

CSE 8B Homework 1:

Academic integrity, command-line navigation, and setting up to program in Java

Due Date: Wednesday, October 06, 11:59 PM

Learning goals:

- Affirm your commitment to upholding academic integrity in this course.
- Learn how to CLI commands that manipulate files/directories.
- Get set up to program in Java.
- Submit files to Gradescope.

NOTE: This programming assignment must be done individually. Pair programming is NOT allowed for this assignment.

Part 1: Academic Integrity (0 points)

Welcome back to the in-person class environment we used to love! Our CSE department is not tolerating any violation of Academic Integrity. Unlike courses from other departments, you are required to submit code, and there are specific programming qualifications you need to know before you write any code. Most of the time, students violate academic integrity just because they don't know it was a violation. The below tutorial is your one-stop shop of academic integrity to avoid such situations.

To complete Part 1 of this assignment:

1. Carefully read the integrity policy for this course, which is found in the syllabus.
2. Please watch the [Source Code Plagiarism tutorial](#) thoroughly.
3. After you finish watching the tutorial, you must complete the [CSE Integrity](#)

[of Scholarship Agreement](#). By signing this, you acknowledge that you have completed and understood the tutorial and also the agreement. **Although Part 1 of this assignment is worth 0 points, if you do not complete the CSE Integrity of Scholarship Agreement, then you will receive an F in this course.**

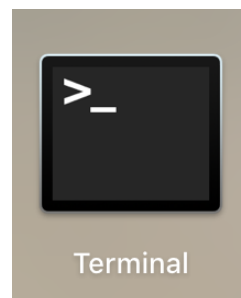
Part 2: Command-Line Navigation (50 points)

Now let us introduce you to the command line interface! You might have seen programmers using a black window and typing commands on it. That is the command-line interface, and every programmer is using that. Throughout this quarter, you will be using the command-line interface to navigate, compile and run your program for all assignments. It has many names, such as cmd, CLI, console, or terminal.

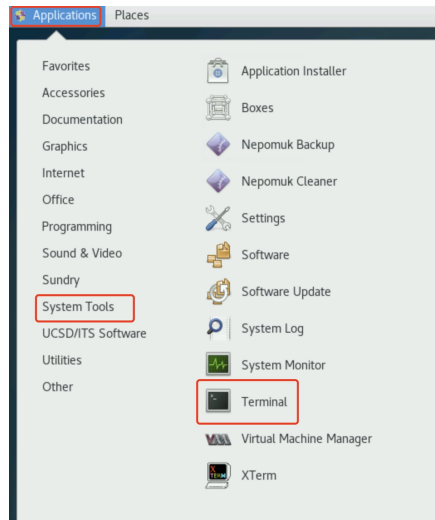
Open the CLI

First, let's open the CLI.

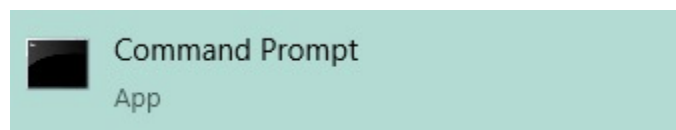
- Mac OS:
 - Go to Applications → Utilities → Terminal.
 - Search "Terminal" in the Spotlight Search bar.



- Linux: We're using UCSD Linux Cloud as an example. You can find it under Applications → System Tools → Terminal. (Picture next page for your reference)



- Windows: Depending on your version of Windows and your keyboard, one of the following should open a command window (you may have to experiment a bit, but you don't have to try all of these suggestions):
 - Go to the Start menu or screen, and enter "Command Prompt" in the search field.
 - Go to the Start menu → Windows System → Command Prompt.
 - Go to the Start menu → All Programs → Accessories → Command Prompt.
 - Go to the Start screen, hover your mouse in the lower-left corner of the screen, and click the down arrow that appears (on a touch screen, instead flick up from the bottom of the screen). The Apps page should open. Click on Command Prompt in the Windows System section.
 - Hold the special Windows key on your keyboard and press the "X" key. Choose "Command Prompt" from the pop-up menu.
 - Hold the Windows key and press the "R" key to get a "Run" window. Type "cmd" in the box, and click the OK key.



Prompt

Now you should see a black or white window that is waiting for your command.

- Mac OS or Linux: you probably will see a `$` or `%` and space on your current line.
- Windows: you probably will see a `>` on your current line.

