Question 2: Gym Membership (20 Marks)

Write a program, which presents the user with the following menu:

1. Open a new account
2. View an account
3. Close an account
4. Exit program

Upon entering '1' this second account menu is presented:

1. Youth account
2. Normal account
3. Senior account
4. Return to main menu

See below for the actions to be carried out when selecting from this account menu.

Upon entering a '2' the user is asked to enter an account number and if the account exists the following details are presented: Account number, Surname, Forename, Address, Number of Months, Amount Due and Account type. The user is then returned to the main menu.

Upon entering a '3' the user is asked to enter an account number and if the account exists the account is closed. Closing an account removes it from the save file.

Upon entering a '4' the program closes.

Within the account menu if the user enters a '4' they should be returned to the main menu. On any other selection they are taken through a process of entering their details. These are to include: Surname, Forename & Address. They should be asked how many months they want their membership to be – this must be greater than 0 otherwise the process is cancelled. The amount due should equal the cost of one month's membership multiplied by the number of months. How much each membership costs is up to you. A unique account number is provided for the user. When the account has been opened the user is returned to the main menu.

All details must be stored in a file so that they can be accessed between executions of the program. Ensure that adding a new account does not corrupt the already saved data. Likewise, when closing an account.

To complete this task, you should use the object-oriented approach described in this chapter. There should be a base account class with a youth account and senior account which both inherit from it. The differences in accounts will be the cost of a gym membership per month and account type.

Account type should be an enum consisting of YOUTH, NORMAL and SENIOR.

Provide screenshots of all menus and actions, along with the save file. The data shown in the file must correspond to the screenshots demonstrating it being used.