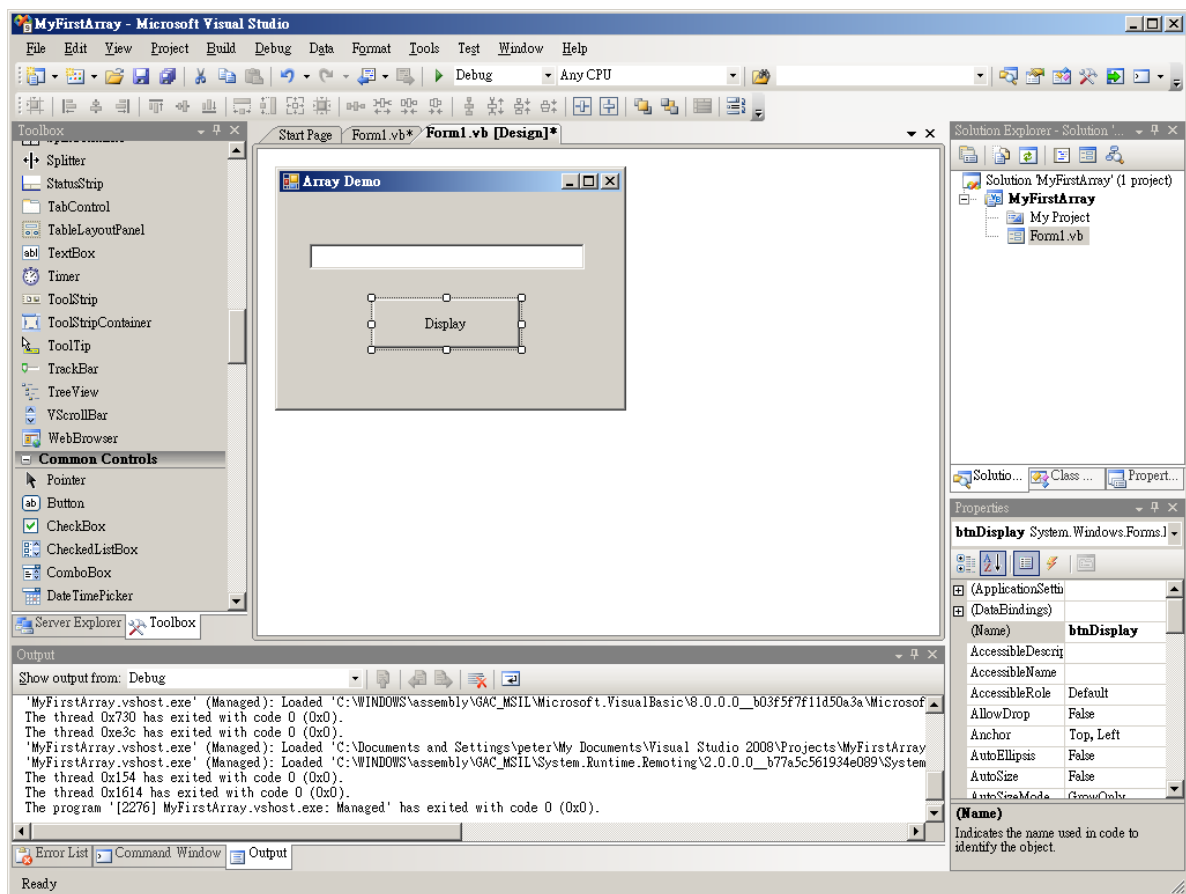


1. Using Array

1. Start the Microsoft Visual Studio and start a new Visual Basic Project **MyFirstArray**. From the Toolbox, drag a **Textbox** and **Button** control onto the form and customize the properties.

Object	Name	Property	Property Value
Form	frmMain	Text	Array Demo
Text Box	txtInput	Text	(Blank)
Button	btnDisplay	Text	Display

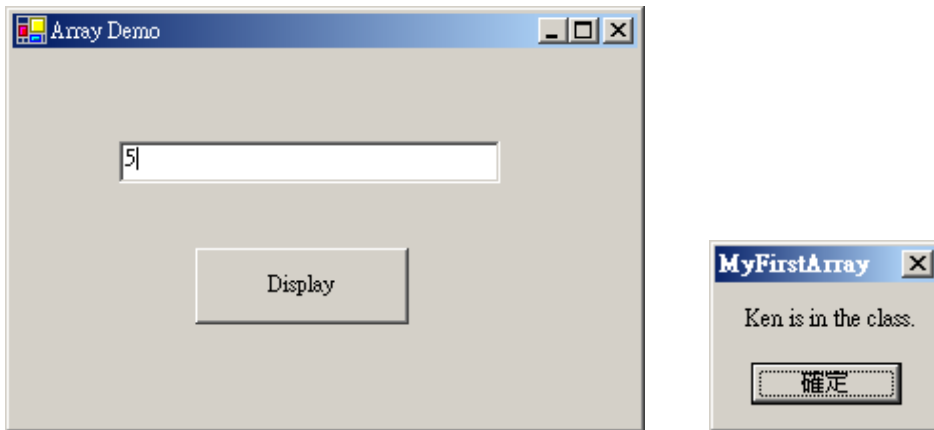


2. In the **Click** event procedure of the **btnDisplay** control, add the following code:

```
' Declare the array
Dim student() As String = { "Dan", "Mary", "John", "Cherry", _
                             "LuLu", "Ken", "Jay", "Sam", "Robert" }

' Display the result
MsgBox(student(txtinput.Text) & " is in the Class.")
```

3. Build and execute your program. Type a number between 0 and 8 in the text box and click the **[Display]** button.

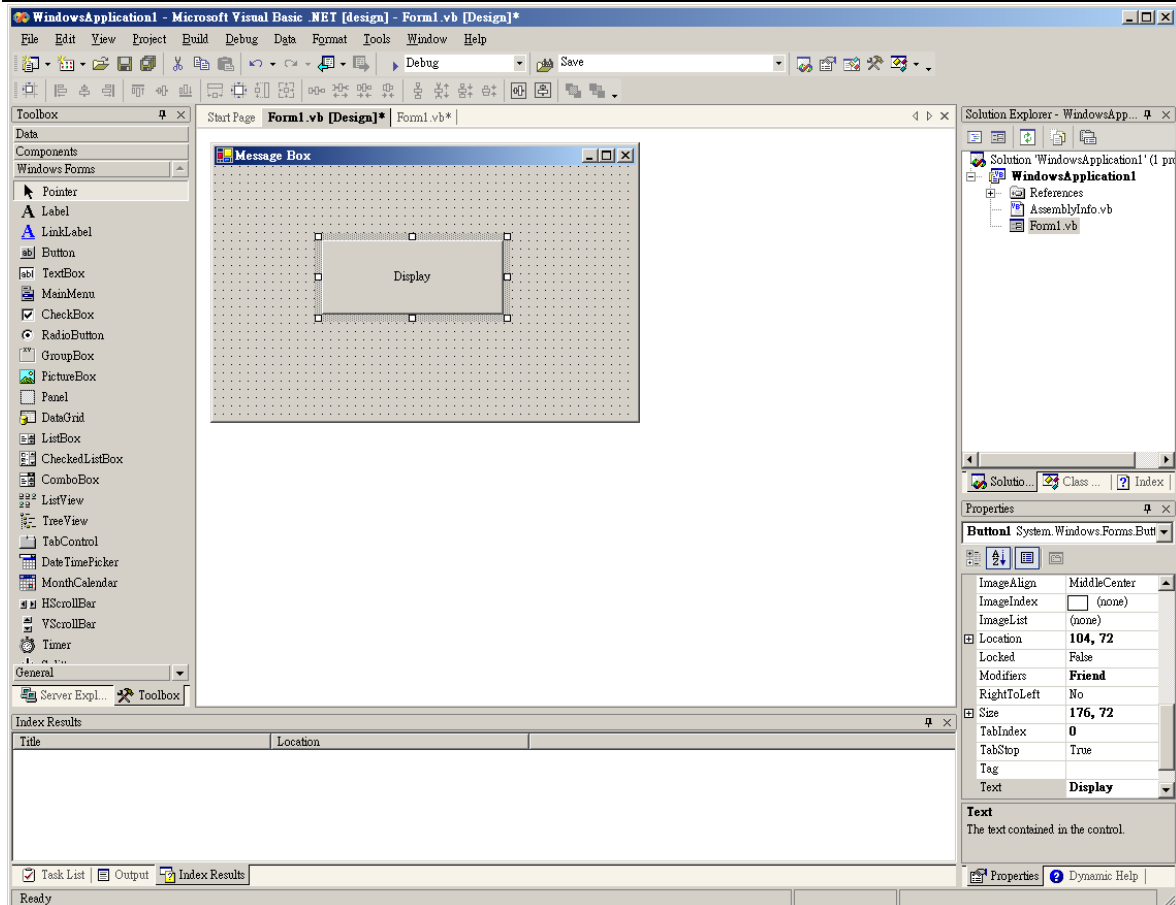


4. The name corresponding to that element is displayed in a message box. What will happen if you input 10 in the textbox? How to modify the program to avoid this error?

2. Message Box

1. Start the Microsoft Visual Studio and start a new Visual Basic Project **MessageBoxDemo**. From the Toolbox, drag a **Button** controls onto the form and customize the properties.

Object	Name	Property	Property Value
Form	frmMain	Text	Message Demo
Button	btnDisplay	Text	Display



2. In the **Click** event procedure of the button control (**frmDisplay**), add the following code.

```

MessageBox.Show("Message Text Content", _
    "Title", _
    MessageBoxButtons.OKCancel, _
    MessageBoxIcon.Information, _
    MessageBoxDefaultButton.Button1, _
    MessageBoxOptions.DefaultDesktopOnly)

```

3. Save the project and build the solution, and then execute it.



4. Change the parameter for the button, icon, default button and option, can you observe the different for the message box?

Parameters	Option
Button	MessageBoxButtons.AbortRetryIgnore MessageBoxButtons.OK MessageBoxButtons.OKCancel MessageBoxButtons.RetryCancel MessageBoxButtons.YesNo MessageBoxButtons.YesNoCancel
Icon	MessageBoxIcon.Asterisk MessageBoxIcon.Error MessageBoxIcon.Exclamation MessageBoxIcon.Hand MessageBoxIcon.Information MessageBoxIcon.None MessageBoxIcon.Question MessageBoxIcon.Stop MessageBoxIcon.Warning
Default Button (1, 2, 3)	MessageBoxDefaultButton.Button1 MessageBoxDefaultButton.Button2 MessageBoxDefaultButton.Button3
Option	MessageBoxOptions.DefaultDesktopOnly MessageBoxOptions.RightAlign MessageBoxOptions.RtlReading MessageBoxOptions.ServiceNotification

3. Drawing

1. Open the Microsoft Visual Studio and start a new Visual Basic Project named as **Drawing** and customize the form properties.

