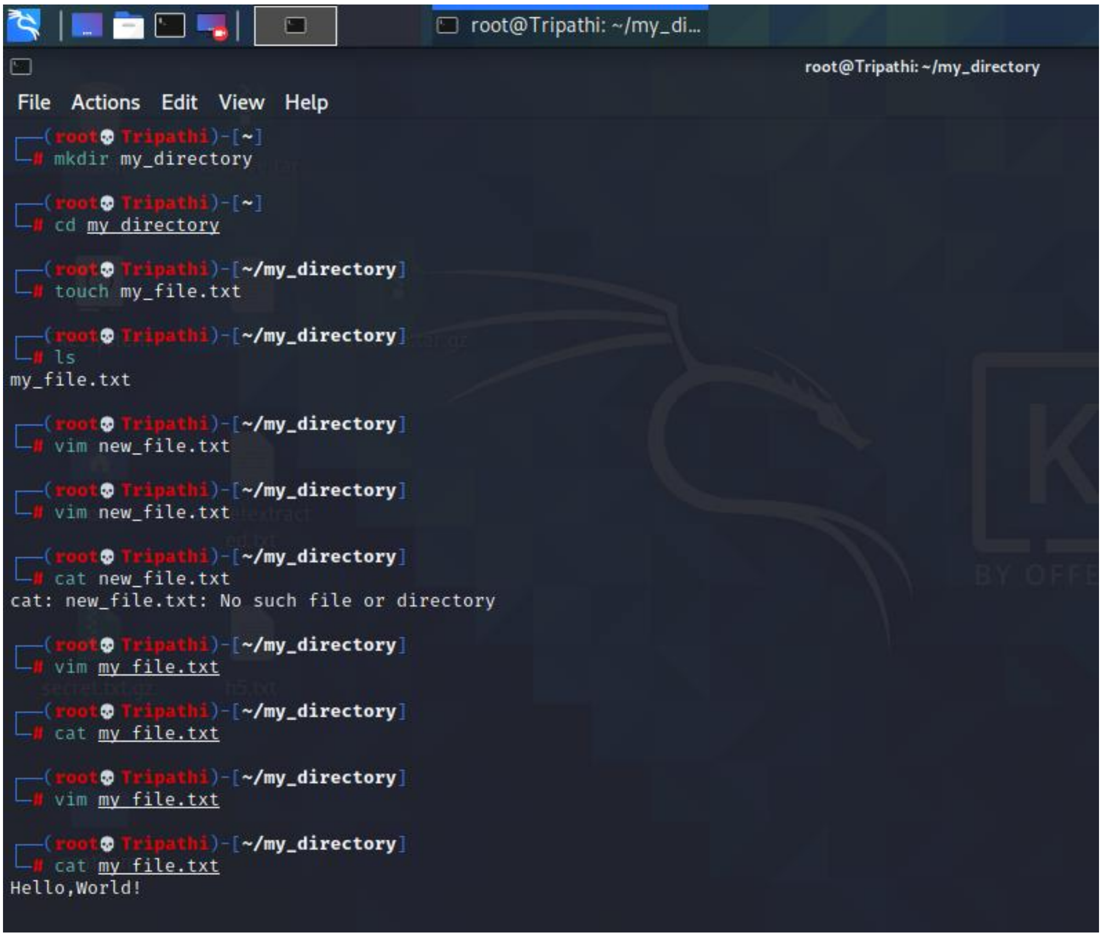
PRATHAM TRIPATHI
20BCI0233
Pratham.tripathi2020@vitstudent.ac.in

