**CS/IS 3023 Assignment 5 14 points**

**Due: 3/2**

Email your finished answers and to me at [harringp@nsuok.edu](mailto:harringp@nsuok.edu)

You are welcome to copy and paste your .vb source code below or attach your .vb source code to the email.

**Chapter 5:**

1. What is a ListBox control?

ListBox control is a control box that displays a list of items to a user. A user can select an item from the list and it allows the programmer to add items at design time by using the properties window or at the runtime.

1. Write a line of visual basic code to convert the first item in a list to a string:

strName = lstListOne.Items(0).ToString()

1. Write a line of visual basic code to insert an item at element 2 into a ListBox:

For adding new item:

lstListOne.Items().Add(“This is item 2”)

For replacing an existing item

lstListOne.Items(1) = (“This is now item 2”)

1. Do tutorial 5-1, p. 316. Note the list boxes.

Done (File attached in same zipped folder)

Public Class Form1

Private Sub ListBox1\_SelectedIndexChanged(sender As Object, e As EventArgs) Handles ListBox1.SelectedIndexChanged

End Sub

Private Sub Button1\_Click(sender As Object, e As EventArgs) Handles Button1.Click

Dim strInput As String ' Holds selected month and year

If ListBox1.SelectedIndex = -1 Then

' No month is selected

MessageBox.Show("Select a month.")

ElseIf ListBox2.SelectedIndex = -1 Then

' No year is selected

MessageBox.Show("Select a year.")

Else

' Get the selected month and year

strInput = ListBox1.SelectedItem.ToString() &

" " & ListBox2.SelectedItem.ToString()

MessageBox.Show(strInput)

End If

End Sub

Private Sub Button2\_Click(sender As Object, e As EventArgs) Handles Button2.Click

' Reset the list boxes.

ListBox1.SelectedIndex = -1

ListBox2.SelectedIndex = -1

End Sub

Private Sub Button3\_Click(sender As Object, e As EventArgs) Handles Button3.Click

ListBox1.Items().Remove(3)

End Sub

End Class

1. Write a line of visual basic code to remove an item at a specific index

lstListOne.Items(3).Remove

1. Write a few lines of visual basic code to create a *do-while* loop.

Dim intCount As Integer = 0

Do While intCount < 10

lstOutput.Items.Add("Hello")

intCount += 1

Loop

1. Do tutorial 5-4, p. 327. Note the do-while loop and if-else.

Done (File attached in same zipped folder)

Public Class Form1

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

Const intNUM\_DAYS As Integer = 5 ' The number of days

Dim intCount As Integer = 1 ' Loop counter

Dim decSales As Decimal = 0 ' To hold daily sales

Dim decTotal As Decimal = 0 ' To hold the total sales

Dim strInput As String

Do While intCount <= intNUM\_DAYS

strInput = InputBox("Enter the sales for day " &

intCount.ToString())

If Decimal.TryParse(strInput, decSales) Then

decTotal += decSales

intCount += 1

Else

MessageBox.Show("Enter a numeric value.")

End If

Loop

lblTotal.Text = decTotal.ToString("c")

End Sub

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

' Close the form.

Me.Close()

End Sub

End Class

1. Do tutorial 5-8, p. 337. Note the for-next loop.

Done (File attached in same zipped folder)

Public Class Form1

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

' Close the form.

Me.Close()

End Sub

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

Dim intCount As Integer ' Loop counter

' Move the image across the form.

