**CS201 Lab 1**

**20 points**  **Due**: 01/26/15

**Problem:** Your friend Chris loves to cook, but can never remember conversions between mL, teaspoons, and tablespoons! Unfortunately Chris wants to cook from an Italian book where everything is in mL instead of teaspoons, tablespoons, or cups. Create a program that will output the equivalent number of teaspoons for a given number of mL, the equivalent number of tablespoons for the same number of mL, and the equivalent number of cups to help Chris cook.

You may find the following conversions useful in devising your calculations:

1 teaspoon = 5mL 1 tablespoon = 3 teaspoons 1 cup = 16 tablespoons

**GitHub Notes:**

* For each lab you’ll find the assignment file on GitHub, and you’ll submit all files to GitHub at the end of lab *whether or not you’re finished.* If you need more time to work on a lab up until the due date, you can clone the lab repository on your own computer and get all of the files.
* You and your partner BOTH have access to your lab repository on GitHub. This means both of you will have a copy of the lab files after class, no matter whose account they are uploaded with at the end of lab.

**Requirements:**

1. Follow the overall organization provided in the java file on GitHub.
2. Properly use constants, variables types, math, and output.
3. Complete a set of test cases, and use them to test that your program works correctly. Fix any errors.
4. Remember to perform *pair programming*. When ½ the code is written, switch drivers.

**Process:**

1. Install GitHub on your lab machine, using the install file on the Desktop (we will do this together at the start of this lab).
2. Write out an algorithm for your calculations – given mL to start with, what steps must you go through to get the answers you need? Show your algorithm to Dr. Olsen BEFORE you start writing code.
3. Follow the organization in the provided Lab1.java file, filling in the code for each part. Choose the correct variable types. *You may assume that mL will always be a whole number.*
4. Compile and fix any compiler errors.
5. Once your code compiles and you think it’s complete, create a series of test cases to use to determine that your program works correctly. Here I provide one, and you need to determine *at least three more* – use a calculator to make sure you have the correct expected result:

|  |  |  |
| --- | --- | --- |
| **Description** | **Test Value** | **Expected Result Output** |
| Simplest situation | mL is 1 | Teaspoon is 0.2  Tablespoon is 0.0666667  Cup is 0.004167 |

1. Include an updated version of the intro comments from Lab 0. Almost every line should change!

**Submit:**

1. To GitHub:
   * Completed java file
   * The list of test cases in .doc or .docx or .pdf format.
2. On Paper (one per person):
   * A reflection on the lab in .doc, .docx, or .pdf format, answering the following questions:
     1. How was the experience working with your partner?
     2. What did you learn in this lab?