Name: Kerolos Youssef Ghobrial

LAB 5: Linux

Q1.

```
[kerolosyoussef@localhost ~]$ ls /usr/bin > /tmp/commands.list
[kerolosyoussef@localhost ~]$ head -7 /tmp/commands.list
[
ac
aconnect
addr2line
alias
alsaloop
alsamixer
```

Q2.

```
[kerolosyoussef@localhost ~]$ wc -l /tmp/commands.list
1560 /tmp/commands.list
```

Q3.

```
[kerolosyoussef@localhost ~]$ grep ^g /etc/passwd
games:x:12:100:games:/usr/games:/sbin/nologin
geoclue:x:997:995:User for geoclue:/var/lib/geoclue:/sbin/nologin
gluster:x:993:987:GlusterFS daemons:/run/gluster:/sbin/nologin
gdm:x:42:42::/var/lib/gdm:/sbin/nologin
gnome-initial-setup:x:976:975::/run/gnome-initial-setup/:/sbin/nologin
```

Q4.

```
[kerolosyoussef@localhost ~]$ cut -f1,5 -d: /etc/passwd | grep ^g
games:games
geoclue:User for geoclue
gluster:GlusterFS daemons
gdm:
gnome-initial-setup:
```

Q5.

```
[kerolosyoussef@localhost ~]$ cut -f1,5 -d: /etc/passwd | grep ^g |sort -k2 -t:
> sortfile
[kerolosyoussef@localhost ~]$ cat sortfile
gdm:
gnome-initial-setup:
games:games
gluster:GlusterFS daemons
geoclue:User for geoclue
```

Q6.

```
[kerolosyoussef@localhost ~]$ find / -name .bash_profile >bash_out 2>error &
[1] 4311
[kerolosyoussef@localhost ~]$ head -7 bash_out
/etc/skel/.bash_profile
/home/kerolosyoussef/.bash_profile
/home/kero/.bash_profile
[1]+  Exit 1                  find / -name .bash_profile > bash_out 2> error
[kerolosyoussef@localhost ~]$ head -7 error
find: '/boot/efi/EFI/redhat': Permission denied
find: '/boot/grub2': Permission denied
find: '/boot/loader/entries': Permission denied
find: '/proc/tty/driver': Permission denied
find: '/proc/1/task/1/fd': Permission denied
find: '/proc/1/task/1/fdinfo': Permission denied
find: '/proc/1/task/1/ns': Permission denied
```

```
[kerolosyoussef@localhost ~]$ ls -R / >ls_out 2>ls_error &
[1] 4441
[kerolosyoussef@localhost ~]$ head -7 ls_out
/:
bin
boot
dev
etc
home
lib
[1]+  Exit 1                  ls --color=auto -R / > ls_out 2> ls_error
[kerolosyoussef@localhost ~]$ head -7 ls_error
ls: cannot open directory '/boot/efi/EFI/redhat': Permission denied
ls: cannot open directory '/boot/grub2': Permission denied
ls: cannot open directory '/boot/loader/entries': Permission denied
ls: cannot open directory '/etc/audit': Permission denied
ls: cannot open directory '/etc/cups/ssl': Permission denied
ls: cannot open directory '/etc/firewalld': Permission denied
ls: cannot open directory '/etc/grub.d': Permission denied
```

Q7.

```
[kerolosyoussef@localhost ~]$ who
kerolosyoussef seat0         2023-08-31 18:22 (login screen)
kerolosyoussef tty2          2023-08-31 18:22 (tty2)
```

Q8.

```
[kerolosyoussef@localhost ~]$ head -10 /etc/passwd
root:x:0:0:root:/root:/bin/bash
bin:x:1:1:bin:/bin:/sbin/nologin
daemon:x:2:2:daemon:/sbin:/sbin/nologin
adm:x:3:4:adm:/var/adm:/sbin/nologin
lp:x:4:7:lp:/var/spool/lpd:/sbin/nologin
sync:x:5:0:sync:/sbin:/bin/sync
shutdown:x:6:0:shutdown:/sbin:/sbin/shutdown
halt:x:7:0:halt:/sbin:/sbin/halt
mail:x:8:12:mail:/var/spool/mail:/sbin/nologin
operator:x:11:0:operator:/root:/sbin/nologin
[kerolosyoussef@localhost ~]$ sed -n "7,10p" /etc/passwd
shutdown:x:6:0:shutdown:/sbin:/sbin/shutdown
halt:x:7:0:halt:/sbin:/sbin/halt
mail:x:8:12:mail:/var/spool/mail:/sbin/nologin
operator:x:11:0:operator:/root:/sbin/nologin
```