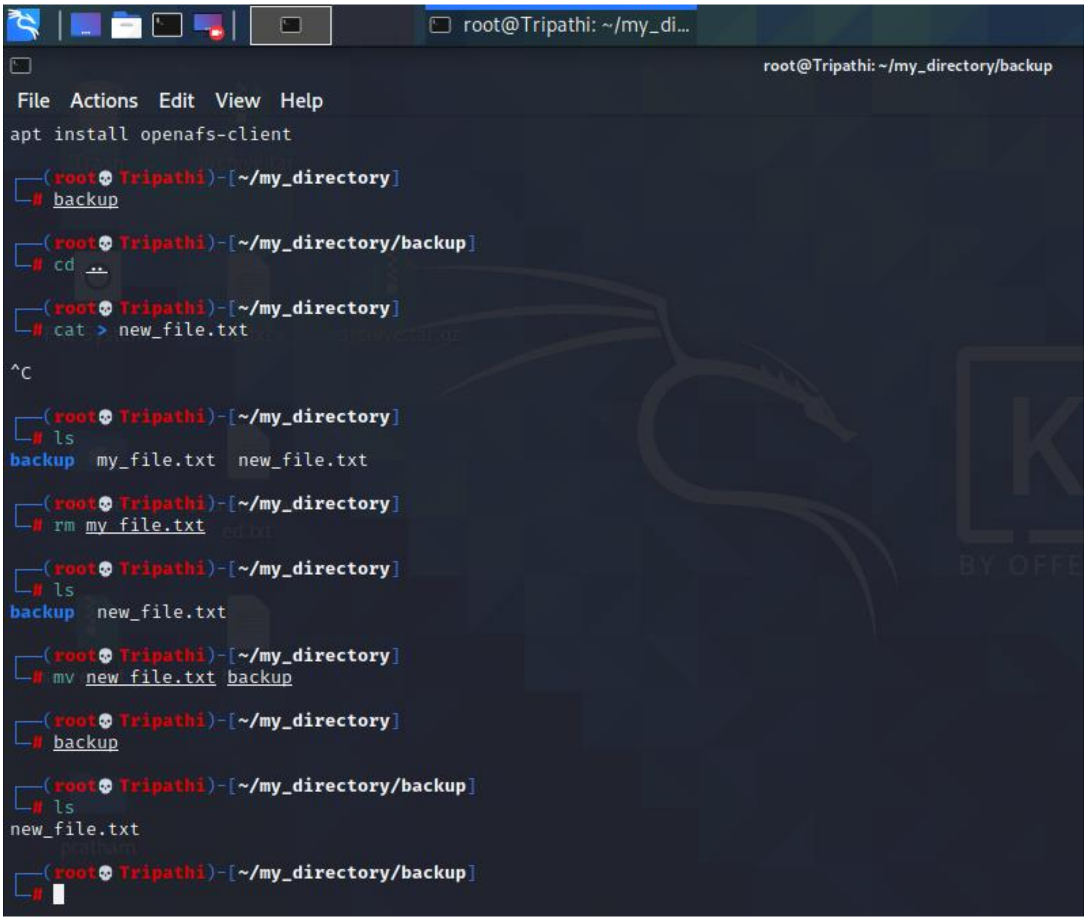
Task 1: File and Directory Manipulation

1. Create a directory called "my_directory".
2. Navigate into the "my_directory".
3. Create an empty file called "my_file.txt".
4. List all the files and directories in the current directory.
5. Rename "my_file.txt" to "new_file.txt".
6. Display the content of "new_file.txt" using a pager tool of your choice.
7. Append the text "Hello, World!" to "new_file.txt".



```
┌──(root💀Tripathi)-[~]
└─# mkdir my_directory

┌──(root💀Tripathi)-[~]
└─# cd my_directory

┌──(root💀Tripathi)-[~/my_directory]
└─# touch my_file.txt

┌──(root💀Tripathi)-[~/my_directory]
└─# ls
my_file.txt

┌──(root💀Tripathi)-[~/my_directory]
└─# vim new_file.txt

┌──(root💀Tripathi)-[~/my_directory]
└─# vim new_file.txt

┌──(root💀Tripathi)-[~/my_directory]
└─# cat new_file.txt
cat: new_file.txt: No such file or directory

┌──(root💀Tripathi)-[~/my_directory]
└─# vim my_file.txt

┌──(root💀Tripathi)-[~/my_directory]
└─# cat my_file.txt

┌──(root💀Tripathi)-[~/my_directory]
└─# vim my_file.txt

┌──(root💀Tripathi)-[~/my_directory]
└─# cat my_file.txt
Hello,World!
```

