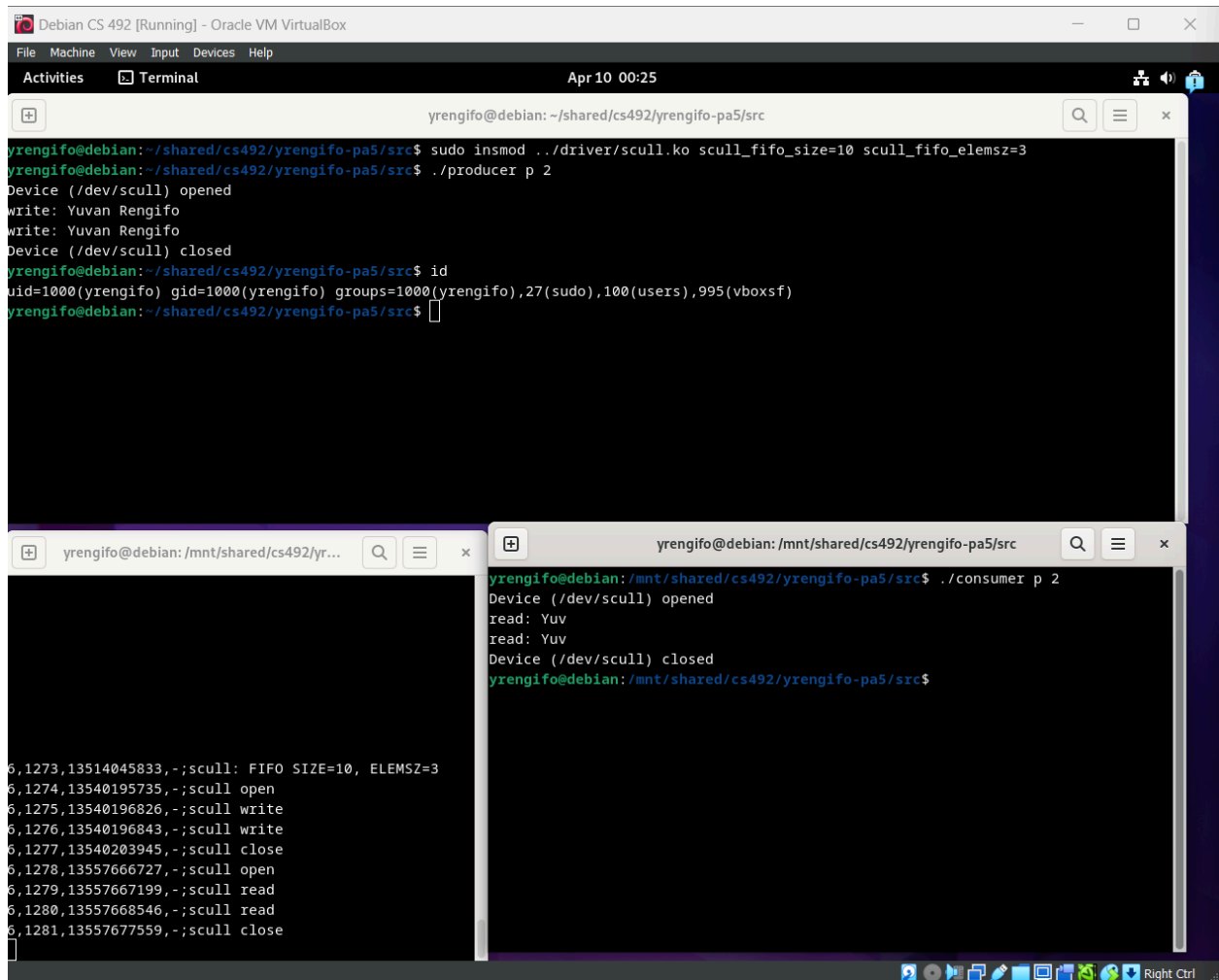


Yuvan Rengifo

5.1 - Smaller elemsz than size



The screenshot shows a Debian VM window titled "Debian CS 492 [Running] - Oracle VM VirtualBox". Inside, a terminal window is open with the prompt `yrengifo@debian: ~/shared/cs492/yrengifo-pa5/src`. The terminal output shows the following commands and results:

```
yrengifo@debian:~/shared/cs492/yrengifo-pa5/src$ sudo insmod ../driver/scull.ko scull_fifo_size=10 scull_fifo_elemsz=3
yrengifo@debian:~/shared/cs492/yrengifo-pa5/src$ ./producer p 2
Device (/dev/scull) opened
write: Yuvan Rengifo
write: Yuvan Rengifo
Device (/dev/scull) closed
yrengifo@debian:~/shared/cs492/yrengifo-pa5/src$ id
