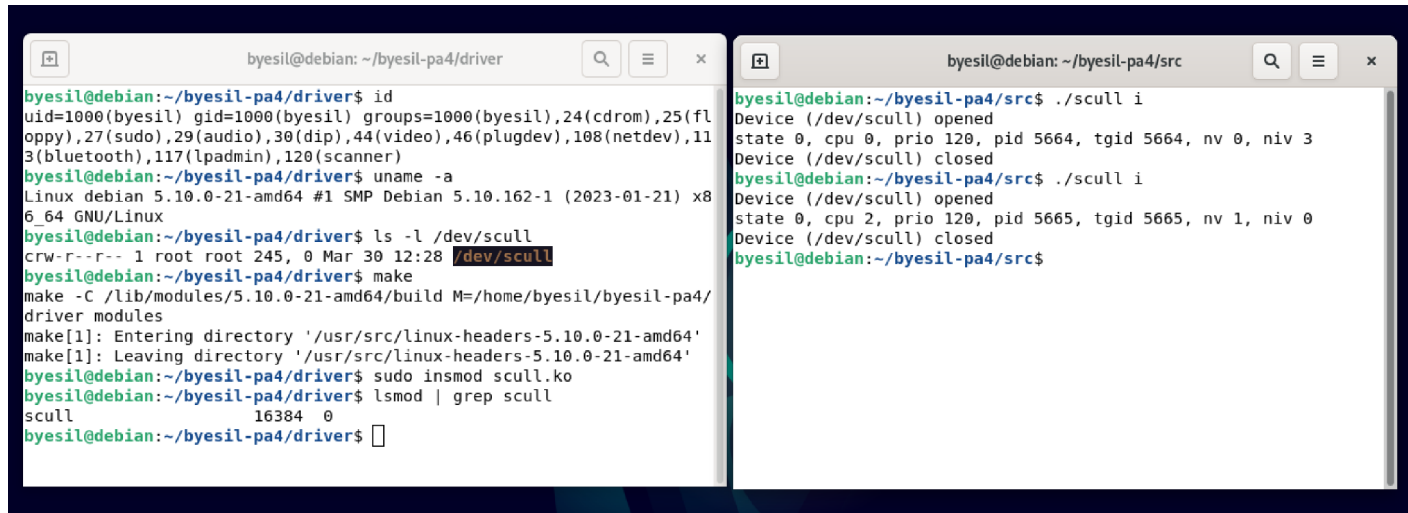Burak Yesil
Operating Systems

Programming Assignment 4
"I pledge my honor that I have abided by the Stevens Honor System"

Section 3.2 Screenshot:
The screenshot below shows my module successfully being loaded into the kernel and the i flag successfully being invoked twice.
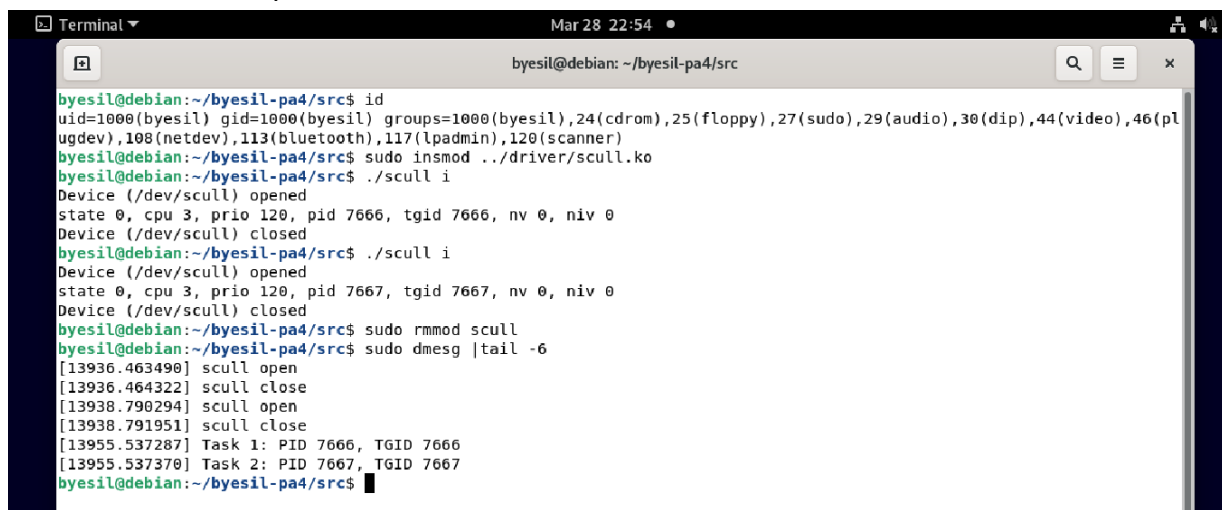

