CSE21: Lab #4 – Generic Cheese Shop v2

Overview

We will gain our hands-on experience with methods in this lab and they have been modified in the following way:

```java
public static void intro(String[] names, double[]prices, int[] amounts)
```

The method intro gets three arguments: pointer to names array, pointer to prices array and pointer to amounts array. They are of types String, double and int respectively. We can invoke the method by calling it like this:

```java
intro(names, prices, amounts);
```

Instead of calling getAmount for each of the cheese, we will now create one which will do all at once. We change the declaration of getAmount to the following way using three parameters:

```java
public static void getAmount(Scanner input, String[] names, int[] amounts)
```

Note that it will no longer return an int but just fills the amounts array.
Other methods go through a similar transformation to now deal with arrays instead of just fixed 3 cheeses only.

Getting started

After starting Eclipse, create a new project called Lab 21_4. Import into your project GenCheeseShopv2.java.

(Exercise) Fix – GenCheeseShopv2.java

Only fill-in the parts as indicated in GenCheeseShopv2.java. The expectation is you know what code belongs in these methods that are called by main by matching the specification to the names of the methods. Some code will be similar to lab 3 with some minor changes. Think about how to tell how many cheeses there are based on the arrays passed into each method without needing the variable MAXCHEESE to control the loops. Do **NOT** change main or the method declarations. Fix the code where it indicates to fix (right now it is always returning just 0). The program will compile and run as given but obviously it is not doing much.

Your program will do the following (A-F):
1. List all the cheese types available and the prices
2. Ask the user how many pounds of each type of cheese to purchase
3. Calculate Sub Total (price*amount of each cheese added together)
4. Discount of Sub Total
       a. for a $10 discount if their purchase is $50 or over
       b. an additional $15 discount ($25 total) if $100 or over
5. Ask the user if they would like to see a list of what they purchased
       a. If yes, a list comes up showing how much of each type of cheese they
          bought and the cost of each cheese
       c. Display only the cheese they actually bought
       d. If no then no itemized information is displayed
6. Display Sub Total, Discount and Total Price

