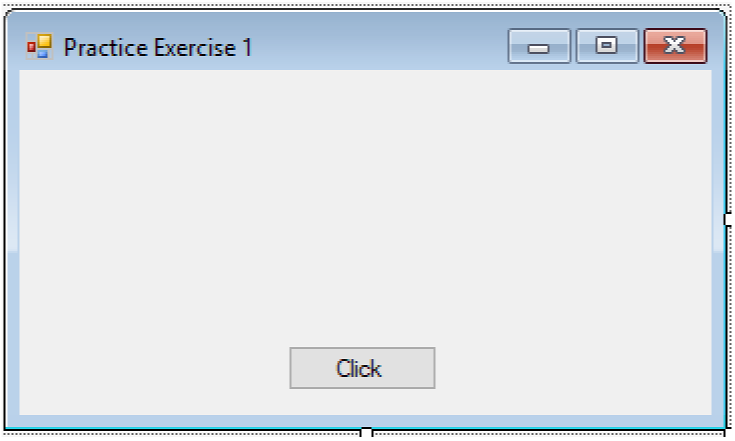
Practical Guide - 2

Practice Exercise - 1 (C#.NET Controls)

1. Task: When user click on the button a welcome message should display on the form.
   a) Open a New Project. Name it as PracticeEx_1.
   b) Drag and drop a Label and a Command Button to the form.
   c) Change the properties as follows.

Control	**Property**
Form	Name = frmEx1
Form	Text = Practice Exercise 1
Label 1	Name = lblMsg
Label 1	Text =
Label 1	Font = Script MT Bold, 10, style=Bold
Button 1	Name = btnClick
Button 1	Text = Click

   d) The form you designed is shown below.



   e) Double click on the Button. Then you will see the code window with the cursor inside the following two lines.

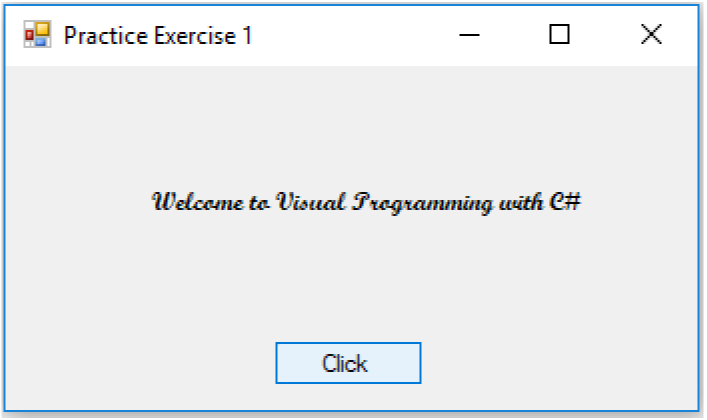
```
private void btnClick_Click(object sender, EventArgs e)
{

}
```

   f) Write following line of code inside the above btnClick_Click(….) function.

```
lblMsg.Text = "Welcome to Visual Programming with C#";
```

   g) Run the application.

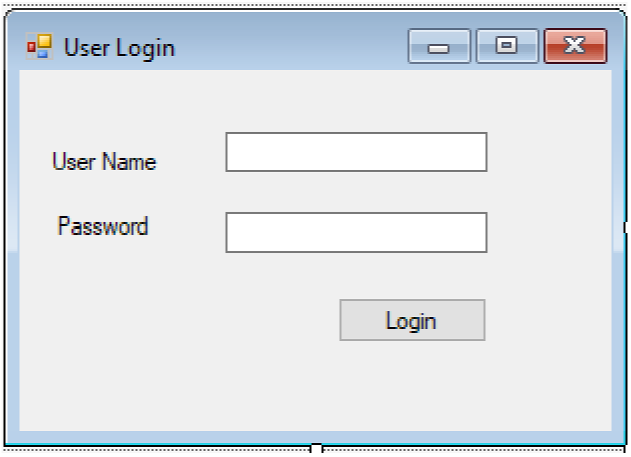
Once you click on the button then form will display the message as follows.



2. Task = Assume that there is a single user login which accepts user name and password from the user. If the user name and password both are correct display a message box with “Access Granted!” otherwise “Access Denied!”.[Username: Admin, Password: 123]. If the Access is Granted program should be terminated.
   a) Add a new form to the project Practical_1. Name it as *frmEx2*.
   b) Drag and drop two labels, two Textbox s and a Button to the form.
   c) Change the properties as follows.