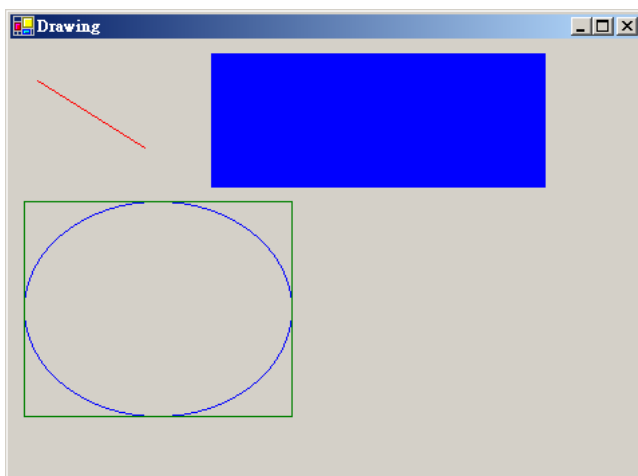
Object	Name	Property	Property Value
Form	frmMain	Text	Drawing

2. In the **Paint** event procedure of the Form (**frmMain**), add the following code

```
Dim Graphics As System.Drawing.Graphics
Dim Color As New System.Drawing.Pen(System.Drawing.Color.Red)
Dim Color2 As New System.Drawing.Pen(System.Drawing.Color.Blue)
Dim Color3 As New System.Drawing.Pen(System.Drawing.Color.Green)
Dim Brush As New SolidBrush(System.Drawing.Color.Blue)

Try
    Graphics = Me.CreateGraphics()
    Graphics.DrawLine(Color, 20, 30, 100, 80)
    Graphics.DrawEllipse(Color2, 10, 120, 200, 160)
    Graphics.DrawRectangle(Color3, 10, 120, 200, 160)
    Graphics.FillRectangle(Brush, 150, 10, 250, 100)
Catch ex As Exception
    MsgBox("Error drawing shapes!")
    Application.Exit()
End Try
```

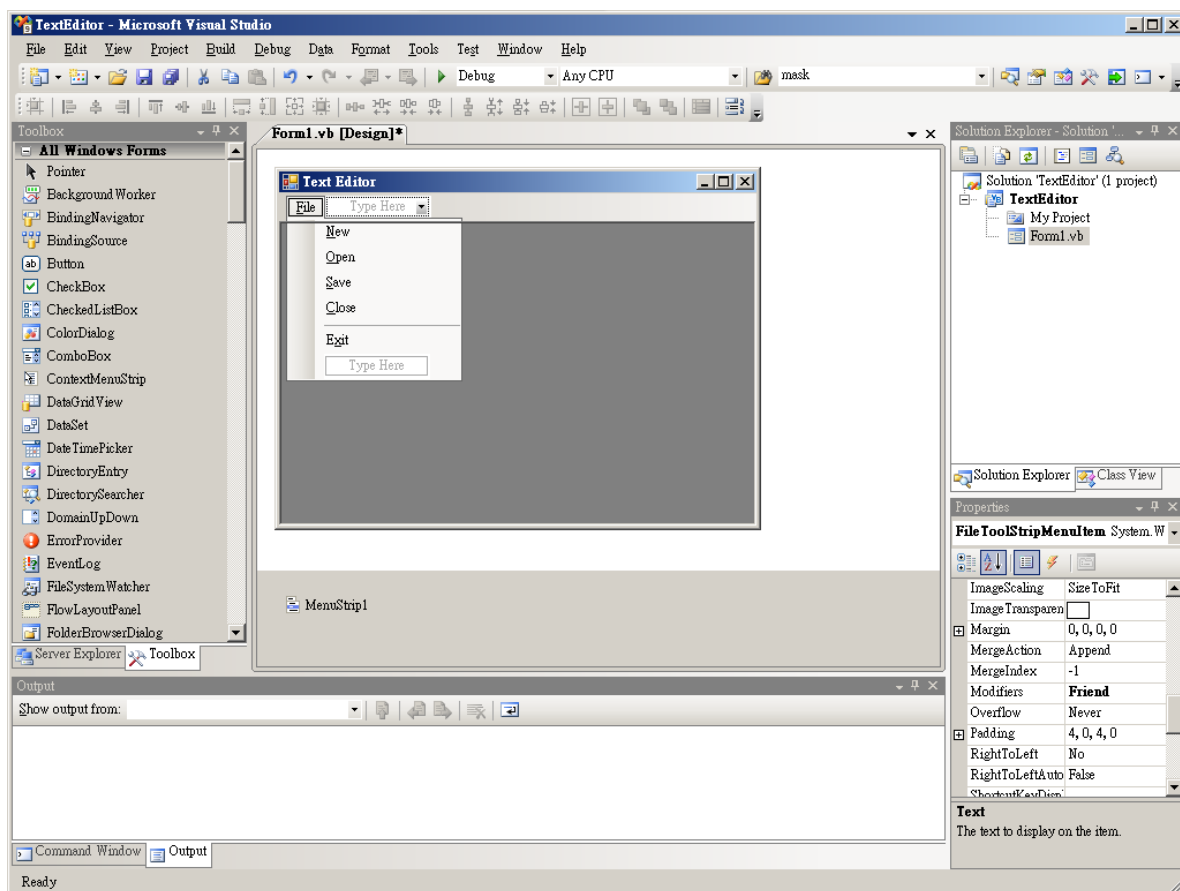
3. Save the project and build the solution, and then execute it.



4. Main Menu

1. Start the Microsoft Visual Studio and start a new Visual Basic Project **TextEditor**. From the Toolbox, drag a **MenuStrip** controls onto the form and customize the properties.

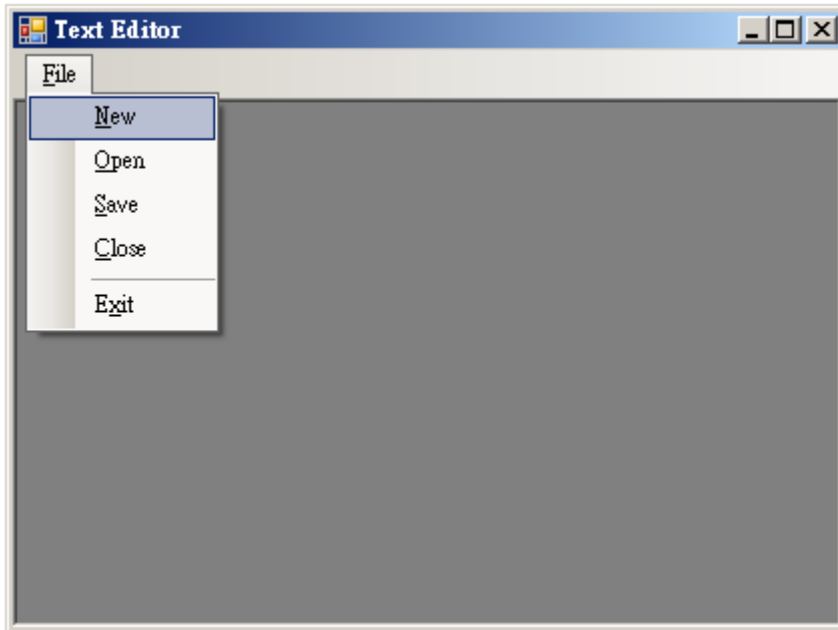
Object	Name	Property	Property Value
Form	frmMain	Text	Text Editor
		IsMdiContainer	True
		MainMenuStrip	MenuStrip1
		WindowState	Maximized
MenuStrip	MenuStrip1	N/A	N/A
ToolStripMenuItem	FileToolStripMenuItem	Text	&File
	NewToolStripMenuItem	Text	&New
	OpenToolStripMenuItem	Text	&Open
	SaveToolStripMenuItem	Text	&Save
	CloseToolStripMenuItem	Text	&Close
	ToolStripSeparator1	N/A	N/A
	ExitToolStripMenuItem	Text	E&xit



2. In the **Click** event procedure of the Exit menu item control (**ExitToolStripMenuItem**), add the following code.

```
' Exit the application and close all form  
Application.Exit( )
```

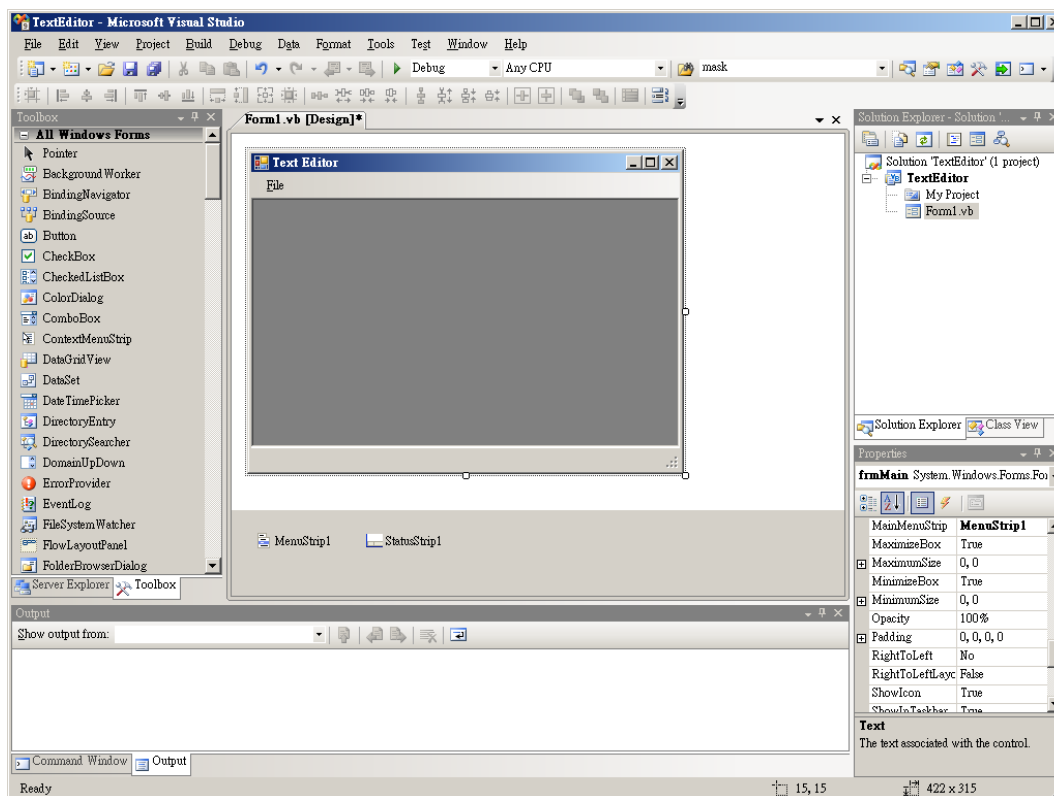
3. Save the project and build the solution, and then execute it, you can click the [Exit] button to quit the program.



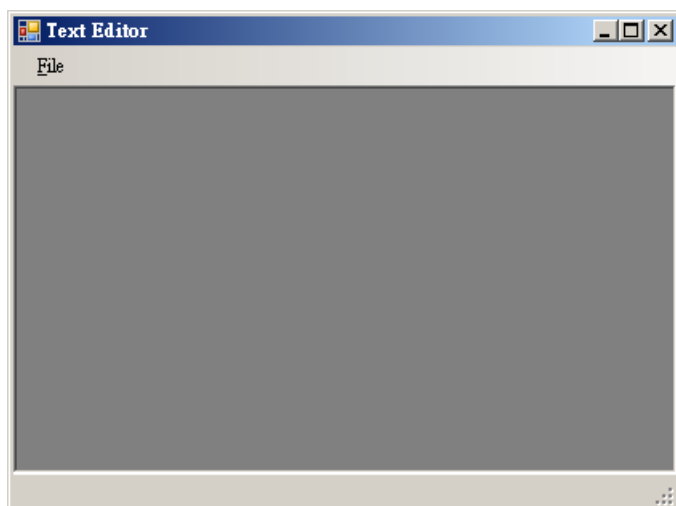
5. Status Bar

1. Start the Microsoft Visual Studio and open the previous Visual Basic Project **TextEditor**. From the Toolbox, drag a **StatusStrip** controls onto the form and customize the properties.

