Program Cover Sheet

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| --- |
| Name: Nathan VanSnepson |
| Assignment: Assignment 6 |
| List any parts of the assignment that do not work/were not completed: (None) |

|  |
| --- |
| Instructor’s Comments: |
| Grade: |

Program Submission Requirements: (1) all files, zipped and uploaded to Canvas and (2) a completed cover sheet, program execution screenshots and source code printed, **stapled** and turned in during class. Failure to follow the submission requirements will result in points lost on that particular assignment.

A picture containing graphical user interface

Description automatically generated

Graphical user interface, application

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Graphical user interface

Description automatically generated

A screenshot of a computer

Description automatically generated with medium confidence

Graphical user interface, application

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Public Class Form1

'------------------------------------------------------------

'- File Name : Form1.vb -

'- Part of Project: Assignment6 -

'------------------------------------------------------------

' Written By: Nathan VanSnepson -

' Written On: March 21, 2022 -

'------------------------------------------------------------

'- File Purpose: -

'- -

'- This file is the main form for assignment 6. It is the -

'- MDI container of the calculator forms. -

'------------------------------------------------------------

'- Program Purpose: -

'- -

'- The purpose of this program is to create multiple caluc- -

'- ator forms in an MDI parent. The caluclator forms are -

'- used for hex/binary/decimal conversions. -

'------------------------------------------------------------

'- Global Variable Dictionary (alphabetically): -

'- (None) -

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

'------------------------------------------------------------

'- Subprogram Name: mnuHelpAbout\_Click -

'------------------------------------------------------------

'- Written By: Nathan VanSnepson -

'- Written On: March 21, 2022 -

'------------------------------------------------------------

'- Subprogram Purpose: -

'- The purpose of this subprogram is to show the about form -

'------------------------------------------------------------

'- Parameter Dictionary (in parameter order): -

'- sender - reference to the object that raised the event -

'- e - reference to EventArgs class that contains any addi- -

'- tional information about the event. -

'------------------------------------------------------------

'- Local Variable Dictionary (alphabetically): -

'- (None) -

'------------------------------------------------------------

'Displays the about form

frmAbout.ShowDialog()

End Sub

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

'------------------------------------------------------------

'- Subprogram Name: mnuFileNew\_Click -

'------------------------------------------------------------

'- Written By: Nathan VanSnepson -

'- Written On: March 21, 2022 -

'------------------------------------------------------------

'- Subprogram Purpose: -

'- The purpose of this subprogram is to abstantiate and -

'- initialize a new Calculator form and add it to MDI. -

'------------------------------------------------------------

'- Parameter Dictionary (in parameter order): -

'- sender - reference to the object that raised the event -

'- e - reference to EventArgs class that contains any addi- -

'- tional information about the event. -

'------------------------------------------------------------

'- Local Variable Dictionary (alphabetically): -

'- (None) -

'------------------------------------------------------------

'Create a child Calculator

Dim frmCalculator As Calculator = New Calculator()

'Hook child to the parent

frmCalculator.MdiParent = Me

'Show the child

frmCalculator.Show()

End Sub

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

'------------------------------------------------------------

'- Subprogram Name: mnuWindowTile\_Click -

'------------------------------------------------------------

'- Written By: Nathan VanSnepson -

'- Written On: March 21, 2022 -

'------------------------------------------------------------

'- Subprogram Purpose: -

'- The purpose of this subprogram is display child forms in -

'- the MDI in a tiled format -

'------------------------------------------------------------

'- Parameter Dictionary (in parameter order): -

'- sender - reference to the object that raised the event -

'- e - reference to EventArgs class that contains any addi- -

'- tional information about the event. -

'------------------------------------------------------------

'- Local Variable Dictionary (alphabetically): -

'- (None) -

'------------------------------------------------------------

'Displays a tiled format in the MDI layout

Me.LayoutMdi(MdiLayout.TileHorizontal)

End Sub

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

'------------------------------------------------------------

'- Subprogram Name: mnuWindowCascade\_Click -

'------------------------------------------------------------

'- Written By: Nathan VanSnepson -

'- Written On: March 21, 2022 -

'------------------------------------------------------------

'- Subprogram Purpose: -

'- The purpose of this subprogram is display child forms in -

'- the MDI in a cascaded format -

'------------------------------------------------------------

'- Parameter Dictionary (in parameter order): -

'- sender - reference to the object that raised the event -

'- e - reference to EventArgs class that contains any addi- -

'- tional information about the event. -

'------------------------------------------------------------

'- Local Variable Dictionary (alphabetically): -

'- (None) -

'------------------------------------------------------------

'Displays a cascaded format in the MDI Layout

Me.LayoutMdi(MdiLayout.Cascade)

End Sub

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

'------------------------------------------------------------

'- Subprogram Name: mnuFileExit\_Click -

'------------------------------------------------------------

'- Written By: Nathan VanSnepson -

'- Written On: March 21, 2022 -

'------------------------------------------------------------

'- Subprogram Purpose: -

'- The purpose of this subprogram is to provoke closing the -

'- application -

'------------------------------------------------------------

'- Parameter Dictionary (in parameter order): -

'- sender - reference to the object that raised the event -

'- e - reference to EventArgs class that contains any addi- -

'- tional information about the event. -

'------------------------------------------------------------

'- Local Variable Dictionary (alphabetically): -

'- (None) -

'------------------------------------------------------------

'Calls to close the application

Me.Close()

End Sub

End Class

Public Class Calculator

'------------------------------------------------------------

'- File Name : Calculator.vb -

'- Part of Project: Assignment6 -

'------------------------------------------------------------

' Written By: Nathan VanSnepson -

' Written On: March 21, 2022 -

'------------------------------------------------------------

'- File Purpose: -

'- -

'- This file is the calculator form. It converts binary and -

'- decimal and hex. -

'------------------------------------------------------------

'- Global Variable Dictionary (alphabetically): -

'-\*txtCurrentTextbox - The textbox with the current focus -

'------------------------------------------------------------

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'---------------------------------------------------------------------------------------

Dim txtCurrentTextbox As TextBox 'Textbox that has focus

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'-----------------------------------------------------------------------------------

#Region "Load"

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

'------------------------------------------------------------

'- Subprogram Name: Calculator\_Load -

'------------------------------------------------------------

'- Written By: Nathan VanSnepson -

'- Written On: March 21, 2022 -

'------------------------------------------------------------

'- Subprogram Purpose: -

'- The purpose of this subprogram is to set the textboxes to-

'- their default values when the form is loaded. -

'------------------------------------------------------------

'- Parameter Dictionary (in parameter order): -

'- sender - reference to the object that raised the event -

'- e - reference to EventArgs class that contains any addi- -

'- tional information about the event. -

'------------------------------------------------------------

'- Local Variable Dictionary (alphabetically): -

'- (None) -

'------------------------------------------------------------

'Resets each set of textboxes

resetTextBoxValues(txtBinaryValue1, txtDecimalValue1, txtHexValue1)

resetTextBoxValues(txtBinaryValue2, txtDecimalValue2, txtHexValue2)

resetTextBoxValues(txtBinaryResult, txtDecimalResult, txtHexResult)

End Sub

#End Region

#Region "reset TextBox Values"

Private Sub resetTextBoxValues(txtBinary As TextBox, txtDecimal As TextBox, txtHex As TextBox)

'------------------------------------------------------------

'- Subprogram Name: resetTextBoxValues -

'------------------------------------------------------------

'- Written By: Nathan VanSnepson -

'- Written On: March 21, 2022 -

'------------------------------------------------------------

'- Subprogram Purpose: -

'- The purpose of this subprogram is to set the text value -

'- of three textboxes to "0" -

'------------------------------------------------------------

'- Parameter Dictionary (in parameter order): -

'- txtBinary - Textbox control -

'- txtDecimal - Textbox control -

'- txtHex - Textbox control -

'------------------------------------------------------------

'- Local Variable Dictionary (alphabetically): -

'- (None) -

'------------------------------------------------------------

'Sets the text for each textbox

txtBinary.Text = "0"

txtDecimal.Text = "0"

txtHex.Text = "0"

End Sub

Private Sub btnClearValue1\_Click(sender As Object, e As EventArgs) Handles btnClearValue1.Click

'------------------------------------------------------------

'- Subprogram Name: btnClearValue1\_Click -

'------------------------------------------------------------

'- Written By: Nathan VanSnepson -

'- Written On: March 21, 2022 -

'------------------------------------------------------------

'- Subprogram Purpose: -

'- The purpose of this subprogram is to set the textboxes of-

'- value 1 to their default values -

'------------------------------------------------------------

'- Parameter Dictionary (in parameter order): -

'- sender - reference to the object that raised the event -

'- e - reference to EventArgs class that contains any addi- -

'- tional information about the event. -

'------------------------------------------------------------

'- Local Variable Dictionary (alphabetically): -

'- (None) -

'------------------------------------------------------------

resetTextBoxValues(txtBinaryValue1, txtDecimalValue1, txtHexValue1)

End Sub

Private Sub btnClearValue2\_Click(sender As Object, e As EventArgs) Handles btnClearValue2.Click

'------------------------------------------------------------

'- Subprogram Name: btnClearValue2\_Click -

'------------------------------------------------------------

'- Written By: Nathan VanSnepson -

'- Written On: March 21, 2022 -

'------------------------------------------------------------

'- Subprogram Purpose: -

'- The purpose of this subprogram is to set the textboxes of-

'- value 2 to their default values -

'------------------------------------------------------------

'- Parameter Dictionary (in parameter order): -

'- sender - reference to the object that raised the event -

'- e - reference to EventArgs class that contains any addi- -

'- tional information about the event. -

'------------------------------------------------------------

'- Local Variable Dictionary (alphabetically): -

'- (None) -

'------------------------------------------------------------

resetTextBoxValues(txtBinaryValue2, txtDecimalValue2, txtHexValue2)

End Sub

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

'------------------------------------------------------------

'- Subprogram Name: btnClearValue2\_Click -

'------------------------------------------------------------

'- Written By: Nathan VanSnepson -

'- Written On: March 21, 2022 -

'------------------------------------------------------------

'- Subprogram Purpose: -

'- The purpose of this subprogram is to set the textboxes of-

'- Result to their default values -

'------------------------------------------------------------

'- Parameter Dictionary (in parameter order): -

'- sender - reference to the object that raised the event -

'- e - reference to EventArgs class that contains any addi- -

'- tional information about the event. -

'------------------------------------------------------------

'- Local Variable Dictionary (alphabetically): -

'- (None) -

'------------------------------------------------------------

resetTextBoxValues(txtBinaryResult, txtDecimalResult, txtHexResult)

End Sub

#End Region

#Region "TextBoxControls"

Private Sub txtBinaryValue1\_Enter(sender As Object, e As EventArgs) Handles txtBinaryValue1.Enter

'------------------------------------------------------------

'- Subprogram Name: btnClearValue2\_Click -

'------------------------------------------------------------

'- Written By: Nathan VanSnepson -

'- Written On: March 21, 2022 -

'------------------------------------------------------------

'- Subprogram Purpose: -

'- The purpose of this subprogram is when the textbox is -

'- selected it will set the buttons allowed for input -

'------------------------------------------------------------

'- Parameter Dictionary (in parameter order): -

'- sender - reference to the object that raised the event -

'- e - reference to EventArgs class that contains any addi- -

'- tional information about the event. -

'------------------------------------------------------------

'- Local Variable Dictionary (alphabetically): -

'- (None) -

'------------------------------------------------------------

setBinaryControls(sender)

End Sub

Private Sub txtDecimalValue1\_Enter(sender As Object, e As EventArgs) Handles txtDecimalValue1.Enter

'------------------------------------------------------------

'- Subprogram Name: txtDecimalValue1\_Enter -

'------------------------------------------------------------

'- Written By: Nathan VanSnepson -

'- Written On: March 21, 2022 -

'------------------------------------------------------------

'- Subprogram Purpose: -

'- The purpose of this subprogram is when the textbox is -

'- selected it will set the buttons allowed for input -

'------------------------------------------------------------

'- Parameter Dictionary (in parameter order): -

'- sender - reference to the object that raised the event -

'- e - reference to EventArgs class that contains any addi- -

'- tional information about the event. -

'------------------------------------------------------------

'- Local Variable Dictionary (alphabetically): -

'- (None) -

'------------------------------------------------------------

setDecimalControls(sender)

End Sub

Private Sub txtHexValue1\_Enter(sender As Object, e As EventArgs) Handles txtHexValue1.Enter

'------------------------------------------------------------

'- Subprogram Name: txtHexValue1\_Enter -

'------------------------------------------------------------

'- Written By: Nathan VanSnepson -

'- Written On: March 21, 2022 -

'------------------------------------------------------------

'- Subprogram Purpose: -

'- The purpose of this subprogram is when the textbox is -

'- selected it will set the buttons allowed for input -

'------------------------------------------------------------

'- Parameter Dictionary (in parameter order): -

'- sender - reference to the object that raised the event -

'- e - reference to EventArgs class that contains any addi- -

'- tional information about the event. -

'------------------------------------------------------------

'- Local Variable Dictionary (alphabetically): -

'- (None) -

'------------------------------------------------------------

setHexControls(sender)

End Sub

Private Sub txtBinaryValue2\_Enter(sender As Object, e As EventArgs) Handles txtBinaryValue2.Enter

'------------------------------------------------------------

'- Subprogram Name: txtBinaryValue2\_Enter -

'------------------------------------------------------------

'- Written By: Nathan VanSnepson -

'- Written On: March 21, 2022 -

'------------------------------------------------------------

'- Subprogram Purpose: -

'- The purpose of this subprogram is when the textbox is -

'- selected it will set the buttons allowed for input -

'------------------------------------------------------------

'- Parameter Dictionary (in parameter order): -

'- sender - reference to the object that raised the event -

'- e - reference to EventArgs class that contains any addi- -

'- tional information about the event. -

'------------------------------------------------------------

'- Local Variable Dictionary (alphabetically): -

'- (None) -

'------------------------------------------------------------

setBinaryControls(sender)

End Sub

Private Sub txtDecimalValue2\_Enter(sender As Object, e As EventArgs) Handles txtDecimalValue2.Enter

'------------------------------------------------------------

'- Subprogram Name: txtDecimalValue2\_Enter -

'------------------------------------------------------------

'- Written By: Nathan VanSnepson -

'- Written On: March 21, 2022 -

'------------------------------------------------------------

'- Subprogram Purpose: -

'- The purpose of this subprogram is when the textbox is -

'- selected it will set the buttons allowed for input -

'------------------------------------------------------------

'- Parameter Dictionary (in parameter order): -

'- sender - reference to the object that raised the event -

'- e - reference to EventArgs class that contains any addi- -

'- tional information about the event. -

'------------------------------------------------------------

'- Local Variable Dictionary (alphabetically): -

'- (None) -

'------------------------------------------------------------

setDecimalControls(sender)

End Sub

Private Sub txtHexValue2\_Enter(sender As Object, e As EventArgs) Handles txtHexValue2.Enter

'------------------------------------------------------------

'- Subprogram Name: txtHexValue2\_Enter -

'------------------------------------------------------------

'- Written By: Nathan VanSnepson -

'- Written On: March 21, 2022 -

'------------------------------------------------------------

'- Subprogram Purpose: -

'- The purpose of this subprogram is when the textbox is -

'- selected it will set the buttons allowed for input -

'------------------------------------------------------------

'- Parameter Dictionary (in parameter order): -

'- sender - reference to the object that raised the event -

'- e - reference to EventArgs class that contains any addi- -

'- tional information about the event. -

'------------------------------------------------------------

'- Local Variable Dictionary (alphabetically): -

'- (None) -

'------------------------------------------------------------

setHexControls(sender)

End Sub

Private Sub setBinaryControls(txtSender As TextBox)

'------------------------------------------------------------

'- Subprogram Name: setBinaryControls -

'------------------------------------------------------------

'- Written By: Nathan VanSnepson -

'- Written On: March 21, 2022 -

'------------------------------------------------------------

'- Subprogram Purpose: -

'- The purpose of this subprogram is to set the textbox -

'- that currently has focus and enable/disable buttons that -

'- are allowed for input -

'------------------------------------------------------------

'- Parameter Dictionary (in parameter order): -

'- txtSender - Textbox that has focus -

'------------------------------------------------------------

'- Local Variable Dictionary (alphabetically): -

'- (None) -

'------------------------------------------------------------

'Update the textbox that has focus

txtCurrentTextbox = txtSender

'Enables/Disables appropriate files

setEnabledInputButtons(New String() {"0", "1"})

End Sub

Private Sub setDecimalControls(txtSender As TextBox)

'------------------------------------------------------------

'- Subprogram Name: setDecimalControls -

'------------------------------------------------------------

'- Written By: Nathan VanSnepson -

'- Written On: March 21, 2022 -

'------------------------------------------------------------

'- Subprogram Purpose: -

'- The purpose of this subprogram is to set the textbox -

'- that currently has focus and enable/disable buttons that -

'- are allowed for input -

'------------------------------------------------------------

'- Parameter Dictionary (in parameter order): -

'- txtSender - Textbox that has focus -

'------------------------------------------------------------

'- Local Variable Dictionary (alphabetically): -

'- (None) -

'------------------------------------------------------------

'Update the textbox that has focus

txtCurrentTextbox = txtSender

'Enables/Disables appropriate files

setEnabledInputButtons(New String() {"0", "1", "2", "3", "4", "5", "6", "7", "8", "9"})

End Sub

Private Sub setHexControls(txtSender As TextBox)

'------------------------------------------------------------

'- Subprogram Name: setHexControls -

'------------------------------------------------------------

'- Written By: Nathan VanSnepson -

'- Written On: March 21, 2022 -

'------------------------------------------------------------

'- Subprogram Purpose: -

'- The purpose of this subprogram is to set the textbox -

'- that currently has focus and enable/disable buttons that -

'- are allowed for input -

'------------------------------------------------------------

'- Parameter Dictionary (in parameter order): -

'- txtSender - Textbox that has focus -

'------------------------------------------------------------

'- Local Variable Dictionary (alphabetically): -

'- (None) -

'------------------------------------------------------------

'Update the textbox that has focus

txtCurrentTextbox = txtSender

'Enables/Disables appropriate files

setEnabledInputButtons(New String() {"0", "1", "2", "3", "4", "5", "6", "7", "8", "9", "A", "B", "C", "D", "E", "F"})

End Sub

#End Region

#Region "Form Closing"

Private Sub Calculator\_FormClosing(sender As Object, e As FormClosingEventArgs) Handles MyBase.FormClosing

'------------------------------------------------------------

'- Subprogram Name: Calculator\_FormClosing -

'------------------------------------------------------------

'- Written By: Nathan VanSnepson -

'- Written On: March 21, 2022 -

'------------------------------------------------------------

'- Subprogram Purpose: -

'- The purpose of this subprogram is to handling closing the-

'- form. It will prompt the user is the textboxes are not -

'- all 0. -

'------------------------------------------------------------

'- Parameter Dictionary (in parameter order): -

'- sender - reference to the object that raised the event -

'- e - reference to EventArgs class that contains any addi- -

'- tional information about the event. -

'------------------------------------------------------------

'- Local Variable Dictionary (alphabetically): -

'- (None) -

'------------------------------------------------------------

'Checks if all textboxes text is "0"

If Not (txtBinaryValue1.Text.Equals("0") And txtDecimalValue1.Text.Equals("0") And txtHexValue1.Text.Equals("0") And

txtBinaryValue2.Text.Equals("0") And txtDecimalValue2.Text.Equals("0") And txtHexValue2.Text.Equals("0")) Then

'Prompts user if they want to close dirty child

If MessageBox.Show("Close the dirty child?", "", MessageBoxButtons.YesNo) = vbNo Then

e.Cancel = True 'Cancels closing the form

End If

End If

End Sub

#End Region

#Region "pnlInputButtons"

