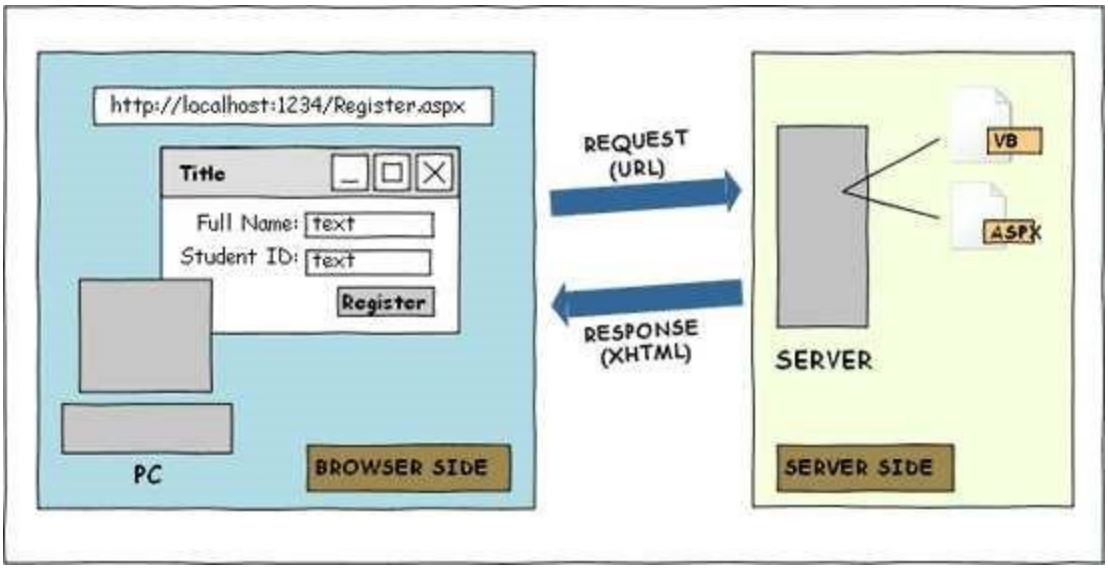
IS221 - Web Applications Development

Lab 5: Form Processing in ASP.Net



Note:
It is recommended that students go over this lab handout and come prepared before attending the lab class. This will help students complete the lab activities within the allocated time, and without much difficulty. Complete any Pre-lab activities before starting with this lab activity.

Please also carry a USB Flash disk with you to the lab class. It is recommended that you save off all your work onto your flash disk.

In this lab

The exercise this week will be to create web forms in ASP.Net. You will create a simple user/student registration page.

This student registration page will make use of the following ASP.Net controls:

- Textboxes
- Dropdown lists
- Checkbox lists
- Buttons

Lab Objectives

- To create a new ASP.Net web site
- To create a Web Form that provides the user with different types of input controls to input data
- Process the data provided by the user by using ASP.Net code written with Visual Basic

