MP0 - xv6 Setup

CSIE3310 - Operating System

NTU

TA Information

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Summary

- You have to do…
  - Launch Docker
  - Programming your own mp0.c & Makefile
  - Compile your own C code & run it on QEMU

Docker Installation

- If you are Linux / MacOS user…
  - Follow the step from MP0.pdf
- If you are Windows user…
  - Use WSL2 to run Docker & QEMU

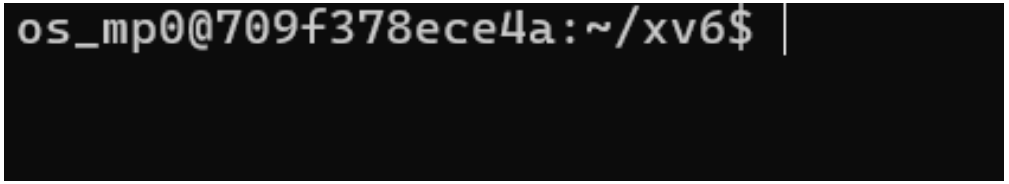
Run Docker on Windows

- Install WSL
  - $ wsl –install
  - $ wsl –l –v to check your version in WSL2

```
  NAME                   STATE           VERSION
* Ubuntu                 Running         2
  docker-desktop         Running         2
  docker-desktop-data    Running         2
```

Run Docker on Windows

- Install Docker
  - Follow the step in MP0.pdf -> Docker Engine for Ubuntu
  - Run commands below in ~/mp0/ to build xv6
    - $ sudo apt install make
    - $ sudo apt install gcc-riscv64-unknown-elf
    - $ sudo apt install qemu-system-misc
    - $ make



Run QEMU in Docker

- Run `$ make qemu` in `~/xv6/`

```
xv6 kernel is booting

hart 1 starting
hart 2 starting
init: starting sh
$
```

MP0 Homework

- Build your own mp0.c and Makefile
- mp0.c
  - Detail in MP0.pdf
  - Result should like this

```
$ mp0 os2023 d
os2023 0
os2023/d1 1
os2023/d2 1
os2023/d2/a 1
os2023/d2/b 1
os2023/d2/c 1
os2023/d3 1
os2023/d3/a 1
os2023/d3/b 1

6 directories, 2 files
$
```

- Makefile
  - Let you can run mp0 command after $make qemu

Grading Policy

- MP0 will be graded with running `$ make grade`
- This MP is the foundation for others, suggest to try it your self
- You can discuss on NTU COOL

Question Time