Lab 1 – Introduction to the Course

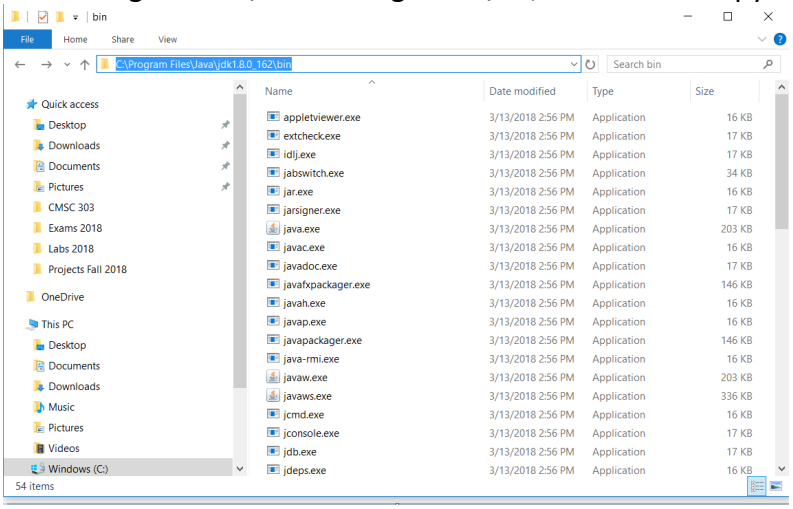
Welcome to your first lab. The goal of this lab is to first make sure that you have Java and all related applications installed and ready to go. Secondly, the goal is for you to make sure that you can run your Java program on the computers in the Lab.

Tasks:

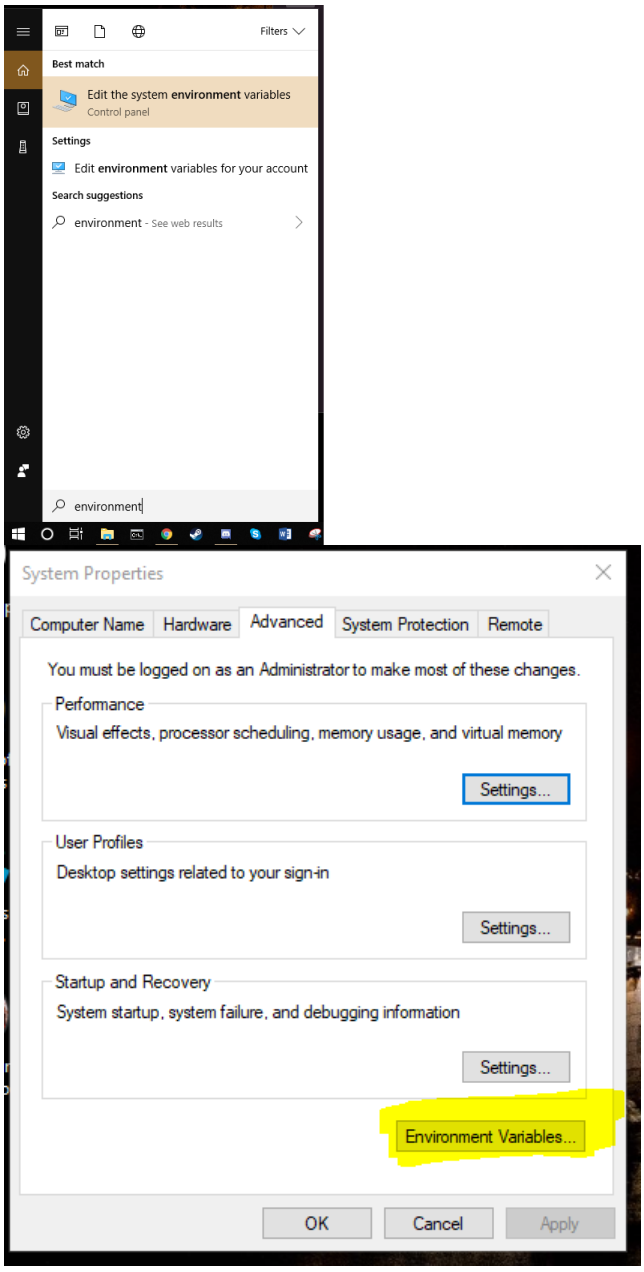
1. Log onto the lab computer. If you are unable to log on, there is an additional survey in Blackboard that you need to complete so that IT can grant you access to the lab machines. Please show your TA that you are logged on or the completed form.

