PA 1

Codegain

Due Date: Meeting 2

In this programming assignment, we will:

- make sure the Java compiler (JDK) is installed correctly on your machine
- practice compiling and running a Java program
- detail steps on how to create your first Java program
- introduce commenting

1 Is JDK installed correctly?

Open a terminal window or command prompt on your respective Operating System.

Mac: Terminal

Windows: Start Menu → All Programs → Accessories → Command Prompt

> The > notation signifies what you should type into the command prompt. The >> notation represents what is outputted. If Java is correctly installed, you should see a version number like you see in the example below. The exact number does not matter.

```
> javac -version
>> javac 1.7.0
```

However, if it is not installed, you should see an error:

```
> javac -version
>> 'javac' is not recognized as an internal or external command, operable
program or batch file.
```

If you receive this error, please refer to our *How to: Installing Java Development Kit (JDK)* document.

2 Practicing compiling and running a Java program

1. Download Practice.java from our Dropbox and save it on to your Desktop. You can do this by right-clicking the file and choosing Save Target As... from the menu.
2. Open up your command prompt.
3. Compile the program with the javac utility command and run the file through the java interpreter to execute it, as shown below.

```
> javac Practice.java
> java Practice
>> Success!
```

If you see the message "Success!", move on to the next part.

3 Lets create our own Java program

Make a new directory/folder and name it "CompSci". Create a new file, name it FirstProgram.java. Type out what you see below into your newly created file:

```
public class FirstProgram {
    public static void main( String[] args ) {
        System.out.println( "Hello World!" );
        System.out.println( "Hello Again!" );
        System.out.println( "I like typing this." );
        System.out.println( "This is fun!" );
        System.out.println( "I'd rather you 'not'.");
        System.out.println( "I \"said\" don't touch this" );
    }
}
```

Save the file in the "CompSci" directory. Now, open your command prompt and compile the file by typing:

```
> javac FirstProgram.java
```

Remember to be in the correct directory when compiling the program! If you did this correctly, you will see a blank line and display the prompt again. If not, then you have done something wrong.

Assuming there are no errors, run the program by typing:

```
> java FirstProgram
>> Hello World!
Hello Again!
I like typing this.
This is fun!
I'd rather you 'not'.
I "said" don't touch this
```

If you did everything correctly, you should see the output above. If you do not see the output, read the error and try to figure out what is wrong. The errors show you what line number it messed up on along with a short message on what the problem is.

4 Commenting

Commenting is used to write programmer-readable messages. The compiler and interpreter will ignore comments. It's a good way to briefly explain what the program is doing so the other programmers that read your code can understand it easily.

There are 2 ways to comment in Java:

- Using double slashes (//)
- Using slashes and stars (/* to start, */ to end)

Double slashes are typically used to single line comments:

```
// Single line comment. Everything on this line won't be recognized by the compiler.
```

The slashes and stars are used for multi-line comments. The comment will start on the first slash and first star (/*) and end at the next star and slash (*/):

```
/* This is a multi-line comment
The compiler and interpreter will ignore this
*/
```

Now that we've covered basic commenting, open your FirstProgram.java. Comment each line of the program and write out what each line in the program is doing. Try using both single line and multi-line commenting styles. Once you are done commenting your program, compile and run it to make sure you don't have any errors. Fix any errors that you may have.

Congratulations! If you made it to this part, you have just written your first program and commented it for other programmers to see! Once you have completed this assignment