

## WEEK 5 LAB ASSESSMENT

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### Code

```
Week_5_Lab_Assessment
RetirementCalc.vb
Week_5_Lab_Assessment
btnCalc Click

1 Public Class RetirementCalc
2     'Load Form
3     Private Sub RetirementCalc_Load(sender As Object, e As EventArgs) Handles MyBase.Load
4         MessageBox.Show("Preparing to calculate your retirement plan...", "Calculator Load", MessageBoxButtons.OK, MessageBoxIcon.Information)
5     End Sub
6
7     'Calculation Button
8     Private Sub btnCalc_Click(sender As Object, e As EventArgs) Handles btnCalc.Click
9         'Check if any of the required fields are empty
10        If String.IsNullOrEmpty(txtAgeCurrent.Text) OrElse
11            String.IsNullOrEmpty(txtAgeRetire.Text) OrElse
12            String.IsNullOrEmpty(txtIncome.Text) OrElse
13            String.IsNullOrEmpty(cmbxRate.Text) Then
14            MessageBox.Show("Please fill in all the required fields.", "Missing Fields", MessageBoxButtons.OK, MessageBoxIcon.Warning)
15            Return
16        End If
17
18        Dim age_now, age_retire, age_diff As Integer
19        Dim saving_rate, income, total_saving, monthly_saving As Double
20
21        'Conversions for variables
22        age_now = CInt(txtAgeCurrent.Text)
23        age_retire = CInt(txtAgeRetire.Text)
24        income = CDb(txtIncome.Text)
25        saving_rate = CInt(cmbxRate.Text)
26
27        'Check if age difference is greater than zero
28        If age_retire = age_now Then
29            MessageBox.Show("Please enter a valid age difference. Retirement age should be greater than the current age.", "Age Difference Warning", MessageBoxButtons.OK, MessageBoxIcon.Warning)
30            Return
31        End If
32
33        'Age difference
34        age_diff = age_retire - age_now
35
36        'Total Savings Needed
37        total_saving = (saving_rate / 100) * income
38
39        'Savings for every month
40        monthly_saving = total_saving / (12 * age_diff)
41
42        'Formula
43        txtSavingsMonthly.Text = monthly_saving
44    End Sub
45
46    'Clear Button
47    Private Sub btnClear_Click(sender As Object, e As EventArgs) Handles btnClear.Click
48        txtAgeCurrent.Text = "0"
49        txtAgeRetire.Text = "0"
50        txtIncome.Text = "0"
51        cmbxRate.Text = "0"
52        txtSavingsMonthly.Text = "0"
53    End Sub
54
55    'Closing Button
56    Private Sub btnExit_Click(sender As Object, e As EventArgs) Handles btnExit.Click
57        'Display a message box
58        Dim result As DialogResult = MessageBox.Show("Are you sure you want to exit the application?", "Exit Confirmation", MessageBoxButtons.OKCancel, MessageBoxIcon.Question)
59
60        'Check the user's choice
61        If result = DialogResult.OK Then
62            'Clicked OK to close application
63            Me.Close()
64            'Clicked cancel, return to application
65        End If
66    End Sub
67 End Class
68
```

## Process

### 1) App Load

Calculator Load



Preparing to calculate your retirement plan...

OK

## 2) Front End of Form

Retirement Plan Calculator

**Retirement Plan Calculator**

Current Age:

Retirement Age:

Annual Income:

Savings Rate (%):  ▼

**Calculate**

Monthly Savings Needed:

**Clear** **Exit**

### 3) Input Fields


Retirement Plan Calculator

## Retirement Plan Calculator

Current Age:

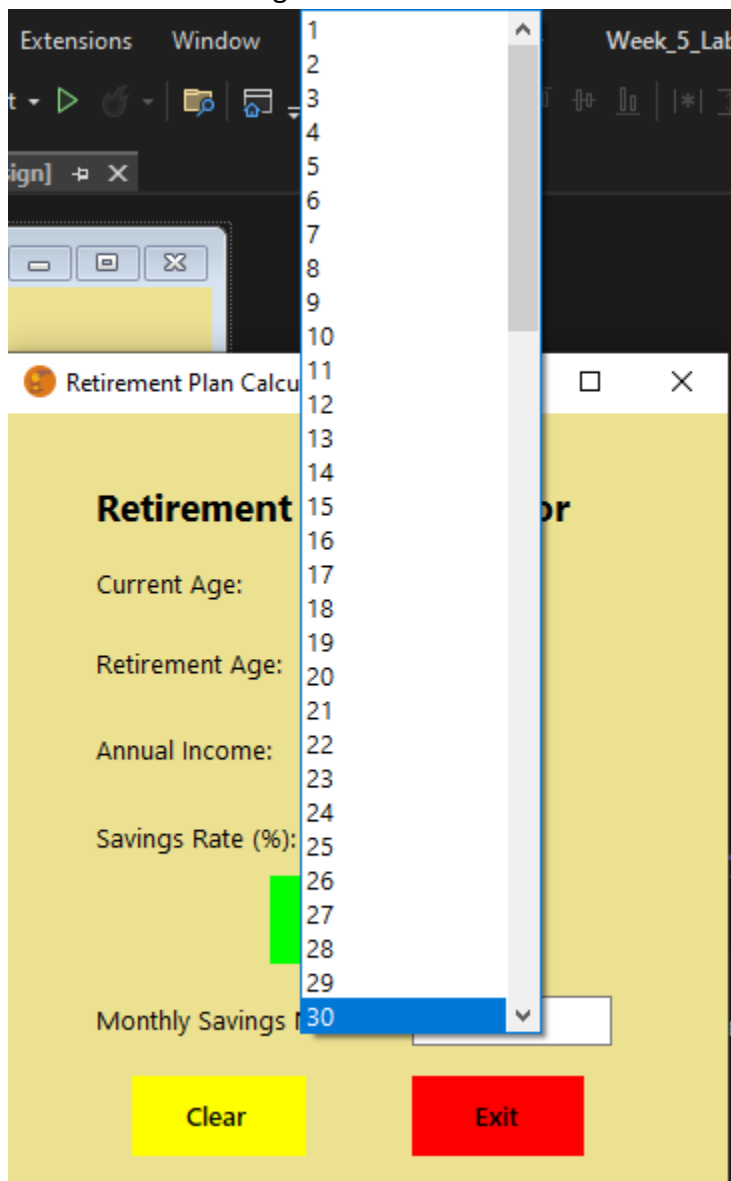
Retirement Age:

Annual Income:

Savings Rate (%):  

Monthly Savings Needed:

4) Combo box for saving rate



5) Calculation 1

Retirement Plan Calculator

**Retirement Plan Calculator**

Current Age:

Retirement Age:

Annual Income:

Savings Rate (%):

**Calculate**

Monthly Savings Needed:

**Clear** **Exit**

6) Calculation 2

Retirement Plan Calculator

### Retirement Plan Calculator

Current Age:

Retirement Age:

Annual Income:

Savings Rate (%):

Monthly Savings Needed:

7) Calculation 3

Retirement Plan Calculator

### Retirement Plan Calculator

Current Age:

Retirement Age:

Annual Income:

Savings Rate (%):

Monthly Savings Needed:



## 8) Clear Button

Retirement Plan Calculator

**Retirement Plan Calculator**

Current Age:

Retirement Age:

Annual Income:

Savings Rate (%):

**Calculate**

Monthly Savings Needed:

**Clear** **Exit**

9) Exit Form

Retirement Plan Calculator

### Retirement Plan Calculator

Current Age:

Retirement Age:

Exit Confirmation

Are you sure you want to exit the application?

OK Cancel

Monthly Savings Needed:

Clear Exit

## 10) Error if Not Input

The screenshot shows a window titled "Retirement Plan Calculator" with a yellow background. It contains two input fields: "Current Age:" and "Retirement Age:", both containing the value "0". An "Age Difference Warning" dialog box is overlaid on top. The dialog box has a title bar with a close button (X). Inside, there is a yellow warning triangle icon followed by the text: "Please enter a valid age difference. Retirement age should be greater than the current age." At the bottom right of the dialog is an "OK" button. Below the dialog, the main window shows a "Monthly Savings Needed:" label and an input field containing "0". At the bottom of the window are two buttons: a yellow "Clear" button and a red "Exit" button.

Retirement Plan Calculator

**Retirement Plan Calculator**

Current Age: 0

Retirement Age: 0

**Age Difference Warning**

! Please enter a valid age difference. Retirement age should be greater than the current age.

OK

Monthly Savings Needed: 0

Clear Exit