Lab 1: Visual Basic Review

For background information on this lab, click each of these topics:

Objectives

By the end of this lab, you will be able to:

- Create forms and controls.
- Write code in event procedures.
- Trap and handle a run-time error.
- Restrict input in a TextBox control.
- Compile an executable application.

Prerequisites

Before working on this lab, you should be familiar with the following concepts:

- The contents of this chapter.

Lab Setup

To complete this lab, you need the following setup:

- Microsoft Visual Basic 5.0 or later.

To see a demonstration of the lab solution, click this icon.

Estimated time to complete this lab: **45 minutes**

Note There are project and solution files associated with each lab. If you installed the labs during Setup, these files are in the folder *<Install Folder>*\Labs on your hard disk. If you did not install the labs during Setup, you can find them in the \Labs folder of the *Mastering Microsoft Visual Basic 5* CD-ROM.

Exercises

The following exercises provide practice working with the concepts and techniques covered in Chapter 1.

Exercise 1: Creating Forms

In this exercise, you will create two simple forms for your application.

Exercise 2: Adding Code

In this exercise, you will add code to make the application functional.

Exercise 3: Creating an Error-Handling Routine

In this exercise, you will trap errors in an event procedure by using an error-handling routine.

Exercise 4: Restricting Input

In this exercise, you will restrict user input on a form.

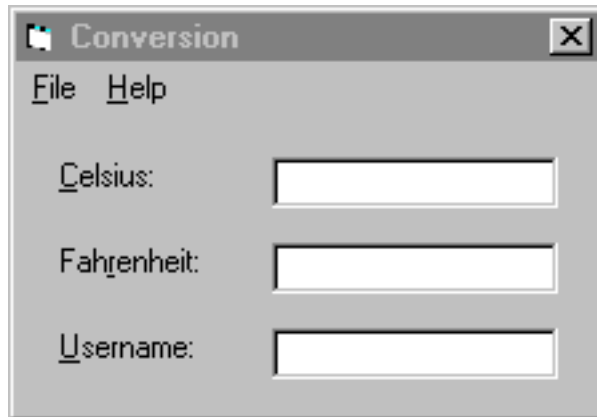**Exercise 5: Creating an Executable File**

In this exercise, you will compile your project into an executable application, and then test the application.

Exercise 1: Creating Forms

In this exercise, you will create two simple forms for an application.
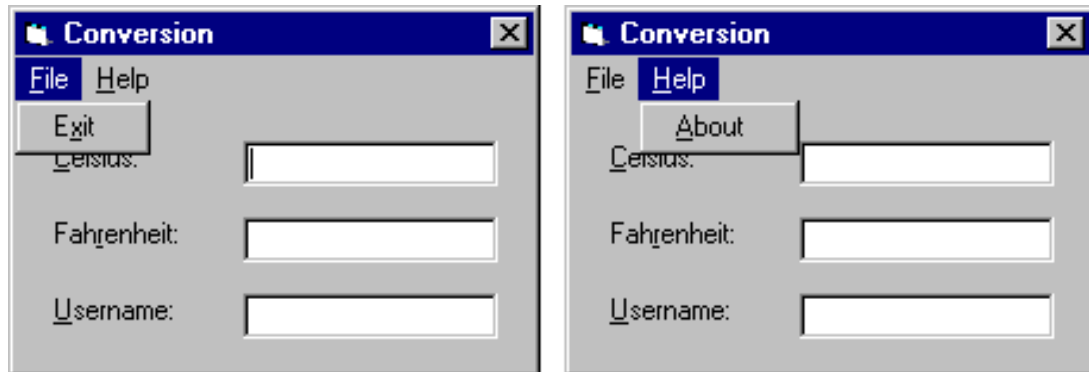
▶ **Create the main form**

1. Start a new Visual Basic project.

2. Add controls to the form, as shown in the following illustration.

For more information about adding controls to a form, see Using Controls.

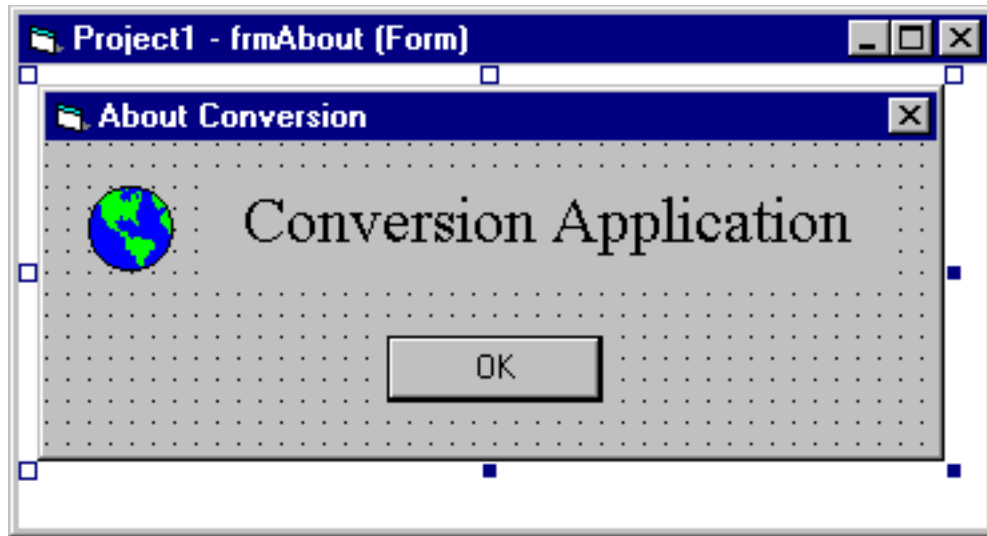3. Using the Visual Basic Menu Editor, add menus to the form, as shown in the following illustration.

3. Save the project in the folder \<*Install Folder*>\Labs\Lab01.

▶ **Create the About form**

1. Add a new form to the project that will be used as the About box for the application.

2. Add controls to the form, as shown in the following illustration.

The picture in the upper-left corner is an **Image** control. You can select any icon you want from the Visual Basic \Icons folder.

3. Save the project.

Exercise 2: Adding Code

In this exercise, you will add code to make the application functional.

▶ **Add code for the temperature conversion**

1. In the KeyUp event for the Celsius text box, convert the number entered to Fahrenheit and place the converted number in the Fahrenheit text box.

   The conversion formula is: Fahrenheit = (Celsius * 9/5) + 32

2. In the KeyUp event for the Fahrenheit text box, convert the entered number to Celsius, and place the converted number in the Celsius text box.

   The conversion formula is: Celsius = (Fahrenheit - 32) * 5/9.

3. Test the application. What happens if you enter text characters in one of the text boxes?

   To see an example of how your code should look, click this icon.

```
Private Sub txtCelsius_KeyUp(KeyCode As Integer, Shift As Integer)
    txtFahrenheit.Text = (txtCelsius.Text * 9 / 5) + 32
End Sub

Private Sub txtFahrenheit_KeyUp(KeyCode As Integer, Shift As Integer)
    txtCelsius.Text = (txtFahrenheit.Text - 32) * 5 / 9
End Sub
```

▶ **Add code for menus and an OK button**

1. In the Click event for the **Exit** menu command, **Unload** the form and **End** the application.

2. In the Click event for the **About** menu command, **Show** the **About** box as a modal form.

   For information about modal forms, see the **Show** method in the Help for Visual Basic.

3. In the Click event for the **OK** button on the About form, **Unload** the About form.

4. Save the project.

5. Test the application.

   To see an example of how your code should look, click this icon.

Main Form Code

```
Private Sub mnuFileExit_Click()
    Unload Me
    End
End Sub
Private Sub mnuHelpAbout_Click()
   frmAbout.Show vbModal
End Sub
```

About Form Code

```
Private Sub cmdOK_Click()
    Unload Me
End Sub
```

Exercise 3: Creating an Error-Handling Routine

In this exercise, you will add error handling to trap for the Type Mismatch run-time error that occurs if users type a non-numeric value into one of the text boxes.

▶ **Create an error handler**

1. In the KeyUp event procedure for the Celsius **TextBox** control, add an **On Error Goto** statement to enable error handling.

2. Create the error-handling routine specified in the **On Error Goto** statement.

3. In the error-handling routine, add code to test for run-time error 13: Type Mismatch.

    For information about error handling, see Handling Run-Time Errors.

4. If error 13 is found, set the **Text** property of the txtFarhenheit text box to **Can't Convert**.

5. Test the application.

    To see an example of how your code should look, click this icon.

```
Private Sub txtCelsius_KeyUp(KeyCode As Integer, Shift As Integer)
    On Error GoTo handleErr
    txtFahrenheit.Text = (txtCelsius.Text * 9 / 5) + 32
    Exit Sub
handleErr:
    If Err.Number = 13 Then 'type mismatch
        txtFahrenheit.Text = "Can't convert"
    Else
        Err.Raise Err.Number
    End If
End Sub
```

Exercise 4: Restricting Input

In this exercise, you will restrict user input for the **Username** text box to a limited length and to use only uppercase characters.

▶ **Restrict user input**

1. Use the **MaxLength** property of the **Username** text box to limit the number of characters that can be entered to 15.

2. In the KeyPress event of **Username** text box, convert all characters entered in the text box to uppercase characters.

    For information about validating text in text boxes, see Validating Field Information.

3. Save the project.

4. Test the application.

Is text box input limited to 15 characters? Are all characters converted to uppercase characters?

Exercise 5: Creating an Executable File

In this exercise, you will compile your project into an executable application, and then test the application.

▶ **Create an executable file**

1. On the **File** menu, click **Make <Project>.exe**.

2. Name the application Convert.exe, and save it in the folder \<*Install Folder*>\Labs\Lab01.

3. To compile the application, click OK.

▶ **Test the executable file**

1. Using the Windows Explorer, navigate to the folder \<*Install Folder*>\Labs\Lab01.

2. Test the application.