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Section: 21
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Project 1 Report

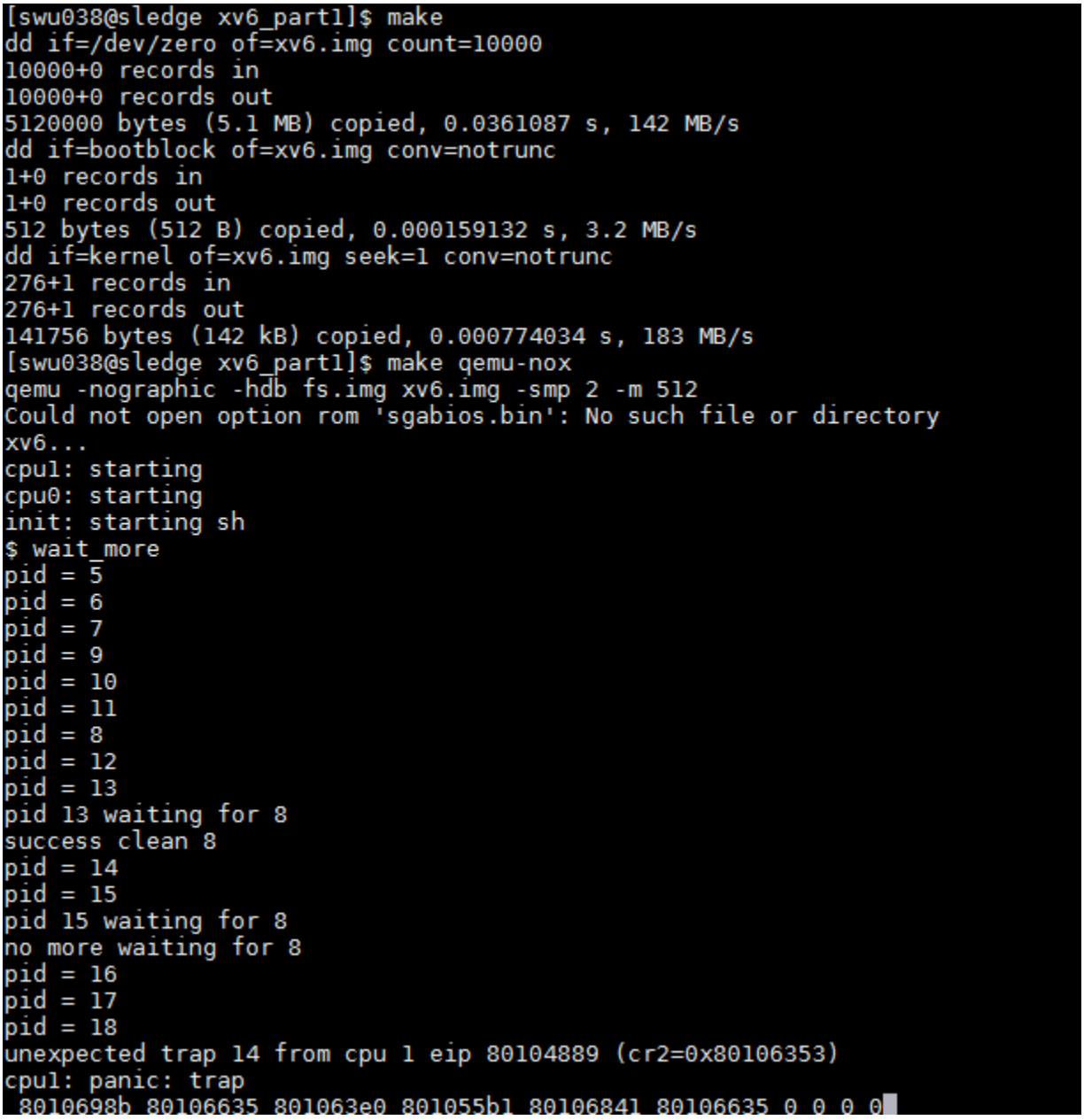
For my xv6 code, I have divided part1 and part2 into two separate folders. For part 1, I have the two test cases that you have provided: wait_one.c, and wait_more.c. For part 2, I also only have the two test cases that you have provided: prio_test.c, and prio_test2.c.