8. Create a new directory called "backup" within "my_directory".
9. Move "new_file.txt" to the "backup" directory.
10. Verify that "new_file.txt" is now located in the "backup" directory.
11. Delete the "backup" directory and all its contents


root@Tripathi: ~/my_di...
root@Tripathi: ~/my_directory/backup
File
Actions
Edit
View
Help

```
apt install openafs-client

┌──(root💀Tripathi)-[~/my_directory]
└─# backup

┌──(root💀Tripathi)-[~/my_directory/backup]
└─# cd ..

┌──(root💀Tripathi)-[~/my_directory]
└─# cat > new_file.txt

^C

┌──(root💀Tripathi)-[~/my_directory]
└─# ls
backup  my_file.txt  new_file.txt

┌──(root💀Tripathi)-[~/my_directory]
└─# rm my_file.txt

┌──(root💀Tripathi)-[~/my_directory]
└─# ls
backup  new_file.txt

┌──(root💀Tripathi)-[~/my_directory]
└─# mv new_file.txt backup

┌──(root💀Tripathi)-[~/my_directory]
└─# backup

┌──(root💀Tripathi)-[~/my_directory/backup]
└─# ls
new_file.txt

┌──(root💀Tripathi)-[~/my_directory/backup]
└─# 
```

Task 2: Permissions and Scripting

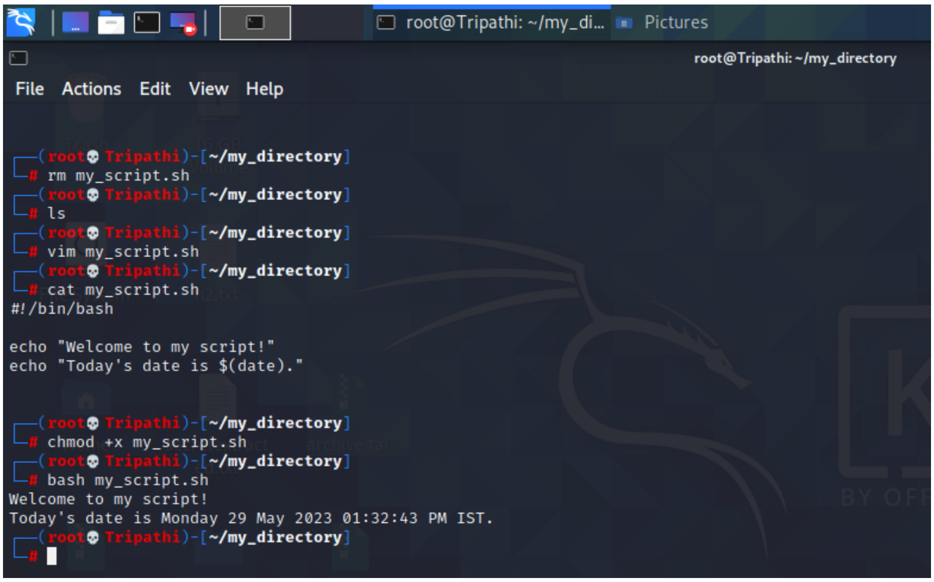
- Create a new file called "my_script.sh".

