

CSci 111 - Computer Science I

Fall 2022

Closed Lab 0

Notice: Use the username and password sent to you in your email to log on the computer in the lab (weir 227/229).

If you ever have a problem with your account, let your TA know about it.

Finish a Java program. The program will not be graded, but you will need to show the TAs that your program compiles and runs without any errors.

Step 1: Use a *Text Editor* to create a file containing the program *source code*.

- a. Launch Notepad++. (Click Start → **Notepad++**)
- b. Key in the source code. For this assignment, use the source code below, typing it exactly as it appears. Recall that Java is “case sensitive”.

```
public class Welcome {  
    public static void main (String[ ] args) {  
        System.out.println("Welcome to Java!");  
    }  
}
```

- c. Save as a file on your H:/ drive, using the name **Welcome.java**
- d. Leave the editor window open since you may need to come back to it to make changes to your source code later.

Step 2: Use the Java *Compiler* (javac) to check for syntax errors in your source code. If there are no syntax errors, then this step will create the bytecode file which ends in *.class*.

- a. Open a DOS window. (Type **cmd** in the search box → click **Command Prompt**)
- b. To compile the source code from step 1, key in **javac Welcome.java** and press enter.
- c. In response, you will see either:

(A) the DOS prompt with no messages, meaning there were no **Syntax** errors in your source code

(congratulations!) and you can proceed to Step 3,

OR

(B) one or more error messages, meaning that there are **Syntax** errors in your program which you must correct.

Cont'd on next page!! →

To correct the Syntax errors in your code:

- 1) Read each message carefully to determine the exact cause of the syntax error.
- 2) After determining which line of source code is the cause of the error and how to correct it, leaving the DOS window open, click back to the Notepad++ window and make the correction.
- 3) Save the change(s). (Ctrl+S or File/ Save)
- 4) Click back to the DOS window and start from the beginning of step 2 again.

Step 3: Use the Java *Interpreter* to execute the bytecode.

In this step, you will run your program, which is expected to output the following:

Welcome to Java!

1. In the DOS window, key in: **java Welcome** and press enter.
2. The program's output will be displayed on the screen.
3. Check the output to see if it matches the expected output exactly.
4. If so, you are done! Otherwise, continue to step 3
5. If the output is incorrect, then your program has either a *logic error* or a *run-time error*.
6. In either case, you must find the *bug* (incorrect code) that caused the error.
7. So go back to the Editor (Notepad++) window and study your code carefully to determine which line(s) of code is incorrect and what revisions are needed.
8. Make the corrections to your source code and then repeat Steps 1 through 3 until you see the correct output on the screen.

Showing your work: When complete, **raise your hand** to let the TA know that you are ready for your work to be checked. You will then be asked to demonstrate that your code works correctly.

There is **no need** to submit this lab on Bb.