Homework 7 : Hello World!

HW deadline as per Canvas.

This homework deals with the following topics:

- Setting up the Java programming environment and Eclipse
- An introduction to Java programming, syntax, and style
- Noting some of the key differences between Python and Java

Before you get started on this first Java assignment, follow the "Installing_Configuring Java _ Eclipse.pdf" document for how to install Java and Eclipse, and how to create your first project and class. **If at any point during the installation/set-up process you are having difficulty, please post on Ed Discussion.** For something like this, we strongly encourage you to post publicly. Often times, an install problem that you are having is a problem another student might be having as well.

The Assignment

Now that you have created your first project and class, we want you to get a feel for this new language, especially how it differs from Python. In order to do that, we will just have you program in the *main* method of your program.

There are the 6 mini-programs we want you to code. All of the code you write should be in the *main* method of a "HelloWorld.java" file.

Note: Do not be concerned with invalid input for this assignment. Assume a user being asked to enter an integer WILL enter an integer (and not some other text).

1. *Say Hello*
    a. Ask the user to enter their full name.
    b. The user should type in their first name and last name, separated by a space.
        i. Print "Hello, <full name>!" where <full name> gets replaced by the full name of the user.

2. *Add Five Numbers*

a. Ask the user to enter a total of 5 numbers (ints or doubles), and hit enter after each. Assume each number is an int or a double.
b. Print the sum (as a double) of all the numbers each time.

3. *Even or Odd*
    a. Ask the user to enter an integer.
    b. Check if the number is even or odd. Assume this will be a positive integer.
        i. If it is even, print "<number> is even", where <number> gets replaced by the number.
        ii. If it is odd, print "<number> is odd", where <number> gets replaced by the number.

4. *Prime or Composite*
    a. Ask the user to enter a positive integer. Assume this will be a positive integer.
    b. Check if the number is prime or composite.
        i. If it is prime, print "<number> is prime", where <number> gets replaced by the number.
        ii. If it is composite, print "<number> is composite", where <number> gets replaced by the number.
        iii. If the number is 1, print 1.

5. *Convert Seconds to Time*
    a. Ask the user to enter some number of seconds (as an int) and convert it to hours:minutes:seconds.
        i. For example, if input seconds is 1432, print output in the format: 0:23:52
        ii. If input seconds is 0, print output in the format: 0:0:0
        iii. If input seconds is negative, print output in the format: -1:-1:-1

6. *Say Goodbye*
    a. Print "Goodbye, <full name>!" where <full name> gets replaced by the full name of the user.

Separate the printed output from each mini-program above with a blank line, a "----------", and another blank line. For example, the output from the first two mini-programs might look something like this:

Hello, Brandon Krakowsky!

Sum: 3.4
Sum: 5.74
Sum: 11.06
Sum: 12.06
Sum: 12.06

Write comments using // for any non-trivial lines of code. In general, all of the style conventions from Python also apply in Java. The main differences are in naming conventions (lowercase and underscores versus camelCase) and the syntax for comments (/* */ versus ‘’’ ‘’’ and // versus #). The content of your comments should be very similar.

Please include multi-line comments in your code to make it clear where the code for each mini-program has been written. Here are example comment blocks for 2 of the mini-programs.

HelloWorld.java

```
1  package hw7;
2
3  public class HelloWorld {
4
5      public static void main(String[] args) {
6
7
8          /*
9           * Say Hello
10          * Gets input of full name (first name and last name, separated by a space).
11          * Prints "Hello, <full name>!".
12          */
13
14         //TODO Write code here
15
16
17         /*
18          * Add Five Numbers
19          * Gets input of numbers (ints or doubles), and prints the sum (as a double) of all the numbers each time.
20          */
21
22         //TODO Write code here
23
24
```

Note, the TODOs should be replaced by your own code!

Add Javadoc comments to the “HelloWorld” class definition as well.

What to Submit

Please submit your “HelloWorld.java” file on Canvas. Do not submit anything but this one file.

When you click Upload on Canvas, you will have to locate your java file in the HW7_CIT590 → hw7 → src folder, in your Eclipse workspace. This is slightly different depending on your operating system, but here is what my full path looks like for reference: /Users/brandonkrakowsky/eclipse-workspace/HW7_CIT590/src/hw7/HelloWorld.java

Evaluation

1. Did you set up the file correctly? Does it compile and is everything named correctly? (2 pts)
2. Does your code function? Does it do what the specifications require? (12 pts)
3. Did you include the required comments that indicate each of the six sections? (1 pt)
4. Did you write good comments (including javadoc comments for the HelloWorld class) throughout your code? (2 pts)
5. Did you follow good style conventions? This includes camelCase for variables and proper indentation. (2 pts)
6. Did you submit the correct file "HelloWorld.java" and nothing else? (1 pt)