uid=1000(yrengifo) gid=1000(yrengifo) groups=1000(yrengifo),27(sudo),100(users),995(vboxsf)
yrengifo@debian:~/shared/cs492/yrengifo-pa5/src$
```

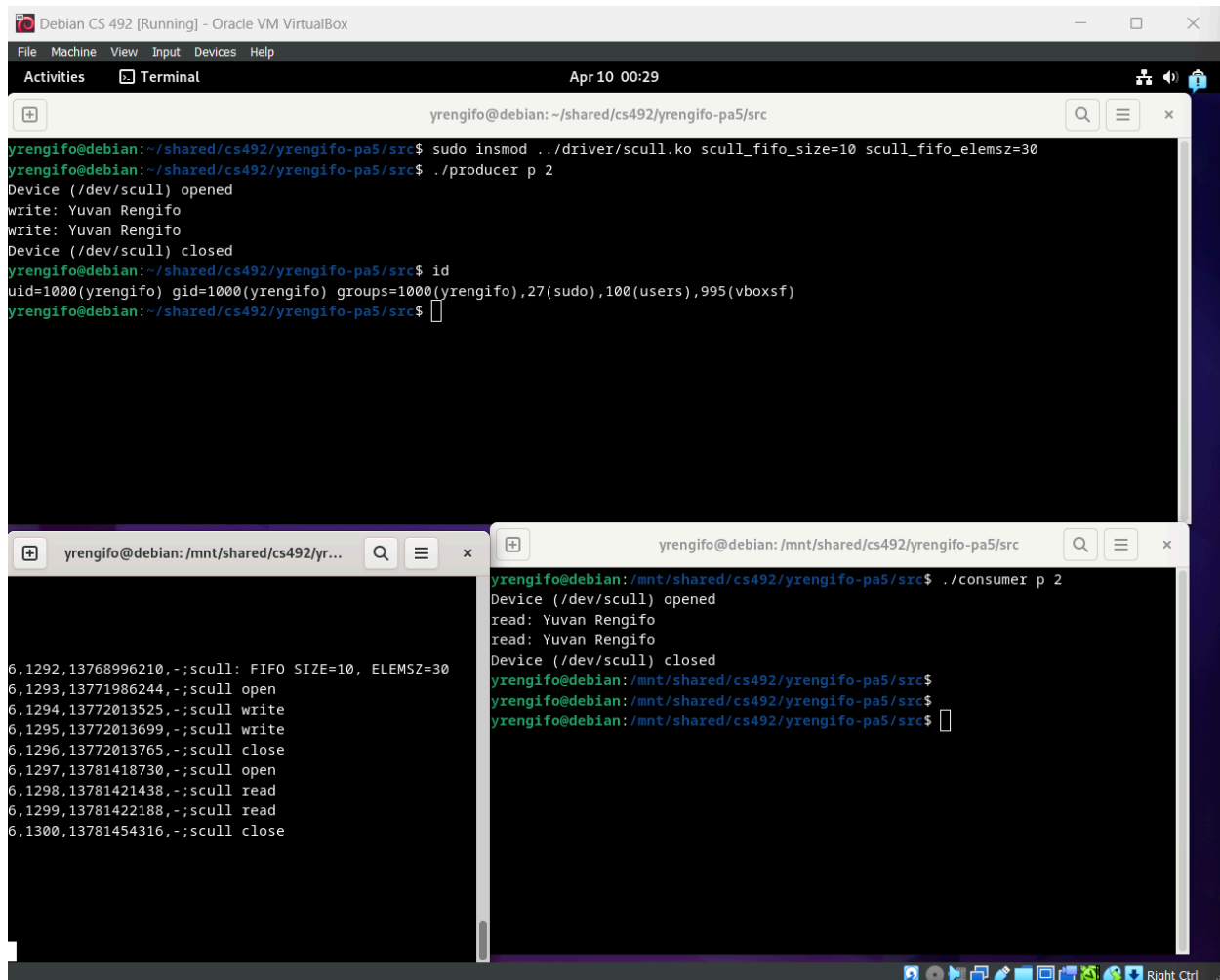
Below the main terminal, two smaller terminal windows are visible. The left one shows a list of system events related to the scull device:

```
6,1273,13514045833,-;scull: FIFO SIZE=10, ELEMSZ=3
6,1274,13540195735,-;scull open
6,1275,13540196826,-;scull write
6,1276,13540196843,-;scull write
6,1277,13540203945,-;scull close
6,1278,13557666727,-;scull open
6,1279,13557667199,-;scull read
6,1280,13557668546,-;scull read
6,1281,13557677559,-;scull close
```