Object	Name	Property	Property Value
StatusStrip	StatusStrip1	N/A	N/A

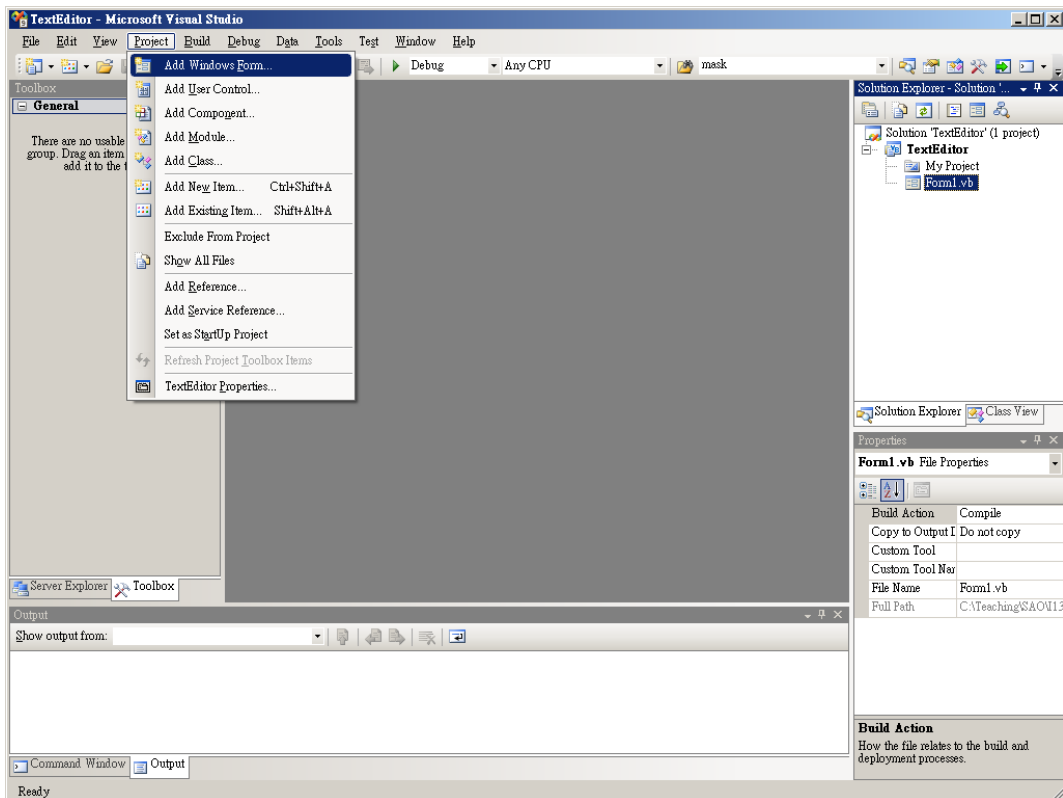


2. Save the project and build the solution, and then execute it, you can see the status bar on the bottom of the Form.

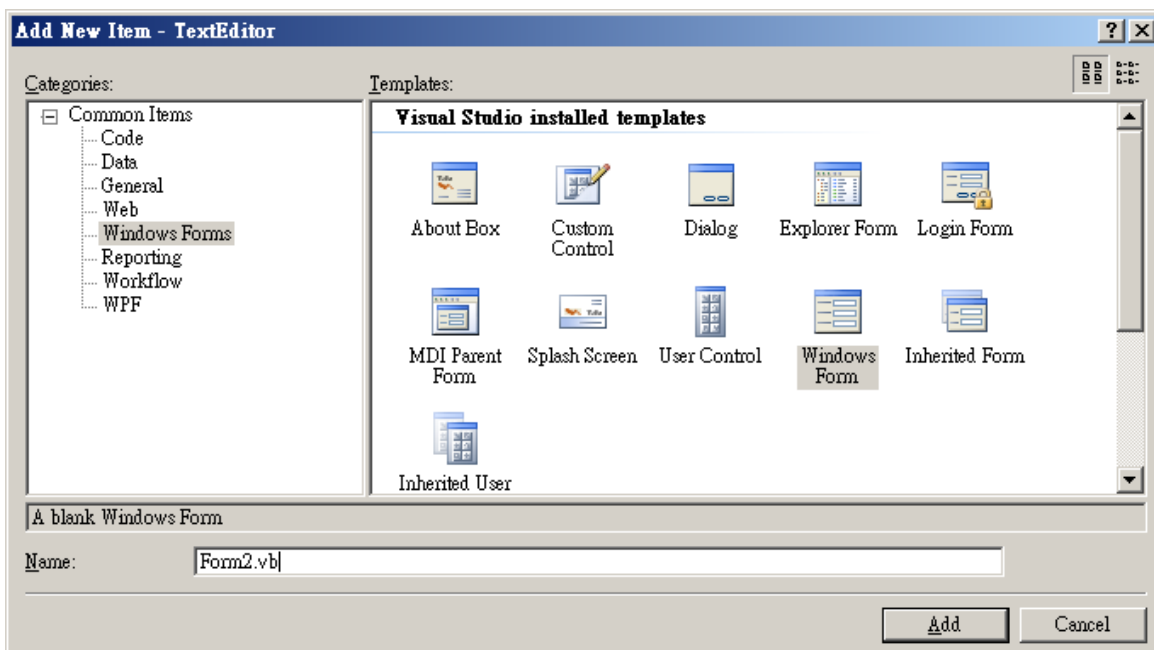


6. Rich Text Box

1. Start the Microsoft Visual Studio and open the previous Visual Basic Project **TextEditor**. In **Solution Explorer**, right-click the project, point to **Add**, and then select **Add New Item**.

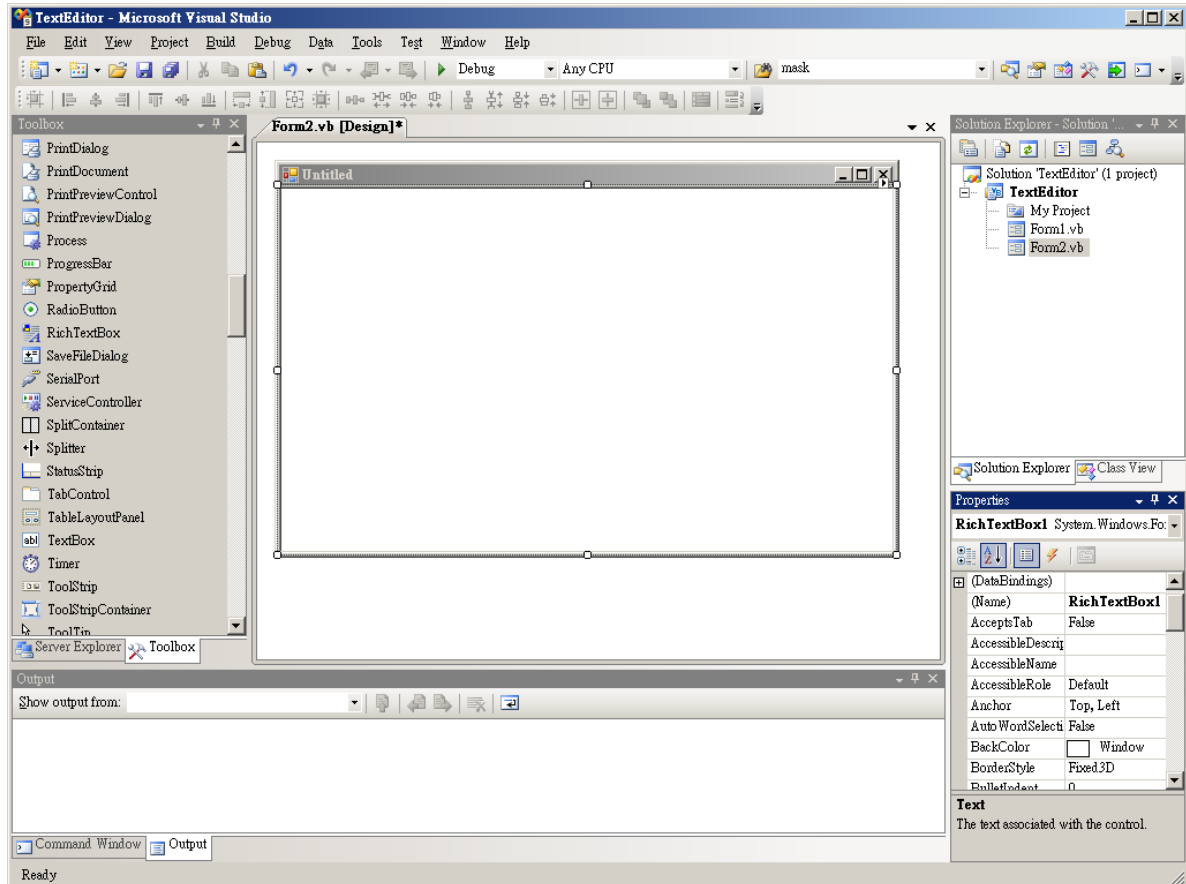


2. In the **Add New Item** dialog box, select **Windows Form** in from the **Templates** pane. Click the **Open** button to add the form (**Form2**) to the project.



3. From the Toolbox, drag a **Rich Text Box** controls onto the form and customize the properties.

Object	Name	Property	Property Value
Form	frmChild	Text	Untitled
RichTextBox	RichTextBox1	Text	(Blank)
		Dock	Fill



4. Go back to **frmMain** (Form1.vb), create a new procedure **NewDocument**.

```
Private Sub NewDocument()
    ' Declare a MDI child object
    Dim NewMDIChild As New frmChild

    ' Set the Parent Form of the Child window.
    NewMDIChild.MdiParent = Me

    ' Display the new form.
    NewMDIChild.Show()
End Sub
```

5. In the **Load** event procedure of the Main Form (**frmMain**), add the following code.

```
Call NewDocument()
```

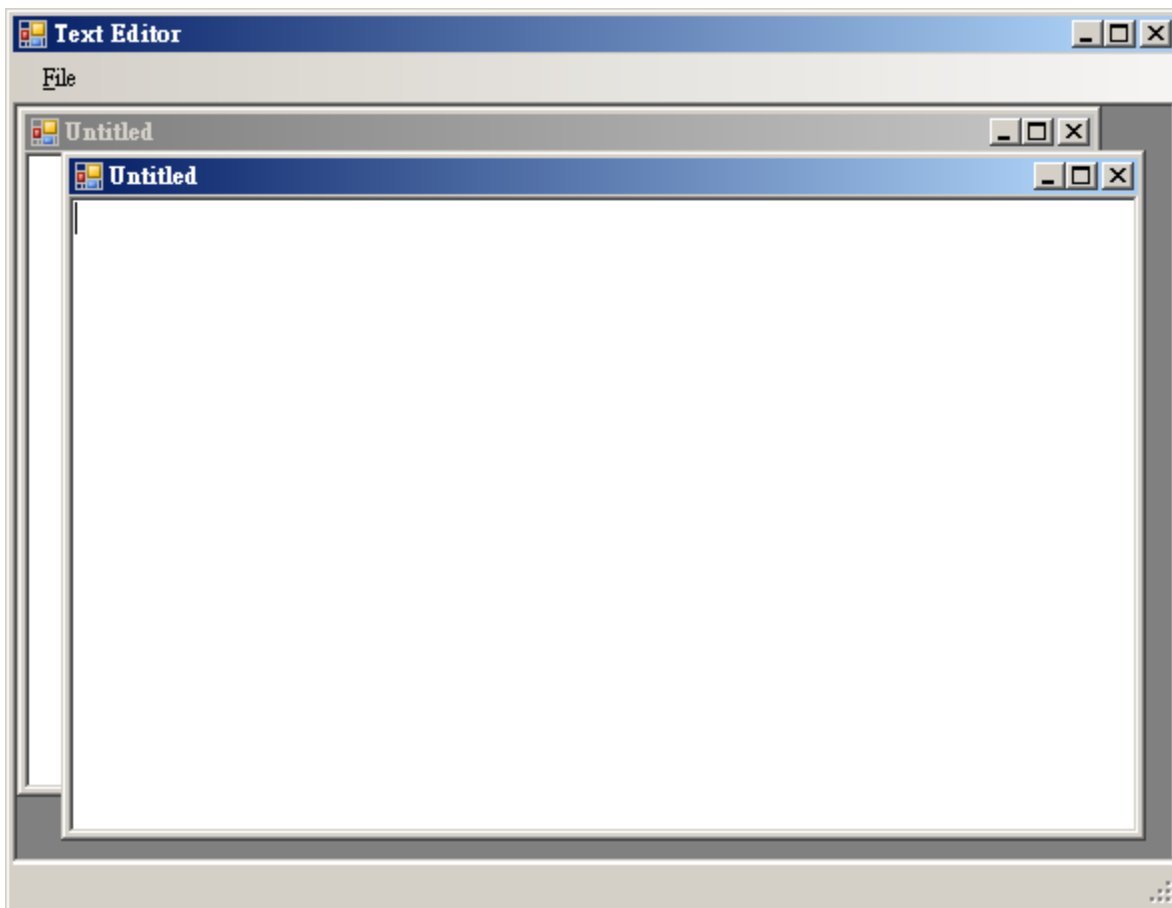
6. In the **Click** event procedure of the New menu item control (**NewToolStripMenuItem**), add the following code.

```
Call NewDocument()
```

7. In the **Click** event procedure of the Close menu item control (**CloseToolStripMenuItem**), add the following code.

```
' Capture the active child Form  
Dim activeChild As Form = Me.ActiveMdiChild  
  
' Close the child form  
activeChild.Close()
```

