

CIS 611
Spring 2017
Individual Programming Assignment: PA02 – Selections and Validations

Due: Friday Feb 10, 2017 11:59pm

Total Points: 20

Selections

(Error handling of input is not required in PA02, but will be required from assignment PA03 onwards)

The purpose of this programming assignment is to:

- Implement selection control using if statements
- To write expressions using conditional operators
- Generate random numbers using Math.random() method
- Use appropriate naming conventions
- Follow programming style guidelines
- Make sure the submission process works from your environment

Question 1: (20 Points) Merchandise Bill Calculation

Write a Java program to calculate merchandise bill. The program must prompt the user to input the following:

- a) **Does customer have store membership (0: No, 1:Yes)**
- b) **Total Merchandise cost (this could be decimal value)**

The algorithm must provide a scratch card discount and this is simulated using **Math.Random()** to generate a discount between 0 and 15%.

Customers who have store membership will get additional 5% discount.

Finally the algorithm will add a sales tax calculated at 7.4% on the amount after all the discounts.

Use **JOptionPane** messages for the program input and output.

Input Format:

Does customer have store membership 1
Total Merchandise Cost \$100

Output Format:

Merchandise Cost:	\$100
Scratch card discount @ 10%:	\$10
Membership discount (5%)	\$5
Total Bill after discount	\$85
Sales Tax: (7.4%)	\$6.29
Total Bill Amount:	\$91.29

All the amounts calculated must be rounded to 2 decimal places and displayed in the above format:

In the above output, both the random discount % and discount in \$ value must be displayed. If customer doesn't have store membership, then the membership discount must be displayed as 0.

Evaluation Criteria:

1. Program must contain a beginning comment block, refer the Class template provided
2. Follow the proper class name conventions
3. Program must adhere to all style rules and programming practices discussed in class.
4. Use comments, where it is required.
5. Program must not have any compilation or run time errors
6. Program must perform all the requirements correctly, including read and output data.
7. All tasks must be completed to receive a complete credit for this assignment
8. Correct submission format must be followed, refer the Submissions section below

Submission

1. Zip the two java source files into one file that must be named following the provided naming format in this course, and then upload the zip file under this assignment answer in Canvas.

Folder Name: *FFLLPA02.zip* (where *FF* = your First Name, *LL* = your Last Name)

Java Source File Name: *FFLLPA02XX.java* (where *FF* = your First Name, *LL* = your Last Name, *XX* = 01 for Question 1)

If your name is Jim Brown, then the first program must be saved in a file named JimBrownPA0201.java, copy to a folder named JimBrownPA02, zip and upload this folder, under the corresponding assignment submission in canvas.

Summary for naming conventions for this assignment:

Name: Jim Brown

Question 1: JimBrownPA0201.java

Zipped Folder Name: JimBrownPA02.zip

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Name: _____

Question 1

Requirements	Any comment provided by grader	Max Points Allowed	Points Earned
General Code Structure: Proper naming convention used for file, Comments used in the code to explain the purpose of the code, Indentation of the code for better readability, Good choice of variable names		5	
Input, Output, User Interface: Proper coding implementation of the logic to read the data and display the expected value, proper coding implementation of dialog box/boxes, general aesthetics of user interface. Input of values such as store membership, merchandise cost could be decimal, display of the expected output values, use of No, Yes, use of JOptionPane.		5	
General Algorithm and Logic: Discount calculation, Use of Math.random(), Sales Tax Calculation, Total calculation, rounding the value to 2 decimal places, Use of Conditional logic.		10	
		20	

Total ____/20