Lab #4 — Membership Fee Calculator

Objectives:
➢ Introduce class level variables.
➢ Introduce various VB.NET controls.
➢ Introduce selection.

Problem Statement I: Write a VB program that calculates the membership fees for The Bay City Health and Fitness Club. The monthly membership rates are based on the following rates:

❋ Standard adult membership: $40/month
❋ Child (age 12 and under): $20/month
❋ Student: $25/month
❋ Senior citizen (age 65 and over): $30/month

The club also offers the following optional services, which increase the base monthly fee:

❋ Yoga lessons: add $10 to the monthly fee
❋ Karate lessons: add $30 to the monthly fee
❋ Personal trainer: add $50 to the monthly fee
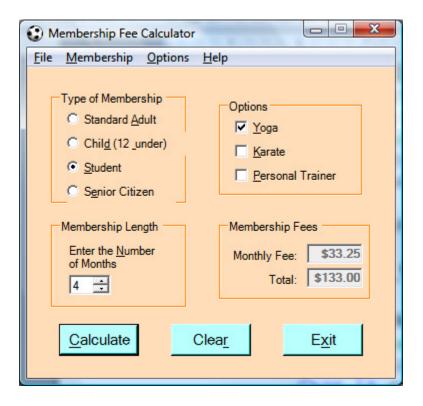
Discounts are available, depending on the length of membership:

❋ 1-3 months: No discount
❋ 4-6 months: 5% discount
❋ 7-9 months: 8% discount
❋ 10 or more months: 10% discount

   The application should allow the user to select a membership rate, select optional services, and enter the number of months of the membership. It should calculate the member's monthly and total charges for the specified number of months. The application should also validate the number of months entered by the user. An error message should be displayed if the user enters a number less than 1 or greater than 24.
   Optionally, add menus that duplicate most of the selections and operations and print capabilities.

Hints for this lab:

1. Use a NumericUpDown control for the number of months, updMonths and set its Maximum property to 24.

2. Declare constants for the discounts, fees and the extras—you might have quite of number of these. Here is my list:

```
'Constants declaration
Const DISCOUNT_4_TO_6 As Decimal = 0.05D    '4 to 6 months
Const DISCOUNT_7_TO_9 As Decimal = 0.08D    '7 to 9 months
Const DISCOUNT_10_OR_MORE As Decimal = 0.1D '10 or more months
Const ADULT_FEE As Decimal = 40             'Adult base monthly fee
Const CHILD_FEE As Decimal = 20             'Child base monthly fee
Const STUDENT_FEE As Decimal = 25           'Student base monthly fee
Const SENIOR_FEE As Decimal = 30            'Senior base monthly fee
Const YOGA As Decimal = 10                  'Yoga monthly fee
Const KARATE As Decimal = 30                'Karate monthly fee
Const TRAINER As Decimal = 50               'Personal Trainer monthly fee
```

3. Use nested if statements or better yet If/ElseIf/End If structure to determine which radio button is selected for the appropriate fee. Use simple If/End If with no Else for the extra services (Yoga, Karate, and Personal Trainer) to check for each

4. Make the Calculate button default (set the form's AcceptButton property to it).

5. Make the text boxes in the Membership Fees group box ReadOnly.

6. Add a MenuStrip with the following menu items: File (Clear, Print, Exit), Membership (Adult, Child, Student, Senior), Options (Yoga, Karate, Yoga), and Help (About). Do not duplicate code in these menus: for example, the event handler for `mnufileClear_Click` should be one line: `btnClear_Click(sender, e).` It is important to synchronize the menu selection with the corresponding controls on the form. So, for example, if the Yoga check box is selected, the corresponding menu

choice in Options should be checked as well. And so on for the others. You might consider making the radio buttons and the check boxes dynamic: they call the Calculate event handler. Here is an example of one menu handler:

```
Private Sub chkYoga_CheckStateChanged(ByVal sender As Object, ByVal e As _
System.EventArgs) Handles chkYoga.CheckStateChanged
        'Checked box Yoga clicked
        If chkYoga.Checked Then
            mnuOptionYoga.Checked = True      'synchronize with menu
        Else
            mnuOptionYoga.Checked = False     'synchronize with menu
        End If
    btnCalculate_Click(sender, e)
End Sub
```

7. Use a Select Case statement to determine discount. Mine looks like this:

```
'Determine the discount.
Select Case intMonths
    Case Is <= 3
        decDiscount = 0
    Case 4 To 6
        decDiscount = decBaseFee * DISCOUNT_4_TO_6
    Case 7 To 9
        decDiscount = decBaseFee * DISCOUNT_7_TO_9
    Case Is >= 10
        decDiscount = decBaseFee * DISCOUNT_10_OR_MORE
End Select
```