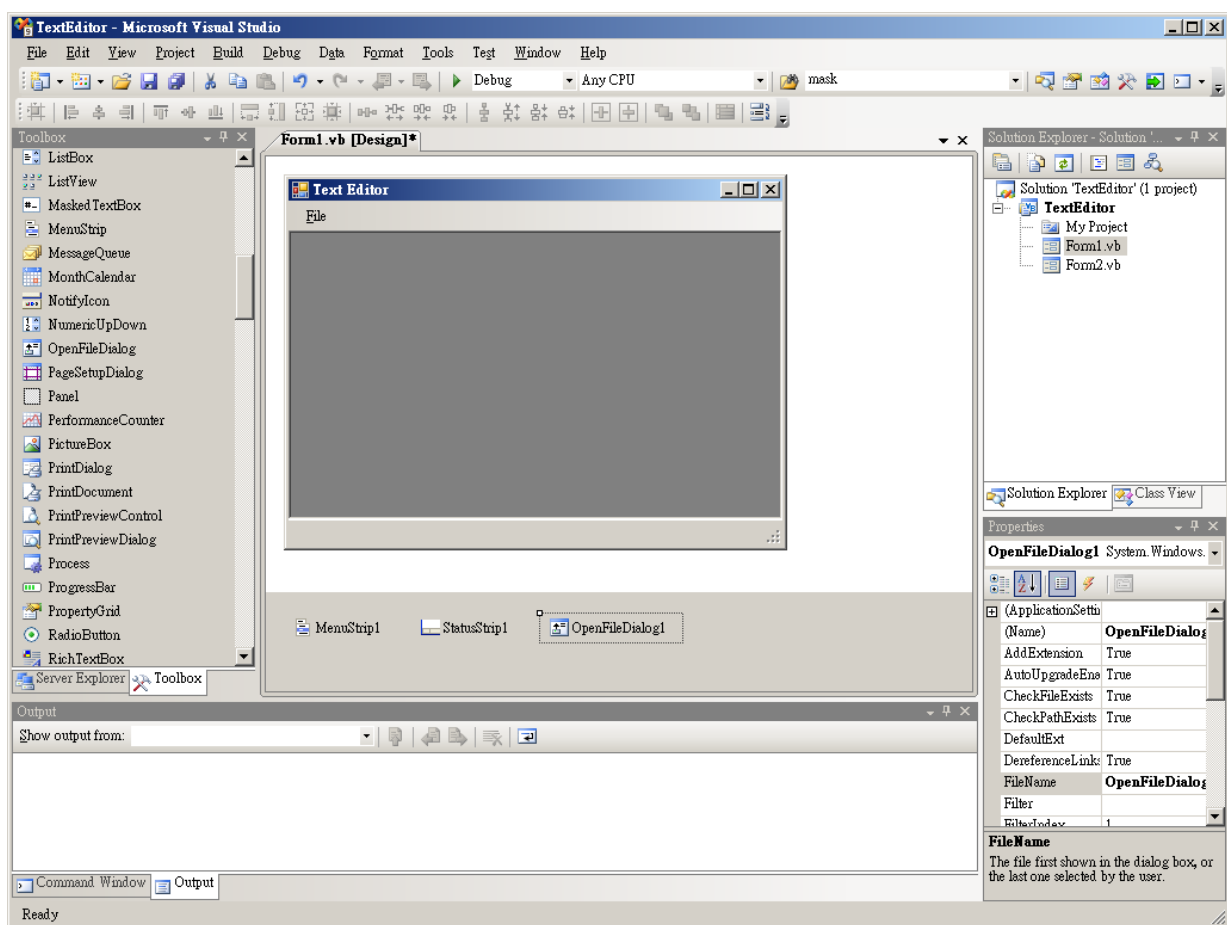
8. Save the project and build the solution, and then execute it, you can click the **File** → **New** button to create new document.



7. Open Text File

1. Start the Microsoft Visual Studio and open the previous Visual Basic Project **TextEditor**. From the Toolbox, drag an **OpenFileDialog** controls onto the form **frmMain** and customize the properties.

Object	Name	Property	Property Value
OpenFileDialog	OpenFileDialog1	Filter	Text files (*.txt) *.txt All files (*.*) *.*
		Filename	(Blank)



2. In the **Click** event procedure of the Open menu item control (**OpenToolStripMenuItem**), add the following code.

```

If OpenFileDialog1.ShowDialog() = Windows.Forms.DialogResult.OK Then
    ' Declare a MDI child object
    Dim NewMDIChild As New frmChild

    ' Set the Parent Form of the Child window.
    NewMDIChild.MdiParent = Me

    ' Set the file to open and read the file the user has selected
    Dim sr As New System.IO.StreamReader(OpenFileDialog1.FileName)

    ' Read the contents of the file and assign the contents to String
    NewMDIChild.RichTextBox1.Text = sr.ReadToEnd

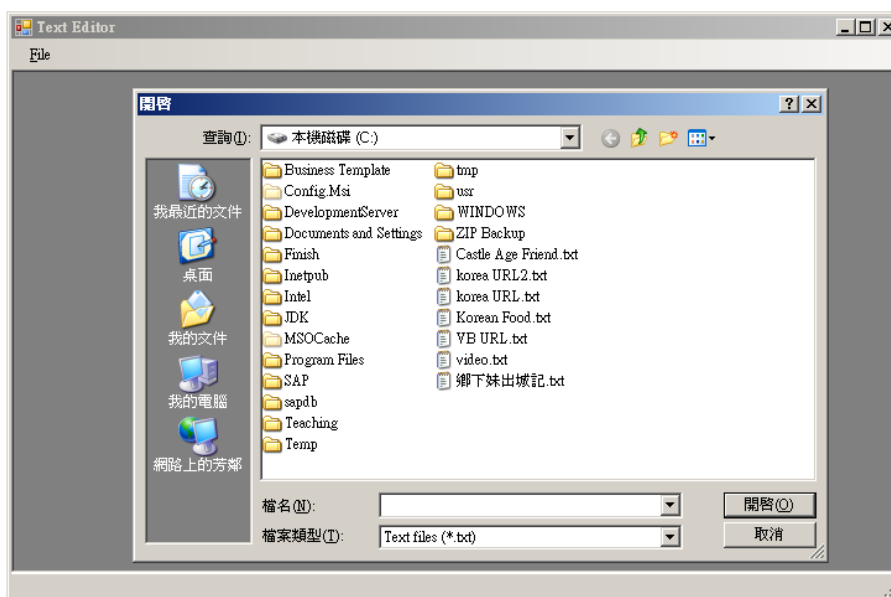
    ' The contents of the File have been read, so now Close the File
    sr.Close()

    ' Show the file name in the status bar
    NewMDIChild.Text() = OpenFileDialog1.FileName

    ' Display the new form.
    NewMDIChild.Show()
End If

```

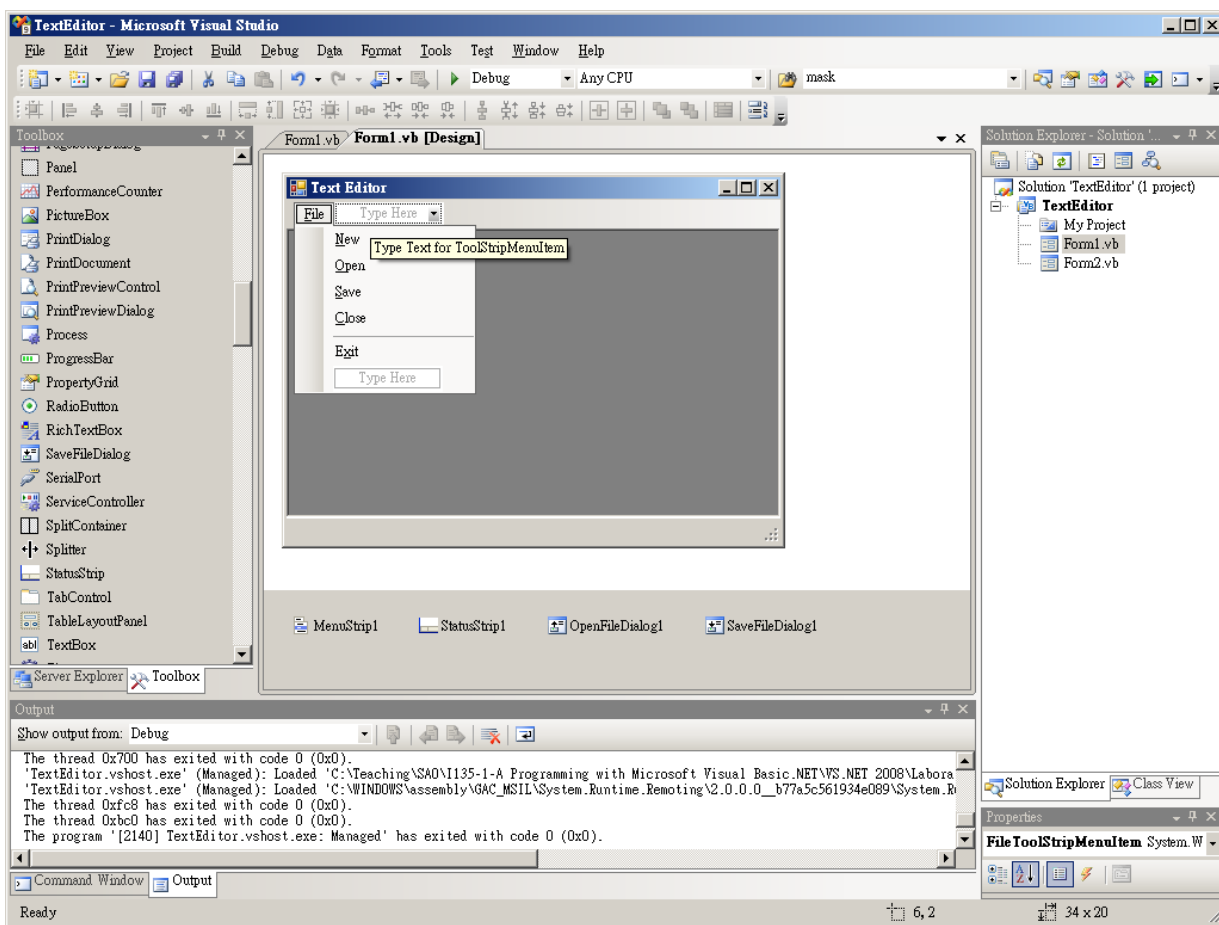
3. Save the project and build the solution, and then execute it. Click **File** → **Open** to open existing text file



8. Save Text File

1. Start the Microsoft Visual Studio and open the previous Visual Basic Project **TextEditor**. From the Toolbox, drag an **SaveFileDialog** controls onto the form **frmMain** and customize the properties.

Object	Name	Property	Property Value
SaveFileDialog	SaveFileDialog1	Filter	Text files (*.txt) *.txt All files (*.*) *.*
		Filename	(Blank)



2. In the **Click** event procedure of the Save menu item control (**SaveToolStripMenuItem**), add the following code.

```
' Capture the active child Form
Dim activeChild As frmChild = Me.ActiveMdiChild

' Default the file name
SaveFileDialog1.FileName = activeChild.Text()

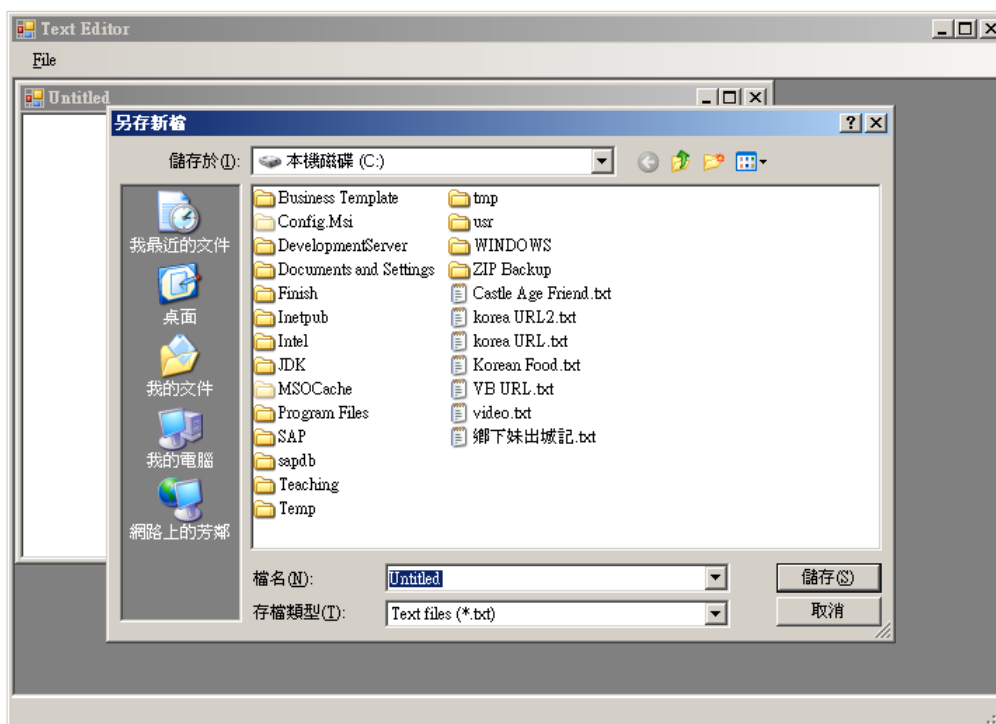
If SaveFileDialog1.ShowDialog() = Windows.Forms.DialogResult.OK Then
    ' Set the File to be written to as the FileName in the Save File Dialog
    Dim sw As New System.IO.StreamWriter(SaveFileDialog1.FileName)

    ' Write the contents of the RichTextBox to the File
    sw.Write(activeChild.RichTextBox1.Text)

    ' Close the Stream Writer and the File
    sw.Close()

    ' Show the file name in the status bar
    activeChild.Text() = SaveFileDialog1.FileName
End If
```