- Edit "my_script.sh" using a text editor of your choice and add the following lines:

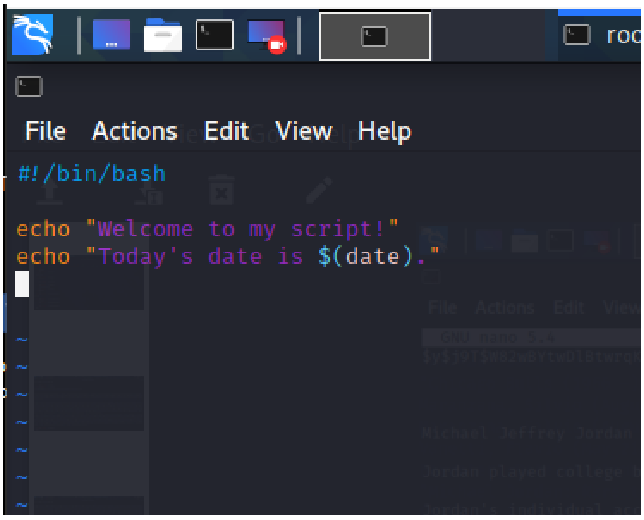
bash

#!/bin/bash
echo "Welcome to my script!"
echo "Today's date is $(date)."
Save and exit the file.

- Make "my_script.sh" executable.
- Run "my_script.sh" and verify that the output matches the expected result.



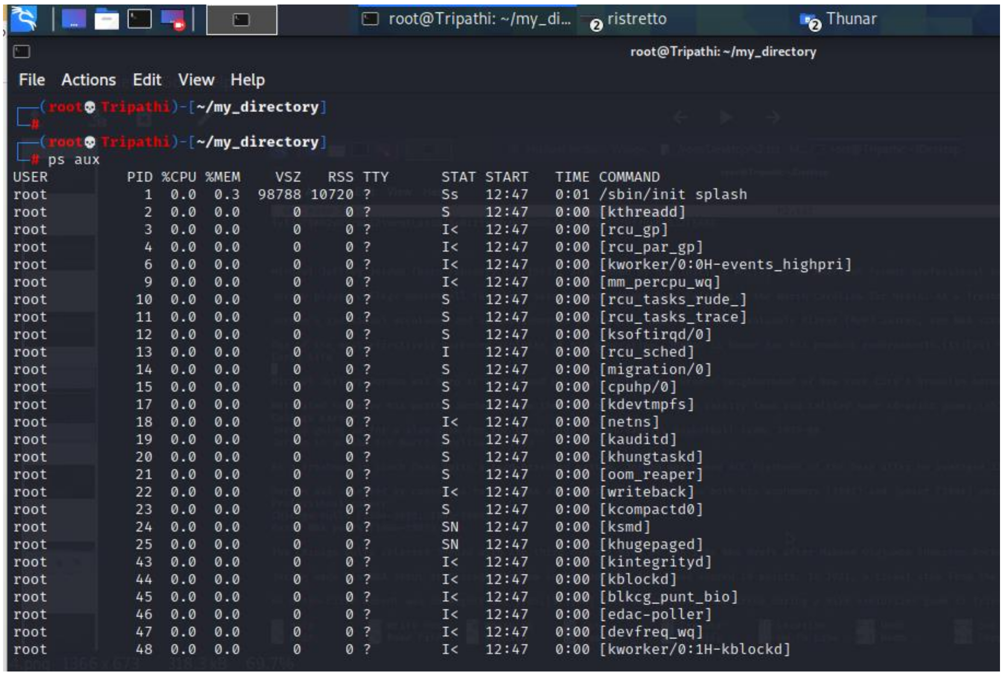
```
┌──(root💀Tripathi)-[~/my_directory]
└─# rm my_script.sh
┌──(root💀Tripathi)-[~/my_directory]
└─# ls
┌──(root💀Tripathi)-[~/my_directory]
└─# vim my_script.sh
┌──(root💀Tripathi)-[~/my_directory]
└─# cat my_script.sh
#!/bin/bash

echo "Welcome to my script!"
echo "Today's date is $(date)."


┌──(root💀Tripathi)-[~/my_directory]
└─# chmod +x my_script.sh
┌──(root💀Tripathi)-[~/my_directory]
└─# bash my_script.sh
Welcome to my script!
Today's date is Monday 29 May 2023 01:32:43 PM IST.
┌──(root💀Tripathi)-[~/my_directory]
└─# █
```