The right terminal window shows the execution of the consumer program:

```
yrengifo@debian:/mnt/shared/cs492/yrengifo-pa5/src$ ./consumer p 2
Device (/dev/scull) opened
read: Yuv
read: Yuv
Device (/dev/scull) closed
yrengifo@debian:/mnt/shared/cs492/yrengifo-pa5/src$
```

5.2 larger elemsz than size



The screenshot shows a Debian VM window titled "Debian CS 492 [Running] - Oracle VM VirtualBox". The terminal window is titled "yrengifo@debian: ~/shared/cs492/yrengifo-pa5/src". The user runs the following commands:

```
yrengifo@debian:~/shared/cs492/yrengifo-pa5/src$ sudo insmod ../driver/scull.ko scull_fifo_size=10 scull_fifo_elemsz=30
yrengifo@debian:~/shared/cs492/yrengifo-pa5/src$ ./producer p 2
Device (/dev/scull) opened
write: Yuvan Rengifo
write: Yuvan Rengifo
Device (/dev/scull) closed
yrengifo@debian:~/shared/cs492/yrengifo-pa5/src$ id
uid=1000(yrengifo) gid=1000(yrengifo) groups=1000(yrengifo),27(sudo),100(users),995(vboxsf)
yrengifo@debian:~/shared/cs492/yrengifo-pa5/src$
```