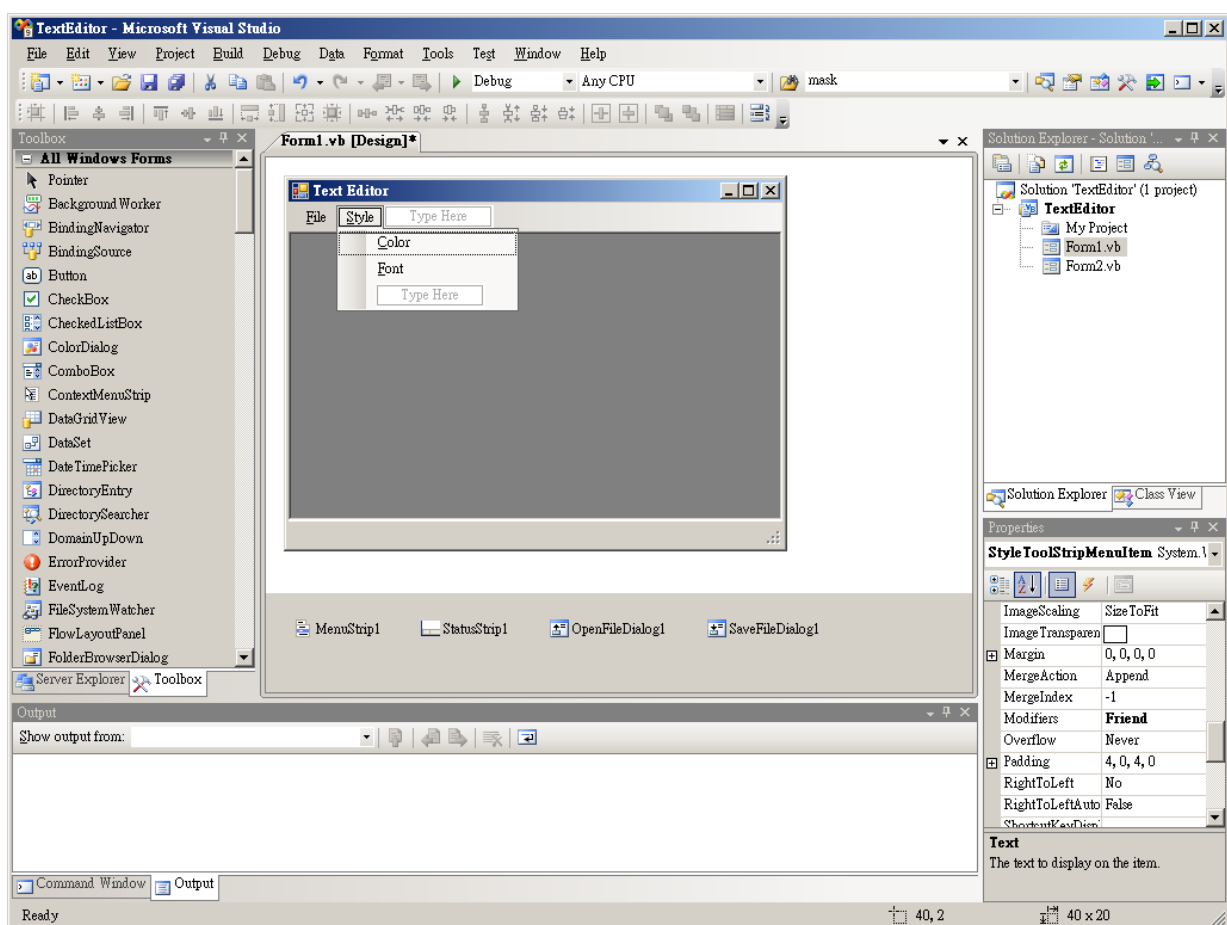
3. Save the project and build the solution, and then execute it. Click **File** → **Open** to select and open the text file, and then click **File** → **Save** to save the text file.



9. Set the Color

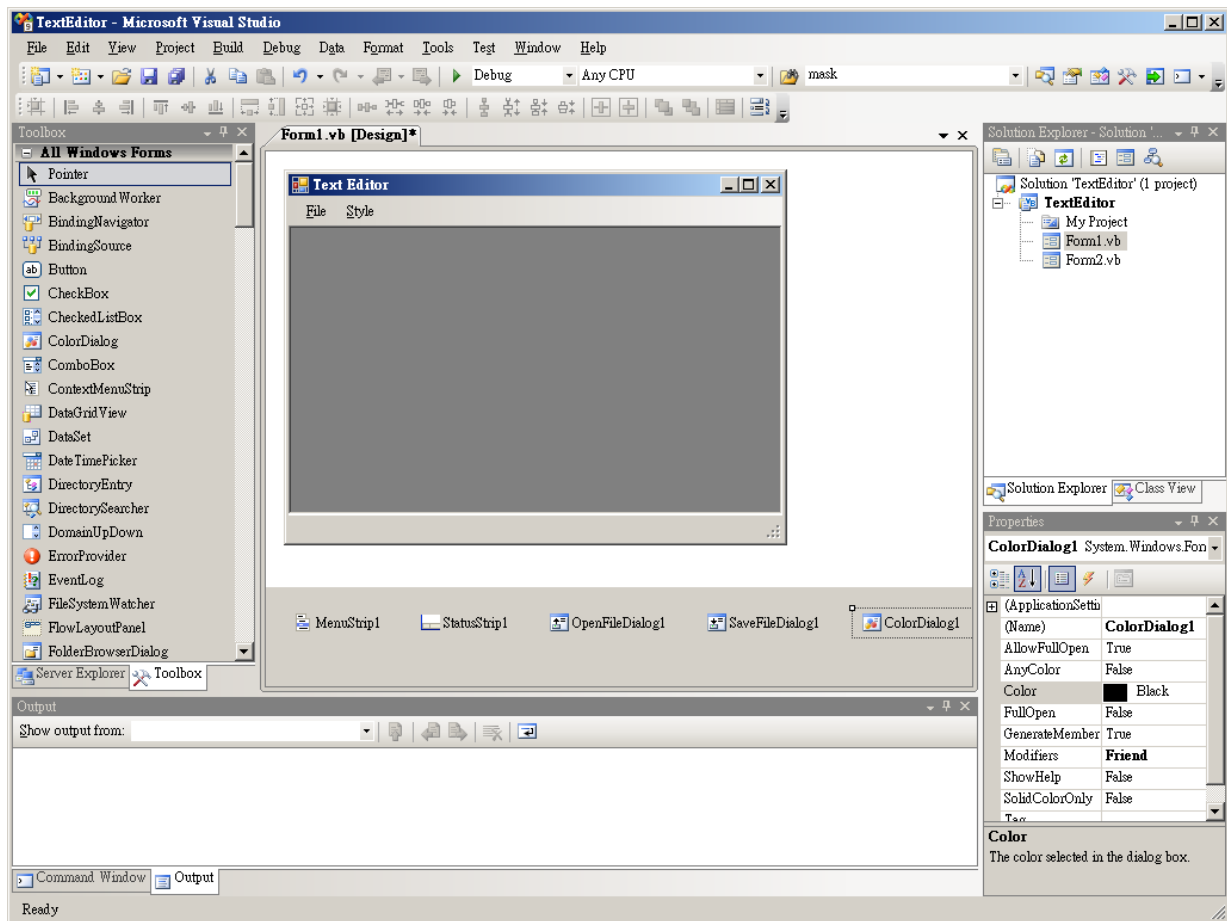
1. Start the Microsoft Visual Studio and open the previous Visual Basic Project **TextEditor**. Add three menu items to the form **frmMain**, and customize the properties.

Object	Name	Property	Property Value
ToolStripMenuItem	StyleToolStripMenuItem	Text	&Style
	ColorToolStripMenuItem	Text	&Color
	FontToolStripMenuItem	Text	&Font



2. From the Toolbox, drag a **Color Dialog** controls onto the form **frmMain** and customize the properties.

Object	Name	Property	Property Value
ColorDialog	ColorDialog1	N/A	N/A

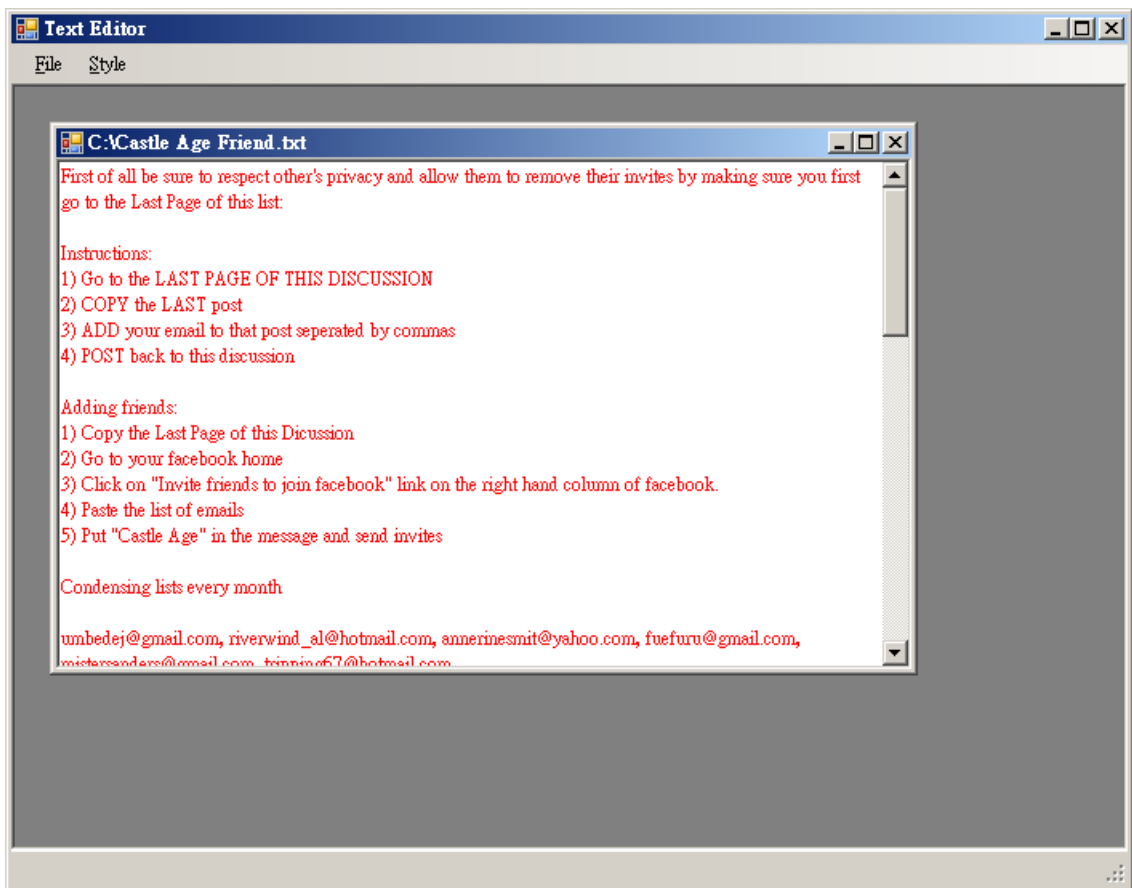


3. In the **Click** event procedure of the Color menu item control (**ColorToolStripMenuItem**), add the following code.

```
' Capture the active child Form
Dim activeChild As frmChild = Me.ActiveMdiChild

If ColorDialog1.ShowDialog() = Windows.Forms.DialogResult.OK Then
    ' Set the fore color for the rich text box
    activeChild.RichTextBox1.ForeColor = ColorDialog1.Color
End If
```

