Operating systems and networking

Tutorial 4

Prerequisites

- Dual mode operation
- System calls
- Scheduler
- Concurrency and locks

Writing a system call

- Create user program with syscall
- Add definition of syscall in `user/user.h`
- Add entry in `user/usys.pl`
- Define syscall number in `kernell/syscall.h`

Writing a system call

- Add syscall definition in `kernel/syscall.c` and `kernel/defs.h`
- Implement syscall in `keenel/sysproc.c`
- Edit makefile to include the new user program

Debugging xv6

1. Create a file `~/.config/gdb/.gdbinit` with the contents

```
set auto-load safe-path /
```

2. Run `make-qemu`
3. Open another terminal and run `riscv64-linux-gnu-gdb kernel`
4. Insert a break point wherever neccessary (Ex : `b exec`)
5. Start execution with `c`