2. Go through the steps needed to have Java working on your computer. This includes downloading, installing and setting paths. Please show your TA where Java is installed and the path setting once completed.
    a. JAVA JDK: Go to Java SE 8u221.
        1. Click on the JDK Download for your machine.

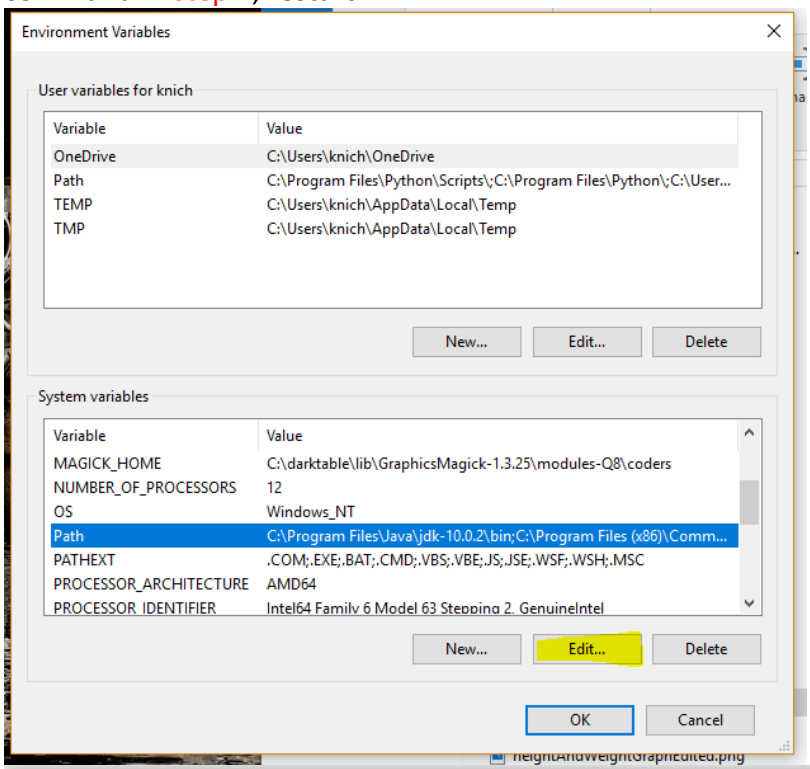
    b. Path: In order to fully use Java on your PC you need to set up you Environment Variables on your own PC. Here are the steps to do this:
        1. Go to Windows Explorer and look in the C drive. You will see a folder called Program Files. Within that folder you will see a Java folder. Inside that folder you will see a jdk folder. Open that folder and then open the bin folder. If you click on the right-hand side of bar at the top of the window in the white space, you will get the path for this folder on your PC starting with C:\ and ending with \bin, see below. Copy this path.