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

'------------------------------------------------------------

'- Subprogram Name: btnA\_Click -

'------------------------------------------------------------

'- Written By: Nathan VanSnepson -

'- Written On: March 21, 2022 -

'------------------------------------------------------------

'- Subprogram Purpose: -

'- The purpose of this subprogram is to add the value of a -

'- buttons text to the text of the textbox that has focus -

'------------------------------------------------------------

'- Parameter Dictionary (in parameter order): -

'- sender - reference to the object that raised the event -

'- e - reference to EventArgs class that contains any addi- -

'- tional information about the event. -

'------------------------------------------------------------

'- Local Variable Dictionary (alphabetically): -

'- (None) -

'------------------------------------------------------------

txtCurrentTextbox.Text = txtCurrentTextbox.Text + sender.text

End Sub

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

'------------------------------------------------------------

'- Subprogram Name: btnB\_Click -

'------------------------------------------------------------

'- Written By: Nathan VanSnepson -

'- Written On: March 21, 2022 -

'------------------------------------------------------------

'- Subprogram Purpose: -

'- The purpose of this subprogram is to add the value of a -

'- buttons text to the text of the textbox that has focus -

'------------------------------------------------------------

'- Parameter Dictionary (in parameter order): -

'- sender - reference to the object that raised the event -

'- e - reference to EventArgs class that contains any addi- -

'- tional information about the event. -

'------------------------------------------------------------

'- Local Variable Dictionary (alphabetically): -

'- (None) -

'------------------------------------------------------------

txtCurrentTextbox.Text = txtCurrentTextbox.Text + sender.text

End Sub

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

'------------------------------------------------------------

'- Subprogram Name: btnC\_Click -

'------------------------------------------------------------

'- Written By: Nathan VanSnepson -

'- Written On: March 21, 2022 -

'------------------------------------------------------------

'- Subprogram Purpose: -

'- The purpose of this subprogram is to add the value of a -

'- buttons text to the text of the textbox that has focus -

'------------------------------------------------------------

'- Parameter Dictionary (in parameter order): -

'- sender - reference to the object that raised the event -

'- e - reference to EventArgs class that contains any addi- -

'- tional information about the event. -

'------------------------------------------------------------

'- Local Variable Dictionary (alphabetically): -

'- (None) -

'------------------------------------------------------------

txtCurrentTextbox.Text = txtCurrentTextbox.Text + sender.text

End Sub

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

'------------------------------------------------------------

'- Subprogram Name: btnD\_Click -

'------------------------------------------------------------

'- Written By: Nathan VanSnepson -

'- Written On: March 21, 2022 -

'------------------------------------------------------------

'- Subprogram Purpose: -

'- The purpose of this subprogram is to add the value of a -

'- buttons text to the text of the textbox that has focus -

'------------------------------------------------------------

'- Parameter Dictionary (in parameter order): -

'- sender - reference to the object that raised the event -

'- e - reference to EventArgs class that contains any addi- -

'- tional information about the event. -

'------------------------------------------------------------

'- Local Variable Dictionary (alphabetically): -

'- (None) -

'------------------------------------------------------------

txtCurrentTextbox.Text = txtCurrentTextbox.Text + sender.text

End Sub

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

'------------------------------------------------------------

'- Subprogram Name: btnE\_Click -

'------------------------------------------------------------

'- Written By: Nathan VanSnepson -

'- Written On: March 21, 2022 -

'------------------------------------------------------------

'- Subprogram Purpose: -

'- The purpose of this subprogram is to add the value of a -

'- buttons text to the text of the textbox that has focus -

'------------------------------------------------------------

'- Parameter Dictionary (in parameter order): -

'- sender - reference to the object that raised the event -

'- e - reference to EventArgs class that contains any addi- -

'- tional information about the event. -

'------------------------------------------------------------

'- Local Variable Dictionary (alphabetically): -

'- (None) -

'------------------------------------------------------------

txtCurrentTextbox.Text = txtCurrentTextbox.Text + sender.text

End Sub

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

'------------------------------------------------------------

'- Subprogram Name: btnF\_Click -

'------------------------------------------------------------

'- Written By: Nathan VanSnepson -

'- Written On: March 21, 2022 -

'------------------------------------------------------------

'- Subprogram Purpose: -

'- The purpose of this subprogram is to add the value of a -

'- buttons text to the text of the textbox that has focus -

'------------------------------------------------------------

'- Parameter Dictionary (in parameter order): -

'- sender - reference to the object that raised the event -

'- e - reference to EventArgs class that contains any addi- -

'- tional information about the event. -

'------------------------------------------------------------

'- Local Variable Dictionary (alphabetically): -

'- (None) -

'------------------------------------------------------------

txtCurrentTextbox.Text = txtCurrentTextbox.Text + sender.text

End Sub

Private Sub btn6\_Click(sender As Object, e As EventArgs) Handles btn6.Click

'------------------------------------------------------------

'- Subprogram Name: btn6\_Click -

'------------------------------------------------------------

'- Written By: Nathan VanSnepson -

'- Written On: March 21, 2022 -

'------------------------------------------------------------

'- Subprogram Purpose: -

'- The purpose of this subprogram is to add the value of a -

'- buttons text to the text of the textbox that has focus -

'------------------------------------------------------------

'- Parameter Dictionary (in parameter order): -

'- sender - reference to the object that raised the event -

'- e - reference to EventArgs class that contains any addi- -

'- tional information about the event. -

'------------------------------------------------------------

'- Local Variable Dictionary (alphabetically): -

'- (None) -

'------------------------------------------------------------

txtCurrentTextbox.Text = txtCurrentTextbox.Text + sender.text

End Sub

Private Sub btn7\_Click(sender As Object, e As EventArgs) Handles btn7.Click

'------------------------------------------------------------

'- Subprogram Name: btn7\_Click -

'------------------------------------------------------------

'- Written By: Nathan VanSnepson -

'- Written On: March 21, 2022 -

'------------------------------------------------------------

'- Subprogram Purpose: -

'- The purpose of this subprogram is to add the value of a -

'- buttons text to the text of the textbox that has focus -

'------------------------------------------------------------

'- Parameter Dictionary (in parameter order): -

'- sender - reference to the object that raised the event -

'- e - reference to EventArgs class that contains any addi- -

'- tional information about the event. -

'------------------------------------------------------------

'- Local Variable Dictionary (alphabetically): -

'- (None) -

'------------------------------------------------------------

txtCurrentTextbox.Text = txtCurrentTextbox.Text + sender.text

End Sub

Private Sub btn8\_Click(sender As Object, e As EventArgs) Handles btn8.Click

'------------------------------------------------------------

'- Subprogram Name: btn8\_Click -

'------------------------------------------------------------

'- Written By: Nathan VanSnepson -

'- Written On: March 21, 2022 -

'------------------------------------------------------------

'- Subprogram Purpose: -

'- The purpose of this subprogram is to add the value of a -

'- buttons text to the text of the textbox that has focus -

'------------------------------------------------------------

'- Parameter Dictionary (in parameter order): -

'- sender - reference to the object that raised the event -

'- e - reference to EventArgs class that contains any addi- -

'- tional information about the event. -

'------------------------------------------------------------

'- Local Variable Dictionary (alphabetically): -

'- (None) -

'------------------------------------------------------------

txtCurrentTextbox.Text = txtCurrentTextbox.Text + sender.text

End Sub

Private Sub btn9\_Click(sender As Object, e As EventArgs) Handles btn9.Click

'------------------------------------------------------------

'- Subprogram Name: btn9\_Click -

'------------------------------------------------------------

'- Written By: Nathan VanSnepson -

'- Written On: March 21, 2022 -

'------------------------------------------------------------

'- Subprogram Purpose: -

'- The purpose of this subprogram is to add the value of a -

'- buttons text to the text of the textbox that has focus -

'------------------------------------------------------------

'- Parameter Dictionary (in parameter order): -

'- sender - reference to the object that raised the event -

'- e - reference to EventArgs class that contains any addi- -

'- tional information about the event. -

'------------------------------------------------------------

'- Local Variable Dictionary (alphabetically): -

'- (None) -

'------------------------------------------------------------

txtCurrentTextbox.Text = txtCurrentTextbox.Text + sender.text

End Sub

Private Sub btn2\_Click(sender As Object, e As EventArgs) Handles btn2.Click

'------------------------------------------------------------

'- Subprogram Name: btn2\_Click -

'------------------------------------------------------------