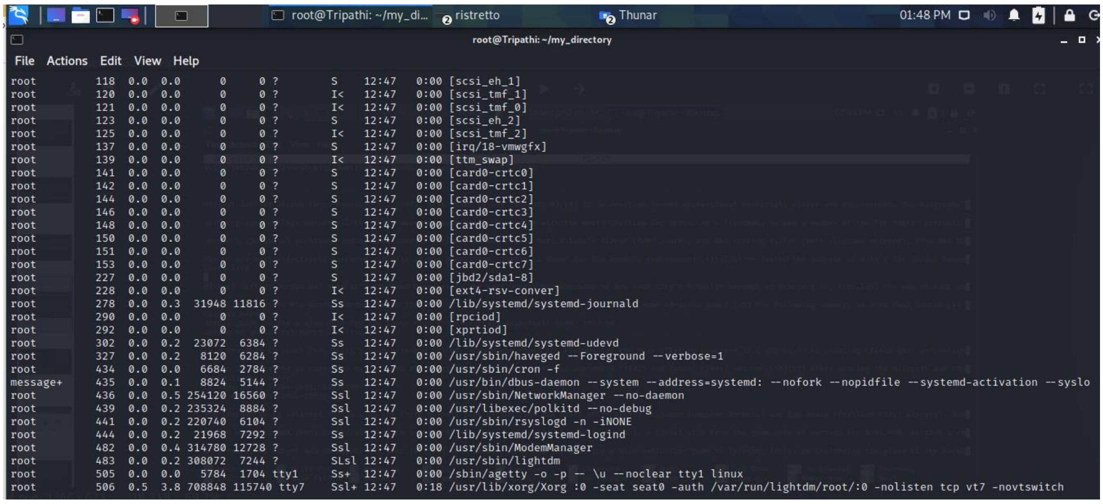
```
#!/bin/bash

echo "Welcome to my script!"
echo "Today's date is $(date)."
█

~
~
~
~
~
~
~
```

Task 3: Command Execution and Pipelines

- List all the processes running on your system using the "ps" command.
  .


root@Tripathi: ~/my_di...
ristretto
Thunar
root@Tripathi: ~/my_directory
File Actions Edit View Help

```
┌──(root💀Tripathi)-[~/my_directory]
└─#

┌──(root💀Tripathi)-[~/my_directory]
└─# ps aux
USER         PID %CPU %MEM    VSZ   RSS TTY      STAT START   TIME COMMAND
root           1  0.0  0.3  98788 10720 ?        Ss   12:47   0:01 /sbin/init splash
root           2  0.0  0.0      0     0 ?        S    12:47   0:00 [kthreadd]
root           3  0.0  0.0      0     0 ?        I<   12:47   0:00 [rcu_gp]
root           4  0.0  0.0      0     0 ?        I<   12:47   0:00 [rcu_par_gp]
root           6  0.0  0.0      0     0 ?        I<   12:47   0:00 [kworker/0:0H-events_highpri]
root           9  0.0  0.0      0     0 ?        I<   12:47   0:00 [mm_percpu_wq]
root          10  0.0  0.0      0     0 ?        S    12:47   0:00 [rcu_tasks_rude_]
root          11  0.0  0.0      0     0 ?        S    12:47   0:00 [rcu_tasks_trace]
root          12  0.0  0.0      0     0 ?        S    12:47   0:00 [ksoftirqd/0]
root          13  0.0  0.0      0     0 ?        I    12:47   0:00 [rcu_sched]
root          14  0.0  0.0      0     0 ?        S    12:47   0:00 [migration/0]
root          15  0.0  0.0      0     0 ?        S    12:47   0:00 [cpuhp/0]
root          17  0.0  0.0      0     0 ?        S    12:47   0:00 [kdevtmpfs]
root          18  0.0  0.0      0     0 ?        I<   12:47   0:00 [netns]
root          19  0.0  0.0      0     0 ?        S    12:47   0:00 [kauditd]
root          20  0.0  0.0      0     0 ?        S    12:47   0:00 [khungtaskd]
root          21  0.0  0.0      0     0 ?        S    12:47   0:00 [oom_reaper]
root          22  0.0  0.0      0     0 ?        I<   12:47   0:00 [writeback]
root          23  0.0  0.0      0     0 ?        S    12:47   0:00 [kcompactd0]
root          24  0.0  0.0      0     0 ?        SN   12:47   0:00 [ksmd]
root          25  0.0  0.0      0     0 ?        SN   12:47   0:00 [khugepaged]
root          43  0.0  0.0      0     0 ?        I<   12:47   0:00 [kintegrityd]
root          44  0.0  0.0      0     0 ?        I<   12:47   0:00 [kblockd]
root          45  0.0  0.0      0     0 ?        I<   12:47   0:00 [blkcg_punt_bio]
root          46  0.0  0.0      0     0 ?        I<   12:47   0:00 [edac-poller]
root          47  0.0  0.0      0     0 ?        I<   12:47   0:00 [devfreq_wq]
root          48  0.0  0.0      0     0 ?        I<   12:47   0:00 [kworker/0:1H-kblockd]
```