Section 4.1 Screenshot:
The following screenshot shows the i flag for the scull user level program being invoked twice, which stores the process info in a linked list once the device driver is uninstalled, the contents of the linked list are outputted to the screen.
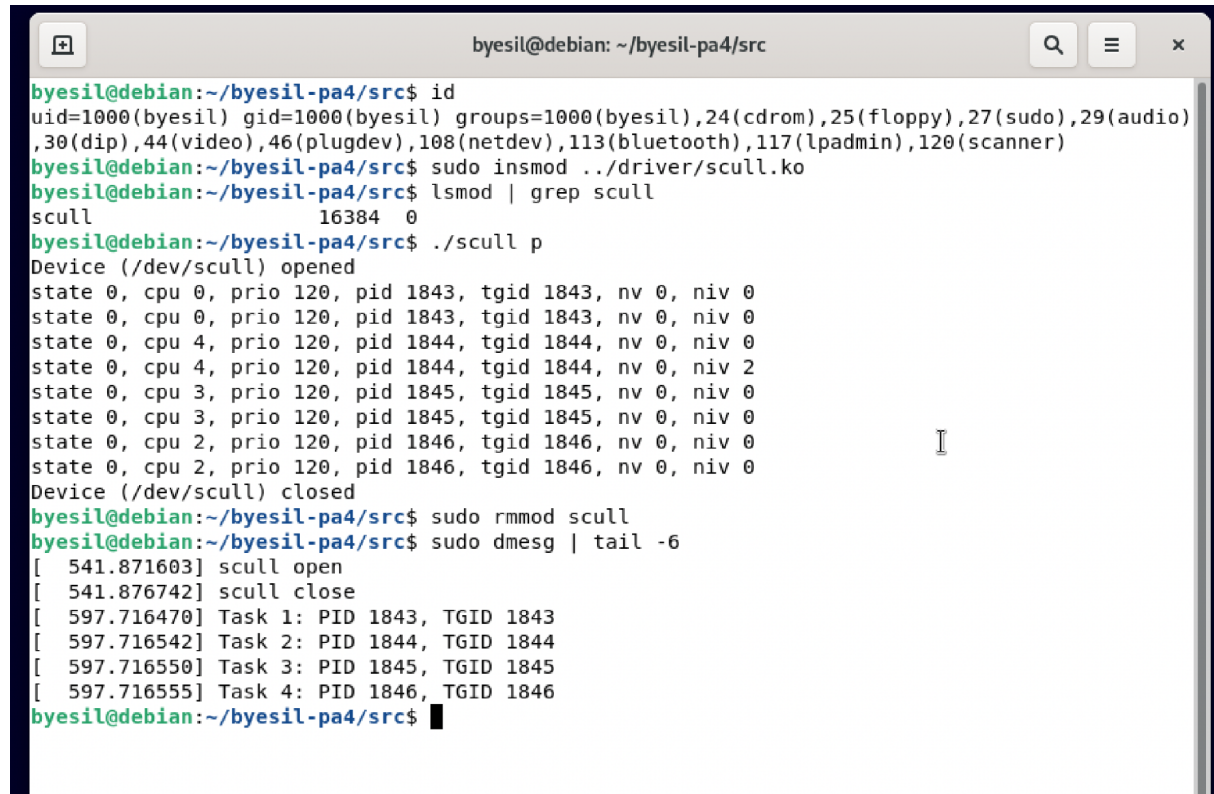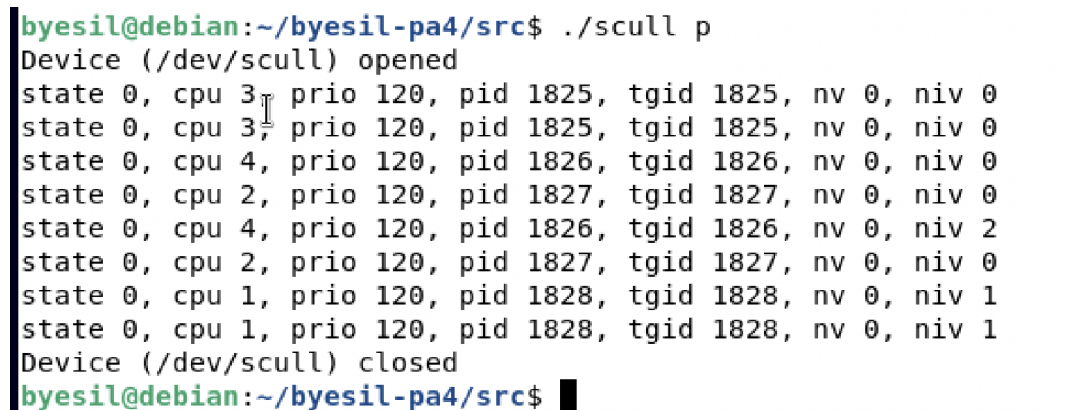
Section 4.2 Screenshot:

The following screenshot shows the p flag in the user level program being tested out. We're testing out the log information using processes. However, since these processes aren't running for super long, having a random order interleaving is not often so I have attached two screen shots for this section: The first is the screenshot as instructed in the pdf instructions and the second is a potential randomized interleaving.

As Pdf Instructions Asked:

Random Interleaving: As you can see between the two separate calls made by PID 1827 we have PID 1826.

Section 4.3 Screenshot:

The following screenshot shows a similar process as the previous one except now we're using the t flag for threads instead of p for processes.

```
byesil@debian: ~/byesil-pa4/src                              Q    ≡    ✕

byesil@debian:~/byesil-pa4/src$ id
uid=1000(byesil) gid=1000(byesil) groups=1000(byesil),24(cdrom),25(floppy),27(sudo),29(audio)
,30(dip),44(video),46(plugdev),108(netdev),113(bluetooth),117(lpadmin),120(scanner)
byesil@debian:~/byesil-pa4/src$ sudo insmod ../driver/scull.ko
byesil@debian:~/byesil-pa4/src$ lsmod | grep scull
scull                  16384  0
byesil@debian:~/byesil-pa4/src$ ./scull t
Device (/dev/scull) opened
state 0, cpu 2, prio 120, pid 1875, tgid 1874, nv 0, niv 0
state 0, cpu 0, prio 120, pid 1876, tgid 1874, nv 0, niv 0
state 0, cpu 0, prio 120, pid 1876, tgid 1874, nv 1, niv 1
state 0, cpu 4, prio 120, pid 1878, tgid 1874, nv 0, niv 0
state 0, cpu 2, prio 120, pid 1878, tgid 1874, nv 1, niv 0
state 0, cpu 2, prio 120, pid 1875, tgid 1874, nv 0, niv 1
state 0, cpu 4, prio 120, pid 1877, tgid 1874, nv 0, niv 0
state 0, cpu 4, prio 120, pid 1877, tgid 1874, nv 2, niv 0
Device (/dev/scull) closed
byesil@debian:~/byesil-pa4/src$ sudo rmmod scull
byesil@debian:~/byesil-pa4/src$ sudo dmesg | tail -6
[  811.712174] scull open
[  811.715227] scull close
[  828.143532] Task 1: PID 1875, TGID 1874
[  828.143601] Task 2: PID 1876, TGID 1874
[  828.143608] Task 3: PID 1877, TGID 1874
[  828.143614] Task 4: PID 1878, TGID 1874
byesil@debian:~/byesil-pa4/src$ █
```