IMPORTANT: Each command will be prepended by one of the characters above, and you should not type command prompt `$`, `%`, or `>` by yourself. The terminal will do that for you.

Also, there might be something like `C:\Users\name` or `name@MacBook` before the above characters. This is totally fine.

Your first command

Now let's type the following command, no matter which OS you are using. Keep in mind that you should not type any leading characters by yourself.

- Mac OS or Linux:

```
$ whoami
```

- Windows:

```
> whoami
```

Then hit enter. And you can see your username appear.

- Mac OS or Linux:

```
$ whoami  
myusername
```

- Windows:

```
> whoami  
computername\myusername
```

Current directory

If you want to know where you are right now, or the full path of your current directory, you can try the following commands.

- Mac OS or Linux:

```
$ pwd  
/home/linux/ieng6/cs8bsp21/myusername
```

“pwd” stands for “print working directory”. The above result is from UCSD Linux Cloud.

- Windows:

```
> cd
C:\Users\myusername
```

“cd” stands for “change directory”. The above result is from a Windows machine.

List files and directory

If you want to know what is in your current directory, you can try the following commands.

- Mac OS or Linux:

```
$ ls
Desktop    Downloads  Pictures    Templates  ...
```

- Windows:

```
> dir
Directory of C:\Users\myusername
10/08/2020 07:28 PM <DIR>      Applications
10/08/2020 07:28 PM <DIR>      Desktop
10/08/2020 07:28 PM <DIR>      Downloads
10/08/2020 07:28 PM <DIR>      Music
...
```

Change current directory

Now let's go to our Desktop directory.

- Mac OS or Linux:

```
$ cd Desktop
```

- Windows:

```
> cd Desktop
```

If you want to check whether you have successfully changed the directory, use the “pwd” or “cd” command we mentioned above to check your current directory after changing.

Create directory

It would be nice if you can create a CSE 8B directory on your desktop for file management.

- Mac OS or Linux:

```
$ mkdir cse8b
```

- Windows:

```
> mkdir cse8b
```

If you want to check whether you have successfully created the directory, use the “ls” or “dir” command we mentioned above to check your current directory’s content.

Practice time!

Based on the above tutorial, please create a new directory named `will_be_deleted` inside of the `cse8b`, then change your current directory to the `will_be_deleted` directory.

Create a Java file

NOTE: In the examples below, we are using Vim for Mac OS/Linux and Notepad for Windows as examples. You can use your favorite text editors or IDEs to edit your Java files, but we’re not covering other options here. However, we do not recommend using IDEs because you are required to know how to compile and run your Java programs manually using their respective commands. Furthermore, IDEs can unintentionally import packages that will not compile on Gradescope.

Now that we’re inside the `will_be_deleted` directory, we want to create a java file named `deleteIt.java`. Here’s what we should do.

- Mac OS or Linux:

```
$ vim deleteIt.java
```

After this command, your Vim editor is on, and you will be in `deleteIt.java`. However, you are not able to type because you're in normal mode, the default Vim's mode. In order to make any input, you need to press the key `i` first. Then there will be a `-- Insert --` at the bottom left of the window to confirm that you are in Insert mode. If you want to quit the Insert mode, you need to press the key `esc`. After that, if you want to save the file, you can type `:w` directly. Then if you want to exit/quit the file and go back to your command line, you can type `:q` directly. The above two operations can be combined to `:wq`. If you're using UCSD Linux Cloud, you can also give `gvim` a try. Just substitute `vim` with `gvim` in the command prompt. To learn how to move your text cursor around and other Vim commands, please check out this website: <https://vimsheet.com/>.

- Windows:

```
> notepad deleteIt.java
```

The Notepad is more straightforward with its interface. You can just type whatever you want, save the file, and close the file if you want to exit/quit.

Delete a file/directory

Before we delete anything, let's try to go back to `cse8b` directory.

- Mac OS or Linux:

```
$ cd ..
```

- Windows:

```
> cd ..
```

Using `..` with the `cd` command will change your current directory to the parent directory. That is, the directory that contains your current directory. You can check where you are now by one command we mentioned above.

Now we can delete the directory and its contents all at once.

- Mac OS or Linux:

```
$ rm -r will_be_deleted
```

The `-r` represents recursive. The “remove recursively” operation is especially for removing directories. It will remove everything inside of the `will_be_deleted` directory.