root@Tripathi: ~/my_di...
ristretto
Thunar
01:48 PM
root@Tripathi: ~/my_directory
File Actions Edit View Help

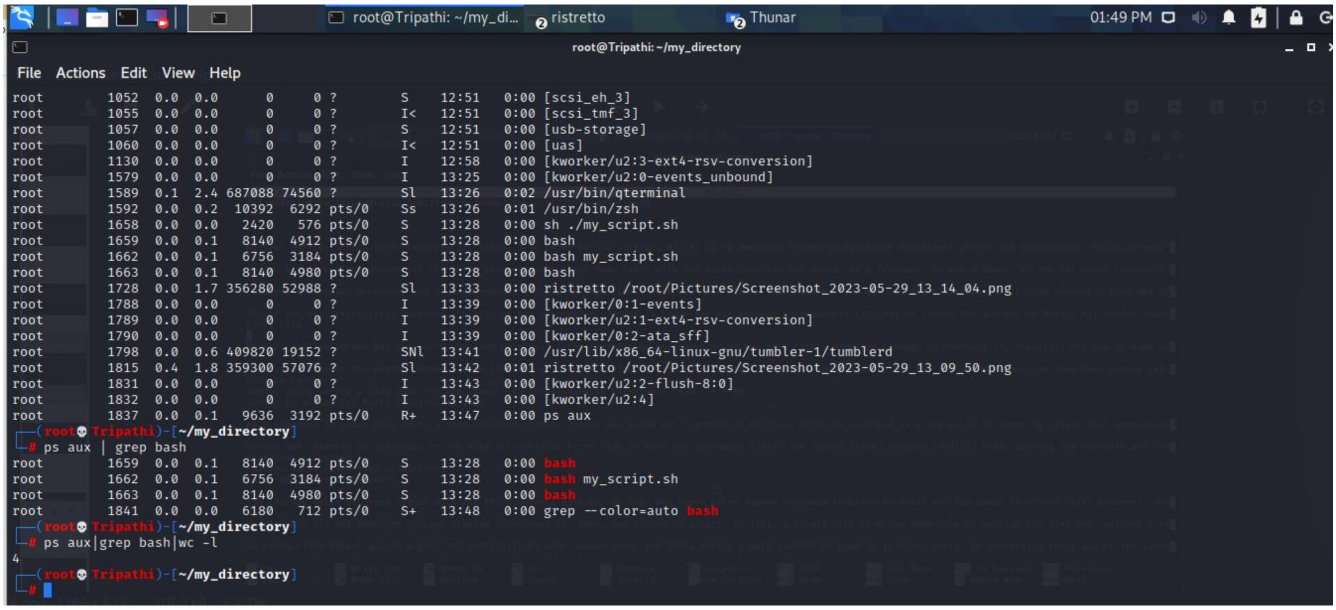
```
root         118  0.0  0.0      0     0 ?        S    12:47   0:00 [scsi_eh_1]
root         120  0.0  0.0      0     0 ?        I<   12:47   0:00 [scsi_tmf_1]
root         121  0.0  0.0      0     0 ?        I<   12:47   0:00 [scsi_tmf_0]
root         123  0.0  0.0      0     0 ?        S    12:47   0:00 [scsi_eh_2]
root         125  0.0  0.0      0     0 ?        I<   12:47   0:00 [scsi_tmf_2]
root         137  0.0  0.0      0     0 ?        S    12:47   0:00 [irq/18-vmwgfx]
root         139  0.0  0.0      0     0 ?        I<   12:47   0:00 [ttm_swap]
root         141  0.0  0.0      0     0 ?        S    12:47   0:00 [card0-crtc0]
root         142  0.0  0.0      0     0 ?        S    12:47   0:00 [card0-crtc1]
root         144  0.0  0.0      0     0 ?        S    12:47   0:00 [card0-crtc2]
root         146  0.0  0.0      0     0 ?        S    12:47   0:00 [card0-crtc3]
root         148  0.0  0.0      0     0 ?        S    12:47   0:00 [card0-crtc4]
root         150  0.0  0.0      0     0 ?        S    12:47   0:00 [card0-crtc5]
root         151  0.0  0.0      0     0 ?        S    12:47   0:00 [card0-crtc6]
root         153  0.0  0.0      0     0 ?        S    12:47   0:00 [card0-crtc7]
root         227  0.0  0.0      0     0 ?        S    12:47   0:00 [jbd2/sda1-8]
root         228  0.0  0.0      0     0 ?        I<   12:47   0:00 [ext4-rsv-conver]
root         278  0.0  0.3  31948 11816 ?        Ss   12:47   0:00 /lib/systemd/systemd-journald