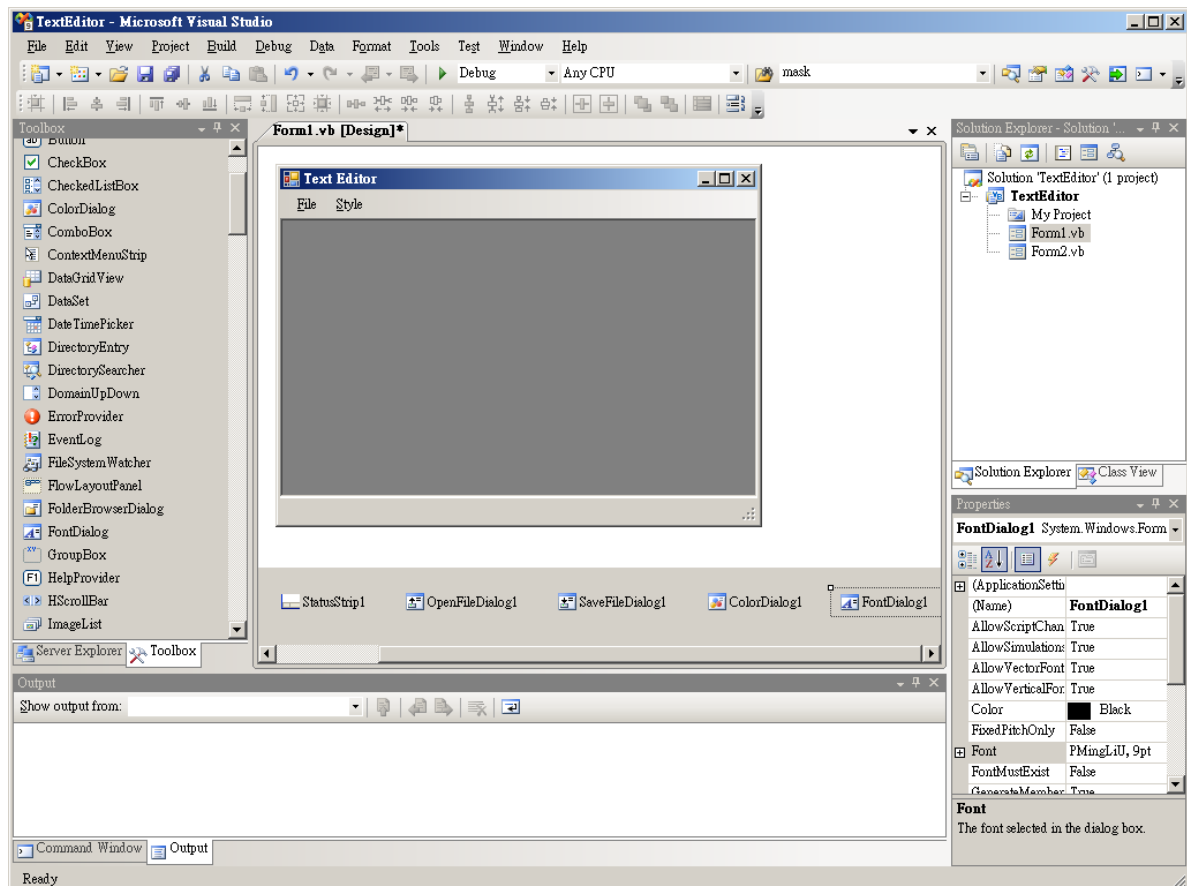
4. Save the project and build the solution, and then execute it. Can you see the different color after apply the color change?



10. Set the Font Style

1. Start the Microsoft Visual Studio and open the previous Visual Basic Project **TextEditor**. From the Toolbox, drag a **Font Dialog** controls onto the form **frmMain** and customize the properties.

Object	Name	Property	Property Value
FontDialog	FontDialog1	N/A	N/A

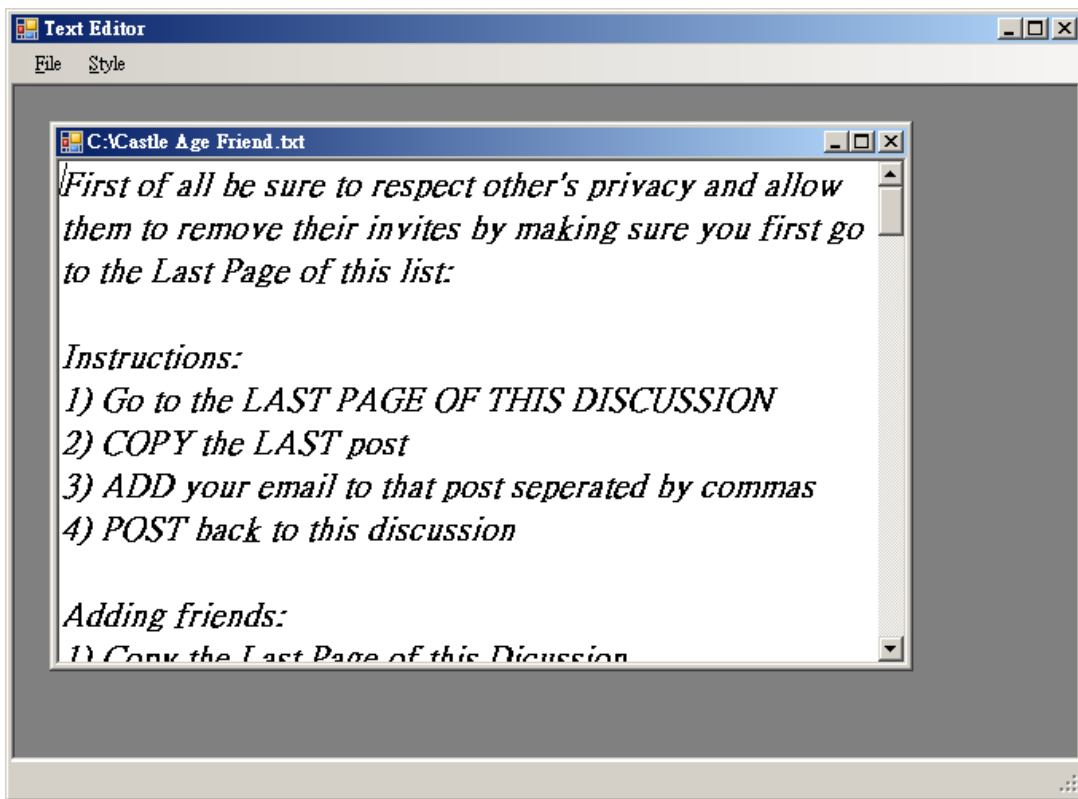


2. In the **Click** event procedure of the Font menu item control (**FontToolStripMenuItem**), add the following code.

```
'Capture the active child Form
Dim activeChild As frmChild = Me.ActiveMdiChild

If FontDialog1.ShowDialog() = Windows.Forms.DialogResult.OK Then
    ' Set the font style
    activeChild.RichTextBox1.Font = FontDialog1.Font()
End If
```

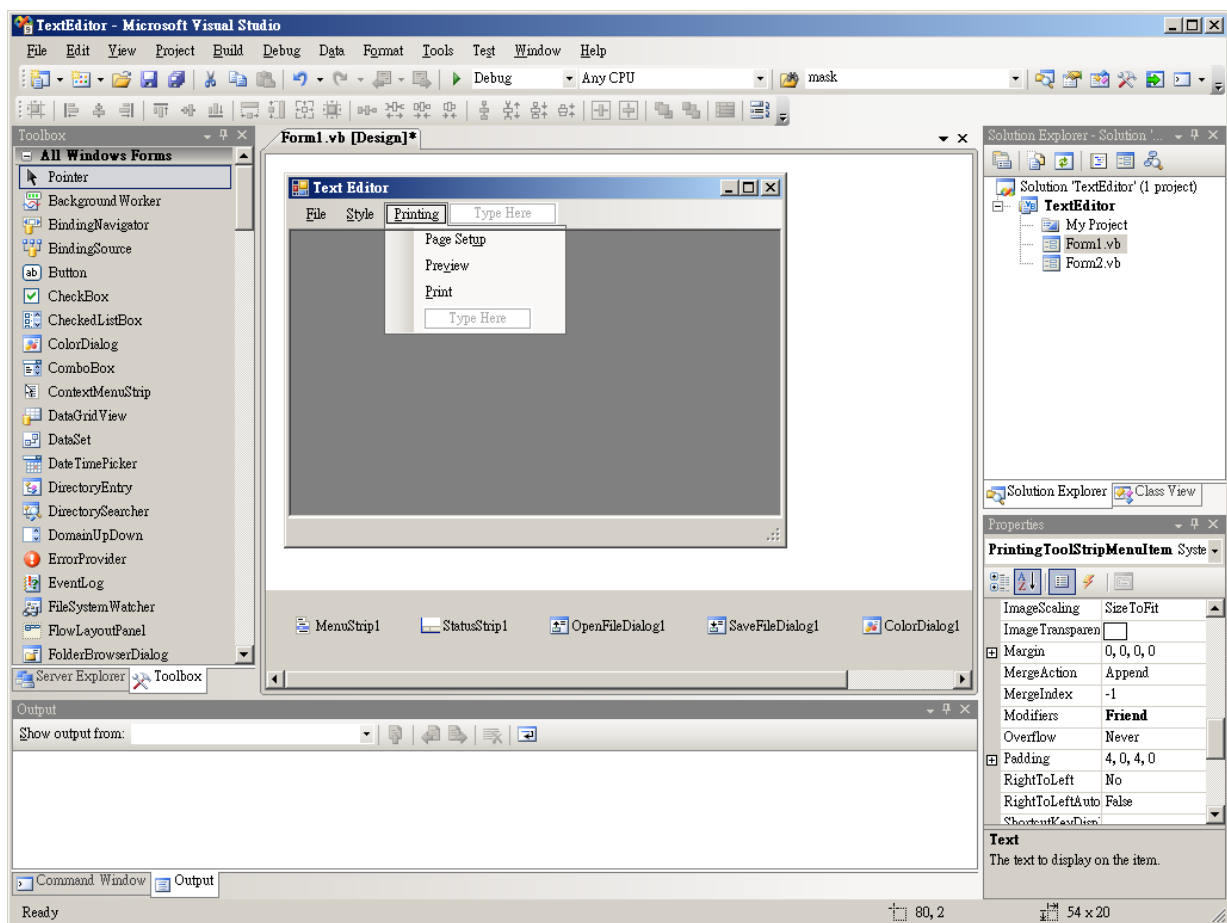
3. Save the project and build the solution, and then execute it. Can you obtain the different after modify the font?



