ECE220: Computer Systems & Programming **Fall 2020 ZJUI**
Lab 1 **Tuesday 15 September**

Preparing for ECE220

As mentioned in lecture, programming labs give you the opportunity to work with your peers and to practice the skills and techniques that you will need to master to complete the machine problems (programming assignments) in our class. Today, however, you'll work individually to learn how to use the tools.

In particular, today you will learn the basics of Git, a tool that you'll need for every lab and every assignment, and review how to install and make use of the LC-3 tools. If you have never used Piazza, you may also want to ask your TA to give you a few tips. Piazza is the most frequently used tool for class communication at UIUC, so learning and using it now will help you when you make the trip to visit next year. **PLEASE NOTE that you need access to UIUC to complete today's lab. If you did not come prepared with your netid and password (and access to your email), you will need to do this lab on your own later.**

Using Git for Source Control

Most of our classes now use the Git version control software to manage programming assignments (and sometimes other types of materials as well). When used properly, version control helps to reduce the likelihood that you lose your work (by accidentally deleting your program, for example) and serves as a means to obtain materials for the class and to hand in your completed programs. In future classes, Git will also help you to coordinate with your team members.

In our class, we will use the github-dev.cs.illinois.edu server. If you like using Git, you may also want to create a github.com account (be sure not to upload any assignment code to another Git server, though, as doing so counts as cheating). In future classes, you may also use gitlab.engr.illinois.edu, another Git server hosted by UIUC.

Creating Your Repository

You will need a machine that has Git installed. Your TA will tell you how to boot one of the lab machines for this purpose (CentOS in the first week in D-211, Ubuntu in both rooms after the first week). Alternatively, you can install Linux, Linux in a virtual machine such as Virtual Box, Cygwin, or WSL (Windows Subsystem for Linux) on your own machine, keeping in mind that your assignments must pass all tests on the Ubuntu OS in D-331.

Start a browser and open https://github-dev.cs.illinois.edu/ece220-fa20-zjui/_release. Scroll down to read the instructions for using Git. Follow the instructions to obtain the starting materials for today's lab (a copy of this file) and a copy of the starting materials for MP1.

Installing the LC-3 Tools

The LC-3 tools are installed on the lab machines. Use those tools to test your first few MPs. To obtain a local copy, go to http://lumetta.web.engr.illinois.edu/lc3tools.0.12.tar.bz2 . You will need a few other packages, such as bzip2, tar, flex, wish, and gcc, to unpack and compile the tools. Read the directions, ask your TA for help, ask on Piazza, ask your friends. Please note that other LC-3 tools **ARE NOT SUPPORTED**. If the behavior in other tools differs from that in our tools, and as a result you lose points, that's your problem, not ours. Testing in D-331 is your responsibility.