- Windows:

```
> rmdir /S will_be_deleted
```

You can check whether the directory is removed by one command we mentioned above.

However, all remove commands like `del`, `rm`, `rmdir` are irreversible. Think twice before you do any deleting.

How to get help?

One last thing before you go to the next part, we want you to know how to call out the manual for each command. Let’s say we want to learn more about the `cd` command.

- Mac OS or Linux:

```
$ man cd
```

- Windows:

```
> cd /?
```

Then you can see a detailed manual for this command you put. If you want to explore more, you can take a look at this website: <http://man.he.net/>.

Part 3: Compile and run some code (50 points)

Last part of this assignment is for you to compile and run your first piece of code in CSE 8B. If you’re using UCSD Linux Cloud or you are developing in the CSE basement (we call it dungeon), then Oracle JDK 8u302 is already installed and configured on your UCSD Linux

Cloud class account so you don't need to worry about the installation. However, if you are working on your own computer, here are the steps to install.

First, please go to this [Oracle link](#) to download. You might need to register an Oracle account to do so. **Note that you will be installing 8u301 on your local machine instead.**

- Mac OS or Linux:

x64 DMG Installer	197.26 MB	jdk-8u301-macosx-x64.dmg
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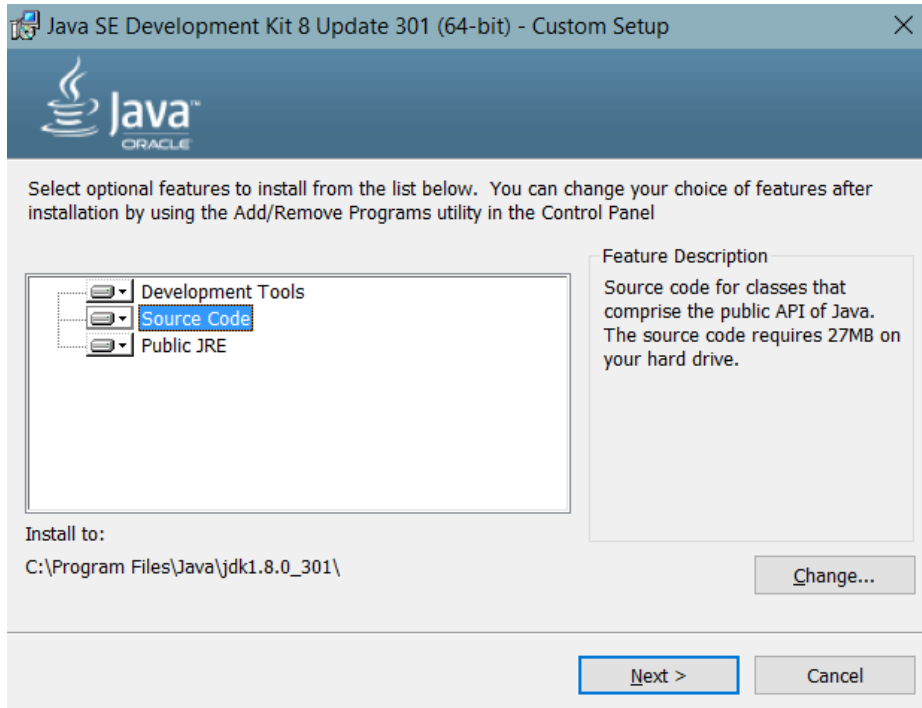
Download the .dmg file. Run it and follow the instructions until the end. That's it!

- Windows:

x86 Installer	156.45 MB	jdk-8u301-windows-i586.exe
x64 Installer	169.46 MB	jdk-8u301-windows-x64.exe

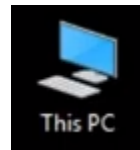
For Windows, the steps are a little longer.

There are two options for Windows. If you have a 32-bit machine, then download the Windows x86 version. If you have a 64-bit machine, then download the Windows x64 version. After finishing the download, run the downloaded .exe file. You will see the following window. **Please take a note of the full path you are installing. You will need to use the full path later on.**



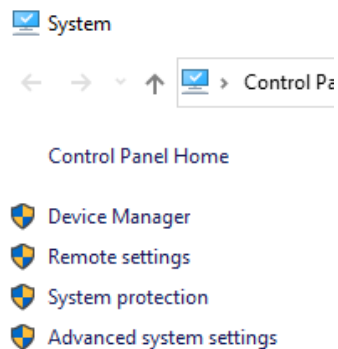
Finish the current installation wizard.