For intCount = 1 To 375

picSpaceShip.Left = intCount

Next

End Sub

End Class

1. Write a few lines of visual basic code to add the numbers 1 through 100 using a *for next* loop.

Dim i As Integer

Dim total As Integer = 0

For i = 1 To 100

listnumbers.items.add(i)

'or we could do:

total += i

Next

1. Do tutorial 5-12, p. 358. Note the concepts used in the above questions.

Done (File attached in same zipped folder)

Public Class Form1

Const dblMONTHS\_YEAR As Double = 12 ' Months per year

Const dblNEW\_RATE As Double = 0.05 ' Interest rate, new cars

Const dblUSED\_RATE As Double = 0.08 ' Interest rate, used cars

' Class-level variable to hold the annual interest rate

Dim dblAnnualRate As Double = dblNEW\_RATE

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

End Sub

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

Dim dblVehicleCost As Double ' Vehicle cost

Dim dblDownPayment As Double ' Down payment

Dim intMonths As Integer ' Number of months for the loan

Dim dblLoan As Double ' Amount of the loan

Dim dblMonthlyPayment As Double ' Monthly payment

Dim dblInterest As Double ' Interest paid for the period

Dim dblPrincipal As Double ' Principal paid for the period

Dim intCount As Integer ' Counter for the loop

Dim strOut As String ' Used to hold a line of output

Dim blnInputOk As Boolean = True

If Not Double.TryParse(TxtCost.Text, dblVehicleCost) Then

lblMessage.Text = "Vehicle cost must be a number"

blnInputOk = False

End If

If Not Double.TryParse(TxtDownPayment.Text, dblDownPayment) Then

lblMessage.Text = "Down Payment must be a number"

blnInputOk = False

End If

If Not Integer.TryParse(TxtMonths.Text, intMonths) Then

lblMessage.Text = "Months must be an integer"

blnInputOk = False

End If

If blnInputOk = True Then

dblLoan = dblVehicleCost - dblDownPayment

dblMonthlyPayment = Pmt(dblAnnualRate / dblMONTHS\_YEAR,

intMonths, -dblLoan)

lstOutput.Items.Clear()

lblMessage.Text = String.Empty

For intCount = 1 To intMonths

' Calculate the interest for this period.

dblInterest = IPmt(dblAnnualRate / dblMONTHS\_YEAR,

intCount, intMonths, -dblLoan)

' Calculate the principal for this period.

dblPrincipal = PPmt(dblAnnualRate / dblMONTHS\_YEAR,

intCount, intMonths, -dblLoan)

' Start building the output string with the month.

strOut = "Month " & intCount.ToString("d2")

' Add the payment amount to the output string

strOut &= ": payment = " & dblMonthlyPayment.ToString("n2")

' Add the interest amount to the output string.

strOut &= ", interest = " & dblInterest.ToString("n2")

' Add the principal for the period.

strOut &= ", principal = " & dblPrincipal.ToString("n2")

' Add the output string to the list box

lstOutput.Items.Add(strOut)

Next

End If

End Sub

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

' Reset the interest rate.

dblAnnualRate = dblNEW\_RATE

' Clear the text boxes

TxtCost.Clear()

TxtDownPayment.Clear()

TxtMonths.Clear()

' Clear the list box.

lstOutput.Items.Clear()

' Set default interest rate for new car loans.

lblAnnualRate.Text = dblNEW\_RATE.ToString("p")

RadNew.Checked = True

' Clear any error messages.

lblMessage.Text = String.Empty

' Reset the focus to txtCost.

TxtCost.Focus()

End Sub

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

' Close the form.

Me.Close()

End Sub

Private Sub RadNew\_CheckedChanged(sender As Object, e As EventArgs) Handles RadNew.CheckedChanged

' If the New radio button is checked, then

' the user has selected a new car loan.

If RadNew.Checked = True Then

dblAnnualRate = dblNEW\_RATE

lblAnnualRate.Text = dblNEW\_RATE.ToString("p")

lstOutput.Items.Clear()

End If

End Sub

Private Sub RadUsed\_CheckedChanged(sender As Object, e As EventArgs) Handles RadUsed.CheckedChanged

' If the Used radio button is checked, then

' the user has selected a used car loan.

If RadUsed.Checked = True Then

dblAnnualRate = dblUSED\_RATE

lblAnnualRate.Text = dblUSED\_RATE.ToString("p")

lstOutput.Items.Clear()

End If

End Sub

End Class