'Name: Martin Buchan

'Date: 23/08/2017

'Listing: Cert IV Programming VB.NET Assignment

'Purpose: Calculate Loan details from users inputs

'Main Loan Calculator class

Public Class LoanCalculator

Const OTHER As Integer = 500

Const FINANCE As Integer = 500

Const SERVICE As Integer = 200

Const VETERAN As Double = 0.75

Const ACTIVEDUTY As Double = 1.25

Const RESERVE As Double = 0.25

Const NONE As Double = 0.0

Const FIRSTHOME As Double = 1.0

'Opens the About Us dialog when the image is clicked

Private Sub PictureBox1\_Click(sender As Object, e As EventArgs) Handles picInfo.Click

Dim AboutUs As New AboutUs()

AboutUs.ShowDialog()

End Sub

'adds content to the Repayment Years comboBox item when form loads

Private Sub LoanCalculator\_Load(sender As Object, e As EventArgs) Handles MyBase.Load

Dim loanYears = 10

Do While loanYears <= 30

cmbRepaymentYears.Items.Add(loanYears)

loanYears += 5

Loop

cmbAnnualInterest.SelectedIndex = 0

cmbRepaymentYears.SelectedIndex = 0

End Sub

'Calculates the loan repayments and handles the 'compute' button click event

Private Sub btnCompute\_Click(sender As Object, e As EventArgs) Handles btnCompute.Click

If Not CheckInput() Then

Exit Sub

End If

Dim loanAmount = CDbl(txtLoanAmount.Text)

Dim interestPrcnt = CDbl(cmbAnnualInterest.SelectedItem)

Dim loanLength = CDbl(cmbRepaymentYears.SelectedItem)

Dim firstHomeDiscount = CalcFirstHomeDiscount()

Dim aspDiscount = CalcAspDiscount()

Dim extraServices = CalcExtraServices()

Dim numPayments = loanLength \* 12

Dim rate = interestPrcnt - aspDiscount - firstHomeDiscount

Dim monthlyPayment = Pmt((rate / 100) / 12, numPayments, -loanAmount, 0, 0) + (extraServices / 12)

Dim totalPayment = numPayments \* monthlyPayment

Dim totalInterest = totalPayment - loanAmount

txtMonthlyPayment.Text = monthlyPayment.ToString("C")

txtTotalPayments.Text = CDbl(totalPayment).ToString("C")

txtTotalInterest.Text = CDbl(totalInterest).ToString("C")

txtRateUsed.Text = rate

End Sub

'Checks that there is an input in the main input fields

Private Function CheckInput() As Boolean

If txtLoanAmount.Text = "" Then

MessageBox.Show("Please Enter Loan Amount", "Important Message", MessageBoxButtons.OK)

txtLoanAmount.Select()

Return False

End If

Return True

End Function

'returns the FirstHome Discount if applicable

Private Function CalcFirstHomeDiscount() As Integer

Dim firstHomeDiscount = 0

If cxbFirstHome.Checked = True Then

firstHomeDiscount = FIRSTHOME

End If

Return firstHomeDiscount

End Function

'Calculates and returns the Armed Services Personel Discount if eligable

Private Function CalcAspDiscount() As Double

Dim aspDiscount = 0.0

If cmbRepaymentYears.Text >= 20 Then

If rdoVeteran.Checked = True Then

aspDiscount = VETERAN

ElseIf rdoActiveDuty.Checked = True Then

aspDiscount = ACTIVEDUTY

ElseIf rdoReserve.Checked = True Then

aspDiscount = RESERVE

ElseIf rdoNone.Checked = True Then

aspDiscount = NONE

End If

End If

Return aspDiscount

End Function

'Calculates and returns the cost of extra services required

Private Function CalcExtraServices() As Double

Dim indx = 0

Dim extraServices = 0

For i = 0 To lstExtraServices.Items.Count - 1

If lstExtraServices.GetSelected(i) Then

If i = 0 Or i = 6 Then

extraServices += OTHER

ElseIf i = 1 Or i = 2 Or i = 4 Or i = 9 Or i = 10 Then

extraServices += FINANCE

ElseIf i = 3 Or i = 5 Or i = 7 Or i = 8 Then

extraServices += SERVICE

End If

End If

Next

Return extraServices

End Function

'Resets inputs

Private Sub btnReset\_Click(sender As Object, e As EventArgs) Handles btnReset.Click

txtLoanAmount.Text = ""

cmbAnnualInterest.SelectedIndex = 0

cmbRepaymentYears.SelectedIndex = 0

cxbFirstHome.Checked = False

rdoNone.Checked = True

lstExtraServices.ClearSelected()

txtMonthlyPayment.Text = ""

txtTotalPayments.Text = ""

txtTotalInterest.Text = ""

txtRateUsed.Text = ""

End Sub

'Closes program when close button is clicked

Private Sub btnClose\_Click(sender As Object, e As EventArgs) Handles btnClose.Click

Me.Close()

End Sub

End Class

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'Purpose: Displays the 'About Us' information for the Loan Calculator program

Public Class AboutUs

Private Sub Form1\_Load(sender As Object, e As EventArgs) Handles MyBase.Load

End Sub

End Class