Control	**Property**
Form	Name = frmEx2
Form	Text = User Login
Textbox 1	Name = txtUserName
Textbox 2	Text = txtPassword
Button 1	Name = btnLogin
Button 1	Text = Login

   d) The form you designed is shown below.



e) Double click the Button and write the below codes in between the button click function.

```
string password, username;
            password = txtPassword.Text;
            username = txtUserName.Text;
            if (username == "Admin" && password == "123")
            {
                MessageBox.Show("Access Granted!");
                this.Close();
            }

            else
                MessageBox.Show("Access Denied!");
```

f) Set the current form as the startup form.

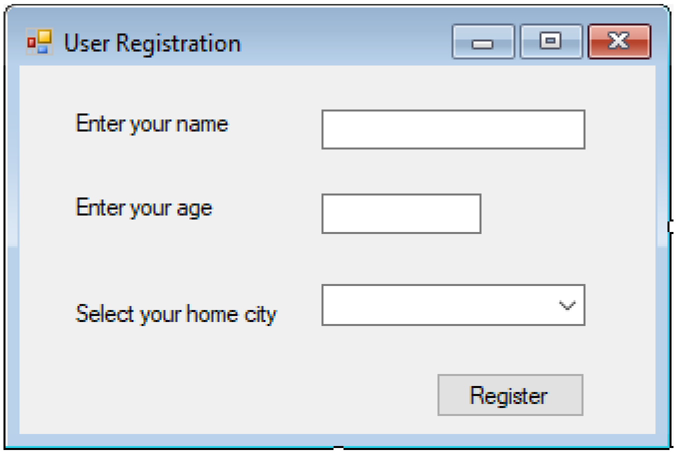
g) Run the application.

h) Identify the functionalities that need to be improved and improve your code.

3. Task: Accept name, age and city data from a user for user registration. For success registration display a message box with entered data.

a) Add new form to the project Practical_1. Name it as *frmUserReg*.

b) Design the user interface as follows. [2 Textboxes, 3 Labels, a Combo-box and a Button]

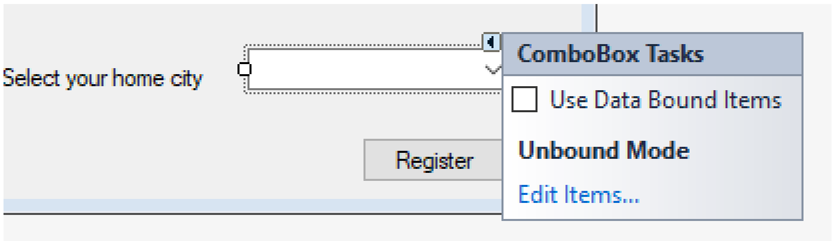


c) Set the properties as follows.

Control	**Name Property**
Form	Name = frmUserReg
Textbox 1	Name = txtName
Textbox 2	Name = txtAge
ComboBox	Name = cmbCity
Button 1	Name = btnRegister

d) Select the combo box, go to the *Items* property, and click on the *Collection*. Then click on the ellipse button to add items to the combo box. Then *String Collection Editor* window will appear. Type few cities and click the Ok button.

Or you can click on the ▶ icon which appear on the combo box and then select Edit item. It will again open the same window *String Editor Collection* window to add items.