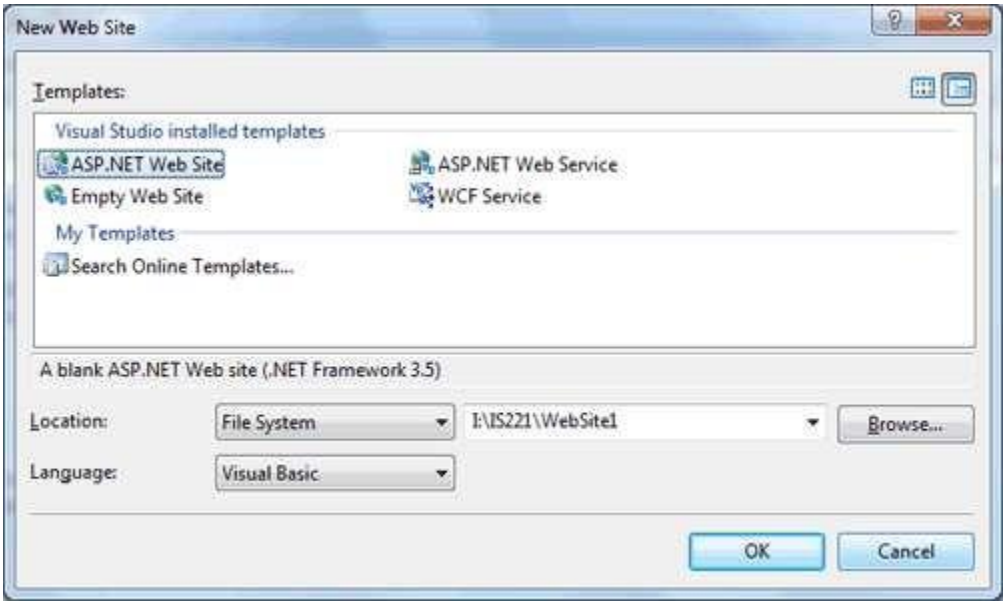
Lab Requirements

- **Web Authoring Software**: Visual Web Developer 2008 Express Edition
    - *We will now use a web authoring software for all our development works*
- **Web Browser**: Mozilla Firefox or Internet Explorer or Google Chrome, etc
    - *A Web browser is needed to view the resulting output of the web page created*
- USB Flash disk
    - *Please save off all your work onto your flash disk*
- Notebook or Writing pad
    - *Keep a writing pad handy so that you can note down any important points covered during the lab class*

Note: The lab focus will be specific to the *Windows Environment* and will hence use tools available for this platform only.

Activity: Creating the Student Registration Page

1. Create a new folder onto your storage device and name it to **Lab5**.
2. Open **Visual Web Developer Express**.
   (Start -> Program -> Microsoft Visual Web Developer 2008 Express Edition)
3. In the **File** menu, click **New Web Site**.



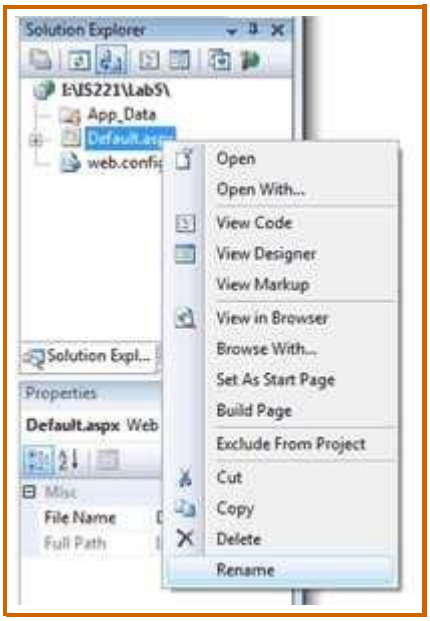
4. Under **Visual Studio installed templates**, click **ASP.NET Web Site**.
5. In the **Language** list, select **Visual Basic**. We will be using Visual Basic as the programming language for this course.
6. In the **Location** box, choose **File System**. You can enter the name of the folder where you want to keep the pages of the Web site. Alternatively, click on **Browse...** to select the folder where you want to create the web site.

   Click on **Browse...** and navigate to the location where the **Lab5** folder is saved. If you have typed out a path which does not exist, you may get a message such as:

   Choose **Yes** to create the folder.

7. Then click **OK**.
   Visual Web Developer creates the folder and a new page named Default.aspx. By default, when a new page is created, VWD displays the page in **Source view**, where you can see the page's HTML elements.
8. Rename the **Default.aspx** file to **Register.aspx**.

Right-click on the **Default.aspx** file in the **Solution Explorer** and choose **Rename**. When the file name becomes editable, type **Register.aspx**. Click on the document window to apply this change.

