

Programming Assignment 2

Due Date: 11:55 pm, Friday, September 24, 2021

This assignment is worth 100 programming points.

The Problem:

A program is needed to manage cupcake orders for a small bakery. This bakery sells 3 flavors of cupcakes:

- Red Velvet - \$2.00 each
- Caramel Surprise - \$2.50 each
- Chocolate Delight - \$3.00 each

Customers ordering a dozen or more cupcakes receive a 10% discount unless they order at least 3 dozen, in which case the discount is 15%. Sales tax in this location is 7.25%.

Your program will display a welcome message. Then it will get the following information from the customer:

- Name
- The number of Red Velvet cupcakes desired
- The number of Caramel Surprise cupcakes desired
- The number of Chocolate Delight cupcakes desired
- The day of the week when the cupcakes will be picked up

Your program will calculate the base cost of the order, determine whether a discount applies computing the discount amount and the adjusted cost if there is a discount, compute the tax on the (adjusted) amount, and compute the final total cost.

The program will display an order summary as shown below. Cupcake flavors will be included in the summary only if at least one cupcake of that flavor has been ordered. The discount lines will be displayed only if a discount applies to the order. See the sample run below for the correct format.

Hint: you should mix your calculation and your printing to avoid code duplication.

Sample input and output(user input in bold):

```
Welcome to the Pflugerville Bakery!  
We're ready to take your cupcake order.
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```
Please enter your name: Sarah Marshall  
Enter the number of Red Velvet cupcakes: 6
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Enter the number of Caramel Surprise cupcakes: 0
Enter the number of Chocolate Delight cupcakes: 6
Enter the day of the week you will pick up your order: Thursday

Order Summary

Red Velvet cupcakes: 6 for \$12.00
Chocolate Delight cupcakes: 6 for \$18.00

Subtotal:	\$30.00
Discount percentage:	10%
Discount amount:	\$3.00
Discounted subtotal:	\$27.00
Tax:	\$1.96

Total cost: \$28.96

This order will be available for pickup
By: Sarah Marshall
On: Thursday

In the file Program 2 Test Data.docx, enter three sets of points and the correct output for each. Make sure your program works correctly for each of your test cases.

General Instructions:

Your files must start with beginning comment blocks as specified in the coding guidelines for this course. The code should be well documented.

Make sure you use meaningful variable names that follow the Java naming conventions.

There are several value in this program that should be named constants. Be sure to create appropriate named constants and use them in your program.

Once you have filled in your TestData table, export it to a PDF file. You will attach the PDF file to your Programming Assignment 2 submission in ReggieNet.

Submission:

You will attach two files to the assignment in ReggieNet. One will be a .zip file containing your .java file. The other will be the completed Program 2 Test Data.pdf (exported from Program 2 Test Data.docx).

Program Grading Criteria

Base Grade

90%	<ul style="list-style-type: none"> • Includes all program structure needed to complete the assignment with no logical errors • Has meaningful and conventional names for most variables, methods, and classes • Produces output completely matching the project specification • Uses most appropriate named constants.
80%	<ul style="list-style-type: none"> • Includes all program structure needed to complete the assignment, possibly with some logical errors • Has meaningful and conventional names for most variables, methods, and classes • Produces output matching the project specification with one or fewer errors or omissions. • Uses some appropriate named constants
70%	<ul style="list-style-type: none"> • Successfully accomplishes some program steps needed to complete the project. • Uses appropriate variables, operations, and classes. • Produces at least some output meeting the project requirements.
60%	<ul style="list-style-type: none"> • Is a recognizable attempt to meet the project requirements. • Includes variables, operations, and classes that relate to the project requirements. • Compiles and runs.

Point Adjustments

Deductions		Additions	
-10	Compiler error	+5	All test cases produce correct output
-10	Has no commenting	+5	Meets full formatting requirements
-5	Runtime error		(header comments, braces, indentation)
-5	Test data not provided		
-5	Unnecessary code duplication		
-2 ea.	Incorrect variable type		
-2 ea.	Variable when constant indicated		
-1 ea.	Naming convention violation		