'- Written By: Nathan VanSnepson -

'- Written On: March 21, 2022 -

'------------------------------------------------------------

'- Subprogram Purpose: -

'- The purpose of this subprogram is to add the value of a -

'- buttons text to the text of the textbox that has focus -

'------------------------------------------------------------

'- Parameter Dictionary (in parameter order): -

'- sender - reference to the object that raised the event -

'- e - reference to EventArgs class that contains any addi- -

'- tional information about the event. -

'------------------------------------------------------------

'- Local Variable Dictionary (alphabetically): -

'- (None) -

'------------------------------------------------------------

txtCurrentTextbox.Text = txtCurrentTextbox.Text + sender.text

End Sub

Private Sub btn3\_Click(sender As Object, e As EventArgs) Handles btn3.Click

'------------------------------------------------------------

'- Subprogram Name: btn3\_Click -

'------------------------------------------------------------

'- Written By: Nathan VanSnepson -

'- Written On: March 21, 2022 -

'------------------------------------------------------------

'- Subprogram Purpose: -

'- The purpose of this subprogram is to add the value of a -

'- buttons text to the text of the textbox that has focus -

'------------------------------------------------------------

'- Parameter Dictionary (in parameter order): -

'- sender - reference to the object that raised the event -

'- e - reference to EventArgs class that contains any addi- -

'- tional information about the event. -

'------------------------------------------------------------

'- Local Variable Dictionary (alphabetically): -

'- (None) -

'------------------------------------------------------------

txtCurrentTextbox.Text = txtCurrentTextbox.Text + sender.text

End Sub

Private Sub btn4\_Click(sender As Object, e As EventArgs) Handles btn4.Click

'------------------------------------------------------------

'- Subprogram Name: btn4\_Click -

'------------------------------------------------------------

'- Written By: Nathan VanSnepson -

'- Written On: March 21, 2022 -

'------------------------------------------------------------

'- Subprogram Purpose: -

'- The purpose of this subprogram is to add the value of a -

'- buttons text to the text of the textbox that has focus -

'------------------------------------------------------------

'- Parameter Dictionary (in parameter order): -

'- sender - reference to the object that raised the event -

'- e - reference to EventArgs class that contains any addi- -

'- tional information about the event. -

'------------------------------------------------------------

'- Local Variable Dictionary (alphabetically): -

'- (None) -

'------------------------------------------------------------

txtCurrentTextbox.Text = txtCurrentTextbox.Text + sender.text

End Sub

Private Sub btn5\_Click(sender As Object, e As EventArgs) Handles btn5.Click

'------------------------------------------------------------

'- Subprogram Name: btn5\_Click -

'------------------------------------------------------------

'- Written By: Nathan VanSnepson -

'- Written On: March 21, 2022 -

'------------------------------------------------------------

'- Subprogram Purpose: -

'- The purpose of this subprogram is to add the value of a -

'- buttons text to the text of the textbox that has focus -

'------------------------------------------------------------

'- Parameter Dictionary (in parameter order): -

'- sender - reference to the object that raised the event -

'- e - reference to EventArgs class that contains any addi- -

'- tional information about the event. -

'------------------------------------------------------------

'- Local Variable Dictionary (alphabetically): -

'- (None) -

'------------------------------------------------------------

txtCurrentTextbox.Text = txtCurrentTextbox.Text + sender.text

End Sub

Private Sub btn0\_Click(sender As Object, e As EventArgs) Handles btn0.Click

'------------------------------------------------------------

'- Subprogram Name: btn0\_Click -

'------------------------------------------------------------

'- Written By: Nathan VanSnepson -

'- Written On: March 21, 2022 -

'------------------------------------------------------------

'- Subprogram Purpose: -

'- The purpose of this subprogram is to add the value of a -

'- buttons text to the text of the textbox that has focus -

'------------------------------------------------------------

'- Parameter Dictionary (in parameter order): -

'- sender - reference to the object that raised the event -

'- e - reference to EventArgs class that contains any addi- -

'- tional information about the event. -

'------------------------------------------------------------

'- Local Variable Dictionary (alphabetically): -

'- (None) -

'------------------------------------------------------------

txtCurrentTextbox.Text = txtCurrentTextbox.Text + sender.text

End Sub

Private Sub btn1\_Click(sender As Object, e As EventArgs) Handles btn1.Click

'------------------------------------------------------------

'- Subprogram Name: btn1\_Click -

'------------------------------------------------------------

'- Written By: Nathan VanSnepson -

'- Written On: March 21, 2022 -

'------------------------------------------------------------

'- Subprogram Purpose: -

'- The purpose of this subprogram is to add the value of a -

'- buttons text to the text of the textbox that has focus -

'------------------------------------------------------------

'- Parameter Dictionary (in parameter order): -

'- sender - reference to the object that raised the event -

'- e - reference to EventArgs class that contains any addi- -

'- tional information about the event. -

'------------------------------------------------------------

'- Local Variable Dictionary (alphabetically): -

'- (None) -

'------------------------------------------------------------

txtCurrentTextbox.Text = txtCurrentTextbox.Text + sender.text

End Sub

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

'------------------------------------------------------------

'- Subprogram Name: btnConvert\_Click -

'------------------------------------------------------------

'- Written By: Nathan VanSnepson -

'- Written On: March 21, 2022 -

'------------------------------------------------------------

'- Subprogram Purpose: -

'- The purpose of this subprogram is to set the textboxes -

'- equal to a new converted value -

'------------------------------------------------------------

'- Parameter Dictionary (in parameter order): -

'- sender - reference to the object that raised the event -

'- e - reference to EventArgs class that contains any addi- -

'- tional information about the event. -

'------------------------------------------------------------

'- Local Variable Dictionary (alphabetically): -

'- (None) -

'------------------------------------------------------------

If txtCurrentTextbox Is txtBinaryValue1 Then 'txtBinaryValue1 has focus

txtDecimalValue1.Text = binaryToDecimal(txtCurrentTextbox.Text())

txtHexValue1.Text = binaryToHex(txtCurrentTextbox.Text())

ElseIf txtCurrentTextbox Is txtDecimalValue1 Then 'txtDecimalValue1 has focus

txtBinaryValue1.Text = decimalToBinary(txtCurrentTextbox.Text())

txtHexValue1.Text = decimalToHex(txtCurrentTextbox.Text())

ElseIf txtCurrentTextbox Is txtHexValue1 Then 'txtHexValue1 has focus

txtBinaryValue1.Text = hexToBinary(txtCurrentTextbox.Text())

txtDecimalValue1.Text = hexToDecimal(txtCurrentTextbox.Text())

ElseIf txtCurrentTextbox Is txtBinaryValue2 Then 'txtBinaryValue2 has focus

txtDecimalValue2.Text = binaryToDecimal(txtCurrentTextbox.Text())

txtHexValue2.Text = binaryToHex(txtCurrentTextbox.Text())

ElseIf txtCurrentTextbox Is txtDecimalValue2 Then 'txtDecimalValue2 has focus

txtBinaryValue2.Text = decimalToBinary(txtCurrentTextbox.Text())

txtHexValue2.Text = decimalToHex(txtCurrentTextbox.Text())

ElseIf txtCurrentTextbox Is txtHexValue2 Then 'txtHexValue2 has focus

txtBinaryValue2.Text = hexToBinary(txtCurrentTextbox.Text())

txtDecimalValue2.Text = hexToDecimal(txtCurrentTextbox.Text())

End If

End Sub

Private Sub setEnabledInputButtons(lstValidButtons As String())

'------------------------------------------------------------

'- Subprogram Name: setEnabledInputButtons -

'------------------------------------------------------------

'- Written By: Nathan VanSnepson -

'- Written On: March 21, 2022 -

'------------------------------------------------------------

'- Subprogram Purpose: -

'- The purpose of this subprogram is to enable/disable -

'- buttons based on the given list of valid buttons using -

'- button text. -

'------------------------------------------------------------

'- Parameter Dictionary (in parameter order): -

'- lstValidButtons - string list for valid buttons -

'------------------------------------------------------------

'- Local Variable Dictionary (alphabetically): -

'- (None) -

'------------------------------------------------------------

'Loops through all the buttons in pnlInputButtons

For Each btnInput In pnlInputButtons.Controls

btnInput = CType(btnInput, Button) 'Converts btnInput to a Button

'Checks if the button should be enabled

If btnInput.text.Equals("Convert") Or lstValidButtons.Contains(btnInput.text) Then

btnInput.enabled = True

Else

btnInput.enabled = False

End If

Next

End Sub

#End Region

#Region "Conversions"

Function binaryToDecimal(strInput As String) As String

'------------------------------------------------------------

'- Subprogram Name: binaryToDecimal -

'------------------------------------------------------------

'- Written By: Nathan VanSnepson -

'- Written On: March 21, 2022 -

'------------------------------------------------------------

'- Subprogram Purpose: -

'- The purpose of this subprogram is to convert from binary -

'- to decimal -

'------------------------------------------------------------

'- Parameter Dictionary (in parameter order): -

'- strInput - String input of value to be converted -

'------------------------------------------------------------

'- Local Variable Dictionary (alphabetically): -

'-\*intOutput - 64bit that will hold the value of the decimal-

'-\*intPowerCounter - Counter to increment used for powers of-

'- two -

'------------------------------------------------------------

Dim intOutput As Int64 = 0

Dim intPowerCounter As Integer = 0

'Removes whitespaces from binary input

strInput = strInput.Replace(" ", "")

