Advanced Web Technologies(AWT) Lab (MCAL25)

INDEX

Name of the faculty: Ganesh Bhagwat

Experiment Number	Name of the experiment	Date	CO	Sign
1	Design a Web Application for an Organization with Registration forms and advanced controls.		CO1	
2	Create a website using the master page concept.		CO1	
3	Design a Web Application using advanced controls.		CO1	
4	Webpage Demonstrating Connection-Oriented Architecture (ASP.NET Web Forms with SQL Server Database)		CO2	
5	Webpage Demonstrating Disconnected Architecture (ASP.NET Web Forms with SQL Server Database)		CO2	
6	Create a webpage that demonstrates the use of data bound controls of ASP.NET.		CO2	

7	**Design a webpage to demonstrate the working of a simple stored procedure.**		**CO2**	
8	**Design a webpage to demonstrate the working of parameterized stored procedure.**		**CO2**	
9	**Design a webpage to display the use of LINQ.**		**CO2**	
10	**Build websites to demonstrate the working of entity frameworks in dot net.**		**CO3**	
11	**Design Web Applications using Client Side Session Management**		**C03**	
12	**Design Web Applications using Server Side Session Management Techniques**		**CO3**	
13	**Build a web page using AJAX Controls.**		**CO3**	
14	**Build a web application to create and use web service in ASP.net**		**CO3**	
15	**Build a web application to create and WCF service in ASP.net**		**CO3**	
16	**Design web application using MVC framework**		**CO4**	

PRACTICAL NO. 1

Design a Web Application for an Organization with Registration forms and advanced controls.

Webform.aspx

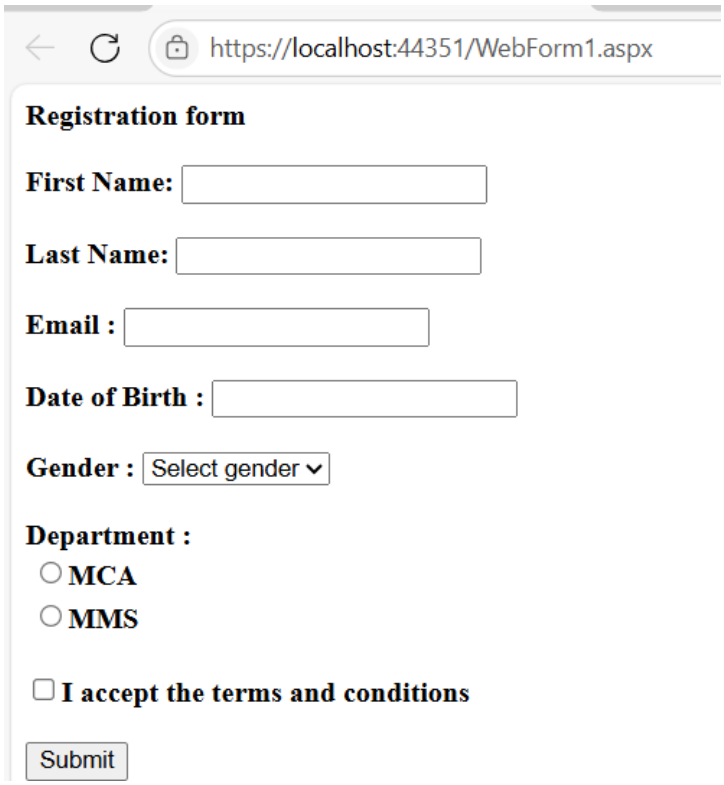
```
<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="WebForm1.aspx.cs" Inherits="pract1.WebForm1" %>


<!DOCTYPE html>


<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
    <title></title>
</head>
<body style="font-weight: 700">
    <form id="form1" runat="server">
        <div>
            Registration form<br />
            <br />
            First Name:
            <asp:TextBox ID="TextBox1" runat="server"></asp:TextBox>
            <br />
            <br />
            Last Name:
            <asp:TextBox ID="TextBox2" runat="server"></asp:TextBox>
            <br />
            <br />
            Email :
            <asp:TextBox ID="TextBox3" runat="server"></asp:TextBox>
            <br />
            <br />
```

```
        Date of Birth :
        <asp:TextBox ID="TextBox4" runat="server"></asp:TextBox>
        <br />
        <br />
        Gender :
        <asp:DropDownList ID="DropDownList1" runat="server">
            <asp:ListItem>Select gender</asp:ListItem>
            <asp:ListItem>Male</asp:ListItem>
            <asp:ListItem>Female</asp:ListItem>
            <asp:ListItem>Other</asp:ListItem>
        </asp:DropDownList>
        <br />
        <br />
        Department :
        <asp:RadioButtonList ID="RadioButtonList2" runat="server">
            <asp:ListItem>MCA</asp:ListItem>
            <asp:ListItem>MMS</asp:ListItem>
        </asp:RadioButtonList>
        <br />
        <asp:CheckBox ID="CheckBox1" runat="server" Text="I accept the terms and
conditions" />
        <br />
        <br />
        <asp:Button ID="Button1" runat="server" OnClick="Button1_Click" Text="Submit"
/>
    </div>
  </form>
</body>
</html>
```

