1. Develop a simple ASP.NET application to demonstrate use of QueryString to transfer information between pages. User should be presented a list of entries [car manufacturers] using dropdown list and text box which contains model name of the manufacturer. When the user chooses an item by clicking the appropriate manufacturer in the list, the user is forwarded to a new page. This page displays the car manufacturer name and the model name. Try to avoid potential risk by using URL encoding technique. Code:

WebForm1.aspx:

```
<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="WebForm1.aspx.cs"</pre>
Inherits="q1.WebForm1" %>
<!DOCTYPE html>
<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
    <title></title>
</head>
<body>
    <form id="form1" runat="server">
         <div>
             Choose the car manufacturer <br />
             <asp:DropDownList ID="DropDownList1" runat="server" Height="25px" Width="145px"</pre>
AutoPostBack="True" OnSelectedIndexChanged="DropDownList1_SelectedIndexChanged">
             </asp:DropDownList>
             <br />
             <br />
             Model Name:<br />
             <asp:TextBox ID="TextBox1" runat="server" Height="25px"</pre>
Width="145px"></asp:TextBox>
             <br />
              <br />
         </div>
    </form>
</body>
</html>
WebForm1.aspx.cs:
using System;
using System.Collections.Generic;
using System.Linq;
using System.Web;
using System.Web.UI;
using System.Web.UI.WebControls;
namespace q1
{
    public partial class WebForm1 : System.Web.UI.Page
         protected void Page_Load(object sender, EventArgs e)
             if (!this.IsPostBack)
                  //Add items to the dropdownlist
                  DropDownList1.Items.Add(new ListItem("Toyota", "Innova"));
DropDownList1.Items.Add(new ListItem("Maruti", "Suzuki"));
DropDownList1.Items.Add(new ListItem("Tesla", "Model 3"));
                  DropDownList1.Items.Add(new ListItem("BMW", "x5"));
                  DropDownList1.SelectedIndex = -1;
```

```
}
            else
            {
                //Update the model name
                TextBox1.Text = DropDownList1.SelectedItem.Value;
            }
        }
        protected void DropDownList1_SelectedIndexChanged(object sender, EventArgs e)
            //Update the model name
            TextBox1.Text = DropDownList1.SelectedItem.Value;
            //Redirect to next page
            string url = "WebForm2.aspx?";
            url += "Manufacturer=" + Server.UrlEncode(DropDownList1.SelectedItem.Text) + "&";
            url += "Model=" + Server.UrlEncode(TextBox1.Text);
            Response.Redirect(url);
        }
   }
}
WebForm2.aspx:
<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="WebForm2.aspx.cs"</pre>
Inherits="q1.WebForm2" %>
<!DOCTYPE html>
<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
    <title></title>
</head>
<body>
    <form id="form1" runat="server">
            <asp:Label ID="Label1" runat="server" Text=""></asp:Label>
        </div>
    </form>
</body>
</html>
WebForm2.aspx.cs:
using System;
using System.Collections.Generic;
using System.Linq;
using System.Web;
using System.Web.UI;
using System.Web.UI.WebControls;
namespace q1
    public partial class WebForm2 : System.Web.UI.Page
        protected void Page_Load(object sender, EventArgs e)
            Label1.Text = "Manufacturer: " + Request.QueryString["Manufacturer"];
            Label1.Text += "<br />Model: " + Request.QueryString["Model"];
        }
   }
}
```

Output:



2. Create a page firstPage.aspx with two TextBoxes [Name, Roll], DropDownList [Subjects], and a button. Create another page secondPage.aspx with two labels and button. When the user clicks the button in first Page he should be sent to the second page and display the contents passed from first page in the label1. Use the session variable. When the user clicks the button in second page, the counter value should display in the label2. For each click the counter value should increment by 1. Store the counter value using cookie. Code:

firstPage.aspx:

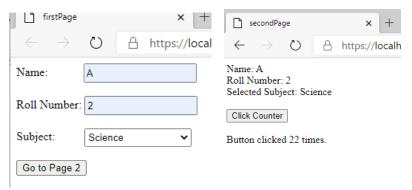
```
<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="firstPage.aspx.cs"</pre>
Inherits="q2.firstPage" %>
<!DOCTYPE html>
<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
   <title>firstPage</title>
</head>
<body>
   <form id="form1" runat="server">
       <div>
           Name:         
           <asp:TextBox ID="NameTextBox" runat="server" Height="20px" Width="145px"</pre>
style="vertical-align: middle" ></asp:TextBox>
           <br />
           <br />
           Roll Number:
           <asp:TextBox ID="RollTextBox" runat="server" Height="20px" Width="145px"</pre>
style="vertical-align: middle"></asp:TextBox>
           <br />
           <br />
           Subject:        
           <asp:DropDownList ID="SubjectDropDownList" runat="server" Height="25px"</pre>
Width="145px" style="vertical-align: middle">
               <asp:ListItem>English</asp:ListItem>
               <asp:ListItem>Math</asp:ListItem>
               <asp:ListItem>Science</asp:ListItem>
               <asp:ListItem>Economics</asp:ListItem>
           </asp:DropDownList>
           <br />
           <br />
           <asp:Button ID="GoButton" runat="server" Text="Go to Page 2"</pre>
OnClick="GoButton Click"/>
       </div>
```

```
</form>
</body>
</html>
firstPage.aspx.cs:
using System;
using System.Collections.Generic;
using System.Linq;
using System.Web;
using System.Web.SessionState;
using System.Web.UI;
using System.Web.UI.WebControls;
namespace q2
{
    public partial class firstPage : System.Web.UI.Page
        protected void Page_Load(object sender, EventArgs e)
        {
        }
        protected void GoButton Click(object sender, EventArgs e)
            Session["Name"] = NameTextBox.Text;
            Session["Roll Number"] = RollTextBox.Text;
            Session["Subject"] = SubjectDropDownList.SelectedItem.Text;
            Response.Redirect("secondPage.aspx");
        }
    }
}
secondPage.aspx:
<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="secondPage.aspx.cs"</pre>
Inherits="q2.secondPage" %>
<!DOCTYPE html>
<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
    <title>secondPage</title>
</head>
<body>
    <form id="form1" runat="server">
        <div>
            <asp:Label ID="Label1" runat="server" Text=""></asp:Label>
            <br />
            <br />
            <asp:Button ID="Button1" runat="server" Text="Click Counter"</pre>
OnClick="Button1_Click" />
            <br />
            <br />
            <asp:Label ID="Label2" runat="server" Text=""></asp:Label>
        </div>
    </form>
</body>
</html>
```

secondPage.aspx.cs:

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Net;
using System.Web;
using System.Web.UI;
using System.Web.UI.WebControls;
namespace q2
    public partial class secondPage : System.Web.UI.Page
        protected void Page_Load(object sender, EventArgs e)
            if (!this.IsPostBack)
                string name = (string)Session["Name"];
                Label1.Text = "Name: " + name + "<br />";
                string roll = (string)Session["Roll Number"];
                Label1.Text += "Roll Number: " + roll + "<br />";
                string subject = (string)Session["Subject"];
                Label1.Text += "Selected Subject: " + subject;
            }
        }
        protected void Button1 Click(object sender, EventArgs e)
            int counter;
            HttpCookie cookie = Request.Cookies["Click"];
            if (cookie == null)
                cookie = new HttpCookie("Click");
                counter = 1;
            }
            else
                counter = Int32.Parse(cookie["Count"]) + 1;
            cookie["Count"] = counter.ToString();
            Response.Cookies.Add(cookie);
            cookie.Expires = now.AddMinutes(30);
            Label2.Text = "Button clicked " + counter + " times.";
        }
    }
}
```

Output:



3. Develop a simple ASP.NET application to store a customer name and shopping cart inside a cookie.

Demonstrate the use of cookie by making the shopping cart, and clicking the "ContinueShopping" button.

Then, close the browser, and request the page again. The second time, the page should find the cookie, display the name of the items in the shopping cart, and display a welcome message with customer name.

Code:

WebForm1.aspx:

```
<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="WebForm1.aspx.cs"</pre>
Inherits="q3.WebForm1" %>
<!DOCTYPE html>
<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
    <title>Shopping</title>
</head>
<body>
    <form id="form1" runat="server">
        <div style="width: 204px">
            <asp:Label ID="Label1" runat="server"></asp:Label>
            <br />
            <br />
            <asp:Panel ID="Input Panel" runat="server">
                <asp:Label ID="Label2" runat="server" Text="Name: "></asp:Label>
                <asp:TextBox ID="TextBox1" runat="server" Height="16px" Width="145px"</pre>
style="vertical-align: middle"></asp:TextBox>
                <br />
                <br />
                <asp:Label ID="Label3" runat="server" Text="Select items to add to</pre>
cart"></asp:Label>
                <asp:CheckBoxList ID="CheckBoxList1" runat="server">
                     <asp:ListItem>Bag</asp:ListItem>
                     <asp:ListItem>Shoe</asp:ListItem>
                     <asp:ListItem>Glasses</asp:ListItem>
                     <asp:ListItem>Watch</asp:ListItem>
                     <asp:ListItem>T-Shirt</asp:ListItem>
                     <asp:ListItem>Sofa</asp:ListItem>
                </asp:CheckBoxList>
                <br />
            <br />
            </asp:Panel>
            <asp:Button ID="Button1" runat="server" Text="Continue Shopping"</pre>
OnClick="Button1 Click" />
            <br />
            <br />
            <asp:Label ID="Label4" runat="server"></asp:Label>
        </div>
    </form>
```