Then, please locate "This PC" and right click on "This PC".

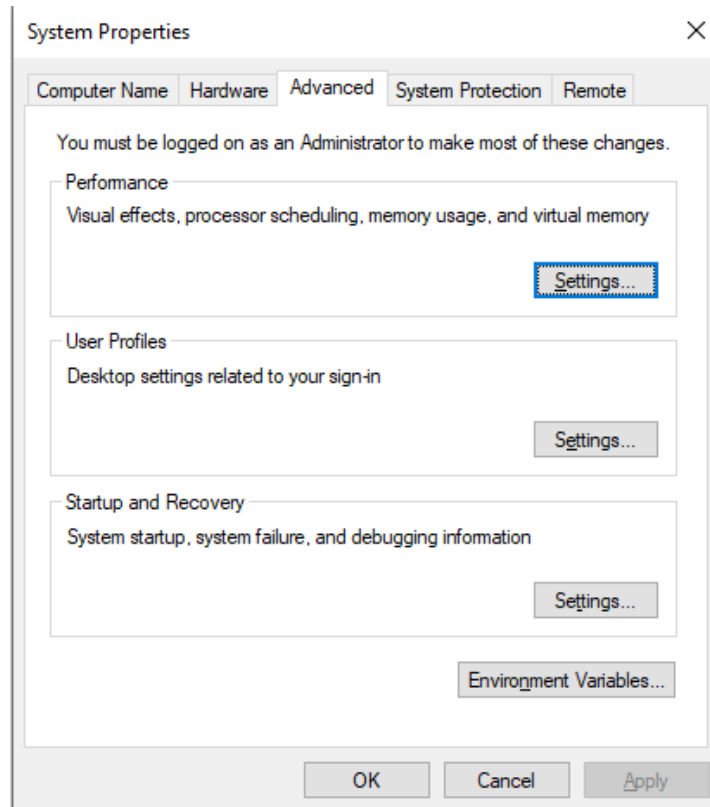


Then, click on the "Properties" of the pop up menu.

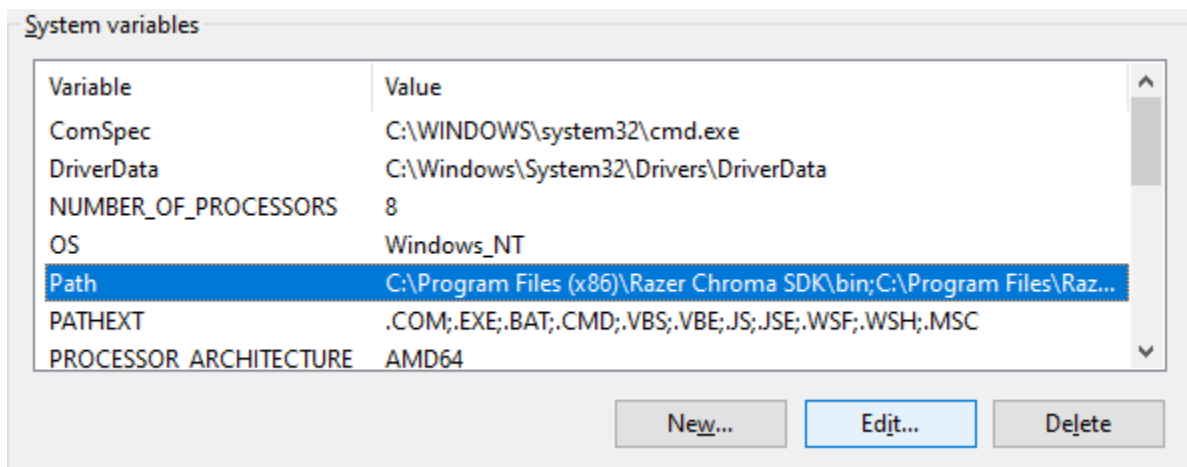
Go to "Advanced system settings" on the left.



Then, go to the "Advanced" tab and click on the "Environment Variables" on the bottom right.