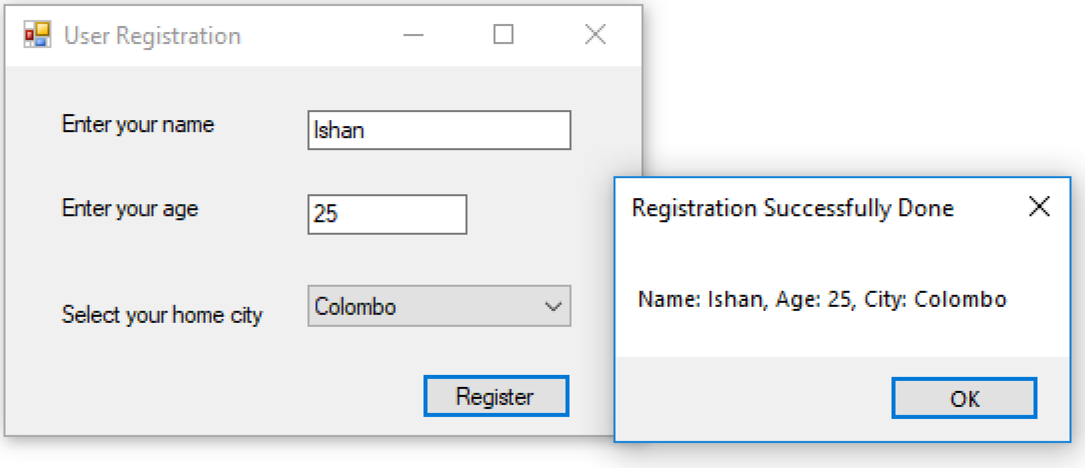


e) Double click on the Button and write the following code segments for button click event.

```
string s = "";
s += "Name: " + txtName.Text + ", Age: " + txtAge.Text + ", City: "
+ cmbCity.SelectedItem;
MessageBox.Show(s, "Registration Successfully Done");
```

f) Set the current form as the startup form.

g) Run the application.



Enter your name: Ishan

Enter your age: 25

Select your home city: Colombo

Registration Successfully Done

Name: Ishan, Age: 25, City: Colombo

h) Double click on the Form and write the following code segments for Form Load event.

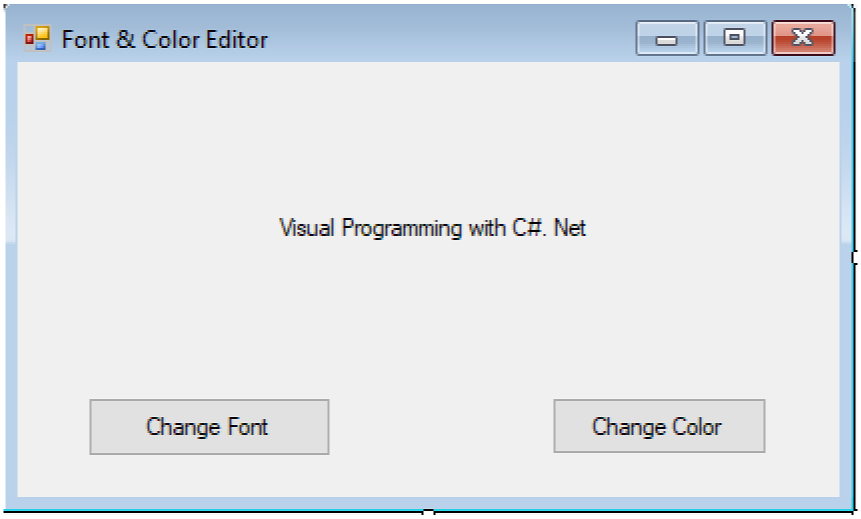
```
        cmbCity.SelectedIndex = 0;
```

i) Identify the difference after added the above code line by running the program again.

4. Task: Change the font and color of a Text while running the program.
   a) Add new form to the project Practical_1. Name it as *frmFont*.
   b) Drag and drop 2 buttons, a Label, a FontDialog and a ColorDialog.
   c) Change the properties of each controls as follows.

Control	Property
Form	Name = frmFont
Form	Text = Font & Color Editor
Button1	Name = btnFont
Button1	Text = Change Font
Button2	Name = btnColor
Button2	Text = Change Color
Label 1	Name = lblText
Label 1	Text = Visual Programming with C#. Net

   d) The form you designed is shown below.



   e) Double click on the Change Font Button and write the following code segments for button click event.

