

LAB 4

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

```
ls: cannot access 'file1': No such file or directory
rahmasamy@rahmasamy-Vostro-3520:~$ ls /bin > /tmp/commands.list
rahmasamy@rahmasamy-Vostro-3520:~$
```

2. Count the number of user commands

```
rahmasamy@rahmasamy-Vostro-3520:~$ ls /bin | wc -w
1385
rahmasamy@rahmasamy-Vostro-3520:~$
```

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

```
rahmasamy@rahmasamy-Vostro-3520:~$ cat /etc/passwd | cut -d ":" -f 1 | grep ^g
games
gnats
geoclue
gnome-initial-setup
gdm
rahmasamy@rahmasamy-Vostro-3520:~$
```

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

```
user: ,3,01026951655,0203503405
rahmasamy@rahmasamy-Vostro-3520:~$ cat /etc/passwd | cut -d ":" -f 1,5 | grep ^gu
rahmasamy@rahmasamy-Vostro-3520:~$ cat /etc/passwd | cut -d ":" -f 1,5 | grep ^"gu"
rahmasamy@rahmasamy-Vostro-3520:~$ cat /etc/passwd | cut -d ":" -f 1,5 | grep ^gu
rahmasamy@rahmasamy-Vostro-3520:~$
```

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

```
rahmasamy@rahmasamy-Vostro-3520:~$ cat /etc/passwd | cut -d ":" -f 1,5 | grep ^gu
rahmasamy@rahmasamy-Vostro-3520:~$ cat /etc/passwd | cut -d ":" -f 1,5 | grep ^gu | sort -
k 5 -o file
rahmasamy@rahmasamy-Vostro-3520:~$ cat file
rahmasamy@rahmasamy-Vostro-3520:~$
```

6. Write two commands: first: to search for all files on the system that named .bash_profile.

```
rahmasamy@rahmasamy-Vostro-3520:~$ find / -name .bash_profile -type f 2>/dev/null
rahmasamy@rahmasamy-Vostro-3520:~$ sudo find / -name .bash_profile -type f 2>/dev/null
sudo] password for rahmasamy:
rahmasamy@rahmasamy-Vostro-3520:~$
```

Second: sorts the output of ls command on / recursively,

```
zzzz.pl
rahmasamy@rahmasamy-Vostro-3520:~$ ls -R / | sort
```

Saving

their output and error in 2 different files and sending them to the background.

(1)


```
rahmasamy tty2 2024-06-11 00:14 (tty2)
newuser@rahmasamy-Vostro-3520:~$ top

top - 15:22:05 up 15:08, 1 user, load average: 0.50, 0.50, 0.60
Tasks: 367 total, 1 running, 366 sleeping, 0 stopped, 0 zombie
%Cpu(s): 1.4 us, 0.8 sy, 0.0 ni, 97.8 id, 0.1 wa, 0.0 hi, 0.0 st, 0.0 st
MiB Mem : 15669.7 total, 5594.2 free, 4683.6 used, 5392.0 buff/cache
MiB Swap: 2048.0 total, 2048.0 free, 0.0 used, 9794.1 avail Mem

  PID USER      PR  NI    VIRT    RES    SHR     S    %CPU  %MEM     TIME+ COMMAND
 2167 rahmasa+  20   0 6300288 353048 155176 S    17.3   2.2   31:59.50 gnome-shell
   236 root        -SI   0      0      0      0 S    1.7   0.0   1:10.91 irq/128-VEN_04F3:00
 31628 root        0 -20      0      0      0 D    1.3   0.0   0:14.15 kworker/u25:1-l915-rtlp
 2902 rahmasa+  20   0 102.6g 149676 105908 S    1.0   0.9   6:02.39 whatsapp-for-ll
   920 mysql      20   0 2373664 396632 35072 S    0.7   2.5   7:02:43 mysqld
 30223 root        20   0      0      0      0 I    0.7   0.0   0:07.76 kworker/u24:16-events_unbound
   16 root        20   0      0      0      0 I    0.3   0.0   0:43.35 rcu_preempt
   17 root        rt    0      0      0      0 S    0.3   0.0   0:03.94 migration/0
 2340 rahmasa+  20   0 389412 12144 7040 S    0.3   0.1   0:20.07 lbus-daemon
 3864 rahmasa+  20   0 32.7g 435148 214936 S    0.3   2.7   17:58.92 chrome
 3979 rahmasa+  20   0 32.4g 132832 99652 S    0.3   0.8   3:12.00 chrome
 17227 rahmasa+ 20   0 571720 68928 47472 S    0.3   0.4   1:06.42 gnome-terminal-
 20151 rahmasa+ 20   0 1132.0g 154420 118748 S    0.3   1.0   0:02.79 chrome
 35041 rahmasa+ 20   0 1131.9g 217436 130576 S    0.3   1.4   0:11.05 chrome
 30173 root        20   0      0      0      0 I    0.3   0.0   0:00.67 kworker/u24:2-events_power_efficient
 30315 root        20   0      0      0      0 I    0.3   0.0   0:00.16 kworker/2:0-l915-unordered
 30520 newuser    20   0 13464 4480 3456 R    0.3   0.0   0:00.06 top
    1 root        20   0 166852 11340 8012 S    0.0   0.1   0:03.20 systemd
    2 root        20   0      0      0      0 S    0.0   0.0   0:00.09 kthreadd
    3 root        0 -20      0      0      0 I    0.0   0.0   0:00.00 rcu_gp

top - 15:22:08 up 15:08, 1 user, load average: 0.54, 0.50, 0.60
Tasks: 368 total, 2 running, 366 sleeping, 0 stopped, 0 zombie
%Cpu(s): 3.6 us, 0.9 sy, 0.0 ni, 95.6 id, 0.0 wa, 0.0 hi, 0.0 st, 0.0 st
MiB Mem : 15669.7 total, 5624.4 free, 4672.3 used, 5372.9 buff/cache
MiB Swap: 2048.0 total, 2048.0 free, 0.0 used, 9824.4 avail Mem

  PID USER      PR  NI    VIRT    RES    SHR     S    %CPU  %MEM     TIME+ COMMAND
 17227 rahmasa+  20   0 571720 68928 47472 R    32.7   0.4   1:06.85 gnome-terminal-
 2167 rahmasa+  20   0 6280872 353048 155176 S    16.4   2.2   31:59.86 gnome-shell
 3864 rahmasa+  20   0 32.7g 428292 207976 S    1.8   2.7   17:59:23 chrome
 30173 root        20   0      0      0      0 I    1.8   0.0   0:00.69 kworker/u24:2-l915
   236 root        -SI   0      0      0      0 S    0.9   0.0   1:10.96 irq/128-VEN_04F3:00
   602 systemd+  20   0 14836 6784 6016 S    0.9   0.0   0:53.18 systemd-oomd
 2902 rahmasa+  20   0 102.6g 149676 105908 S    0.9   0.9   6:02.41 whatsapp-for-ll
 17548 rahmasa+  20   0 1132.0g 236608 128156 S    0.9   1.5   0:26:52 chrome

newuser@rahmasamy-Vostro-3520:~$ who -H
NAME     LINE     TIME           COMMENT
rahmasamy tty2      2024-06-11 00:14 (tty2)
```

