CS 142 Assignment 1
Baking Calculator
DUE on Thursday, October 11 at 11:59 PM

You are a baker and you are in charge of baking two recipes.

First is a chocolate chip cookie recipe. It makes four dozen cookies. Ingredients:
2 ¼ cups all-purpose flour
1 teaspoon baking soda
1 teaspoon salt
1 cup (2 sticks) butter
1 ½ cups sugar
1 teaspoon vanilla extract
2 eggs
2 ½ cups chocolate chips

Second is a banana bread recipe. It makes one loaf of banana bread. Ingredients:
3 bananas
⅓ cup butter
¾ cup sugar
1 egg
1 teaspoon vanilla extract
1 teaspoon baking soda
⅛ teaspoon salt
1 ½ cups all-purpose flour

The store sells the ingredients in the following packaged quantities and prices:
5 lb of all-purpose flour in a bag for $1.79
26 oz of salt for $1.09
16 oz of baking soda for $1.09
1 liquid ounce of vanilla extract for $3.99
1 dozen eggs for $2.19
1 lb sugar for $1.99
1 lb (4 sticks) butter for $4.49
1 banana for $0.32
12 oz (2 cups) chocolate chips for $3.29

Note that there are two kinds of ounces in the Imperial (American) measurement system, weight and volume. For this assignment, “oz” refers to a weight measurement and “liquid ounce” refers to a volume measurement.

Here are some handy conversion factors:
3 ⅓ cups of flour in a pound
6 teaspoons of salt or baking soda in an oz
2 cups of sugar in a pound

6 teaspoons in a liquid ounce
12 things in a dozen (hopefully you knew that one!)
The recipes and price list have a couple of additional conversion factors in parentheses.

Your assignment:
Create a simple Java program. Begin the program with a comment containing your first and last name. Name the class `BakingCalculator`. You will be writing static methods to calculate each ingredient quantity. **These are the ingredient methods you must write:**

```
public static int bagsOfFlour(int cookieCount, int loafCount)
public static int containersOfSalt(int cookieCount, int loafCount)
public static int boxesOfBakingSoda(int cookieCount, int loafCount)
public static int bottlesOfVanilla(int cookieCount, int loafCount)
public static int cartonsOfEggs(int cookieCount, int loafCount)
public static int bagsOfSugar(int cookieCount, int loafCount)
public static int packagesOfButter(int cookieCount, int loafCount)
public static int bananas(int cookieCount, int loafCount)
public static int bagsOfChocolateChips(int cookieCount, int loafCount)
```

For each ingredient method, the parameter `cookieCount` will define the number of chocolate chip cookies to buy ingredients for, and `loafCount` will define the number of banana bread loaves to buy for. **Each method will use these parameter variables to scale the recipes and calculate and return how many of the method name's item to buy**. For example, `bagsOfFlour` should return the number of bags of flour to buy given the number of cookies and loaves provided as parameters. **I recommend breaking each method up into small calculations using descriptive "xPerY" variable names.**

You must buy **exactly as many items as you need** to bake the recipes (you may end up with some left over but not a whole item). The same ingredients purchased can be used to bake **both** kinds of items (for example, you could split a bag of flour between the cookies and bread). **Use the conversion factors in this document to determine how much to buy. You should not need to look up any other conversion factors.**

In addition, you must write one more method to calculate the cost of purchasing all ingredients necessary to bake the number of each item given in the parameters:
`public static double totalCost(int cookieCount, int loafCount)`
`totalCost` should use the other methods to help calculate its cost.

A tester program will be made available on Canvas. Please make sure you run it! It will tell you if there are problems with your program which could impact your grade for the assignment! If your program doesn't compile (red X) or implement all of the above methods as specified, you may not earn any points!

Submit the file `BakingCalculator.java` to the Canvas assignment when complete.