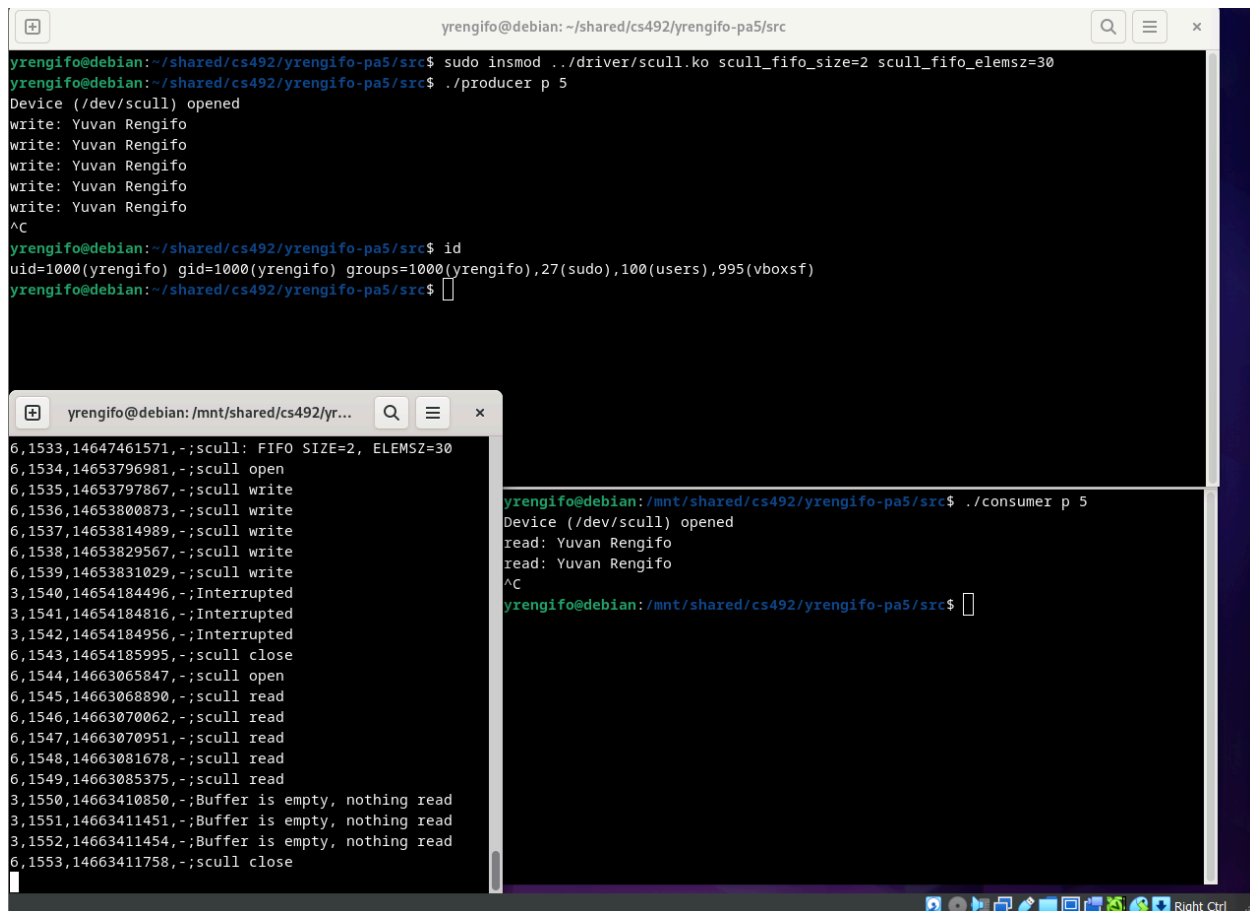
Below this, two more terminal windows are shown. The left window is titled "yrengifo@debian: /mnt/shared/cs492/yr..." and displays the output of the producer program:

```
6,1292,13768996210,-;scull: FIFO SIZE=10, ELEMSZ=30
6,1293,13771986244,-;scull open
6,1294,13772013525,-;scull write
6,1295,13772013699,-;scull write
6,1296,13772013765,-;scull close
6,1297,13781418730,-;scull open
6,1298,13781421438,-;scull read
6,1299,13781422188,-;scull read
6,1300,13781454316,-;scull close
```

The right window is titled "yrengifo@debian: /mnt/shared/cs492/yrengifo-pa5/src" and displays the output of the consumer program:

```
yrengifo@debian:/mnt/shared/cs492/yrengifo-pa5/src$ ./consumer p 2
Device (/dev/scull) opened
read: Yuvan Rengifo
read: Yuvan Rengifo
Device (/dev/scull) closed
yrengifo@debian:/mnt/shared/cs492/yrengifo-pa5/src$
yrengifo@debian:/mnt/shared/cs492/yrengifo-pa5/src$
yrengifo@debian:/mnt/shared/cs492/yrengifo-pa5/src$
```