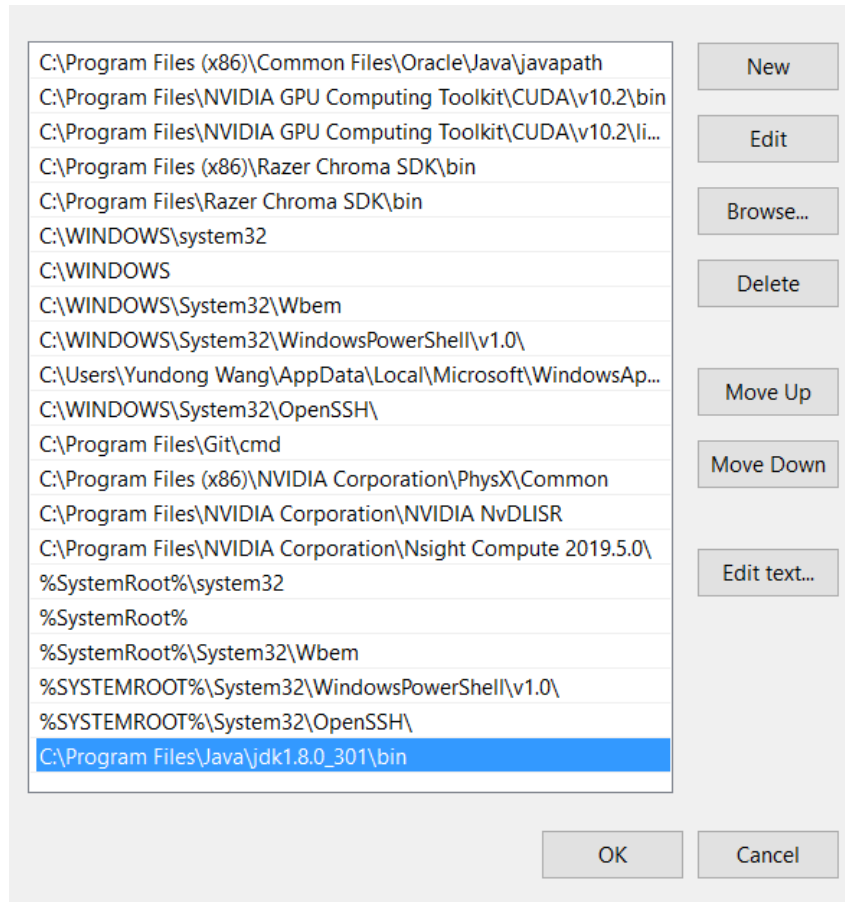


In the "System variables" section, click on "path", then click on "Edit".

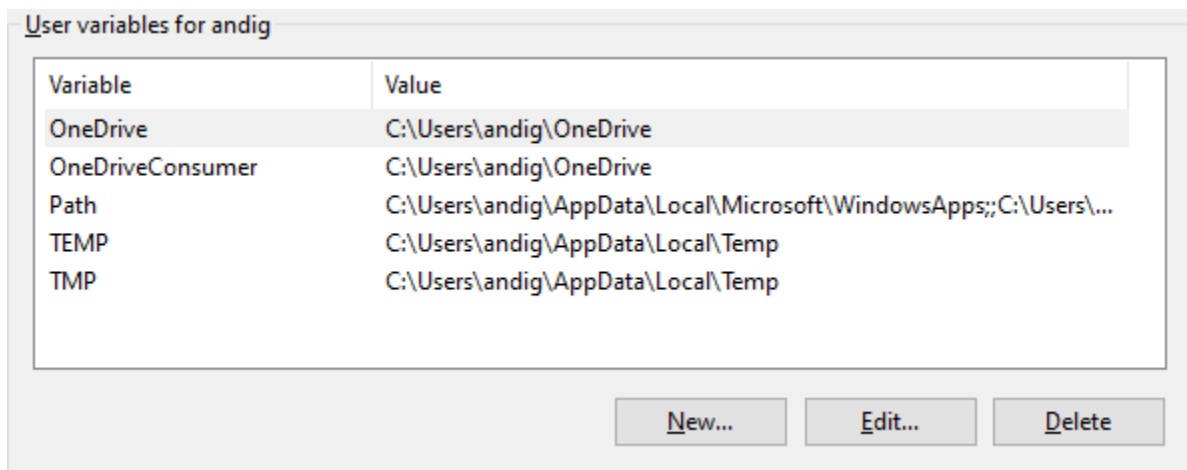


In the new window, click on "New" on the top right, then paste the full path that your JDK was installed to include the bin folder. For example, as the screenshot below, my JDK was installed to **C:\Program Files\Java\jdk1.8.0_301**, so I put **C:\Program Files\Java\jdk1.8.0_301\bin** as the Value here.