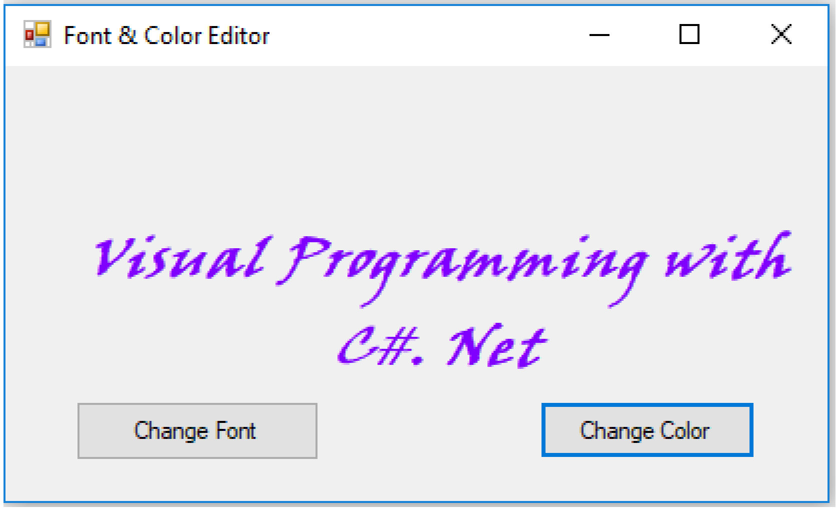
```
fontDialog1.ShowDialog();
lblText.Font = fontDialog1.Font;
```

   f) Double click on the Change Color Button and write the following code segments for button click event.

```
colorDialog1.ShowDialog();
lblText.ForeColor = colorDialog1.Color;
```

   g) Set the current form as the startup form.

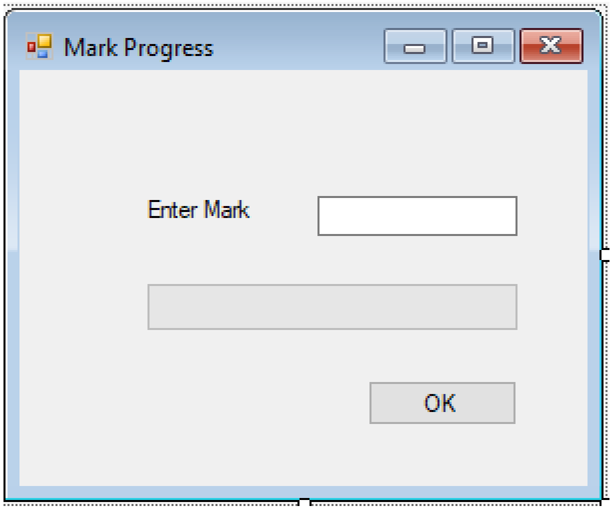
h) Run the application.



i) Change following additional properties.

Control	**Property**
Form	FormBorderStyle = FixedSingle (To stop the resizing the form)
Label	Set the MinimumSize and MaximumSize as you. (To control the label size when change its font size dyanamically)
Label	TextAlign = Middle center (To change the text alignment)

5. Task: When the teacher enters the mark of a student to the system it should be appear in the progress bar in the scale of 0-100.
   a) Add new form to the project Practical_1. Name it as *frmMarkIndicator*.
   b) Drag and drop a progress bar, a text box, a label and a button. Name the progress bar as *proMark* and name the button as *btnOk* and name the text box as *txtMark*.
   c) Change the text of the label as *Enter Mark*, button as *OK* and form as Mark Progress.
   d) User Interface design is given below.

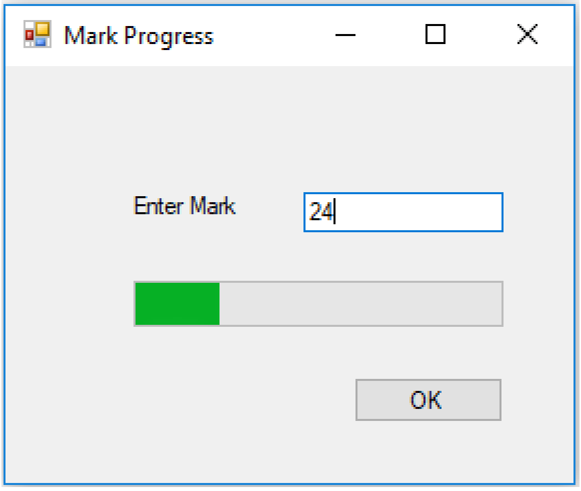


e) Add the following code segments for the button click event.

```
proMark.Maximum = 100;
proMark.Minimum = 0;
proMark.Value = 0;

proMark.Value = Convert.ToInt32(txtMark.Text);
```

f) Set the current form as the startup form.

g) Run the application.