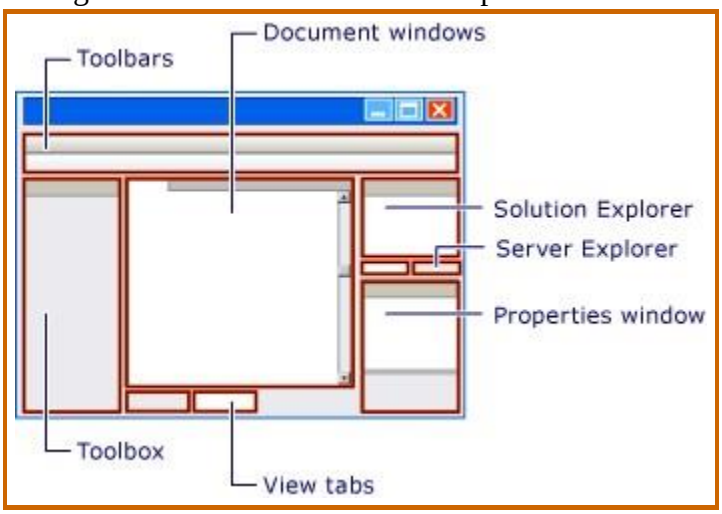


Note: An ASP.Net web page will normally be made up of two files - a .aspx file and a .vb file. Notice in the Solution Explorer that there are two files - **Register.aspx** and **Register.aspx.vb**. Click on the *plus* symbol to see both the files listed in the Solution Explorer.

The file **Register.aspx** should be open in **Source View**. At the bottom of the **document window**, click **Design** to display the Design view. You will use the Design View for adding server controls to your newly created form.

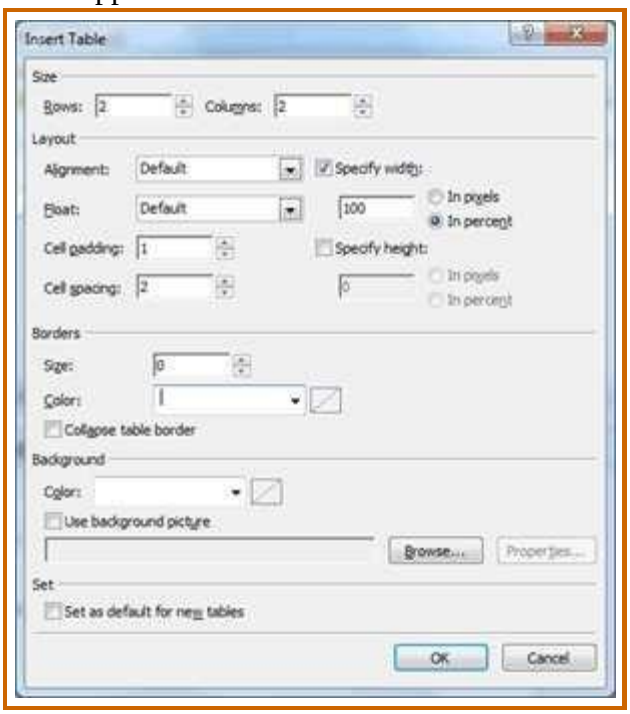
Ensure that the **Properties window** and the **Toolbox** are displayed. If not, from the **View** menu, click Toolbox and Properties Window.

A diagram of the Visual Web Developer environment is shown below:



Adding Controls to the Web Form

1. Type **Student Registration Form**.
2. Select **Student Registration Form** and choose **Heading 2** from the **Formatting Toolbar** (not the Format Menu).
3. Click on the line below **Student Registration Form** to position the cursor on the new line.
4. From the **Menu bar**, click on **Table** and then choose **Insert Table**. The Insert Table dialog appears.