'Loops through binary input

For i = strInput.Length - 1 To 0 Step -1

If strInput.Chars(i) = "1" Then 'If the binary value is 1 then add current power of two to intOutput

intOutput = intOutput + Math.Pow(2, strInput.Length - 1 - i)

End If

intPowerCounter = intPowerCounter + 1 'Increment power counter

Next

Return intOutput.ToString()

End Function

Function binaryToHex(strInput As String) As String

'------------------------------------------------------------

'- Subprogram Name: binaryToHex -

'------------------------------------------------------------

'- Written By: Nathan VanSnepson -

'- Written On: March 21, 2022 -

'------------------------------------------------------------

'- Subprogram Purpose: -

'- The purpose of this subprogram is to convert from binary -

'- to hex -

'------------------------------------------------------------

'- Parameter Dictionary (in parameter order): -

'- strInput - String input of value to be converted -

'------------------------------------------------------------

'- Local Variable Dictionary (alphabetically): -

'- (None) -

'------------------------------------------------------------

'Removes white spaces from binary value

strInput = strInput.Replace(" ", "")

Return decimalToHex(binaryToDecimal(strInput))

End Function

Function decimalToBinary(strInput As String) As String

'------------------------------------------------------------

'- Subprogram Name: decimalToBinary -

'------------------------------------------------------------

'- Written By: Nathan VanSnepson -

'- Written On: March 21, 2022 -

'------------------------------------------------------------

'- Subprogram Purpose: -

'- The purpose of this subprogram is to convert from decimal-

'- to binary -

'------------------------------------------------------------

'- Parameter Dictionary (in parameter order): -

'- strInput - String input of value to be converted -

'------------------------------------------------------------

'- Local Variable Dictionary (alphabetically): -

'-\*intInput - inputted value as an integer -

'-\*strOutput - String to hold the output -

'------------------------------------------------------------

'Try catch used to catch overflow

Try

Dim intInput As Integer = CType(strInput, Integer)

Dim strOutput As String = ""

'Loop 32 times to check if current binary bit is 1 or 0

For i = 31 To 0 Step -1

'Adds a space after every 4 bits for formatting

If (strOutput.Length + 1) Mod 5 = 0 Then

strOutput = strOutput & " "

End If

'if the decimal value is greater or equal to current power ser bit = 1

If intInput >= Math.Pow(2, i) Then

strOutput = strOutput & "1"

intInput = intInput - Math.Pow(2, i)

Else 'Set bit to 0

strOutput = strOutput & "0"

End If

Next

Return strOutput

Catch

MessageBox.Show("Overflow: Value entered was too large")

Return 0

End Try

End Function

Function decimalToHex(strInput As String) As String

'------------------------------------------------------------

'- Subprogram Name: decimalToHex -

'------------------------------------------------------------

'- Written By: Nathan VanSnepson -

'- Written On: March 21, 2022 -

'------------------------------------------------------------

'- Subprogram Purpose: -

'- The purpose of this subprogram is to convert from decimal-

'- to hex -

'------------------------------------------------------------

'- Parameter Dictionary (in parameter order): -

'- strInput - String input of value to be converted -

'------------------------------------------------------------

'- Local Variable Dictionary (alphabetically): -

'- (None) -

'------------------------------------------------------------

Return Hex(strInput).ToString()

End Function

Function hexToDecimal(strInput As String) As String

'------------------------------------------------------------

'- Subprogram Name: hexToDecimal -

'------------------------------------------------------------

'- Written By: Nathan VanSnepson -

'- Written On: March 21, 2022 -

'------------------------------------------------------------

'- Subprogram Purpose: -

'- The purpose of this subprogram is to convert from hex to -

'- decimal -

'------------------------------------------------------------

'- Parameter Dictionary (in parameter order): -

'- strInput - String input of value to be converted -

'------------------------------------------------------------

'- Local Variable Dictionary (alphabetically): -

'- (None) -

'------------------------------------------------------------

Try

Return Convert.ToInt64(strInput, 16).ToString()

Catch

Return "0"

End Try

End Function

Function hexToBinary(strInput As String) As String

'------------------------------------------------------------

'- Subprogram Name: hexToBinary -

'------------------------------------------------------------

'- Written By: Nathan VanSnepson -

'- Written On: March 21, 2022 -

'------------------------------------------------------------

'- Subprogram Purpose: -

'- The purpose of this subprogram is to convert from hex to -

'- Binary -

'------------------------------------------------------------

'- Parameter Dictionary (in parameter order): -

'- strInput - String input of value to be converted -

'------------------------------------------------------------

'- Local Variable Dictionary (alphabetically): -

'- (None) -

'------------------------------------------------------------

Return decimalToBinary(hexToDecimal(strInput))

End Function

#End Region

#Region "Logical Operations"

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

'------------------------------------------------------------

'- Subprogram Name: btnAnd\_Click -

'------------------------------------------------------------

'- Written By: Nathan VanSnepson -

'- Written On: March 21, 2022 -

'------------------------------------------------------------

'- Subprogram Purpose: -

'- The purpose of this subprogram is to use the AND logical -

'- Operation on Value1 and Value2 binary values -

'------------------------------------------------------------

'- Parameter Dictionary (in parameter order): -

'- sender - reference to the object that raised the event -

'- e - reference to EventArgs class that contains any addi- -

'- tional information about the event. -

'------------------------------------------------------------

'- Local Variable Dictionary (alphabetically): -

'-\*strBinaryValue1 - binary value 1 -

'-\*strBinaryValue2 - binary value 2 -

'-\*strResults - binary result -

'------------------------------------------------------------

Dim strBinaryValue1 As String = txtBinaryValue1.Text.Replace(" ", "").PadLeft(32, "0")

Dim strBinaryValue2 As String = txtBinaryValue2.Text.Replace(" ", "").PadLeft(32, "0")

Dim strResults As String = ""

'Loops through the 32 bits

For i As Integer = 0 To 31 Step 1

'Checks if both binary strings have a value at i

If strBinaryValue1.Length - 1 >= i And strBinaryValue2.Length - 1 >= i Then

'If both binary values are 1

If strBinaryValue1.Chars(i) = strBinaryValue2.Chars(i) And strBinaryValue2.Chars(i) = "1" Then

strResults = strResults & "1"

Else

strResults = strResults & "0"

End If

Else

strResults = strResults & "0"

End If

'Format binary

If (strResults.Length + 1) Mod 5 = 0 Then

strResults = strResults & " "

End If

Next

'Update Result textboxes

txtBinaryResult.Text = strResults

txtDecimalResult.Text = binaryToDecimal(strResults)

txtHexResult.Text = binaryToHex(strResults)

End Sub

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

'------------------------------------------------------------

'- Subprogram Name: btnOr\_Click -

'------------------------------------------------------------

'- Written By: Nathan VanSnepson -

'- Written On: March 21, 2022 -

'------------------------------------------------------------

'- Subprogram Purpose: -

'- The purpose of this subprogram is to use the OR logical -

'- Operation on Value1 and Value2 binary values -

'------------------------------------------------------------

'- Parameter Dictionary (in parameter order): -

'- sender - reference to the object that raised the event -

'- e - reference to EventArgs class that contains any addi- -

'- tional information about the event. -

'------------------------------------------------------------

'- Local Variable Dictionary (alphabetically): -

'-\*strBinaryValue1 - binary value 1 -

'-\*strBinaryValue2 - binary value 2 -

'-\*strResults - binary result -

'------------------------------------------------------------

Dim strBinaryValue1 As String = txtBinaryValue1.Text.Replace(" ", "").PadLeft(32, "0")

Dim strBinaryValue2 As String = txtBinaryValue2.Text.Replace(" ", "").PadLeft(32, "0")

Dim strResults As String = ""

'Loops through 32 bit binary string

For i As Integer = 0 To 31 Step 1

'Checks if both binary strings have a value at i

If strBinaryValue1.Length - 1 >= i Or strBinaryValue2.Length - 1 >= i Then

If strBinaryValue1.Chars(i) = "1" Then 'If value1 bit is 1

strResults = strResults & "1"

ElseIf strBinaryValue2.Chars(i) = "1" Then 'If value2 bit is 1

strResults = strResults & "1"

Else

strResults = strResults & "0"

End If

Else

strResults = strResults & "0"

End If

'Format binary results

If (strResults.Length + 1) Mod 5 = 0 Then

strResults = strResults & " "

End If

Next

'Update Result textboxes

txtBinaryResult.Text = strResults

txtDecimalResult.Text = binaryToDecimal(strResults)

txtHexResult.Text = binaryToHex(strResults)

End Sub

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

'------------------------------------------------------------

'- Subprogram Name: btnXor\_Click -

'------------------------------------------------------------

'- Written By: Nathan VanSnepson -

'- Written On: March 21, 2022 -

'------------------------------------------------------------

'- Subprogram Purpose: -

'- The purpose of this subprogram is to use the XOR logical -

'- Operation on Value1 and Value2 binary values -

'------------------------------------------------------------

'- Parameter Dictionary (in parameter order): -

'- sender - reference to the object that raised the event -

'- e - reference to EventArgs class that contains any addi- -

'- tional information about the event. -

'------------------------------------------------------------

'- Local Variable Dictionary (alphabetically): -

'-\*strBinaryValue1 - binary value 1 -

'-\*strBinaryValue2 - binary value 2 -

'-\*strResults - binary result -

'------------------------------------------------------------

Dim strBinaryValue1 As String = txtBinaryValue1.Text.Replace(" ", "").PadLeft(32, "0")

Dim strBinaryValue2 As String = txtBinaryValue2.Text.Replace(" ", "").PadLeft(32, "0")

Dim strResults As String = ""

'Loop through 32 bit binary string

For i As Integer = 0 To 31 Step 1

'Checks if either binary strings have a value at i

If strBinaryValue1.Length - 1 >= i Or strBinaryValue2.Length - 1 >= i Then

If (strBinaryValue1.Chars(i) = "0" And strBinaryValue2.Chars(i) = "1" Or

strBinaryValue1.Chars(i) = "1" And strBinaryValue2.Chars(i) = "0") Then

strResults = strResults & "1"

Else

strResults = strResults & "0"

End If

Else

strResults = strResults & "0"

End If

'Format binary string

If (strResults.Length + 1) Mod 5 = 0 Then

strResults = strResults & " "

End If

Next

'Update Result textboxes

txtBinaryResult.Text = strResults

txtDecimalResult.Text = binaryToDecimal(strResults)

txtHexResult.Text = binaryToHex(strResults)

End Sub

Private Sub btnNotvalue1\_Click(sender As Object, e As EventArgs) Handles btnNotvalue1.Click

'------------------------------------------------------------

'- Subprogram Name: btnNotvalue1\_Click -

'------------------------------------------------------------

'- Written By: Nathan VanSnepson -

'- Written On: March 21, 2022 -

'------------------------------------------------------------

'- Subprogram Purpose: -

'- The purpose of this subprogram is to use the NOT logical -

'- Operation on Value1 binary values -

'------------------------------------------------------------

'- Parameter Dictionary (in parameter order): -

'- sender - reference to the object that raised the event -

'- e - reference to EventArgs class that contains any addi- -

'- tional information about the event. -

'------------------------------------------------------------

'- Local Variable Dictionary (alphabetically): -

'-\*strBinaryValue1 - binary value 1 -

'-\*strResults - binary result -

'------------------------------------------------------------

Dim strBinaryValue1 As String = txtBinaryValue1.Text.Replace(" ", "").PadLeft(32, "0")

Dim strResults As String = ""

'Loop through 32 bit binary string

For i As Integer = 0 To 31 Step 1

If strBinaryValue1.Chars(i) = "1" Then

strResults = strResults & "0"

Else

strResults = strResults & "1"

End If

'Format binary string

If (strResults.Length + 1) Mod 5 = 0 Then

strResults = strResults & " "

End If

Next

'Update Result textboxes

txtBinaryResult.Text = strResults

txtDecimalResult.Text = binaryToDecimal(strResults)

txtHexResult.Text = binaryToHex(strResults)

End Sub

#End Region

End Class