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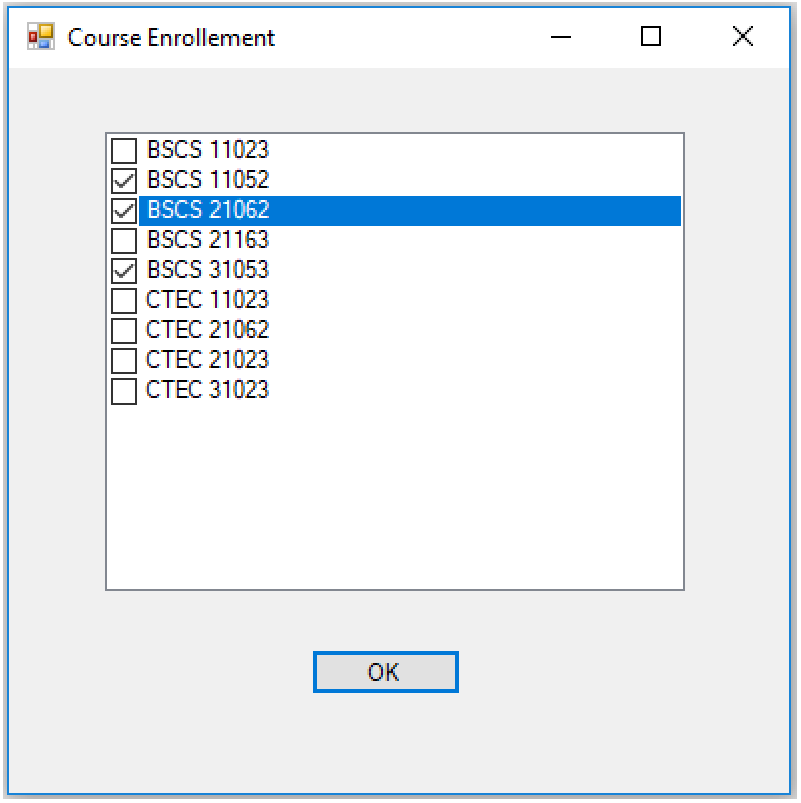
6. Task: There a list of course units that need to be followed in the first semester. A student need to check for some of courses and enroll for those courses.
   a) Add new form to the project Practical_1. Name it as *frmEnrollCrz*.
   b) Add a CheckedListBox and a button. Name CheckedListBox as lstCrz and button as btnOk.

c) User Interface design is given below.



□ BSCS 11023
☑ BSCS 11052
☑ BSCS 21062
□ BSCS 21163
☑ BSCS 31053
□ CTEC 11023
□ CTEC 21062
□ CTEC 21023
□ CTEC 31023

d) Add the following code segment for the form load event to add items to the CheckListBox.

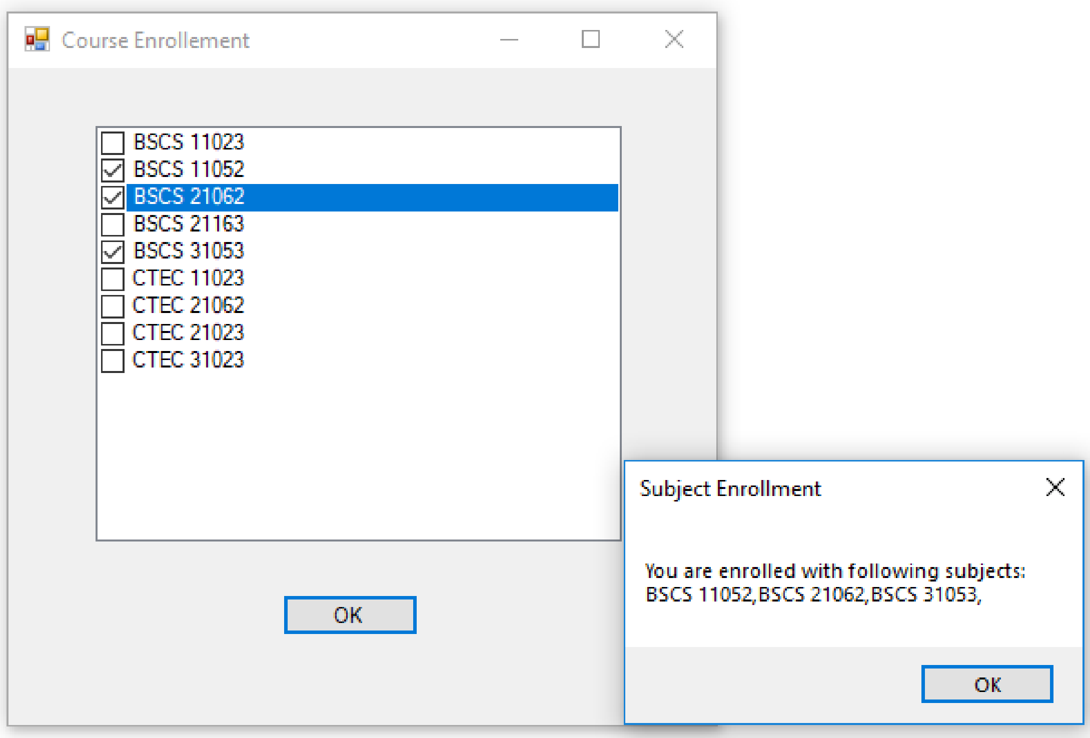
```
 lstCrz.Items.Add("BSCS 11023");
lstCrz.Items.Add("BSCS 11052");
lstCrz.Items.Add("BSCS 21062");
lstCrz.Items.Add("BSCS 21163");
lstCrz.Items.Add("BSCS 31053");
lstCrz.Items.Add("CTEC 11023");
lstCrz.Items.Add("CTEC 21062");
lstCrz.Items.Add("CTEC 21023");
lstCrz.Items.Add("CTEC 31023");
```