Webform.aspx.cs

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Web;
using System.Web.UI;
using System.Web.UI.WebControls;


namespace pract1
{
    public partial class WebForm1 : System.Web.UI.Page
    {
        protected void Page_Load(object sender, EventArgs e)
        {


        }
```

```
    protected void Button1_Click(object sender, EventArgs e)
    {
        if (CheckBox1.Checked)
        {
            string firstName = TextBox1.Text;
            string lastName = TextBox2.Text;
            string email = TextBox3.Text;
            string dob = TextBox4.Text;
            string gender = DropDownList1.SelectedValue;
            string department = RadioButtonList2.SelectedValue;

            // Display confirmation message
            Response.Write($"<h3>Registration Successful!</h3>");
            Response.Write($"<p>Name: {firstName} {lastName}</p>");
            Response.Write($"<p>Email: {email}</p>");
            Response.Write($"<p>Date of Birth: {dob}</p>");
            Response.Write($"<p>Gender: {gender}</p>");
            Response.Write($"<p>Department: {department}</p>");
        }
        else
        {
            Response.Write("<h3 style='color:red'>Please accept the terms and
conditions.</h3>");
        }

    }
  }
}
```



Registration Successful!

Name: Mansi Bhosale

Email: mansi@gmail.com

Date of Birth: 03/11/2002

Gender: Female

Department: MCA

PRACTICAL 2

Create a website using the master page concept.

CODE:

MasterPage.master:

```
<%@ Master Language="C#" AutoEventWireup="true"
CodeBehind="MasterPage.master.cs" Inherits="Practical2.MasterPage" %>

<!DOCTYPE html>
<html>
<head>
  <title>Master</title>
  <link rel="stylesheet" href="styles.css" />
</head>
<body>
  <div class="header">
    <h1>Welcome to My Website!</h1>
    <nav>
      <a href="Home.aspx">Home</a>
      <a href="About.aspx">About</a>
      <a href="Contact.aspx">Contact</a>
    </nav>
  </div>

  <div class="content">
    <asp:ContentPlaceHolder ID="MainContent" runat="server"></asp:ContentPlaceHolder>
  </div>

  <div class="footer">
    <p>&copy; 2025 My Website. All Rights Reserved.</p>
  </div>
</body>
</html>
```

Home.aspx:

```
<%@ Page Title="" Language="C#" MasterPageFile="~/MasterPage.Master"
AutoEventWireup="true" CodeBehind="Home.aspx.cs" Inherits="Practical2.Home" %>
<asp:Content ID="Content1" ContentPlaceHolderID="MainContent" runat="server">
  <h2>Welcome to the Home Page</h2>
  <p>This is the main content of the Home page.</p>
</asp:Content>
```

About.aspx:

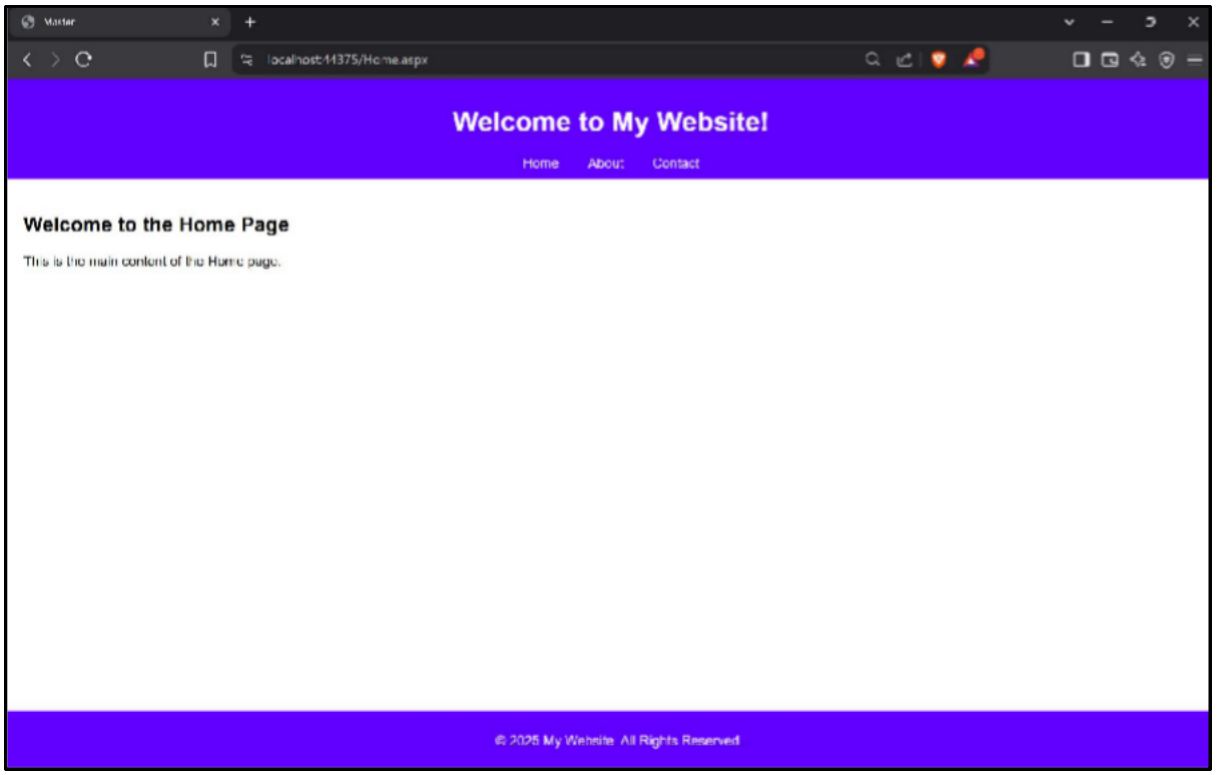
```