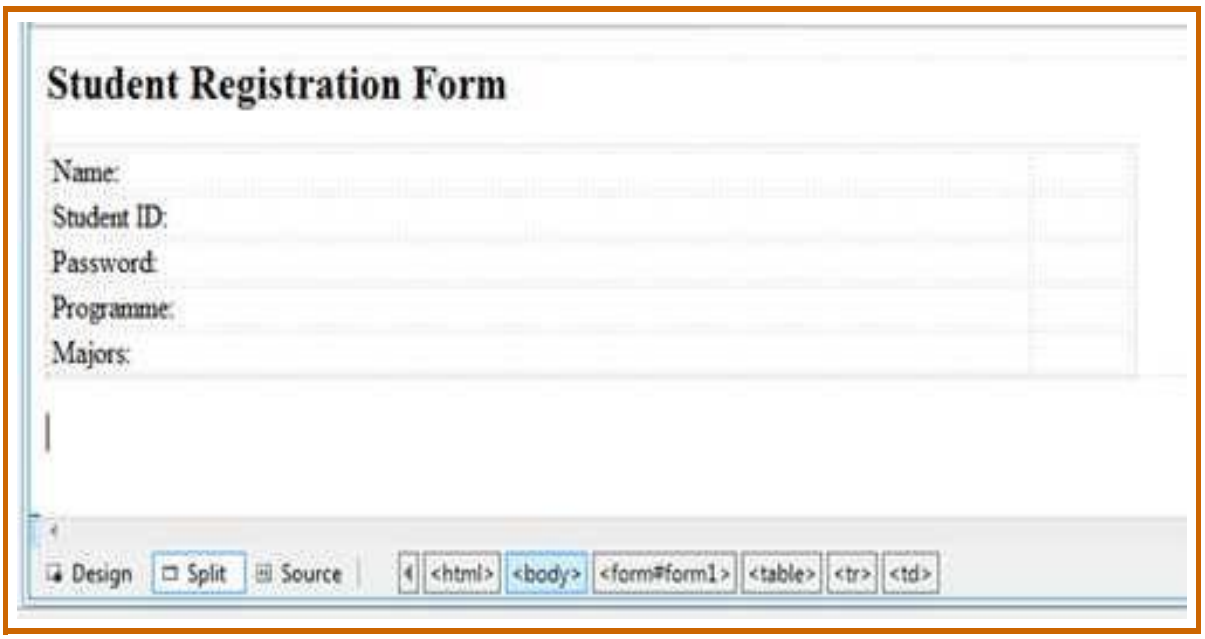


5. Set the following options and then click **OK**.
    - *Rows: 6*
    - *Columns: 2*
    - *Width: 600 pixels*
    - *Border: None (0)*

    A table with 6 rows and 2 columns will be created.

6. Enter the following texts in the **first column** of the table.
    - *Name:*
    - *Student ID:*
    - *Password:*
    - *Programme:*
    - *Majors:*

The design window should look similar to the figure shown below:



Adding TextBox, DropDownList and CheckBoxList Controls

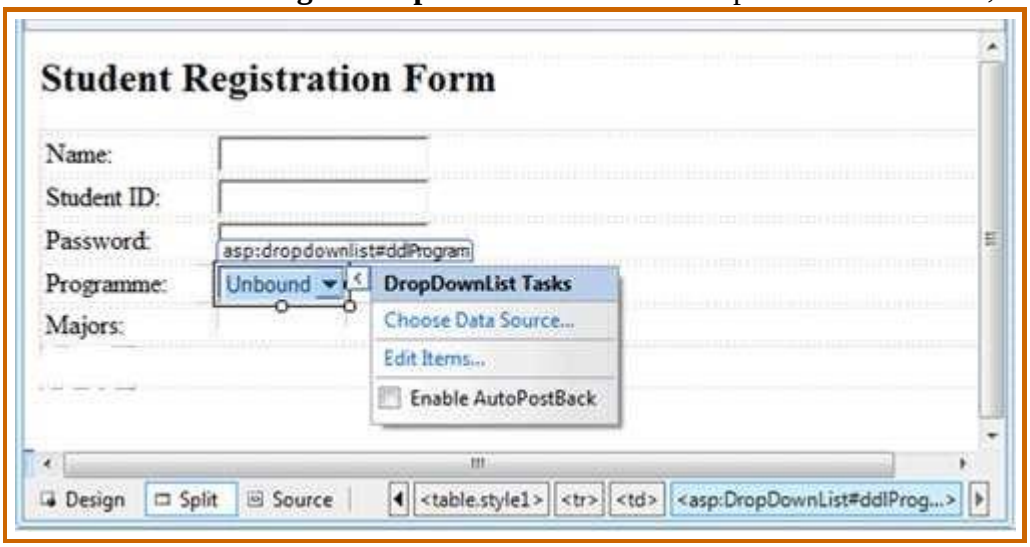
1. Place the insertion cursor inside the first cell in the second column of the table, ie, row 1, column 2.
2. You will now add a textbox control here. With the cursor still inside the **first cell** in **column 2**, double-click on the **TextBox** control item in the **Toolbox**, under the **Standard** group. A TextBox control should be added to the page.
3. Verify that you have added the right control. Switch to **Split view** and check if you see the following code inside the `<td>...</td>` tag.

```
<asp:TextBox ID="TextBox1" runat="server"></asp:TextBox>
```

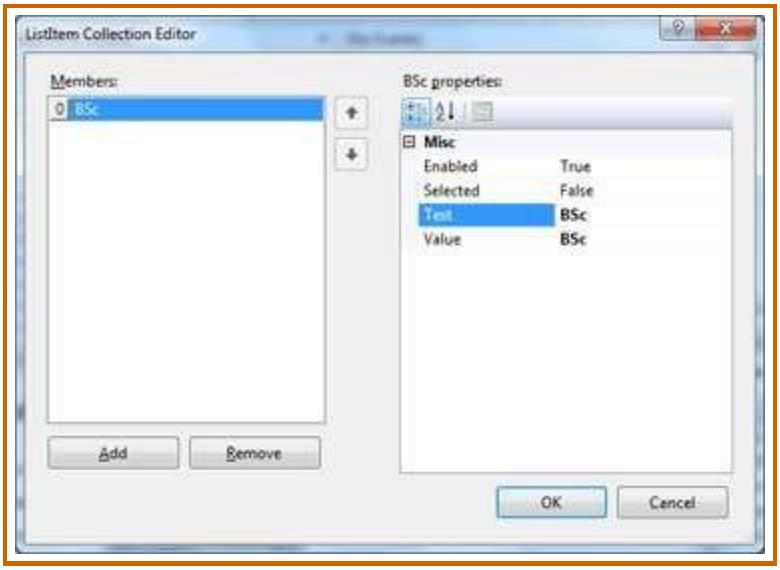
4. Switch back to **Design view**.
5. With the TextBox control still selected (in Design view), change the **ID** property from *TextBox1* to **txtName**.

Use the **Properties** window.

6. Next, place the insertion cursor inside **second cell** in **Column 2** of the table and **add** another **TextBox** control here.
7. Change the **ID** property to **txtStudentID**.
8. In the next cell (for password), **add** another **TextBox** control.
   Set the **ID** to **txtPassword** and **TextMode** property to **Password**.
9. Place the insertion cursor in the cell next to the cell containing **Programme:**.
10. From the **Toolbox**, double-click the **DropDownList** control to add a DropDownList control to your Web Form.
11. With the newly added DropDownList control still selected, change the **ID** property from *DropDownList1* to **ddlProgram**.
12. Right-click the DropDownList control in the Design view and from the pop-up menu, choose **Show Smart Tag**. A **DropDownList Tasks** box opens. From this box, select **Edit Items...**.