e) Add the following code segments for the button click event to find and display checked courses.

```
string enrolledSubs = "";

            foreach (string s in lstCrz.CheckedItems)
            {
                enrolledSubs += s + ",";
            }

            MessageBox.Show("You are enrolled with following
subjects:\n" + enrolledSubs, "Subject Enrollment");
```

f) Set the current form as the startup form.

g) Run the application.



☐ BSCS 11023
☑ BSCS 11052
☑ BSCS 21062
☐ BSCS 21163
☑ BSCS 31053
☐ CTEC 11023
☐ CTEC 21062
☐ CTEC 21023
☐ CTEC 31023

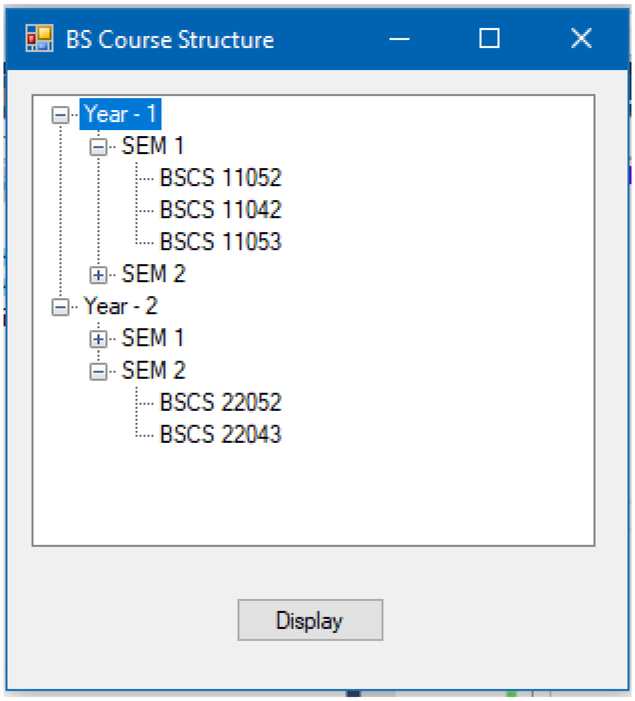
You are enrolled with following subjects:
BSCS 11052,BSCS 21062,BSCS 31053,