Q9.

```
[kerolosyoussef@localhost ~]$ cat sortfile | cat mycv
                        CV
                  Kerolos Youssef
Age : 23 years
School: Hosh Issa secondary school
college : Faculty of Engineering, Alexandria University
Experience : 3 months scholarship in ITI - Digital IC Design track

[kerolosyoussef@localhost ~]$ ls | rm
rm: missing operand
Try 'rm --help' for more information.
[kerolosyoussef@localhost ~]$ ls /etc/passwd | wc -l
1
```

Q10-14.

```
[kerolosyoussef@localhost ~]$ sleep 100
^Z
[1]+  Stopped                 sleep 100
[kerolosyoussef@localhost ~]$ bg %1
[1]+ sleep 100 &
[kerolosyoussef@localhost ~]$ jobs
[1]+  Running                 sleep 100 &
[kerolosyoussef@localhost ~]$ fg %1
sleep 100
^Z
[1]+  Stopped                 sleep 100
[kerolosyoussef@localhost ~]$ bg %1
[1]+ sleep 100 &
```

Q15.

```
[kerolosyoussef@localhost ~]$ kill %1
[1]+  Terminated              sleep 100
```

Q16.

```
[kerolosyoussef@localhost ~]$ ps -u kerolosyoussef
   PID TTY          TIME CMD
  2470 ?        00:00:00 systemd
  2474 ?        00:00:00 (sd-pam)
  2496 ?        00:01:02 pulseaudio
  2501 ?        00:00:00 gnome-keyring-d
  2525 tty2     00:00:00 gdm-wayland-ses
  2527 ?        00:00:00 dbus-daemon
  2532 tty2     00:00:00 gnome-session-b
  2598 tty2     00:01:50 gnome-shell
  2628 ?        00:00:00 gvfsd
  2635 ?        00:00:00 gvfsd-fuse
  2648 tty2     00:00:01 Xwayland
  2665 ?        00:00:00 at-spi-bus-laun
  2672 ?        00:00:00 dbus-daemon
  2676 ?        00:00:00 at-spi2-registr
```

Q17.

```
[kerolosyoussef@localhost ~]$ ps u $(pgrep -vu kerolosyoussef)
USER        PID %CPU %MEM    VSZ    RSS TTY      STAT START   TIME COMMAND
root          1  0.1  0.3 241256 14144 ?        Ss   18:17   0:08 /usr/lib/syst
root          2  0.0  0.0      0      0 ?        S    18:17   0:00 [kthreadd]
root          3  0.0  0.0      0      0 ?        I<   18:17   0:00 [rcu_gp]
root          4  0.0  0.0      0      0 ?        I<   18:17   0:00 [rcu_par_gp]
root          5  0.0  0.0      0      0 ?        I<   18:17   0:00 [slub_flushwq
root          7  0.0  0.0      0      0 ?        I<   18:17   0:00 [kworker/0:0H
root         10  0.0  0.0      0      0 ?        I<   18:17   0:00 [mm_percpu_wq
root         11  0.0  0.0      0      0 ?        S    18:17   0:00 [rcu_tasks_ru
root         12  0.0  0.0      0      0 ?        S    18:17   0:00 [rcu_tasks_tr
root         13  0.0  0.0      0      0 ?        S    18:17   0:00 [ksoftirqd/0]
root         14  0.0  0.0      0      0 ?        I    18:17   0:01 [rcu_sched]
root         15  0.0  0.0      0      0 ?        S    18:17   0:00 [migration/0]
root         16  0.0  0.0      0      0 ?        S    18:17   0:00 [watchdog/0]
root         17  0.0  0.0      0      0 ?        S    18:17   0:00 [cpuhp/0]
root         18  0.0  0.0      0      0 ?        S    18:17   0:00 [cpuhp/1]
root         19  0.0  0.0      0      0 ?        S    18:17   0:00 [watchdog/1]
root         20  0.0  0.0      0      0 ?        S    18:17   0:00 [migration/1]
root         21  0.0  0.0      0      0 ?        S    18:17   0:00 [ksoftirqd/1]
root         23  0.0  0.0      0      0 ?        I<   18:17   0:00 [kworker/1:0H
root         24  0.0  0.0      0      0 ?        S    18:17   0:00 [cpuhp/2]
root         25  0.0  0.0      0      0 ?        S    18:17   0:00 [watchdog/2]
root         26  0.0  0.0      0      0 ?        S    18:17   0:00 [migration/2]
```

Q18.

```
[kerolosyoussef@localhost ~]$ pgrep -u kerolosyoussef
2470
2474
2496
2501
2525
2527
2532
2598
2628
2635
2648
2665
2672
2676
```

Q19.

```
[kerolosyoussef@localhost ~]$ killall -u kerolosyoussef
```