11. Page Setup

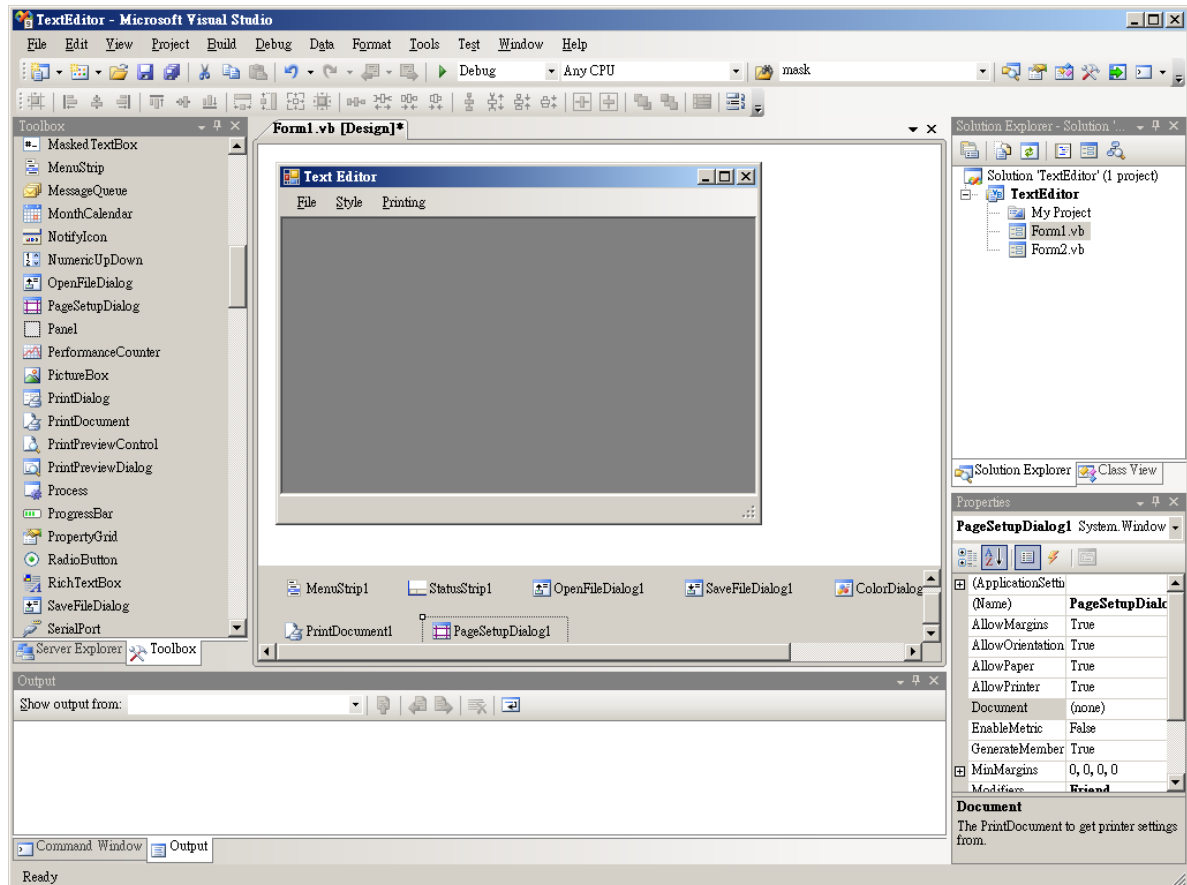
1. Start the Microsoft Visual Studio and open the previous Visual Basic Project **TextEditor**. Add four menu items to the form **frmMain**, and customize the properties

Object	Name	Property	Property Value
ToolStripMenuItem	PrintingToolStripMenuItem	Text	&Printing
	PageSetupToolStripMenuItem	Text	Page Set&up
	PreviewToolStripMenuItem	Text	Pre&view
	PrintToolStripMenuItem	Text	&Print



2. From the Toolbox, drag a **PageSetupDialog** control and a **PrintDocument** control onto the form **frmMain** and customize the properties.

Object	Name	Property	Property Value
PageSetupDialog	PageSetupDialog1	N/A	N/A
PrintDocument	PrintDocument1	N/A	N/A



3. Add this Imports Statement at the top of your Form's code

```
Imports System.Drawing.Printing
```

4. Declare a public variable to declare the Print Page Setting.

```
Private PrintPageSettings As New PageSettings
```

5. In the **Click** event procedure of the Page Setup menu item control (**PageSetupToolStripMenuItem**), add the following code.

```
' Define the Print Document
PageSetupDialog1.Document = PrintDocument1

' Define the Print Document properties from the Page Setup Dialog
If PageSetupDialog1.ShowDialog() = Windows.Forms.DialogResult.OK Then
    PrintDocument1.DefaultPageSettings = PageSetupDialog1.PageSettings
End If
```

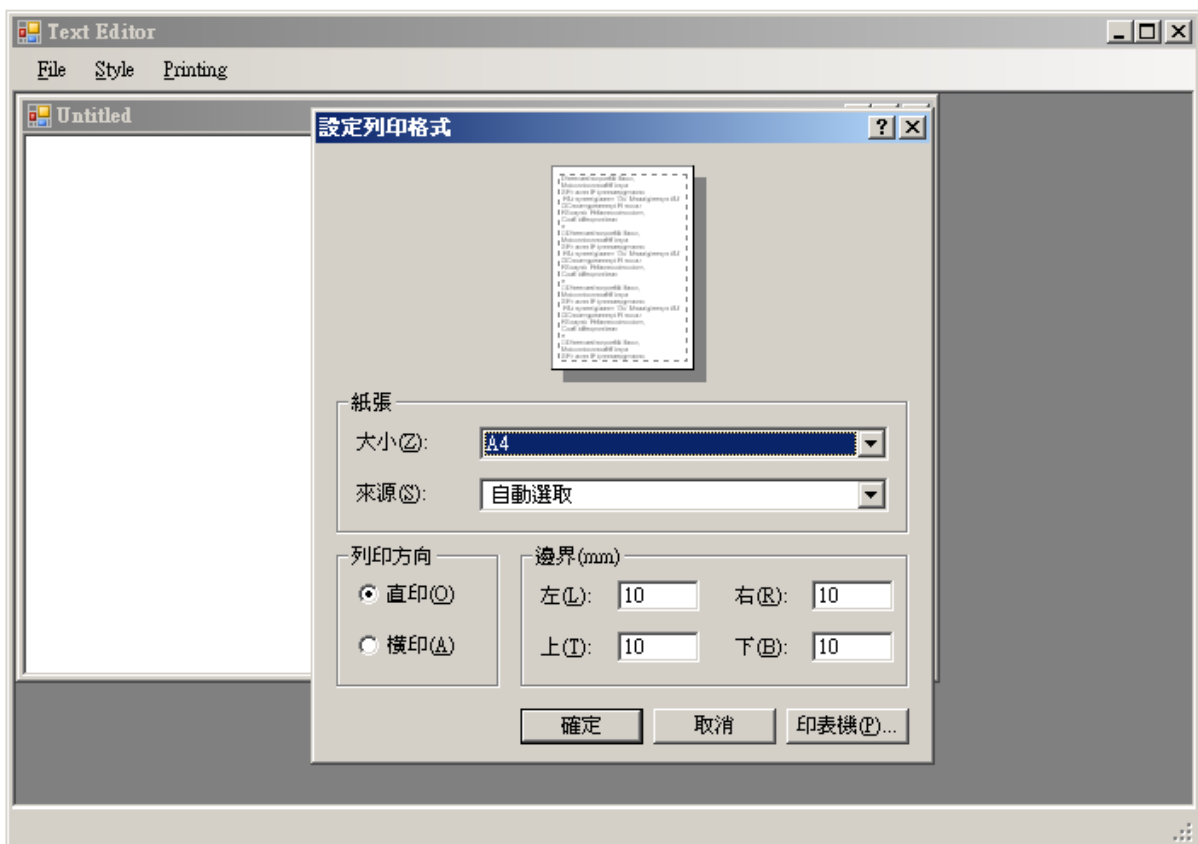
6. In the **PrintPage** event procedure of the Page Setup menu item control (**PrintDocument1**), add the following code

```
' Capture the active child Form
Dim activeChild As frmChild = Me.ActiveMdiChild

' This gathers the default settings of the document,
' or when changed in the Page Setup hold the new margin values.
Dim rectDraw As New RectangleF( e.MarginBounds.Left, _
                                e.MarginBounds.Top, _
                                e.MarginBounds.Width, _
                                e.MarginBounds.Height)

e.Graphics.DrawString(activeChild.RichTextBox1.Text, _
                      activeChild.RichTextBox1.Font, _
                      Brushes.Black, _
                      e.MarginBounds.Left, _
                      e.MarginBounds.Top)
```

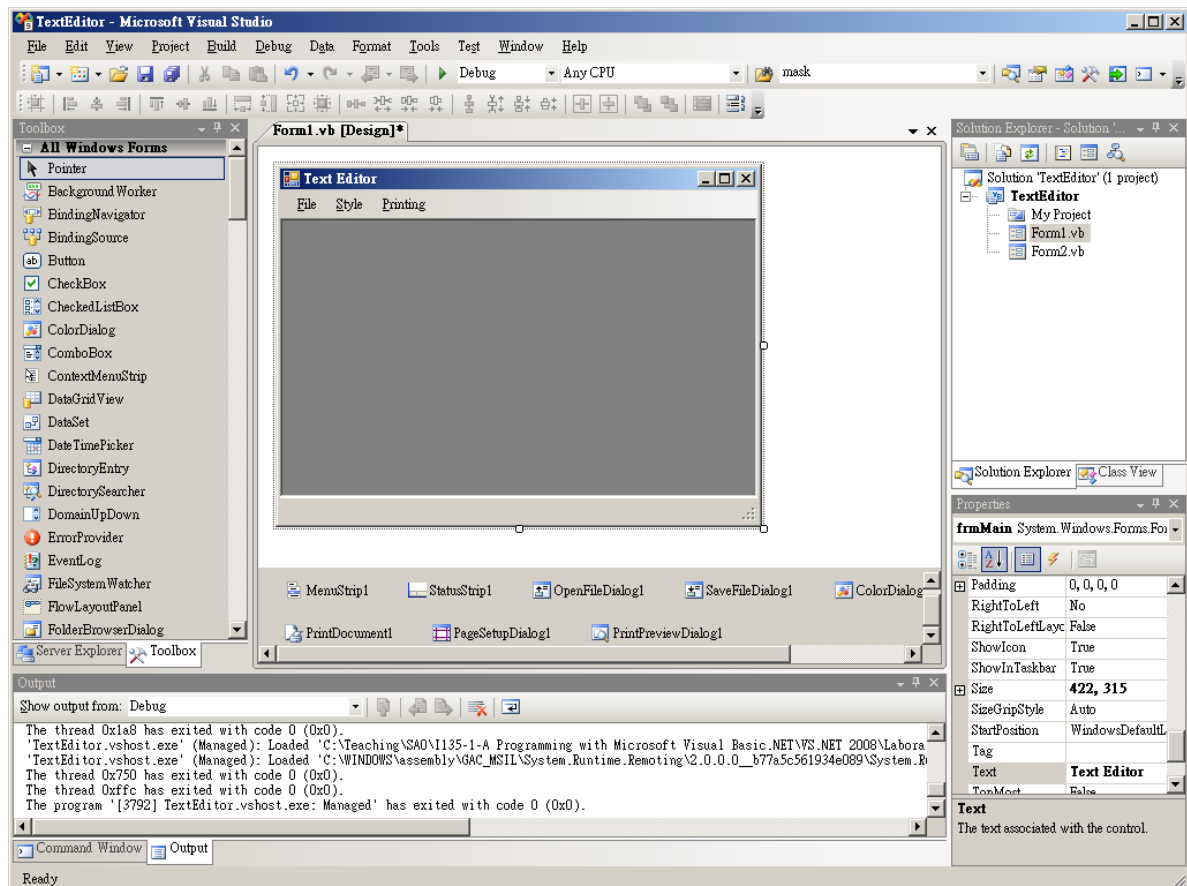
7. Save the project and build the solution, and then execute it. Now you can adjust the page setting using the Page Setup button.



12. Print Preview

1. Start the Microsoft Visual Studio and open the previous Visual Basic Project **TextEditor**. From the Toolbox drag a **PrintPreviewDialog** control to the form **frmMain** and customize the properties.