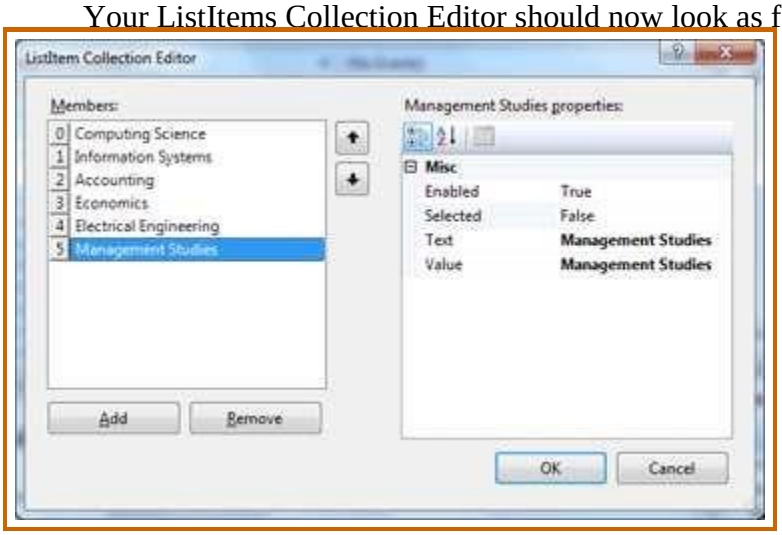
13. This causes a **ListItem Collection Editor** to launch. This editor can be used to add items to the DropDownList.
14. Click **Add** to add a new item to the DropDownList. Change the **Text** of this new item to **BSc**.



15. Similarly add another 3 items with the text as **BA**, **BComm** and **BEng**.
16. Place the insertion cursor in the cell next to the cell containing **Majors:**.
17. From the **Toolbox**, double-click the **CheckBoxList** control to add it to the page.
18. Change the **ID** property of this **CheckBoxList** control to **cblMajors**. Also set the **RepeatColumns** property to **3**.
19. Right-click the CheckBoxList control in the Design view and from the pop-up menu, choose **Show Smart Tag**. A **CheckBoxList Tasks** box opens. Select **Edit Items...**.
20. Use the Editor to add the following items to the CheckBoxList:

- *Computing Science*
- *Information Systems*
- *Accounting*
- *Economics*
- *Mathematics*
- *Electrical Engineering*
- *Management Studies*

Your ListItems Collection Editor should now look as follows:



Adding a Button Control and a Click Event Handler

1. Place the cursor in the last cell in the last row of the table, ie, Row 6, Column 2.
2. Now add a **Button** control from the **Toolbox** to the page, and, set the following properties for the button: ID: btnRegister
   Text: Register Me
3. Click outside the table and press the **Enter Key** twice to add two newlines.
4. Add a **Label** control from the **Toolbox**. With the Label control selected, set the **ID** to **lblVerify** and **delete** any text already present in the **Text** property.

Now that the Web Form has been designed and all the required controls added, it is time to write server side code in VB that will be executed when the user clicks the Register Me button. This code will retrieve all the data entered by the user; display it in the Label control lblVerify.

