TIC4303: Lab 0

1 Ubuntu Linux Setup

Lab 0 is **not graded** and is only about the Linux setup we will use in TIC4303 for the labs.

We will use Linux and some tools or toolchains on Linux for the labs (possibly the assignments). As such, you should have a Linux distribution working.[1] **We will assume the use of a specific Ubuntu distribution, Ubuntu 20.04 LTS (Focal Fossa)**. See the lab setup for more information on Ubuntu installation. We are using a **single common environment** for labs since bugs and their manifestation depend on the details of the environment. Sometimes, the particular software/kernel used may be critical. **Even if you are already using Linux, you should still install & use the lab Ubuntu setup.** It will be simplest to run the lab in a virtual machine.

See the Ubuntu Linux lab setup guide. It will normally be more convenient to run the lab setup in a virtual machine (VM).

If you are not familiar with Unix or Linux, you will find that there will be some learning curve to use Linux. Even though Ubuntu Linux has a GUI, Linux is still a command line oriented OS. The Ubuntu distribution is chosen in part because is widely used and a search engine can be used to answer many questions.[2] However, you should be aware that differences exist between different versions of Linux distributions. Linux administration and GUI can vary between distributions and also between versions of the same distribution.

Some students may already be familiar with Linux. Do take note of the lab setup guide, and if it is totally familiar, you can skip this part. Make sure you have an Ubuntu 20.04 setup usable for subsequent labs.

Some commonly asked questions:

- Can I use another OS (or Unix)?
  No—this is because we need to use a single *common environment*. For example, with a different combination of OS (version) + system setup, your code can compile differently because the some labs are "special" and exercise the setup you are using. If it compiles differently, then you may get a different result from what we are looking for.

- Should I upgrade the Ubuntu?
  You should keep the Ubuntu to be what is in the baseline distribution to minimize changing the environment.

- Do I have to use a virtual machine?
  No but a VM is likely more convenient than say dual-booting. Likely you might not be using the TIC4303 Ubuntu as your regular OS given the requirements we have.

- What if I don't have any hardware?
  Good question. It is not clear if its possible to use any of the lab PCs or not. We can investigate if it is necessary.

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[1] There are many Linux distributions: `https://en.wikipedia.org/wiki/Linux_distribution`
[2] See also the Ubuntu Desktop Guide: `https://help.ubuntu.com`