Here is a snapshot of when I run wait_one

```
[swu038@sledge xv6_part1]$ make qemu-nox
dd if=/dev/zero of=xv6.img count=10000
10000+0 records in
10000+0 records out
5120000 bytes (5.1 MB) copied, 0.0349166 s, 147 MB/s
dd if=bootblock of=xv6.img conv=notrunc
1+0 records in
1+0 records out
512 bytes (512 B) copied, 0.000155951 s, 3.3 MB/s
dd if=kernel of=xv6.img seek=1 conv=notrunc
276+1 records in
276+1 records out
141756 bytes (142 kB) copied, 0.000786678 s, 180 MB/s
qemu -nographic -hdb fs.img xv6.img -smp 2 -m 512
Could not open option rom 'sgabios.bin': No such file or directory
xv6...
cpu1: starting
cpu0: starting
init: starting sh
$ wait_one
pid = 5
pid = 6
pid = 7
pid = 9
pid = 10
pid = 8
pid = 11
pid = 12
pid = 13
pid 13 waiting for 8
success clean 8, status is 5
pid = 14
pid = 15
pid = 16
pid = 17
pid = 18
unexpected trap 14 from cpu 1 eip 80104889 (cr2=0x80106353)
cpu1: panic: trap
 8010698b 80106635 801063e0 801055b1 80106841 80106635 0 0 0 0
```

The output is correct up until after pid = 18. Unfortunately, there is a trap error that I was not able to debug, but I suspect the error is coming from my wait1 function.

Here is a snapshot of when I run wait_more



The output is incorrect, and again, I hit the trap panic error.

Here is a snapshot when I run prio_test

```
[swu038@sledge xv6_part2]$ make qemu-nox
dd if=/dev/zero of=xv6.img count=10000
10000+0 records in
10000+0 records out
5120000 bytes (5.1 MB) copied, 0.0361838 s, 141 MB/s
dd if=bootblock of=xv6.img conv=notrunc
1+0 records in
1+0 records out
512 bytes (512 B) copied, 0.000164952 s, 3.1 MB/s
dd if=kernel of=xv6.img seek=1 conv=notrunc
275+1 records in
275+1 records out
141036 bytes (141 kB) copied, 0.000755905 s, 187 MB/s
qemu -nographic -hdb fs.img xv6.img -smp 2 -m 512
Could not open option rom 'sgabios.bin': No such file or directory
xv6...
cpu1: starting
cpu0: starting
init: starting sh
$ prio_test
 pid = 11, get higher priority

unexpected trap 14 from cpu 1 eip 80104830 (cr2=0x801061eb)
cpu1: panic: trap
 801067db 80106485 80106278 80105449 80106691 80106485 0 0 0 0
```

I managed to get the first output, and of course… I run into the same trap panic error.

Here is a snapshot of prio_test2

```
[swu038@sledge xv6_part2]$ make qemu-nox
dd if=/dev/zero of=xv6.img count=10000
10000+0 records in
10000+0 records out
5120000 bytes (5.1 MB) copied, 0.0357816 s, 143 MB/s
dd if=bootblock of=xv6.img conv=notrunc
1+0 records in
1+0 records out
512 bytes (512 B) copied, 0.000166028 s, 3.1 MB/s
dd if=kernel of=xv6.img seek=1 conv=notrunc
275+1 records in
275+1 records out
141036 bytes (141 kB) copied, 0.000804144 s, 175 MB/s
qemu -nographic -hdb fs.img xv6.img -smp 2 -m 512
Could not open option rom 'sgabios.bin': No such file or directory
xv6...
cpu1: starting
cpu0: starting
init: starting sh
$ prio_test2
 pid = 8, get higher priority

 pid = 11, get higher priority

unexpected trap 14 from cpu 0 eip 80104830 (cr2=0x801061eb)
cpu0: panic: trap
 801067db 80106485 80106278 80105449 80106691 80106485 0 0 0 0
```

It worked! Just kidding, trap panic error. Well, at least I got the first two output….

If you have time, could you examine my code please? The only files I have changed were:

- syscall.h
- syscall.c
- usys.S
- user.h
- defs.h
- sysproc.c
- proc.c
- proc.h

For part 1, I implemented three system calls: SYS_exit1, SYS_wait1, and SYS_waitpid. For part 2, I implemented also three system calls: SYS_exit1, SYS_wait1, and SYS_setPriority.

For the files sysproc.c, proc.c, and proc.h, for every change that I made, I added the comment "//added", so that it would be easier for you to find and highlight. If the comment was made at the end of brackets, it means that I added everything within the brackets unless specified by further comments in parenthesis. I did not touch anything else. I really tried debugging my error, but I just couldn't find it. I already re-cloned like five times, if not more, but still no luck. Thank you for your consideration, and all the help that you've given!