (comment) of logins starts with "gu".

```
nm-openvpn:NetworkManager OpenVPN,,,
saned:
colord:colord colour management daemon,,,
geoclue:
pulse:PulseAudio daemon,,,
gnome-initial-setup:
hplip:HPLIP system user,,,
gdm:Gnome Display Manager
aya:aya,,,
islam:Islam Askar
aya@aya-virtual-machine:~$ sudo cut -d: -f1,5 /etc/passwd | grep ^ge
geoclue:
aya@aya-virtual-machine:~$
```

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

```
geoclue:
aya@aya-virtual-machine:~$ who
aya          tty2          2023-12-17 10:57 (tty2)
aya@aya-virtual-machine:~$ who | wc -l
1
aya@aya-virtual-machine:~$
```

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

```
1
aya@aya-virtual-machine:~$ 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
aya@aya-virtual-machine:~$
```


20. Search for all files on the system that named “.bash_profile” using two methods.

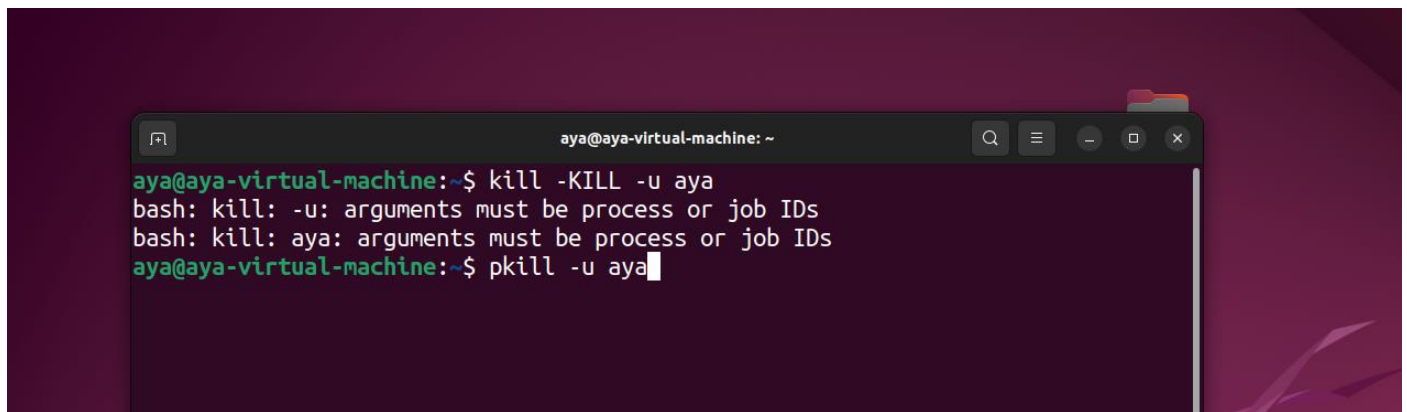
```
aya@aya-virtual-machine:~$ locate .bash_profile
Command 'locate' not found, but can be installed with:
sudo apt install plocate
aya@aya-virtual-machine:~$ sudo apt install plocate
[sudo] password for aya:
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  liburing2
The following NEW packages will be installed:
  liburing2 plocate
0 upgraded, 2 newly installed, 0 to remove and 46 not upgraded.
Need to get 140 kB of archives.
After this operation, 555 kB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://eg.archive.ubuntu.com/ubuntu jammy/main amd64 liburing2 amd64 2.1-2
build1 [10.3 kB]
Get:2 http://eg.archive.ubuntu.com/ubuntu jammy/main amd64 plocate amd64 1.1.15-
1ubuntu2 [129 kB]
Fetched 140 kB in 1s (174 kB/s)
Selecting previously unselected package liburing2:amd64.
(Reading database ... 177171 files and directories currently installed.)
Preparing to unpack .../liburing2_2.1-2build1_amd64.deb
```

```
aya,,,
Islam Askar
aya@aya-virtual-machine:~$ sudo locate .bash_profile
[sudo] password for aya:
/usr/share/doc/adduser/examples/adduser.local.conf.examples/skel/dot.bash_profil
e
aya@aya-virtual-machine:~$
```

21. Install Packages called ncompress, ksh

```
aya@aya-virtual-machine:~$ sudo apt install ncompress ksh
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  ksh93u+m
Suggested packages:
  binfmt-support
The following NEW packages will be installed:
  ksh ksh93u+m ncompress
0 upgraded, 3 newly installed, 0 to remove and 46 not upgraded.
Need to get 923 kB of archives.
After this operation, 3,243 kB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://eg.archive.ubuntu.com/ubuntu jammy/universe amd64 ksh93u+m amd64 1.
0.0~beta.2-1 [894 kB]
Get:2 http://eg.archive.ubuntu.com/ubuntu jammy/universe amd64 ksh all 20211217
[6,474 B]
```

22. Kill your processes only (be care: save lab before command execution).

A terminal window titled 'aya@aya-virtual-machine: ~' with standard window controls. The terminal shows a sequence of commands and their outputs. The user enters 'kill -KILL -u aya', which results in two error messages: 'bash: kill: -u: arguments must be process or job IDs' and 'bash: kill: aya: arguments must be process or job IDs'. The user then enters 'pkill -u aya', which is followed by a cursor. The terminal text is as follows:

```
aya@aya-virtual-machine:~$ kill -KILL -u aya
bash: kill: -u: arguments must be process or job IDs
bash: kill: aya: arguments must be process or job IDs
aya@aya-virtual-machine:~$ pkill -u aya
```