

Business Applications Programming

Assignment 3 (25%)

Please complete the following exercise and submit your solution online by Friday 4th December @ 5 pm at the latest. Your submission has two parts (A) Submit your **full** application solution folder (zipped) to the designated dropbox on Blackboard, and (B) your source code in a word document to the Turnitin dropbox provided (no screenshots required). Note only one submission is accepted.



Halo Fitness Application:

Your client Halo Fitness Group (HFG) runs health and fitness clubs in the West of Ireland. Due to the recent COVID-19 pandemic, the company's management has decided to amend its business model to offer more flexible membership terms. Your company has been commissioned to create a membership sales management application for HFGs' front of house employees and management.

Basic Flow of Events

When the application loads, the user is asked to enter a password before being able to view any details or pricing. The password is '***ILuvVisualC#***'. If the user enters an incorrect password, they should be notified of the error & asked to try again. If the user enters the wrong password on three occasions the application closes with a message to the user.

A potential member on expressing interest in joining a HFG leisure club is asked by the employee how many months they are thinking of joining the club for; this figure is inputted into the application and the ***Display*** button is pressed. The application calculates and displays the price per month for the term requested and the price for the full term; it also displays the full price for the next occurring term where the discount will increase and a message of your design to hopefully help the user upsell this longer term duration. For example, if a potential client wished to join for 10 months the monthly price would be €47.20 a month, with a total price of €472. The next term where a discount increase occurs

is @ 13 months, which has a total cost of €575.25. Discount is applied monthly as per the schedule provided on the user interface.

If the potential member decides on a term they wish to join for, the employee inputs this duration and presses the ***Proceed*** button. The application displays a randomly generated and unique six-character membership ID along with that day's date as the joining date. Textboxes are provided for inputting the members details (Full Name, Telephone Number & Email address). After these details are entered the ***Confirm*** button is pressed, and the application displays the full details of the proposed membership and prompts the employee to gain final confirmation from the person joining the club. If the client confirms their wish to proceed, the transaction is saved persistently to text file by the application, a confirmation message is displayed when this process is complete.

Additional Required Functionality

If the employee or the employee's manager wishes to see a summary of memberships processed to file, they click the ***Summary*** button and the application displays the full list of membership numbers, the total amount of membership fees, the average membership term and the average membership fee.

The application should have functionality that allows a user to ***Search*** previous memberships by entering a membership ID number for details of a single memberships or by date if searching for details of all memberships sold on a particular date. If the search term is found, the complete details of the transaction(s) is displayed.

Coding Notes

- Handle any exceptions that could occur in your project & provide user input validation as needed.
- A minimum of three methods are required to be developed with this application, with at least one being a value returning method.
- Arrays or any other type of collection are **not** permitted for use in this assignment.