Example runs:

```
We sell 0 kinds of Cheese

Sub Total: $0.0
-Discount: $0.0
Total : $0.0
-----------------------------------------------------------------------------

We sell 1 kinds of Cheese
Dalaran Sharp: $1.25 per pound
Enter the amount of Dalaran Sharp : 1
Display the itemized list? (1 for yes) 1
1 lbs of Dalaran Sharp @ 1.25 = $1.25

Sub Total: $1.25
-Discount: $0.0
Total : $1.25
-----------------------------------------------------------------------------

We sell 2 kinds of Cheese
Dalaran Sharp: $1.25 per pound
Stormwind Brie: $10.0 per pound
Enter the amount of Dalaran Sharp : 1
Enter the amount of Stormwind Brie : 1
Display the itemized list? (1 for yes) 1
1 lbs of Dalaran Sharp @ 1.25 = $1.25
1 lbs of Stormwind Brie @ 10.0 = $10.0

Sub Total: $11.25
-Discount: $0.0
Total : $11.25
-----------------------------------------------------------------------------

We sell 3 kinds of Cheese
Dalaran Sharp: $1.25 per pound
Stormwind Brie: $10.0 per pound
Alterac Swiss: $40.0 per pound
Enter the amount of Dalaran Sharp : 1
Enter the amount of Stormwind Brie : 1
Enter the amount of Alterac Swiss : 1
Display the itemized list? (1 for yes) 1
1 lbs of Dalaran Sharp @ 1.25 = $1.25
1 lbs of Stormwind Brie @ 10.0 = $10.0
1 lbs of Alterac Swiss @ 40.0 = $40.0
```

```
Sub Total: $51.25
-Discount: $10.0
Total : $41.25
--------------------------------------------------------------------------------

We sell 4 kinds of Cheese
Dalaran Sharp: $1.25 per pound
Stormwind Brie: $10.0 per pound
Alterac Swiss: $40.0 per pound
Cheese Type D: $9.15 per pound
Enter the amount of Dalaran Sharp : 1
Enter the amount of Stormwind Brie : 1
Enter the amount of Alterac Swiss : 1
Enter the amount of Cheese Type D : 1
Display the itemized list? (1 for yes) 1
1 lbs of Dalaran Sharp @ 1.25 = $1.25
1 lbs of Stormwind Brie @ 10.0 = $10.0
1 lbs of Alterac Swiss @ 40.0 = $40.0
1 lbs of Cheese Type D @ 9.15 = $9.15

Sub Total: $60.4
-Discount: $10.0
Total : $50.4
--------------------------------------------------------------------------------

We sell 4 kinds of Cheese
Dalaran Sharp: $1.25 per pound
Stormwind Brie: $10.0 per pound
Alterac Swiss: $40.0 per pound
Cheese Type D: $9.15 per pound
Enter the amount of Dalaran Sharp : 0
Enter the amount of Stormwind Brie : 0
Enter the amount of Alterac Swiss : 0
Enter the amount of Cheese Type D : 0
Display the itemized list? (1 for yes) 1

Sub Total: $0.0
-Discount: $0.0
Total : $0.0
--------------------------------------------------------------------------------

We sell 10 kinds of Cheese
Dalaran Sharp: $1.25 per pound
Stormwind Brie: $10.0 per pound
Alterac Swiss: $40.0 per pound
Cheese Type D: $9.15 per pound
Cheese Type E: $2.5 per pound
Cheese Type F: $8.74 per pound
Cheese Type G: $9.88 per pound
Cheese Type H: $2.91 per pound
Cheese Type I: $6.66 per pound
Cheese Type J: $0.36 per pound
Enter the amount of Dalaran Sharp : 1
Enter the amount of Stormwind Brie : 1
Enter the amount of Alterac Swiss : 1
Enter the amount of Cheese Type D : 1
Enter the amount of Cheese Type E : 1
Enter the amount of Cheese Type F : 1
Enter the amount of Cheese Type G : 1
Enter the amount of Cheese Type H : 1
Enter the amount of Cheese Type I : 1
```

```
Enter the amount of Cheese Type J : 1
Display the itemized list? (1 for yes) 1
1 lbs of Dalaran Sharp @ 1.25 = $1.25
1 lbs of Stormwind Brie @ 10.0 = $10.0
1 lbs of Alterac Swiss @ 40.0 = $40.0
1 lbs of Cheese Type D @ 9.15 = $9.15
1 lbs of Cheese Type E @ 2.5 = $2.5
1 lbs of Cheese Type F @ 8.74 = $8.74
1 lbs of Cheese Type G @ 9.88 = $9.88
1 lbs of Cheese Type H @ 2.91 = $2.91
1 lbs of Cheese Type I @ 6.66 = $6.66
1 lbs of Cheese Type J @ 0.36 = $0.36

Sub Total: $91.44999999999999
-Discount: $10.0
Total : $81.44999999999999
--------------------------------------------------------------------------------

We sell 10 kinds of Cheese
Dalaran Sharp: $1.25 per pound
Stormwind Brie: $10.0 per pound
Alterac Swiss: $40.0 per pound
Cheese Type D: $9.15 per pound
Cheese Type E: $2.5 per pound
Cheese Type F: $8.74 per pound
Cheese Type G: $9.88 per pound
Cheese Type H: $2.91 per pound
Cheese Type I: $6.66 per pound
Cheese Type J: $0.36 per pound
Enter the amount of Dalaran Sharp : 1
Enter the amount of Stormwind Brie : 1
Enter the amount of Alterac Swiss : 1
Enter the amount of Cheese Type D : 1
Enter the amount of Cheese Type E : 1
Enter the amount of Cheese Type F : 1
Enter the amount of Cheese Type G : 1
Enter the amount of Cheese Type H : 1
Enter the amount of Cheese Type I : 1
Enter the amount of Cheese Type J : 1
Display the itemized list? (1 for yes) 0

Sub Total: $91.44999999999999
-Discount: $10.0
Total : $81.44999999999999
--------------------------------------------------------------------------------

We sell 10 kinds of Cheese
Dalaran Sharp: $1.25 per pound
Stormwind Brie: $10.0 per pound
Alterac Swiss: $40.0 per pound
Cheese Type D: $9.15 per pound
Cheese Type E: $2.5 per pound
Cheese Type F: $8.74 per pound
Cheese Type G: $9.88 per pound
Cheese Type H: $2.91 per pound
Cheese Type I: $6.66 per pound
Cheese Type J: $0.36 per pound
Enter the amount of Dalaran Sharp : 1
Enter the amount of Stormwind Brie : 0
Enter the amount of Alterac Swiss : 2
Enter the amount of Cheese Type D : 0
Enter the amount of Cheese Type E : 3
```

```
Enter the amount of Cheese Type F : 0
Enter the amount of Cheese Type G : 4
Enter the amount of Cheese Type H : 0
Enter the amount of Cheese Type I : 5
Enter the amount of Cheese Type J : 0
Display the itemized list? (1 for yes) 1
1 lbs of Dalaran Sharp @ 1.25 = $1.25
2 lbs of Alterac Swiss @ 40.0 = $80.0
3 lbs of Cheese Type E @ 2.5 = $7.5
4 lbs of Cheese Type G @ 9.88 = $39.52
5 lbs of Cheese Type I @ 6.66 = $33.3

Sub Total: $161.57
-Discount: $25.0
Total : $136.57
```

(Assessment) Logic Check : GenCheeseShopv2.java

1) What parts did you copy from lab 3 (A-F)?
2) What parts did you copy from lab 4 (A-F)?
3) What parts did you change or created new (A-F)?
4) Can declaration of calcSubTotal to the following (and invocation) to still work?

```
  i. public static double calcSubTotal(double[] p, int[] a)
 ii. public static double calcSubTotal(double[] a, int[] p)
iii. public static double calcSubTotal(double[] p, double[] a)
 iv. public static double calcSubTotal(int[] a, double[] p)
  v. public static double calcSubTotal(double[] p1, int[] p2)
```

5) What must you do so discount prints out a decimal instead of just an integer?
   Prints out: `-Discount: $10.0`
   Instead of: `-Discount: $10`

What to hand in

When you are done with this lab assignment, you are ready to submit your work.
Make sure you have done the following **before** you press Submit:

- Include answers to questions (1-5)
- Attach fixed GenCheeseShopv2.java
- List of Collaborators