Operating Systems (SFWRENG 3SH3), Term 2, Winter 2023
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Practice Lab 1

Outline:

This is a take home lab. In this lab you will install a virtual machine (hypervisor) suitable for your computer, and then install the Ubuntu Server running version 4.4 of the Linux kernel provided by the textbook authors. Some standard development tools are included with it, including (see below):

- gcc
- make
- java 8
- python
- ssh

Before you begin:

1. Note to macOS users with M1 chip: Follow the instructions provided in the "Lab1 - Apple users with M1 chip.pdf".
2. **Before installing the virtual machine (VM) make sure to do a complete back up of your computer (my graduate student lost all his data while installing VM!)**

Below are some of the key steps to install the virtual machine, a detailed list of steps is on the website http://cs.westminstercollege.edu/~greg/osc10e/vm/index.html

- Go to https://www.os-book.com/OS10/index.html
- Click on 'Linux virtual Machine' link on this page.
- Follow the instructions on this page (http://cs.westminstercollege.edu/~greg/osc10e/vm/index.html) to
    - Download and install the virtual machine (www.virtualbox.org).
    - download the image "OSC10e.ova" and install it as a new machine on the virtual box.

Notes:

1. If you don't like the command-line based Ubuntu Server, you may install a GUI desktop on it.

2. Make sure you have vitalization enabled on your machine.
    a. For Windows OS, you can enable it through the BIOS.
    b. If you don't see this option under BIOS → Configuration, then you might need to download and install an upgrade to the BIOS (I had to do this on my laptop). Warning: Before following this step take a backup of your computer.
    c. After installing the upgrade, restart your computer.

In your first lab (Lab 2), you will be using this Linux image to practice loading and removing kernel modules. You are expected to have the virtual machine and Linux (from the textbook website) ready to work on Lab 2.