root         290  0.0  0.0      0     0 ?        I<   12:47   0:00 [rpciod]
root         292  0.0  0.0      0     0 ?        I<   12:47   0:00 [xprtiod]
root         302  0.0  0.2  23072  6384 ?        Ss   12:47   0:00 /lib/systemd/systemd-udevd
root         327  0.0  0.2   8120  6284 ?        Ss   12:47   0:00 /usr/sbin/haveged --Foreground --verbose=1
root         434  0.0  0.0   6684  2784 ?        Ss   12:47   0:00 /usr/sbin/cron -f
message+     435  0.0  0.1   8824  5144 ?        Ss   12:47   0:00 /usr/bin/dbus-daemon --system --address=systemd: --nofork --nopidfile --systemd-activation --syslo
root         436  0.0  0.5 254120 16560 ?        Ssl  12:47   0:00 /usr/sbin/NetworkManager --no-daemon
root         439  0.0  0.2 235324  8884 ?        Ssl  12:47   0:00 /usr/libexec/polkitd --no-debug
root         441  0.0  0.2 220740  6104 ?        Ssl  12:47   0:00 /usr/sbin/rsyslogd -n -iNONE
root         444  0.0  0.2  21968  7292 ?        Ss   12:47   0:00 /lib/systemd/systemd-logind
root         482  0.0  0.4 314780 12728 ?        Ssl  12:47   0:00 /usr/sbin/ModemManager
root         483  0.0  0.2 308072  7244 ?        SLsl 12:47   0:00 /usr/sbin/lightdm
root         505  0.0  0.0   5784  1704 tty1     Ss+  12:47   0:00 /sbin/agetty -o -p -- \u --noclear tty1 linux
root         506  0.5  3.8 708848 115740 tty7    Ssl+ 12:47   0:18 /usr/lib/xorg/Xorg :0 -seat seat0 -auth /var/run/lightdm/root/:0 -nolisten tcp vt7 -novtswitch
```

All the process are stated above

Use the "grep" command to filter the processes list and display only the processes with "bash" in their name.

