

ISM240 - Homework 4 Methods

Academic Integrity Pledge

I HAVE ABIDED BY THE UNCG [Academic Integrity Policy](#) ON THIS ASSIGNMENT.

Student's Signature N. Holden Hughes Date 3/22/24

Submission instructions.

- Sign and date the academic integrity pledge.
- Save the academic integrity pledge in the solution folder and compress the entire solution folder with all the project files.
- Turn in via Canvas as a single file.

Q1. Fitness Center Membership Fee Calculator

Triad City Fitness Center charges the following base membership rates:

Teen (Ages 12-15): \$20/month
Young Adult (Ages 16-17): \$30/month
Adult (Ages 18-64): \$40/month
Senior Citizen (65 or Older): \$30/month

A 12% discount on the base membership rate is available to Military members and Veterans.

The center also offers the following optional services, which increase the monthly fee. Discounts are not available for optional services.

Yoga lessons: add \$15 to the monthly fee
Zumba lessons: add \$18 to the monthly fee
Karate: add \$23 to the monthly fee
Water fitness classes: add \$25 to the monthly fee
Personal Trainer: add \$50 to the monthly fee

Create an application that allows the user to select a membership rate, optional services, discount eligibility, and the number of months (1 to 12) of the membership. The application should display the total fee, including 6% sales tax.

The application should have the following methods and event handlers.

| <i>Method</i> | <i>Type</i> | <i>Description</i> |
|-------------------|-------------|--|
| CalcBaseFee | Method | Returns the rate of the selected membership type |
| CalcAdditionalFee | Method | Returns the cost of the selected optional services |
| CalcSalesTax | Method | Accepts the subtotal as an argument. Return the amount of sales tax on that amount. The tax rate should store in a class-level constant. |

Please do not distribute questions or answers

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|-----------------------|---------------|--|
| calculateButton_Click | Event handler | Calculates and displays the total fee. |
| exitButton_Click | Event handler | Ends the application. |
| clearButton_Click | Event handler | Resets the controls on the form to their initial values. |

The graphical user interface, Input validation, standard naming conventions, and comments – 5 points

Methods and Event handlers – 25 points