5.3- Interrupts



```
yrengifo@debian: ~/shared/cs492/yrengifo-pa5/src
yrengifo@debian:~/shared/cs492/yrengifo-pa5/src$ sudo insmod ../driver/scull.ko scull_fifo_size=2 scull_fifo_elemsz=30
yrengifo@debian:~/shared/cs492/yrengifo-pa5/src$ ./producer p 5
Device (/dev/scull) opened
write: Yuvan Rengifo
write: Yuvan Rengifo
write: Yuvan Rengifo
write: Yuvan Rengifo
write: Yuvan Rengifo
^C
yrengifo@debian:~/shared/cs492/yrengifo-pa5/src$ id
uid=1000(yrengifo) gid=1000(yrengifo) groups=1000(yrengifo),27(sudo),100(users),995(vboxsf)
yrengifo@debian:~/shared/cs492/yrengifo-pa5/src$

yrengifo@debian: /mnt/shared/cs492/yr...
6,1533,14647461571,-;scull: FIFO SIZE=2, ELEMSZ=30
6,1534,14653796981,-;scull open
6,1535,14653797867,-;scull write
6,1536,14653800873,-;scull write
6,1537,14653814989,-;scull write
6,1538,14653829567,-;scull write
6,1539,14653831029,-;scull write
3,1540,14654184496,-;Interrupted
3,1541,14654184816,-;Interrupted
3,1542,14654184956,-;Interrupted
6,1543,14654185995,-;scull close
6,1544,14663065847,-;scull open
6,1545,14663068890,-;scull read
6,1546,14663070062,-;scull read
6,1547,14663070951,-;scull read
6,1548,14663081678,-;scull read
6,1549,14663085375,-;scull read
3,1550,14663410850,-;Buffer is empty, nothing read
3,1551,14663411451,-;Buffer is empty, nothing read
3,1552,14663411454,-;Buffer is empty, nothing read
6,1553,14663411758,-;scull close

yrengifo@debian: /mnt/shared/cs492/yrengifo-pa5/src$ ./consumer p 5
Device (/dev/scull) opened
read: Yuvan Rengifo
read: Yuvan Rengifo
^C
yrengifo@debian: /mnt/shared/cs492/yrengifo-pa5/src$
```

5.4 consumer and producer at once

```
File Machine View Input Devices Help
Activities Terminal Apr 10 00:48
yrengifo@debian: ~/shared/cs492/yrengifo-pa5/src

yrengifo@debian:~/shared/cs492/yrengifo-pa5/src$ sudo insmod ../driver/scull.ko scull_fifo_size=2 scull_fifo_elemsz=30
yrengifo@debian:~/shared/cs492/yrengifo-pa5/src$ ./producer p 5
Device (/dev/scull) opened
write: Yuvan Rengifo
write: Yuvan Rengifo
write: Yuvan Rengifo
write: Yuvan Rengifo
write: Yuvan Rengifo
Device (/dev/scull) closed
yrengifo@debian:~/shared/cs492/yrengifo-pa5/src$ id
uid=1000(yrengifo) gid=1000(yrengifo) groups=1000(yrengifo),27(sudo),100(users),995(vboxsf)
yrengifo@debian:~/shared/cs492/yrengifo-pa5/src$

yrengifo@debian:/mnt/shared/cs492/yrengifo-pa5/src$ ./consumer p 5
Device (/dev/scull) opened
read: Yuvan Rengifo
read: Yuvan Rengifo
read: Yuvan Rengifo
read: Yuvan Rengifo
read: Yuvan Rengifo
Device (/dev/scull) closed
yrengifo@debian:/mnt/shared/cs492/yrengifo-pa5/src$

6,1577,14924446394,-;scull: FIFO SIZE=2, ELEMSZ=30
6,1578,14929121834,-;scull open
6,1579,14929149619,-;scull write
6,1580,14929158647,-;scull write
6,1581,14929158645,-;scull write
6,1582,14929180952,-;scull write
6,1583,14929181897,-;scull write
6,1584,14941843198,-;scull open
6,1585,14941851767,-;scull read
6,1586,14941863945,-;scull read
6,1587,14941875149,-;scull read
6,1588,14941880909,-;scull read
6,1589,14941882876,-;scull read
6,1590,14941901411,-;scull close
6,1591,14941903303,-;scull close
```