Giving us the 4 options in the following ss that are visible

Use the "wc" command to count the number of lines in the filtered output


root@Tripathi: ~/my_di...
ristretto
Thunar
01:49 PM
root@Tripathi: ~/my_directory
File Actions Edit View Help

```
root        1052  0.0  0.0      0     0 ?        S    12:51   0:00 [scsi_eh_3]
root        1055  0.0  0.0      0     0 ?        I<   12:51   0:00 [scsi_tmf_3]
root        1057  0.0  0.0      0     0 ?        S    12:51   0:00 [usb-storage]
root        1060  0.0  0.0      0     0 ?        I<   12:51   0:00 [uas]
root        1130  0.0  0.0      0     0 ?        I    12:58   0:00 [kworker/u2:3-ext4-rsv-conversion]
root        1579  0.0  0.0      0     0 ?        I    13:25   0:00 [kworker/u2:0-events_unbound]
root        1589  0.1  2.4 687088 74560 ?        Sl   13:26   0:02 /usr/bin/qterminal
root        1592  0.0  0.2  10392  6292 pts/0    Ss   13:26   0:01 /usr/bin/zsh
root        1658  0.0  0.0   2420   576 pts/0    S    13:28   0:00 sh ./my_script.sh
root        1659  0.0  0.1   8140  4912 pts/0    S    13:28   0:00 bash
root        1662  0.0  0.1   6756  3184 pts/0    S    13:28   0:00 bash my_script.sh
root        1663  0.0  0.1   8140  4980 pts/0    S    13:28   0:00 bash
root        1728  0.0  1.7 356280 52988 ?        Sl   13:33   0:00 ristretto /root/Pictures/Screenshot_2023-05-29_13_14_04.png
root        1788  0.0  0.0      0     0 ?        I    13:39   0:00 [kworker/0:1-events]
root        1789  0.0  0.0      0     0 ?        I    13:39   0:00 [kworker/u2:1-ext4-rsv-conversion]
root        1790  0.0  0.0      0     0 ?        I    13:39   0:00 [kworker/0:2-ata_sff]
root        1798  0.0  0.6 409820 19152 ?        SNl  13:41   0:00 /usr/lib/x86_64-linux-gnu/tumbler-1/tumblerd
root        1815  0.4  1.8 359300 57076 ?        Sl   13:42   0:01 ristretto /root/Pictures/Screenshot_2023-05-29_13_09_50.png
root        1831  0.0  0.0      0     0 ?        I    13:43   0:00 [kworker/u2:2-flush-8:0]
root        1832  0.0  0.0      0     0 ?        I    13:43   0:00 [kworker/u2:4]
root        1837  0.0  0.1   9636  3192 pts/0    R+   13:47   0:00 ps aux
┌──(root💀Tripathi)-[~/my_directory]
└─# ps aux | grep bash
root        1659  0.0  0.1   8140  4912 pts/0    S    13:28   0:00 bash
root        1662  0.0  0.1   6756  3184 pts/0    S    13:28   0:00 bash my_script.sh
root        1663  0.0  0.1   8140  4980 pts/0    S    13:28   0:00 bash
root        1841  0.0  0.0   6180   712 pts/0    S+   13:48   0:00 grep --color=auto bash
┌──(root💀Tripathi)-[~/my_directory]
└─# ps aux|grep bash|wc -l
4
┌──(root💀Tripathi)-[~/my_directory]
└─# 
```

4 is the result