
600.107 Introductory Programming in Java, Summer 2015
Homework 1
Due: Tuesday, June 30th at 11:59pm

Please review the **Homework Guidelines** handout for this course before you begin.

Task 1. Write a Java class called `Name` which displays on the console screen your first name inside a box like the one below. Of course, you'll replace "Rachel" with your own name. Notice that the lines for the box are approximated using the simple characters `-`, `|` and `+`. Your program should not collect the name as input; it should just produce the same output during every execution.

```
+-----+
| Rachel |
+-----+
```

Remember that this class must be saved in a file called `Name.java` since the class is called `MyName`.

Task 2. Write a Java class called `Face` which outputs a face using characters. It doesn't have to be beautiful art; something such as the one shown below is just fine. But be creative; your face should not be an exact copy of this one! Note that for technical reasons, to include a single occurrence of the character `\`, you'll need to type `\\` instead.

```
/////
| o o |
(|  ^  |)
| < > |
-----
```

Task 3. Write a Java class called `Sum10` which outputs the sum of the first ten positive integers, $1 + 2 + \dots + 10$. Use just a single `System.out.println` statement. Have the program perform the addition for you; don't do the addition yourself before you write the program. Independently check to see if the result your program prints is correct. That is, after the program is written, add the numbers in your head and see if the answer you get is right. If not, go back and fix it!

Task 4. Write a Java class called `SumReciprocals` which outputs the sum of the reciprocals of the first ten positive integers, that is, it should output the value of $1/1 + 1/2 + \dots + 1/10$. This is harder than it sounds; independently check to see if the result your program prints is correct. If not, try writing the denominators as "floating point numbers", such as `1.0`, `2.0`, `...`, `10.0`, instead of regular integers and then recompile and run it again. We'll see later why your first attempt may not have worked.

Task 5. Write a Java class called `TempConverter` which asks the user to input the temperature in degrees Celsius, and outputs the same temperature in degrees Fahrenheit, which can be expressed as 32 plus $\frac{9}{5}$ times the temperature in degrees Celsius. You should assume that the user will always enter an integer value for the input temperature, so you must store it in an `int` variable. Your program should echo the input value before it reports the equivalent output temperature. Both values should be output with appropriate unit labels, e.g., `degrees Celsius` or `degrees Fahrenheit`.

Turn-in. Before the due date listed at the top of this file, please submit via the course Blackboard site one complete `.zip` file named `HW1-jhed.zip` (where you replace 'jhed' with your own personal JHED) containing all `.java` files required for the above tasks. Be sure that all submitted code compiles! If you were unable to complete a task, please include as part of your `.zip` submission a text file named `README` explaining anything you'd like the graders to know.

Need to fix something that you already submitted? At any point up until the due date for this assignment, you may re-submit a complete `zip` file. The submission most recently received is the one that will be graded. Any earlier submissions will be ignored, so please include *all* files in each submission.