

# CST8110 - Introduction to Programming Assignment #1 – Arithmetic/Problem Solving

**DUE: Friday Oct. 3<sup>rd</sup> at 6pm SHARP – see submission instructions below. Late submissions receive a grade of 0.**

## **Problem Description:**

Generate for the following problem:

- a) Test plan AND
  - b) Write and test the program code in Java.
- This problem will produce a very basic recipe for gingerbread cookies. Devise a tagline for your recipe, and use it in the first line of display from the program. (see example below)
  - We will use this problem in subsequent assignments and will build functionality as we progress. For now, the recipe will only handle simple calculation.
  - The program should ask for the number cookies to be made.
  - The program should calculate the amount of ingredients, for each cookie:
    - 1 tablespoon each of butter, brown sugar, and molasses
    - 2 teaspoons egg
    - 1/3 cup flour
    - 1/4 teaspoon each of baking soda and cinnamon
    - 1 pinch of ginger
  - The program should calculate and display the recipe.
  - Your code does NOT need to worry about formatting the output. Specifically numbers to two decimal places, etc. That will come later. For those who wish, the last slide in the Introduction to Java Lecture notes shows you one way to do the formatting.
  - Your code also does NOT (YET) need to worry if the user inputs an invalid value for the input (example negative number or character). We will implement this in a future assignment.

**Sample Output:** (red indicate user entered, blue is displayed by the program)

*Gingerbread men recipe generator*

*How many cookies do you want to make: 6*

*1) Mix 6 Tablespoons butter with 6 Tablespoons brown sugar*

*2) Add 6 Tablespoons molasses and 12 Teaspoons eggs and mix well*

*3) Add 2.0 cups flour and 1.5 teaspoons baking soda (don't mix yet!)*

*4) Add 1.5 teaspoons baking cinnamon and 6 pinches of ginger and mix well*

*5) Put a little flour on the table and flatten out your dough. Cut out your Gingerbread men with a cookie cutter.*

*6) Place your Gingerbread men on an ungreased cookie sheet. Bake at 350 degrees for 8-10 minutes*

## **Submission Requirements:**

- You must create a .zip file that contains ONLY the following:
  - Your program code – named Assign1.java - (with your name, section, lab teacher listed in comments in the header of the program)
  - A document created with either Notepad, Wordpad or Word named Assign1.docx or Assign1.txt with your test plan – note this should contain your name, section and lab teacher listed at the top.
- The .zip file must have the following name:
  - Your last name, your first name, the word “Assign” and the assign number.  
Example RosenblumHowardAssign1.zip
- Submit the .zip file through the Assignment feature which has been enabled in the CST8110 Blackboard course. This should be directly under the Assignment description.
- Marks will be given for correct submission (i.e. marks will be deducted for incorrect submission!)