```
</body>
</html>
WebForm1.aspx.cs:
using System;
using System.Collections.Generic;
using System.Linq;
using System.Web;
using System.Web.UI;
using System.Web.UI.WebControls;
namespace q3
{
    public partial class WebForm1 : System.Web.UI.Page
        protected void Page_Load(object sender, EventArgs e)
            if (!this.IsPostBack)
            {
                HttpCookie cookie = Request.Cookies["Shopping"];
                Label4.Text = "";
                if(cookie == null)
                {
                    Input_Panel.Visible = true;
                    Label1.Visible = false;
                }
                else
                {
                    Label1.Visible = true;
                    Label1.Text = "Welcome" + cookie["name"] + "<br />";
                    Label4.Text += "Current cart is: <br />" + cookie["cart"];
                    TextBox1.Text = cookie["name"];
                    Input_Panel.Visible = false;
                }
            }
        }
        protected void UpdateCart()
            HttpCookie cookie = Request.Cookies["Shopping"];
            if (cookie == null)
            {
                cookie = new HttpCookie("Shopping");
                cookie["cart"] = "";
            }
            foreach(ListItem litem in CheckBoxList1.Items)
            {
                if (litem.Selected == true)
                {
                    cookie["cart"] += litem.Text + ", ";
            }
```

```
Label4.Text = "Current cart is: <br />" + cookie["cart"];

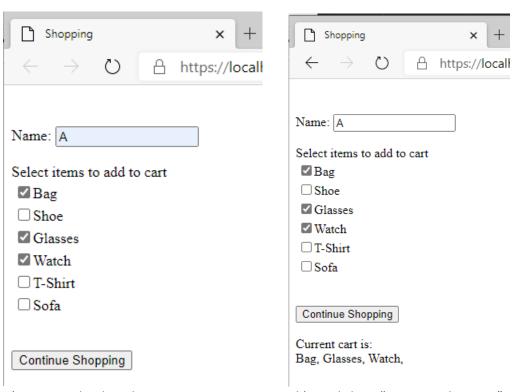
cookie["name"] = TextBox1.Text;

Response.Cookies.Add(cookie);
cookie.Expires = now.AddMinutes(30);

}

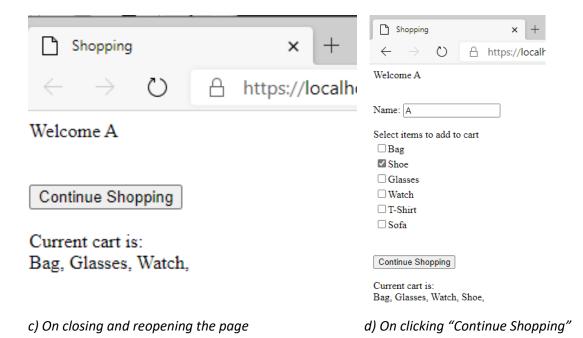
protected void Button1_Click(object sender, EventArgs e)
{
    UpdateCart();
    Input_Panel.Visible = true;
}
}
```

Output:



a) First time loading the page

b) On clicking "Continue Shopping"



4. Develop simple login page using web controls. Upon login, display the global counter that tracks the number of times users have successfully logged in. If login fails more than 3 times, disable the TextBox. (Hint: Use Session and Application variables)

Code:

WebForm1.aspx:

```
<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="WebForm1.aspx.cs"</pre>
Inherits="q4.WebForm1" %>
<!DOCTYPE html>
<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
    <title>Login</title>
</head>
<body>
    <form id="form1" runat="server">
        <div>
            Username:
            <asp:TextBox ID="TextBox1" runat="server" Height="16px" Width="145px"</pre>
style="vertical-align: middle"></asp:TextBox>
            <br />
            <br />
            Password:
            <asp:TextBox ID="TextBox2" runat="server" TextMode="Password" Height="16px"</pre>
Width="145px" style="vertical-align: middle"></asp:TextBox>
            <br />
            <asp:Button ID="Button1" runat="server" Text="Login" OnClick="Button1_Click"</pre>
Height="32px" Width="75px" />
            <br />
            <asp:Label ID="Label1" runat="server" Text=""></asp:Label>
        </div>
    </form>
</body>
</html>
```

WebForm1.aspx.cs:

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Web;
using System.Web.UI;
using System.Web.UI.WebControls;
namespace q4
    public partial class WebForm1 : System.Web.UI.Page
        string username = "Ramathmika";
        string password = "170905004";
        protected void Page_Load(object sender, EventArgs e)
        }
        protected void Button1_Click(object sender, EventArgs e)
            int scounter, fcounter;
            if(TextBox1.Text == username && TextBox2.Text == password)
                if (Application["success"] == null)
                    scounter = 1;
                else
                    scounter = (int)Application["success"] + 1;
                Application["success"] = scounter;
                Label1.Text = "Successfully logged in " + scounter + " number of times";
            }
            else
            {
                if (Session["fail"] == null)
                    fcounter = 1;
                else
                    fcounter = (int)Session["fail"] + 1;
                Session["fail"] = fcounter;
                if (fcounter <= 3)</pre>
                    Label1.Text = "Wrong username or password. Try again.";
                else
                    TextBox1.Enabled = false;
                    TextBox2.Enabled = false;
                    Label1.Text = "More than 3 failed attempts.";
            }
        }
    }
}
```

Output:

