Graphical User Interface Programming

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Chapter 3 – Project 1 - Calculator

Code:
```
Public Class Calculator
    Private Sub btnComputeSum_Click(sender As Object, e As EventArgs) Handles btnComputeSum.Click
        Dim num1, num2, sum As Double
        num1 = CDbl(txtFirstNum.Text)
        num2 = CDbl(txtSecondNum.Text)
        sum = num1 + num2
        txtDisplay.Text = CStr(num1 & " " & " + " & " " & num2 & " " & " = " & " " & sum)
    End Sub

    Private Sub btnComputeSubtr_Click(sender As Object, e As EventArgs) Handles btnComputeSubtr.Click
        Dim num1, num2, subtraction As Double
        num1 = CDbl(txtFirstNum.Text)
        num2 = CDbl(txtSecondNum.Text)
        subtraction = num1 - num2
        txtDisplay.Text = CStr(num1 & " " & " - " & " " & num2 & " " & " = " & " " & subtraction)
    End Sub

    Private Sub btnMultiply_Click(sender As Object, e As EventArgs) Handles btnMultiply.Click
        Dim num1, num2, product As Double
        num1 = CDbl(txtFirstNum.Text)
        num2 = CDbl(txtSecondNum.Text)
        product = num1 * num2
        txtDisplay.Text = CStr(num1 & " " & " x " & " " & num2 & " " & " = " & " " & product)
    End Sub
End Class
```
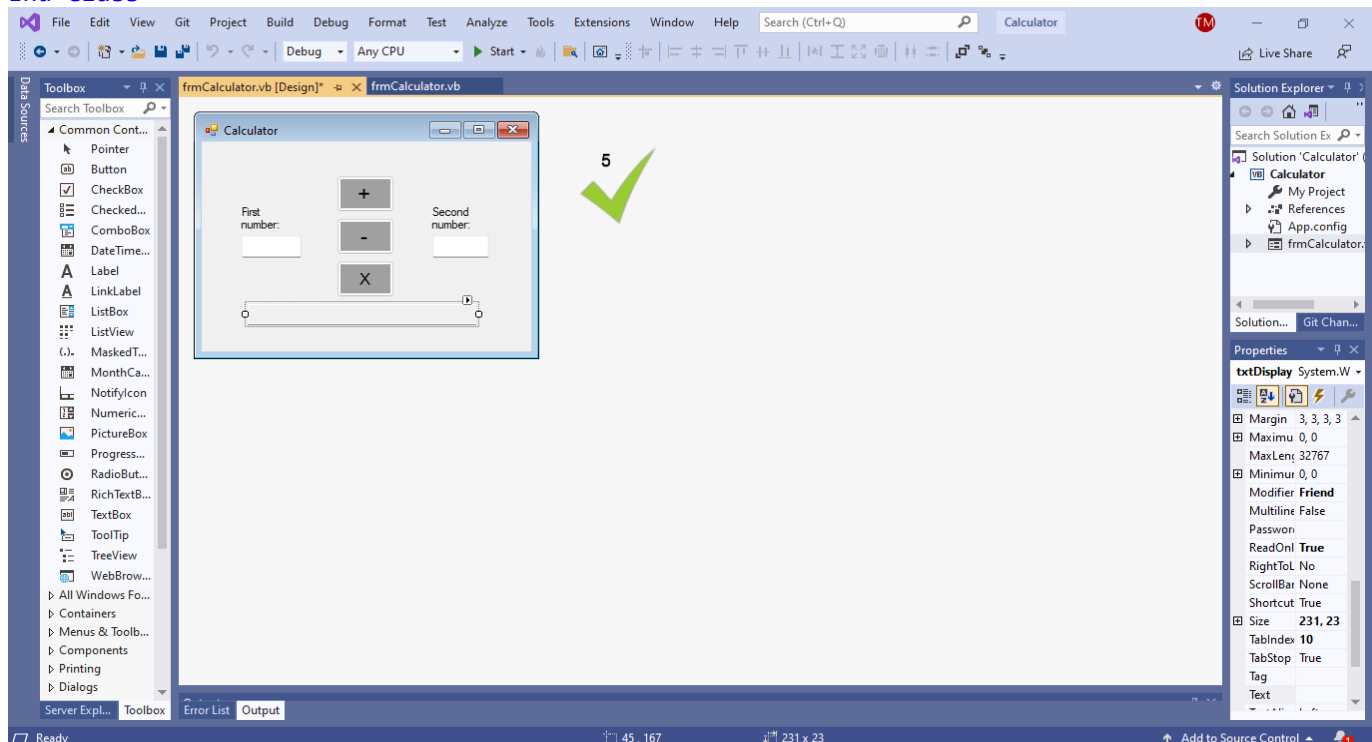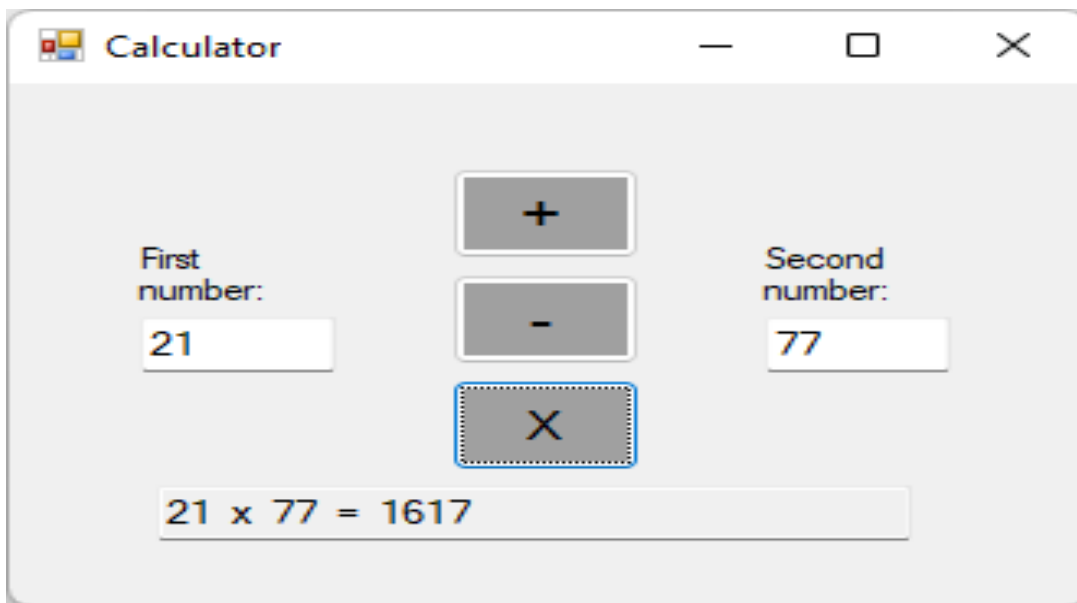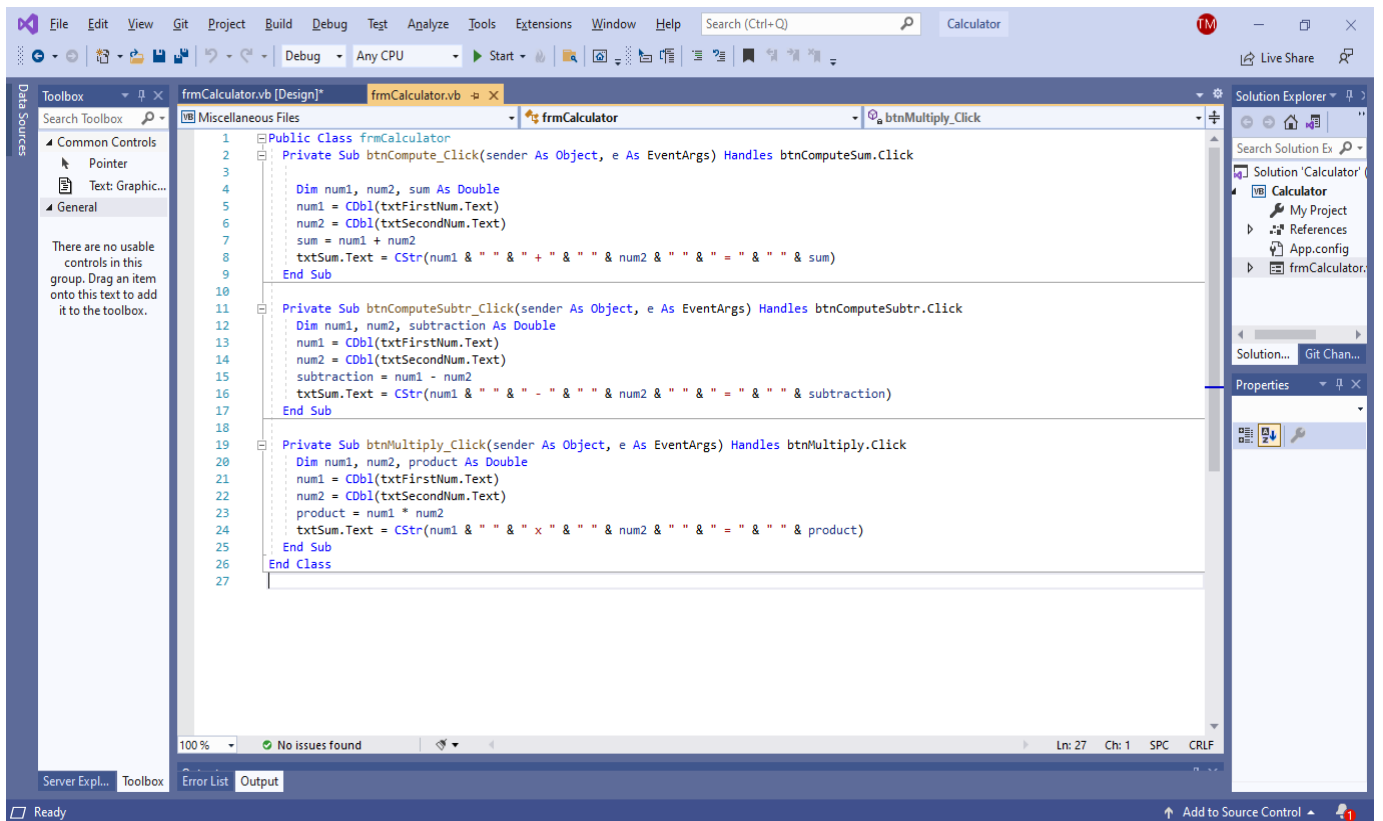
Toolbox

frmCalculator.vb [Design]*   frmCalculator.vb ⇥ ✕

Miscellaneous Files   frmCalculator   btnMultiply_Click

```vb
1   Public Class frmCalculator
2       Private Sub btnCompute_Click(sender As Object, e As EventArgs) Handles btnComputeSum.Click
3
4           Dim num1, num2, sum As Double
5           num1 = CDbl(txtFirstNum.Text)
6           num2 = CDbl(txtSecondNum.Text)
7           sum = num1 + num2
8           txtSum.Text = CStr(num1 & " " & "+" & " " & num2 & " " & "=" & " " & sum)
9       End Sub
10
11      Private Sub btnComputeSubtr_Click(sender As Object, e As EventArgs) Handles btnComputeSubtr.Click
12          Dim num1, num2, subtraction As Double
13          num1 = CDbl(txtFirstNum.Text)
14          num2 = CDbl(txtSecondNum.Text)
15          subtraction = num1 - num2
16          txtSum.Text = CStr(num1 & " " & "-" & " " & num2 & " " & "=" & " " & subtraction)
17      End Sub
18
19      Private Sub btnMultiply_Click(sender As Object, e As EventArgs) Handles btnMultiply.Click
20          Dim num1, num2, product As Double
21          num1 = CDbl(txtFirstNum.Text)
22          num2 = CDbl(txtSecondNum.Text)
23          product = num1 * num2
24          txtSum.Text = CStr(num1 & " " & "x" & " " & num2 & " " & "=" & " " & product)
25      End Sub
26  End Class
27
```

100 %   ⊘ No issues found   Ln: 27   Ch: 1   SPC   CRLF

Server Expl...   Toolbox   Error List   Output

Ready   Add to Source Control

Solution Explorer

Search Solution Ex

Solution 'Calculator'
  ▲ ▣ Calculator
      ⚲ My Project
    ▶ ▪◦ References
      ▣ App.config
    ▶ ▤ frmCalculator.

Solution...   Git Chan...

Properties

Calculator — ▢ ✕

First number:

`21`

+

-

×

Second number:

`77`

21 x 77 = 1617

Code:

```vb
Public Class frmRentalRates
  Private Sub btnRentalRates_Click(sender As Object, e As EventArgs) Handles
btnRentalRates.Click
    lstRentalRates.Items.Clear()
    lstRentalRates.Items.Add("Price of Equipment" & vbTab & vbTab & "Half-Day" & vbTab &
"Full-Day")
    lstRentalRates.Items.Add("1. Rug Cleaner" & vbTab & vbTab & "$16.00" & vbTab & "$24.00")
    lstRentalRates.Items.Add("2. Lawn Mower" & vbTab & vbTab & "$12.00" & vbTab & "$18.00")
    lstRentalRates.Items.Add("3. Paint Sprayer" & vbTab & vbTab & "$20.00" & vbTab &
"$30.00")
  End Sub
  Private Sub btnBill_Click(sender As Object, e As EventArgs) Handles btnBill.Click
    If (txtItem.Text = "1" Or txtItem.Text = "2" Or txtItem.Text = "3") And
(txtDuration.Text.ToUpper = "H" Or txtDuration.Text.ToUpper = "F") Then
      Const deposit = 30
      Dim item, duration As String
      Dim itemCost As Double

      item = txtItem.Text
      duration = txtDuration.Text.ToUpper()

      Select Case item
        Case "1"
          item = "Rug Cleaner"
          itemCost = 16
        Case "2"
          item = "Lawn Mower"
          itemCost = 12
        Case "3"
          item = "Paint Sprayer"
          itemCost = 20
      End Select

      If duration = "F" Then
        itemCost = itemCost + (itemCost * 0.5)
        duration = "Full day rental"
      Else
        duration = "Half day rental"
      End If
      lstBill.Items.Clear()
      lstBill.Items.Add("Receipt  from Eddie's Equipment Rental")
      lstBill.Items.Add("")
      lstBill.Items.Add("")
      lstBill.Items.Add(item & ":   " & itemCost.ToString("C2") & " " & "(" & duration & ")")
      lstBill.Items.Add("Deposit:   " & deposit.ToString("C2"))
      lstBill.Items.Add("")
      lstBill.Items.Add("")
      lstBill.Items.Add("Total:   " & (itemCost + deposit).ToString("C2"))
    Else
      MessageBox.Show("Please enter correct input", "Invalid Input", MessageBoxButtons.OK)
    End If
  End Sub
End Class
```

Bottom window (frmRentalRates.vb) — code:

```vb
Public Class frmRentalRates

    Private Sub btnRentalRates_Click(sender As Object, e As EventArgs) Handles btnRentalRates.Click
        lstRentalRates.Items.Clear()
        lstRentalRates.Items.Add("Price of Equipment" & vbTab & vbTab & "Half-Day" & vbTab & "Full-Day")
        lstRentalRates.Items.Add("1. Rug Cleaner" & vbTab & vbTab & "$16.00" & vbTab & "$24.00")
        lstRentalRates.Items.Add("2. Lawn Mower" & vbTab & vbTab & "$12.00" & vbTab & "$18.00")
        lstRentalRates.Items.Add("3. Paint Sprayer" & vbTab & vbTab & "$20.00" & vbTab & "$30.00")
    End Sub

    Private Sub btnBill_Click(sender As Object, e As EventArgs) Handles btnBill.Click
        If (txtItem.Text = "1" Or txtItem.Text = "2" Or txtItem.Text = "3") And (txtDuration.Text.ToUpper = "H" Or txtDuration.Text.ToUppe
            Const deposit = 30
            Dim item, duration As String
            Dim itemCost As Double

            item = txtItem.Text
            duration = txtDuration.Text.ToUpper()

            Select Case item
                Case "1"
                    item = "Rug Cleaner"
                    itemCost = 16
                Case "2"
                    item = "Lawn Mower"
                    itemCost = 12
                Case "3"
                    item = "Paint Sprayer"
                    itemCost = 20
            End Select

            If duration = "F" Then
                itemCost = itemCost + (itemCost * 0.5)
                duration = "Full day rental"
            Else
```

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Ln: 39 Ch: 28 SPC CRLF
No issues found
100 %
Ready   Add to Source Control

```vb
15          item = txtItem.Text
16          duration = txtDuration.Text.ToUpper()
17
18          Select Case item
19              Case "1"
20                  item = "Rug Cleaner"
21                  itemCost = 16
22              Case "2"
23                  item = "Lawn Mower"
24                  itemCost = 12
25              Case "3"
26                  item = "Paint Sprayer"
27                  itemCost = 20
28          End Select
29
30          If duration = "F" Then
31              itemCost = itemCost + (itemCost * 0.5)
32              duration = "Full day rental"
33          Else
34              duration = "Half day rental"
35          End If
36          lstBill.Items.Clear()
37          lstBill.Items.Add("Receipt  from Eddie's Equipment Rental")
38          lstBill.Items.Add("")
39          lstBill.Items.Add("")
40          lstBill.Items.Add(item & ":  " & itemCost.ToString("C2") & " " & "(" & duration & ")")
41          lstBill.Items.Add("Deposit:  " & deposit.ToString("C2"))
42          lstBill.Items.Add("")
43          lstBill.Items.Add("")
44          lstBill.Items.Add("Total:  " & (itemCost + deposit).ToString("C2"))
45      Else
46          MessageBox.Show("Please enter correct input", "Invalid Input", MessageBoxButtons.OK)
47      End If
48  End Sub
49  End Class
50
```
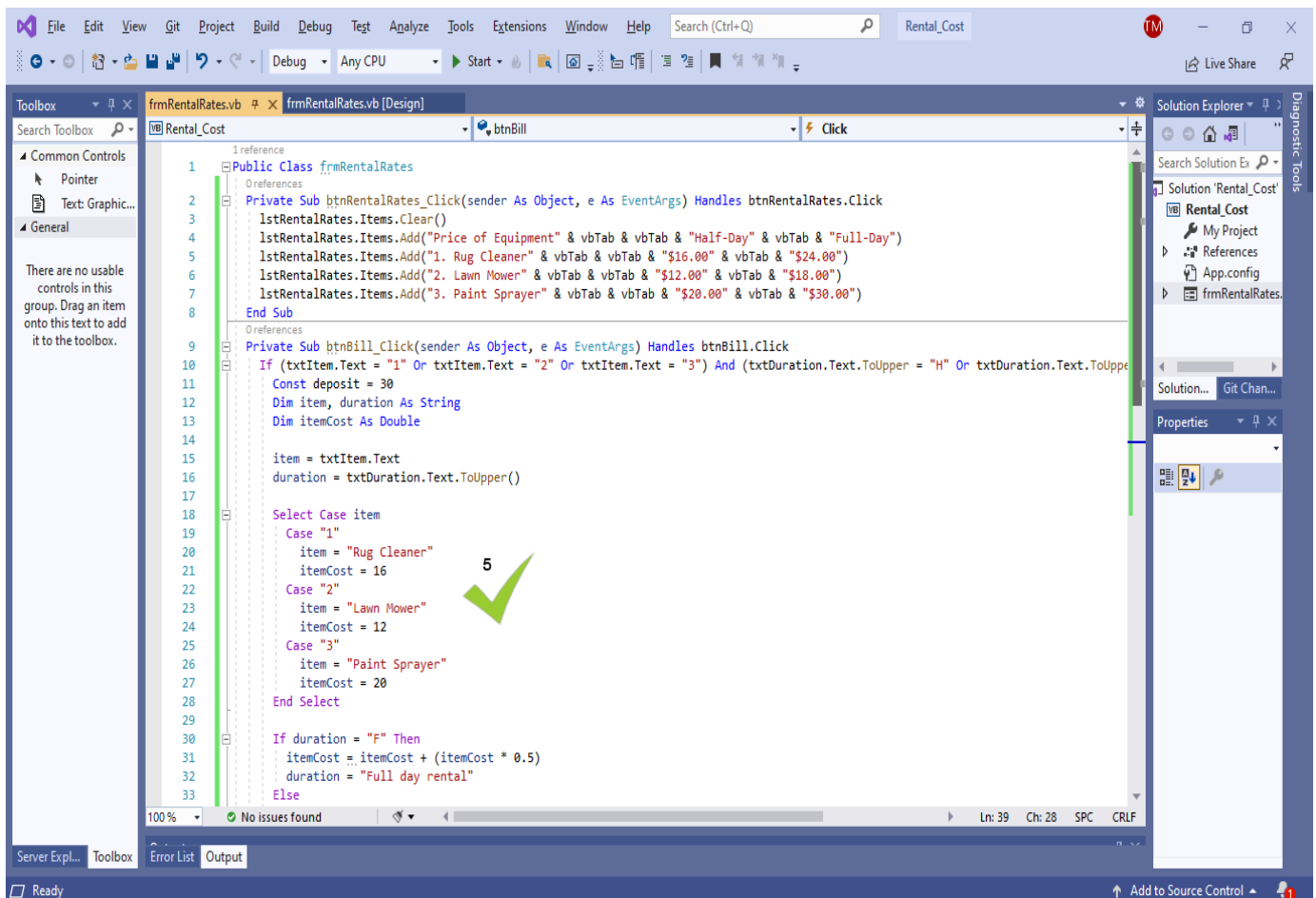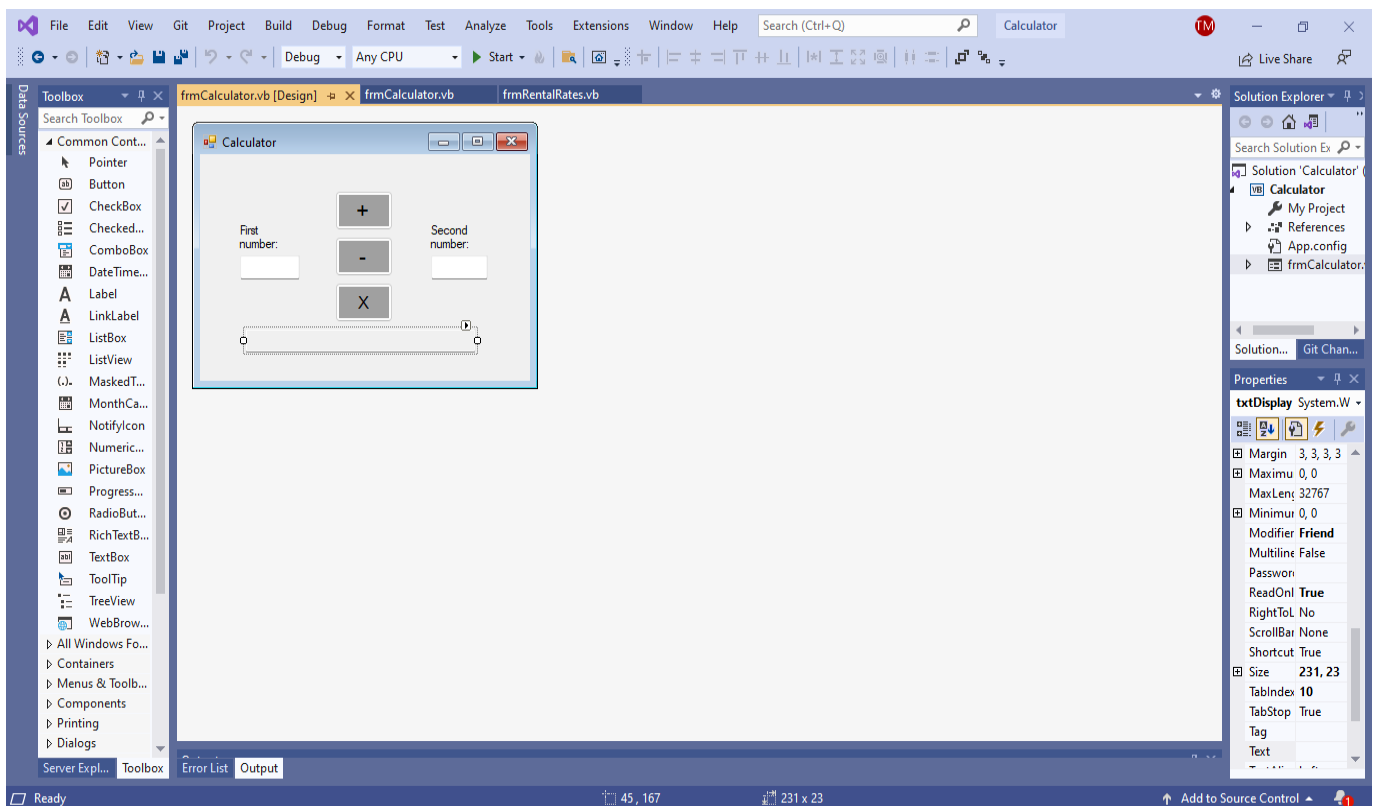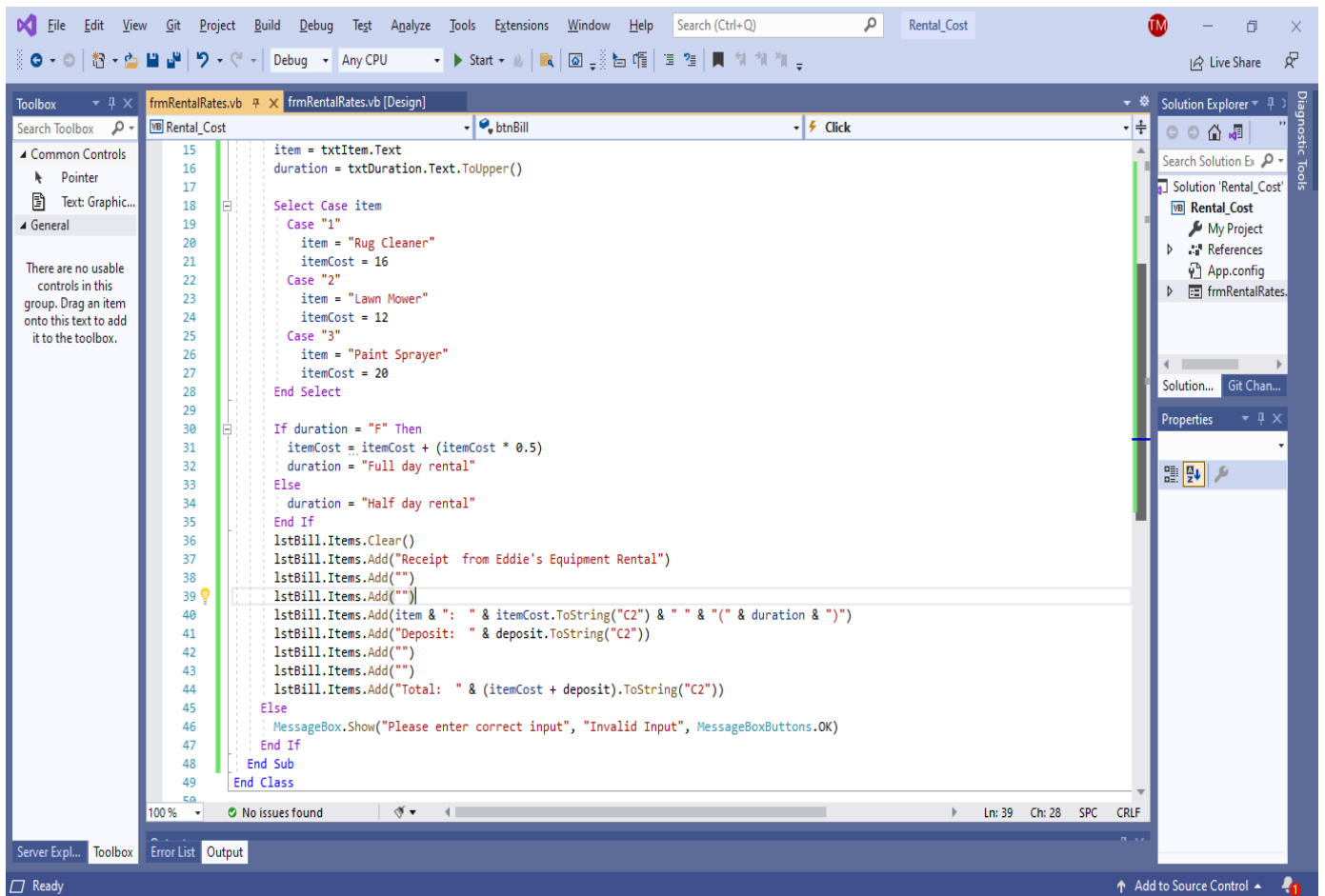
Welcome to Eddie's Equipment Rental

Price of Equipment	Half-Day	Full-Day
1. Rug Cleaner	$16.00	$24.00
2. Lawn Mower	$12.00	$18.00
3. Paint Sprayer	$20.00	$30.00

Display Rental Rates

Select an item (1, 2, or 3:)   `2`

Select a duration (H or F):   `F`

Display Customer Bill

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Receipt from Eddie's Equipment Rental

Lawn Mower: $18.00 (Full day rental)
Deposit: $30.00

Total: $48.00

Code:
```vb
Public Class frmPalindrome
    Private Sub btnPalindrome_Click(sender As Object, e As EventArgs) Handles btnPalindrome.Click

        Dim str As String = txtEnter.Text
        str = str.ToUpper()

        Dim left As Integer = 0
        Dim right As Integer = str.Length - 1
        Dim isPalindrome As Boolean = True

        Do While (left < right AndAlso isPalindrome = True)
            If (str.Substring(left, 1) = str.Substring(right, 1)) Then
                left += 1
                right -= 1
            Else
                isPalindrome = False
            End If
        Loop
        If isPalindrome = True Then
            txtDisplay.Text = "YES"
        Else
            txtDisplay.Text = "NO"
        End If
    End Sub
End Class
```

```vb
Public Class frmPalindrome
    Private Sub btnPalindrome_Click(sender As Object, e As EventArgs) Handles btnPalindrome.Click

        Dim str As String = txtEnter.Text
        str = str.ToUpper()

        Dim left As Integer = 0
        Dim right As Integer = str.Length - 1
        Dim isPalindrome As Boolean = True

        Do While (left < right AndAlso isPalindrome = True)
            If (str.Substring(left, 1) = str.Substring(right, 1)) Then
                left += 1
                right -= 1
            Else
                isPalindrome = False
            End If
        Loop
        If isPalindrome = True Then
            txtDisplay.Text = "YES"
        Else
            txtDisplay.Text = "NO"
        End If
    End Sub
End Class
```

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Palindrome

Enter a word or phrase:

racecar

Determine if Palindrome

YES