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

```
welcome rahma
rahmasamy@rahmasamy-Vostro-3520:~$ head -n 10 /etc/passwd | tail -n 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
rahmasamy@rahmasamy-Vostro-3520:~$
```

9. What happens if you execute:

cat filename1 | cat filename2

The output will be mycv3

```
rahmasamy@rahmasamy-Vostro-3520:~$ cat odpasswd | cat mycv3
name:rahmasamy
age:23
experience:frontend&backend usin laravel and reactjs
kills:html,css,js,reactjs,angular,php,laravel
education:computer science cairo university
language:english
```

ls | rm

Will get error because

Because the rm didn't accept the input from stdin

```
rahmasamy@rahmasamy-Vostro-3520:~$ ls | rm
rm: missing operand
```

ls /etc/passwd | wc -l

Error is the output because ls list the files in the directory but /etc/passwd is such a file so it will give me a path not file

```
rahmasamy@rahmasamy-Vostro-3520:~$ ls /etc/passwd
/etc/passwd
rahmasamy@rahmasamy-Vostro-3520:~$ ls -l /etc/passwd
-rw-r--r-- 1 root root 3118 11:13 10 ین /etc/passwd
rahmasamy@rahmasamy-Vostro-3520:~$ ls /etc/passwd | wc -l
wc: -l: No such file or directory
rahmasamy@rahmasamy-Vostro-3520:~$ sudo ls /etc/passwd | wc -l
wc: -l: No such file or directory
rahmasamy@rahmasamy-Vostro-3520:~$ ls /etc/passwd | wc -l
wc: -l: No such file or directory
rahmasamy@rahmasamy-Vostro-3520:~$
```

10. Issue the command sleep 100.

```
wc: -l: No such file or directory
rahmasamy@rahmasamy-Vostro-3520:~$ sleep 100
```

11. Stop the last command.

```
wc: -l: No such file or directory
rahmasamy@rahmasamy-Vostro-3520:~$ sleep 100
^Z
[1]+  Stopped                  sleep 100
rahmasamy@rahmasamy-Vostro-3520:~$
```

12. Resume the last command in the background

13. Issue the jobs command and see its output.

```
wc: -l: No such file or directory
rahmasamy@rahmasamy-Vostro-3520:~$ sleep 100
^Z
[1]+  Stopped                  sleep 100
rahmasamy@rahmasamy-Vostro-3520:~$ jobs
[1]+  Stopped                  sleep 100
rahmasamy@rahmasamy-Vostro-3520:~$ bg %1
[1]+ sleep 100 &
rahmasamy@rahmasamy-Vostro-3520:~$
```

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

```
[1]+  Stopped                  sleep 100
rahmasamy@rahmasamy-Vostro-3520:~$ fg %1
sleep 100
^Z
[1]+  Stopped                  sleep 100
rahmasamy@rahmasamy-Vostro-3520:~$ bg%1
bg%1: command not found
rahmasamy@rahmasamy-Vostro-3520:~$ bg %1
[1]+ sleep 100 &
rahmasamy@rahmasamy-Vostro-3520:~$
```

