

Lab Exercise #1
Test Compilation and Javadoc Generation
CS 2334, Spring 2010

Name: _____

Learning Objectives (Milestones):

1. Install Java Development Kit
2. Successfully compile a sample Java program and generate Javadoc documentation for the program.

Instructions:

This lab exercise *requires a laptop with an Internet connection*. Once you have completed the exercises in this document, you will submit it for grading. You should legibly write your name at the top of this lab handout.

1. Install the Java Development Kit. Refer to the *Java Installation Instructions* on the class website. Note that those instructions show JDK 6 update 11, whereas we will be installing JDK 6 update 18 (for Linux and MS Windows) or JDK 6 update 17 (for Mac).

Once you have Java installed, you can check your installation to ensure everything is correctly installed and that your PATH environment variable is correctly set by opening a command window (click on *Start | Run* and then enter the text “cmd” and click “OK”). If you have the correct version installed and your path set correctly the following commands should give the results listed below the commands (except Mac, in which case it will show update version 17).

```
>java -version
java version "1.6.0_18"
...

>javac -version
javac javac 1.6.0_18
...
```

3. Download the sample “Lab1.java” source code from the class website. Save this file into a folder on your laptop where you will keep your CS 2334 Projects and Labs. Just for today (this will change next week), create a `cs2334` folder in the root of your laptop's hard drive (this would be `C:\cs2334`) and then create a `lab1` folder inside the `cs2334` folder (`C:\cs2334\lab1`) and store these files in the `lab1` folder. You will also need to download the “docs.opt” file from the class website. Save it in the same folder as the `Lab1.java` file.
4. Add the following code to the main method of `Lab1.java` using Notepad (or any text editor you desire, but make sure you do not use a word processor, or any other program that does any markup/formatting at all). It can be found in Windows XP under *Start | All Programs | Accessories*. Do NOT use an IDE, either.

```
Lab1 lab1Program;

lab1Program = new Lab1( "This is the first lab exercise for CS 2334." );
```

5. Compile the `Lab1.java` file from the DOS command prompt with the following command (you need a command window to do this—do NOT use Eclipse or another IDE). You should receive several compilation errors that you need to identify and correct in the source code. List these errors in the space provided below with a short explanation of how you fixed them. Be sure to list the **line number** that the actual error occurred in the `Lab1.java` file. Once you have removed all of these errors, the file should compile without any errors or warnings.

```
javac Lab1.java
```

List the errors found and give a short explanation of how you fixed each one:

6. Run the `Lab1` program from the DOS command prompt (again, without Eclipse). This should result in one or more runtime errors. Fix the program source code and verify that the program works by running it again. The command required to run the program is:

```
java Lab1
```

List all runtime errors encountered and briefly explain the problems:

7. Generate Javadoc documentation for the `Lab1` program with the following command. (This must be done at the DOS command prompt.)

```
javadoc @docs.opt *.java
```

This command will create a new sub-folder named `javadocs` and place several files in the folder including an `index.html` file. The output of the `javadoc` command should be similar to:

```
Creating destination directory: "javadocs\  
Loading source file Lab1.java...  
Constructing Javadoc information...  
...
```

Next, open the `javadoc\index.html` file using a web browser and inspect it's contents.

Describe the contents of the `index.html` file.