7. Task: View the Course units' structure of the Bachelor of Science in Computer Science degree program in tree view.
   a) Add new form to the project Practical_1. Name it as *frmBSCrz*.
   b) Place a Button and a TreeView. Name them as *btnDisplay* & *trvStructure*.
   c) Place an ImageList and let the default name be there.
   d) Add Below code under button click event.

```
TreeNode cnode, cnode1;
   trvStructure.Nodes.Clear();
   cnode = trvStructure.Nodes.Add("Year - 1");
   cnode.Nodes.Add("SEM 1");
   cnode.Nodes.Add("SEM 2");

   cnode1 = cnode.Nodes[0];
   cnode1.Nodes.Add("BSCS 11052");
   cnode1.Nodes.Add("BSCS 11042");
   cnode1.Nodes.Add("BSCS 11053");

   cnode1 = cnode.Nodes[1];
   cnode1.Nodes.Add("BSCS 12052");
   cnode1.Nodes.Add("BSCS 12043");

   cnode = trvStructure.Nodes.Add("Year - 2");
   cnode.Nodes.Add("SEM 1");
```

```
            cnode.Nodes.Add("SEM 2");

            cnode1 = cnode.Nodes[0];
      cnode1.Nodes.Add("BSCS 21052");
      cnode1.Nodes.Add("BSCS 21042");
      cnode1.Nodes.Add("BSCS 21053");

      cnode1 = cnode.Nodes[1];
      cnode1.Nodes.Add("BSCS 22052");
      cnode1.Nodes.Add("BSCS 22043");
```

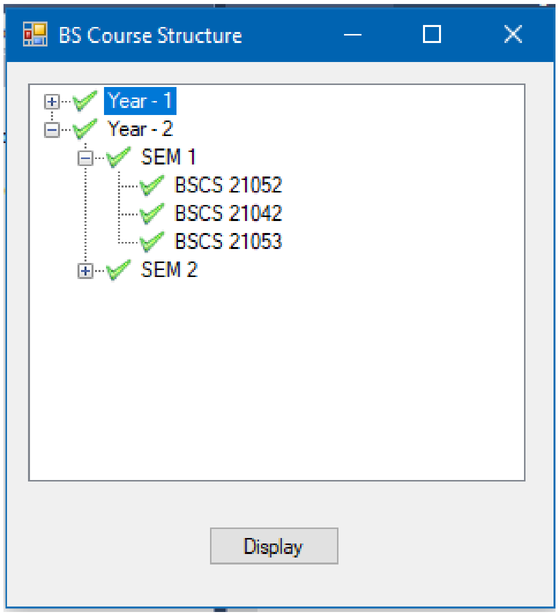
e) Set this form as Startup form and run your program.



```
Year - 1
    SEM 1
        BSCS 11052
        BSCS 11042
        BSCS 11053
    SEM 2
Year - 2
    SEM 1
    SEM 2
        BSCS 22052
        BSCS 22043
```

f) Add below code under form load to load image into image list.

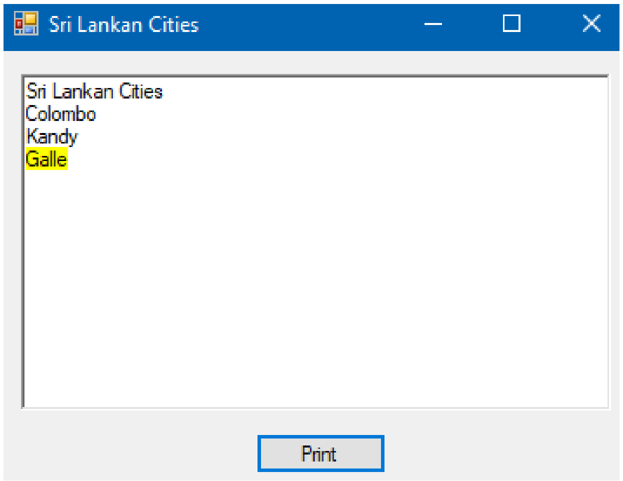
```
      imageList1.Images.Add(Image.FromFile("C:/Users/Hansi
Udapola/Desktop/PE1/chec.png"));
       trvStructure.ImageList = imageList1;
```



8. Task: Display a list of cities programmatically in a rich Textbox and highlight a specific city.
   a) Add a new form to the existing project. Name it as *frmCities.*
   b) Place a button and a rich textbox. Name them as *btnPrint* and *rtbCities.*
   c) Add following code to button click event.

```
rtbCities.SelectedText = "Sri Lankan Cities" + "\n";
   rtbCities.SelectedText = "Colombo" + "\n";
   rtbCities.SelectedText = "Kandy" + "\n";
   rtbCities.SelectedText = "Galle" + "\n";

   rtbCities.Find("Galle");
   rtbCities.SelectionBackColor = Color.Yellow;
```

   d) Set the current form as startup and run the program.



```
Sri Lankan Cities
Colombo
Kandy
Galle
```