Object	Name	Property	Property Value
PrintPreviewDialog	PrintPreviewDialog1	N/A	N/A

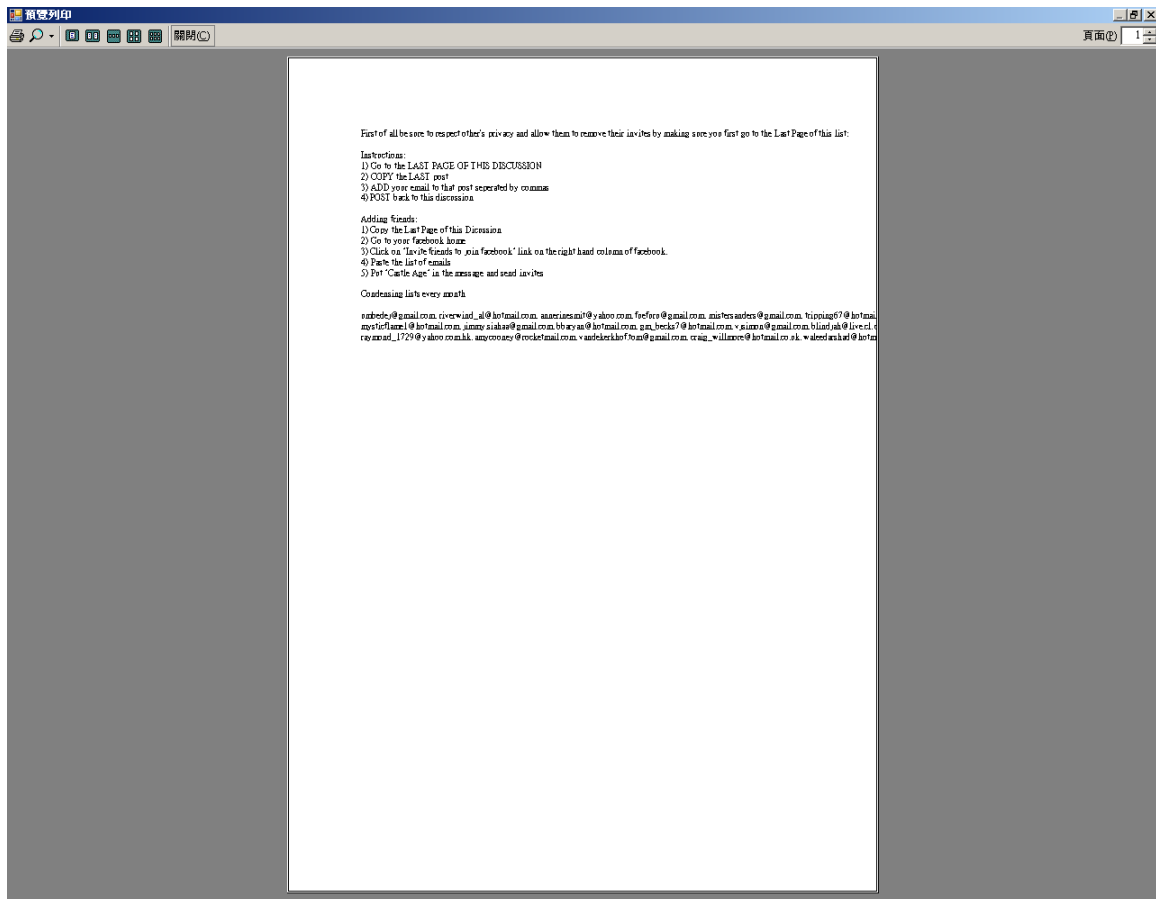


2. In the **Click** event procedure of the Print Preview menu item control (**PreviewToolStripMenuItem**), add the following code.

```
' Define the Print Document
PrintPreviewDialog1.Document = PrintDocument1

' Define the Print Document properties from the Print Preview Dialog
If PrintPreviewDialog1.ShowDialog() = _
    Windows.Forms.DialogResult.OK Then
    PrintPreviewDialog1.Show()
End If
```

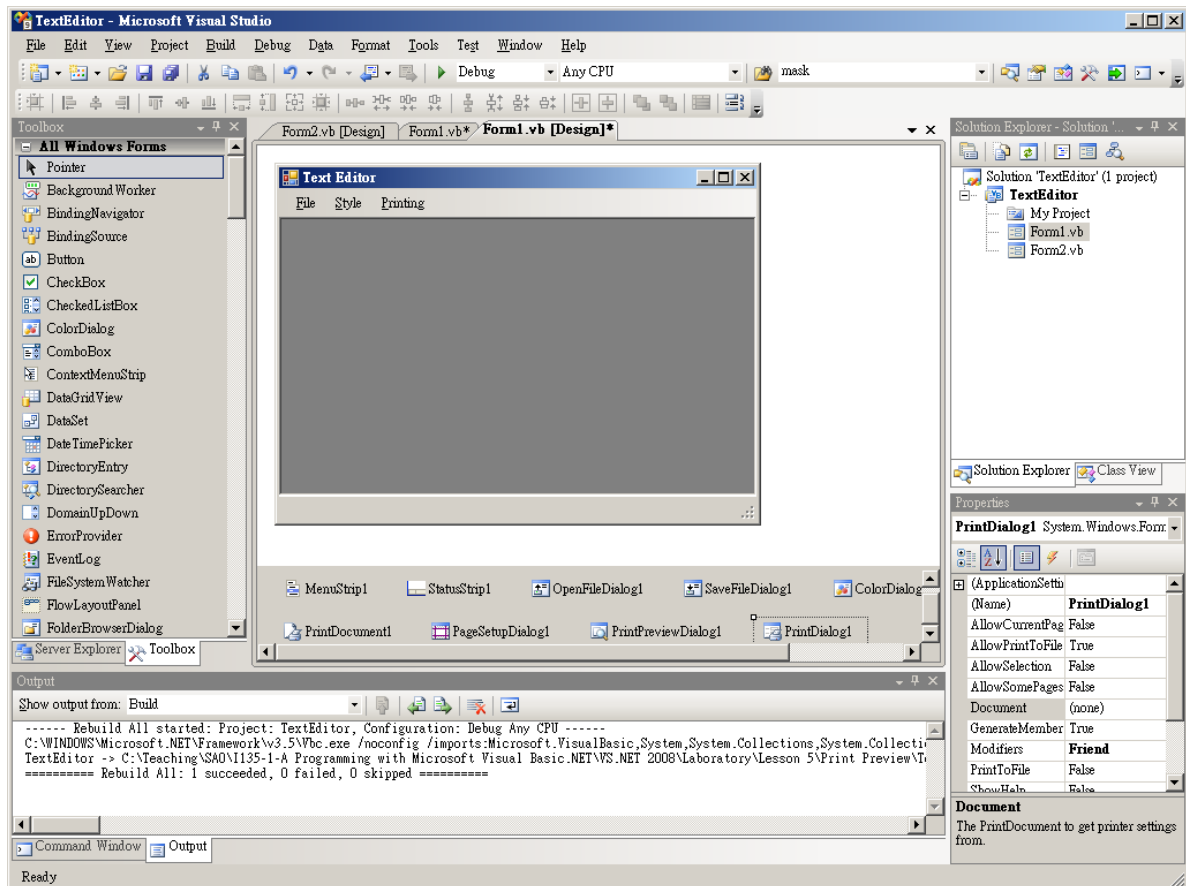

3. Save the project and build the solution, and then execute it.



13. Print Document

1. Start the Microsoft Visual Studio and open the previous Visual Basic Project **TextEditor**. From the Toolbox drag a **PrintDialog** control to the form **frmMain** and customize the properties.

Object	Name	Property	Property Value
PrintDialog	PrintDialog1	N/A	N/A



2. In the **Click** event procedure of the Print menu item control (**PrintToolStripMenuItem**), add the following code.

```
' Define the Print Document
PrintDialog1.Document = PrintDocument1

' Define the Print Document properties from the Print Preview Dialog
If PrintDialog1.ShowDialog() = Windows.Forms.DialogResult.OK Then
    PrintDocument1.Print()
End If
```

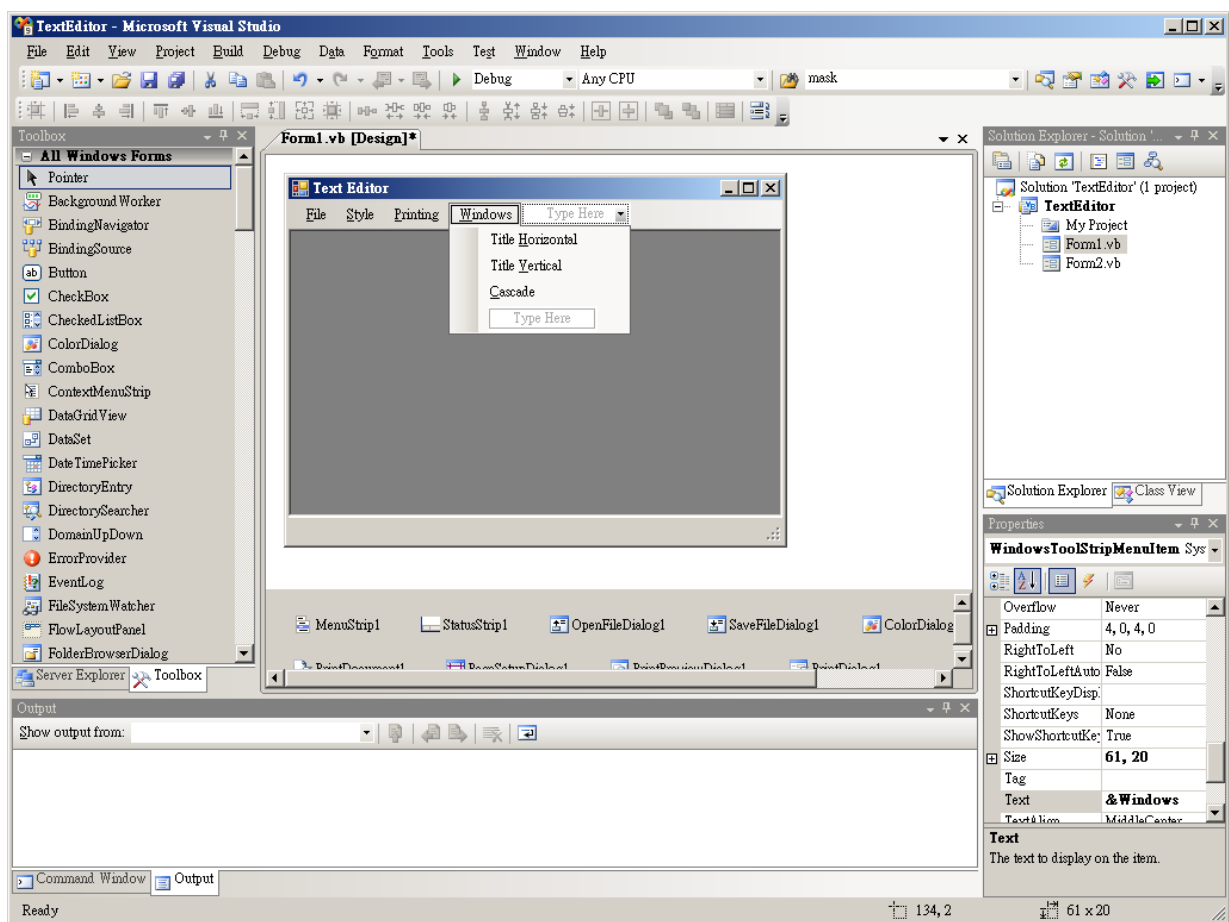
3. Save the project and build the solution, and then execute it.



14. Multiple-Document Interface (MDI)

1. Start the Microsoft Visual Studio and open the Visual Basic Project **TextEditor**. Add four menu items to the form **frmMain**, and customize the properties.

Object	Name	Property	Property Value
ToolStripMenuItem	WindowsToolStripMenuItem	Text	&Windows
	TitleHorizontalToolStripMenuItem	Text	Title &Horizontal
	TitleVerticalToolStripMenuItem	Text	Title &Vertical
	CascadeToolStripMenuItem	Text	&Cascade



2. Define the **MdiWindowsListItem** property for the **MenuStrip** as follow

Object	Name	Property	Property Value
MenuStrip	MenuStrip1	MdiWindowsListItem	WindowsToolStripMenuItem

3. In the **Click** event procedure of the Title Horizontal menu item control (**TitleHorizontalToolStripMenuItem**), add the following code.

```
'Arrange the Windows to Title Horizontal  
Me.LayoutMdi (System.Windows.Forms.MdiLayout.TileHorizontal)
```

4. In the **Click** event procedure of the Title Vertical menu item control (**TitleVerticalToolStripMenuItem**), add the following code.

```
'Arrange the Windows to Title Vertical  
Me.LayoutMdi (System.Windows.Forms.MdiLayout.TileVertical)
```

5. In the **Click** event procedure of the Cascade menu item control (**CascadeToolStripMenuItem**), add the following code.

```
'Arrange the Windows to Cascade  
Me.LayoutMdi (System.Windows.Forms.MdiLayout.Cascade)
```

6. Save the project and build the solution, and then execute it.