15. Kill the sleep command.

```

[1]+  sleep 100 &
rahmasamy@rahmasamy-Vostro-3520:~$ kill %1
bash: kill: (6216) - No such process
[1]+  Done                  sleep 100
rahmasamy@rahmasamy-Vostro-3520:~$

```

16.Display your processes only

```

[1]+  Done                  sleep 100
rahmasamy@rahmasamy-Vostro-3520:~$ ps
  PID TTY          TIME CMD
  4415 pts/0    00:00:00 bash
  6332 pts/0    00:00:00 ps
rahmasamy@rahmasamy-Vostro-3520:~$

```

17.Display all processes except yours

```

rahmasamy@rahmasamy-Vostro-3520:~$ top | grep -v $(whoami)

top - 21:05:30 up 50 min,  1 user,  load average: 0.33, 0.33, 0.45
Tasks: 350 total,  1 running, 349 sleeping,  0 stopped,  0 zombie
%Cpu(s):  1.2 us,  0.7 sy,  0.0 ni, 97.9 id,  0.2 wa,  0.0 hi,  0.0 si,  0.0 st
MiB Mem : 15669.7 total,  9863.1 free,  3035.9 used,  2770.6 buff/cache
MiB Swap: 2048.0 total,  2048.0 free,  0.0 used. 11738.4 avail Mem

  PID USER      PR  NI   VIRT   RES   SHR  S  %CPU  %MEM     TIME+ COMMAND
 2126 rahmasa+  20   0 6144304 286492 141236 S   8.3   1.8   3:49.46 gnome-shell
 4397 rahmasa+  20   0 555776  53936  41124 S   2.7   0.3   0:24.70 gnome-terminal-
 7229 rahmasa+  20   0 1132.0g 204152 132336 S   2.0   1.3   0:12.66 chrome
   233 root      -51   0      0      0      0  S   1.3   0.0   0:15.92 irq/128-VEN_04F3:00
 7276 root        0 -20      0      0      0  I   1.3   0.0   0:02.22 kworker/u25:2-i915_flip
 957 root        0  20 2373508 206704 25456 S   1.0   2.5   0:11.71 xorgxrdp

```

Or

```

rahmasamy@rahmasamy-Vostro-3520:~$ ps aux | grep -v $(whoami)
USER      PID %CPU %MEM    VSZ   RSS TTY      STAT START   TIME COMMAND
root         1  0.0  0.0 166844 11224 ?        Ss   20:14   0:02 /sbin/init splash
root         2  0.0  0.0      0      0 ?        S    20:14   0:00 [kthreadd]
root         3  0.0  0.0      0      0 ?        I<   20:14   0:00 [rcu_gp]
root         4  0.0  0.0      0      0 ?        I<   20:14   0:00 [rcu_par_gp]
root         5  0.0  0.0      0      0 ?        I<   20:14   0:00 [slub_flushwq]
root         6  0.0  0.0      0      0 ?        I<   20:14   0:00 [netns]
root         8  0.0  0.0      0      0 ?        I<   20:14   0:00 [kworker/0:0H-events_highpri]
root        11  0.0  0.0      0      0 ?        I<   20:14   0:00 [mm_percpu_wq]
root        12  0.0  0.0      0      0 ?        I    20:14   0:00 [rcu_tasks_kthread]
root        13  0.0  0.0      0      0 ?        I    20:14   0:00 [rcu_tasks_rude_kthread]
root        14  0.0  0.0      0      0 ?        I    20:14   0:00 [rcu_tasks_trace_kthread]
root        15  0.0  0.0      0      0 ?        S    20:14   0:00 [ksoftirqd/0]
root        16  0.1  0.0      0      0 ?        I    20:14   0:04 [rcu_preempt]
root        17  0.0  0.0      0      0 ?        S    20:14   0:00 [migration/0]
root        18  0.0  0.0      0      0 ?        S    20:14   0:00 [idle_inject/0]
root        19  0.0  0.0      0      0 ?        S    20:14   0:00 [cpuhp/0]
root        20  0.0  0.0      0      0 ?        S    20:14   0:00 [cpuhp/2]
root        21  0.0  0.0      0      0 ?        S    20:14   0:00 [idle_inject/2]
root        22  0.0  0.0      0      0 ?        S    20:14   0:00 [migration/2]
root        23  0.0  0.0      0      0 ?        S    20:14   0:00 [ksoftirqd/2]
root        25  0.0  0.0      0      0 ?        I<   20:14   0:00 [kworker/2:0H-events_highpri]

```

18.Use the pgrep command to list your processes only

```
rahmasamy@rahmasamy-Vostro-3520:~$ pgrep -u $(whoami)  
1962  
1963  
1969  
1970  
1971  
1980  
1998
```

19. Kill your processes only.

The pc will shutdown and open again

```
30  
welcome rahma  
rahmasamy@rahmasamy-Vostro-3520:~$ kill $(pgrep -u $(whoami))
```