Then click on "Ok".

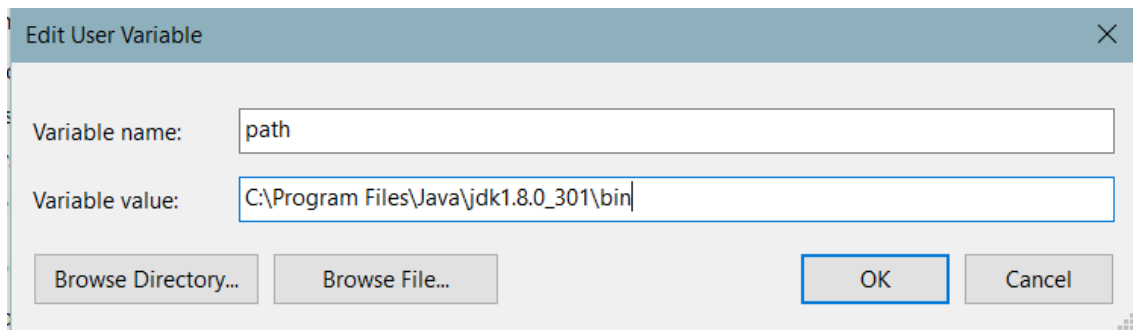


After this, click on “New” in the User variables section.



In the new window, put the variable name and the above value/path we used, i.e. **C:\Program Files\Java\jdk1.8.0_301\bin** as seen in the screenshot below.

Then, click "OK".



Then you click "OK" on the Environment Variables window. That's all!

Now you should have installed the right version of Java8 for this course... but how do you check if you installed it correctly?

Please open your terminal and go to the cse8b directory first (do you remember where you created it?)

Then, run the following command.

- Mac OS or Linux:

```
$ java -version
```

- Windows:

```
> java -version
```

You should see the java version "1.8.0_301" now. Finally, please run the following command:

- Mac OS or Linux:

```
$ java -version 2> java_version.txt
```

- Windows:

```
> java -version 2> java_version.txt
```

You will find a new .txt file generated. Please check if that file contains the correct Java version information. **Turn in the java_version.txt to Gradescope.**

Now that we have Java 8 installed, let's try to compile and run a piece of code from the command line.

First, please create a new Java file named `Assignment1.java` from the command line (do you remember how to do this?). You can put the java file in any directory. The `cse8b` directory we created is a good choice for `Assignment1.java`. Copy the following code snippet to that Java file.

```
public class Assignment1 {  
    public static void main(String[] args) {  
        System.out.println("Hello CSE 8B!");  
        //Put your code below  
    }  
}
```

Then, you need to write a single line of code to print `My name is xxx` starting from a new line. After that, save your code and go back to the terminal. Before you run every Java code, you need to compile it first.

- Mac OS or Linux:

```
$ javac Assignment1.java
```

- Windows:

```
> javac Assignment1.java
```

Then you can run the program by the following command.

- Mac OS or Linux:

```
$ java Assignment1
```

- Windows:

```
> java Assignment1
```

You should see two lines of output in the terminal.

```
Hello CSE 8B!  
My name is xxx
```

Submission Instructions

VERY IMPORTANT: Please follow the instructions below carefully and make the exact submission format.

1. Go to Gradescope and click on PA1.
2. Click the DRAG & DROP section and directly select the two required files (**java_version.txt** and **Assignment1.java**). Drag & drop is fine. *Please make sure you don't submit a zip.* Just the two files solely. *Make sure the names of the files are correct.*
3. **You can resubmit unlimited times before the due date.** Your score will depend on your final submission, even if your former submissions have a higher score.
4. The autograder is for grading your uploaded files automatically. Make sure your code can compile on Gradescope by passing the first test case with a success message.
5. Your submission should look like the below screenshot (order of file doesn't matter). If you have any questions, feel free to post!

Submit Programming Assignment

Upload all files for your submission

SUBMISSION METHOD

Upload

Add files via Drag & Drop or Browse Files.

NAME	SIZE	PROGRESS	x
Assignment1.java	0.2 KB	<div style="width: 100%;"></div>	
java_version.txt	0.1 KB	<div style="width: 100%;"></div>	

SUBMITTING FOR

Yundong Wang

Upload Cancel