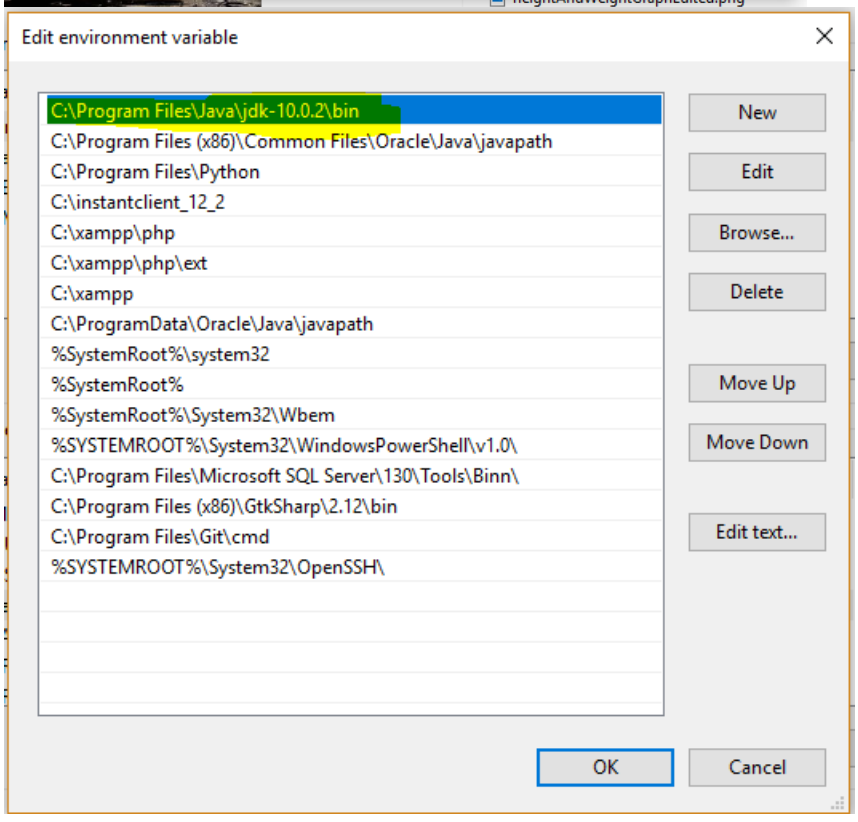


        2. Search your computer to find the Environmental variables on your PC.


Filters
Best match
Edit the system environment variables
Control panel
Settings
Edit environment variables for your account
Search suggestions
environment - See web results
environment
System Properties
Computer Name
Hardware
Advanced
System Protection
Remote
You must be logged on as an Administrator to make most of these changes.
Performance
Visual effects, processor scheduling, memory usage, and virtual memory
Settings...
User Profiles
Desktop settings related to your sign-in
Settings...
Startup and Recovery
System startup, system failure, and debugging information
Settings...
Environment Variables...
OK
Cancel
Apply

3. Edit the Path System Variable. Add a new path by pasting the copied path. Click okay everywhere and exit. You might need to restart your machine for these changes to take place. If you cannot use the javac command in step 4, restart.





Remember to show your TA your path.

3. Download and install Notepad++ or the Mac equivalent, Sublime. Please show your TA this software open.

4. Make a shortcut for the Command Line window or terminal.

5. Use Notepad++/ Sublime on your computer to create the following program. Your file name will be **Hello.java**. Make sure you save the file with .java extension.

```
/**************************************************************************
 * Java Program Name
 **************************************************************************
 * Project/Program description
 * ------------------------------------------------------------------------
 * Student First Name Last Name
 * Date
 * Course Number and Section
 **************************************************************************/

public class Hello {
 public static void printHeading() {
  System.out.println("Your Name");
  System.out.println("Java Project Name");
  System.out.println("Project Description");
  System.out.println("Version Date");
  System.out.println("Course Number and Section");
  System.out.println();
 }

 public static void main(String [] args) {
  printHeading();
  System.out.println("Hello");
 }
}
```

6. Open the Command Line window or terminal in your computer (Search your computer using cmd.) Compile and run the program you just saved.
   a. Instructions are as follows:
      1. Use the dos command, **cd**, to change folders, and navigate to the directory that contains your source code file. (You can find a handy listing of some basic dos commands at this site, http://www.cs.unca.edu/~jkdawg/help/msdos.html)
      2. Use the command **javac** followed by a space and then the name of your source code file (including the extension) to invoke the Java compiler that converts your source code into Java bytecode. For example, **`javac Hello.java`**
      3. If there are no compiler errors, you can run the program with the command **java** followed by a space and the name of your program without the extension. For example, **`java Hello`**

         This command uses the Java Virtual Machine to interpret your bytecode file and execute the resulting machine code. Output created with System.out statements will be visible in the command prompt window.

Please show your TA your compilation and running of the program at the command line.

7. Log into the lab computer. Please show your TA your compilation and running of the program at the command line.

8. Set up a GitHub account. I have a link to two videos in the Needed Software Folder of the course where you can learn about GitHub and learn to upload files there. Upload your **Hello.java** file into your GitHub repository.

9. Set up a Slack account. VCU CS has their own chat area and your instructor has set up a CMSC 255 chat area. You will be added to this course chat area after your account has been created, but be patient since this is a manual process. Here is the link: vcucs.slack.com.

10. Make sure that your TA has checked off every item for you.