' Michael Voell

' Compare Gas Mileage

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' Purpose: To compute the difference in cost between the cost of gas for an SUV and a Compact Car.

Option Strict On

Public Class frmCompareGasCost

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

' Hold splash screen for 10 seconds

Threading.Thread.Sleep(5000)

End Sub

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

' Variables

Dim strCostPerGallon As String

Dim decCostPerGallon As Decimal

Dim strMilesTraveled As String

Dim decMilesTraveled As Decimal

Dim intYearsOwned As Integer

Dim decYearsOwned As Decimal

Dim strSUVMPG As String

Dim decSUVMPG As Decimal

Dim strCompactMPG As String

Dim decCompactMPG As Decimal

Dim decSUVCost As Decimal

Dim decCompactCost As Decimal

Dim decDifference As Decimal

' Get / Convert Info

intYearsOwned = cboYearsOwned.SelectedIndex

' Catch Exceptions

Try

strCostPerGallon = txtCostPerGallon.Text

decCostPerGallon = Convert.ToDecimal(strCostPerGallon)

strMilesTraveled = txtMilesTraveled.Text

decMilesTraveled = Convert.ToDecimal(strMilesTraveled)

strSUVMPG = txtSUVMPG.Text

decSUVMPG = Convert.ToDecimal(strSUVMPG)

strCompactMPG = txtCompactMPG.Text

decCompactMPG = Convert.ToDecimal(strCompactMPG)

Catch ex As DivideByZeroException

MsgBox("Attempting to divide by 0. Not allowed.")

Catch ex As OverflowException

MsgBox("Overflow: Number too large. Not allowed.")

Catch ex As FormatException

MsgBox("Input was not a number. Not allowed.")

Catch ex As Exception

MsgBox("General exception handled: Please see output for logs.")

End Try

' Case Info

Select Case intYearsOwned

Case 0

decYearsOwned = 1

Case 1

decYearsOwned = 2

Case 2

decYearsOwned = 3

Case 3

decYearsOwned = 4

Case 4

decYearsOwned = 5

Case 5

decYearsOwned = 6

Case 6

decYearsOwned = 7

Case 7

decYearsOwned = 8

Case 8

decYearsOwned = 9

Case 9

decYearsOwned = 10

End Select

decSUVCost = CalculateGasCost(decCostPerGallon, decMilesTraveled, decYearsOwned, decSUVMPG)

lblSUVCostOutput.Text = decSUVCost.ToString("C")

decCompactCost = CalculateGasCost(decCostPerGallon, decMilesTraveled, decYearsOwned, decCompactMPG)

lblCompactCarCostOutput.Text = decCompactCost.ToString("C")

decDifference = decSUVCost - decCompactCost

lblDifferenceOutput.Text = decDifference.ToString("C")

End Sub

Private Function CalculateGasCost(ByVal decCostPerGallon As Decimal, ByVal decMilesTraveled As Decimal, ByVal decYearsOwned As Decimal, decMPGOUT As Decimal) As Decimal

' The equation is: Gas Cost \* ((Miles Per Year \* Years Owned) / MPG)

Dim decTotal As Decimal

' Catching more exceptions just in case they aren't caught in the initial convertion

Try

decTotal = decCostPerGallon \* ((decMilesTraveled \* decYearsOwned) / decMPGOUT)

Catch ex As DivideByZeroException

MsgBox("Attempting to divide by 0. Not allowed.")

Catch ex As OverflowException

MsgBox("Overflow: Number too large. Not allowed.")

Catch ex As FormatException

MsgBox("Input was not a number. Not allowed.")

Catch ex As Exception

MsgBox("General exception handled: Please see output for logs.")

End Try

' Return decTotal to the original Sub for use in the calculation

Return decTotal

End Function

End Class