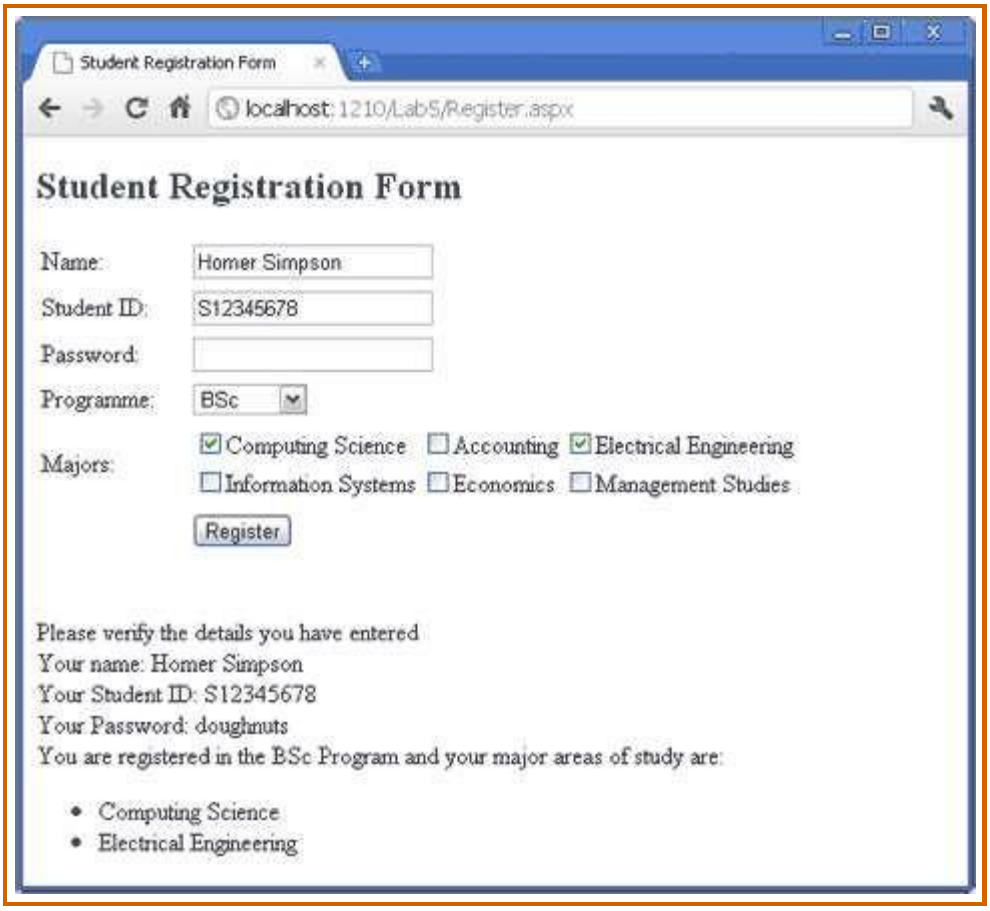
1. Double-click the **Register Me** button in the **Design view**. This action will open the code-behind file, **Register.aspx.vb**, and create an event handler for the button's click event.

```
Protected Sub btnRegister_Click(ByVal sender As Object, _
    ByVal e As System.EventArgs) Handles btnRegister.Click

End Sub
```

2. Place the insertion point inside the Sub procedure and type out the code below that will get executed on the server when the user clicks on the Register Me button.

```
lblVerify.Text = "Please verify the details you have entered <br />"
lblVerify.Text = lblVerify.Text & "Your name: " & txtName.Text & "<br />"
lblVerify.Text &= "Your Student ID: " & txtStudentID.Text & "<br />"
lblVerify.Text &= "Your Password: " & txtPassword.Text & "<br />" lblVerify.Text
&= "You are registered in the " & ddlProgram.SelectedValue _
     & " Program " lblVerify.Text &= "and your major
areas of study are:"   lblVerify.Text &= "<ul>"

For Each item As ListItem In cblMajors.Items
If item.Selected Then
      lblVerify.Text &= "<li>" & item.Value & "</li>"
   End If
Next    lblVerify.Text &=
"</ul>"
```

3. Switch back to the **Register.aspx** file on the **document window**.
4. Run the page to test the form you created. Right-click anywhere in the **Design View** of **Register.aspx** and choose **View in Browser**.
   The web form should open in a browser, being served from the ASP.Net Development server.
5. Enter your details on the web page and click on the **Register Me** button. Notice how the page collects the data entered in the form and displays the output in the Label.



6. Also compare the source code of the page being displayed in the browser with the markup written for the **Register.aspx** file.

Use the View->Page Source option to view the code for the file in browser.
Can you notice any similarities or differences?

End of Lab 5

This concludes Lab 5.