<%@ Page Title="" Language="C#" MasterPageFile="~/MasterPage.Master"
AutoEventWireup="true" CodeBehind="About.aspx.cs" Inherits="Practical2.About" %>
<asp:Content ID="Content1" ContentPlaceHolderID="MainContent" runat="server">
  <h2>About Us</h2>
  <p>Learn more about our organization on this page.</p>
```

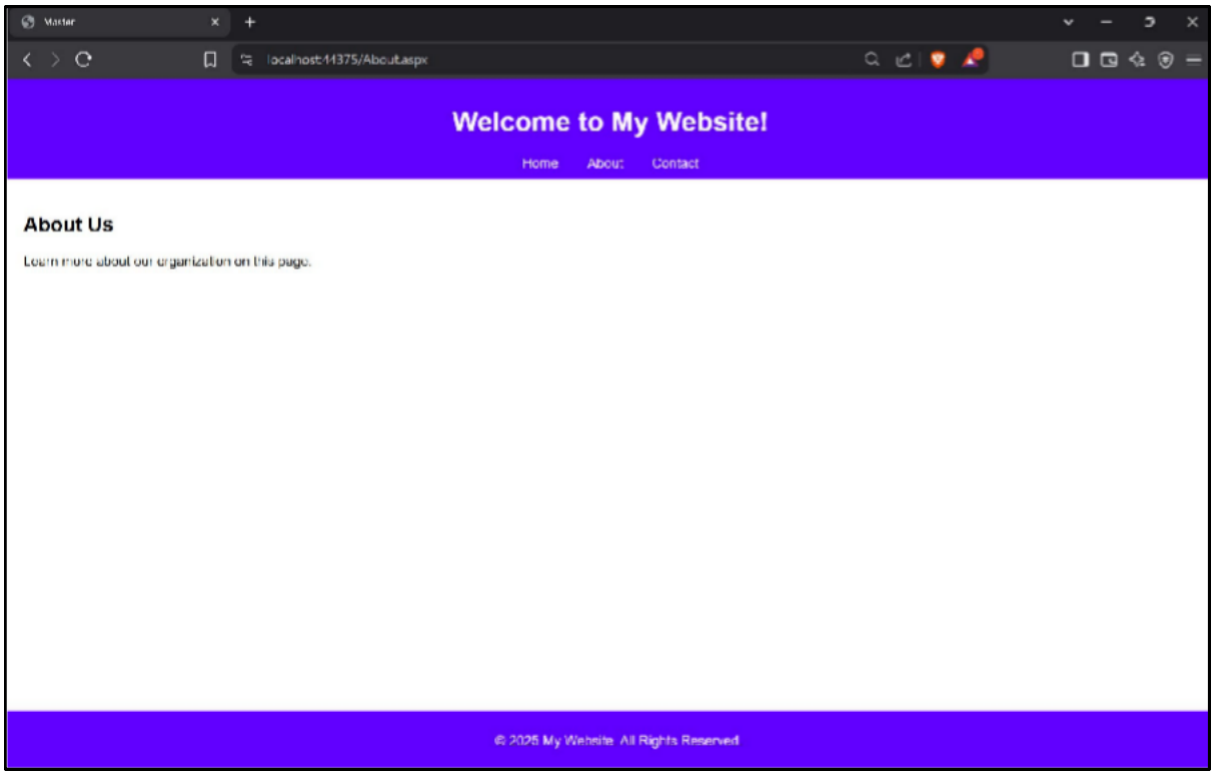
```
</asp:Content>
```

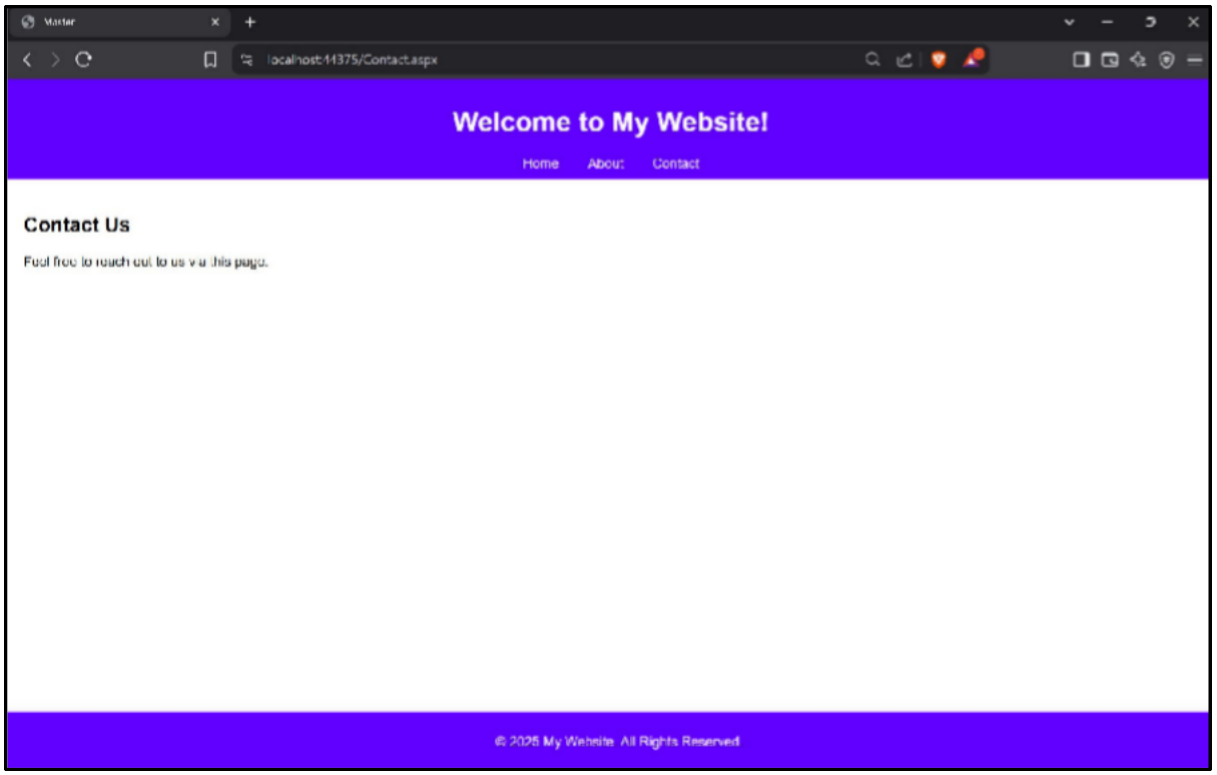
Contact.aspx:

```
<%@ Page Title="" Language="C#" MasterPageFile="~/MasterPage.Master"
AutoEventWireup="true" CodeBehind="Contact.aspx.cs" Inherits="Practical2.Contact" %>
<asp:Content ID="Content1" ContentPlaceHolderID="MainContent" runat="server">
  <h2>Contact Us</h2>
  <p>Feel free to reach out to us via this page.</p>
</asp:Content>
```

OUTPUT:




Master
localhost:14375/About.aspx
Welcome to My Website!
Home
About
Contact
About Us
Learn more about our organization on this page.
© 2025 My Website. All Rights Reserved


Master
localhost:14375/Contact.aspx
Welcome to My Website!
Home
About
Contact
Contact Us
Feel free to reach out to us via this page.
© 2025 My Website. All Rights Reserved

PRACTICAL NO. 3

Design a web application using advanced controls.

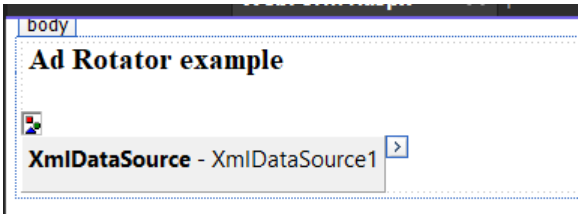
1. Ad Rotator

Create a new project and add webform, XML file and images.

After adding a AdRotator in the web form Add the xml file in the AdRotator.

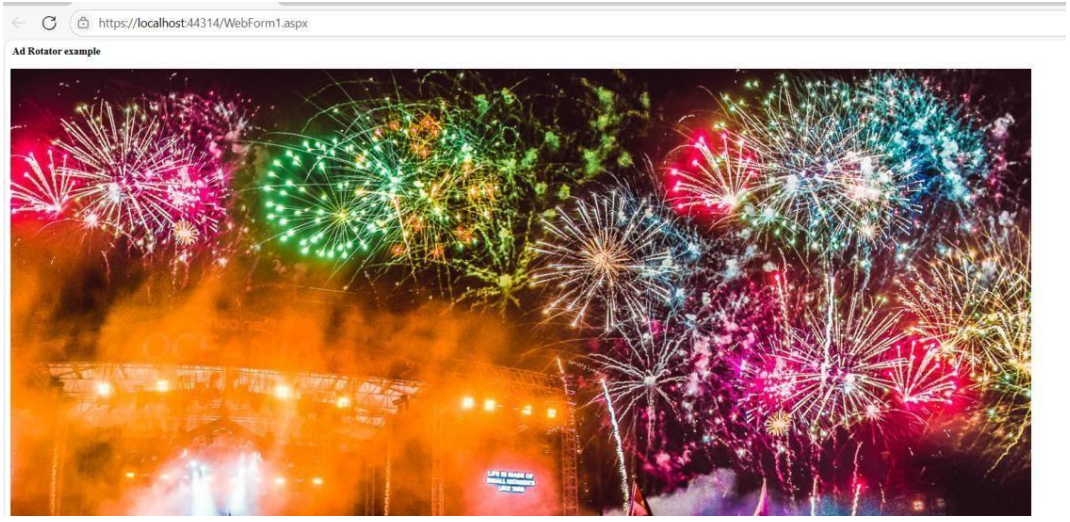
Webform.aspx

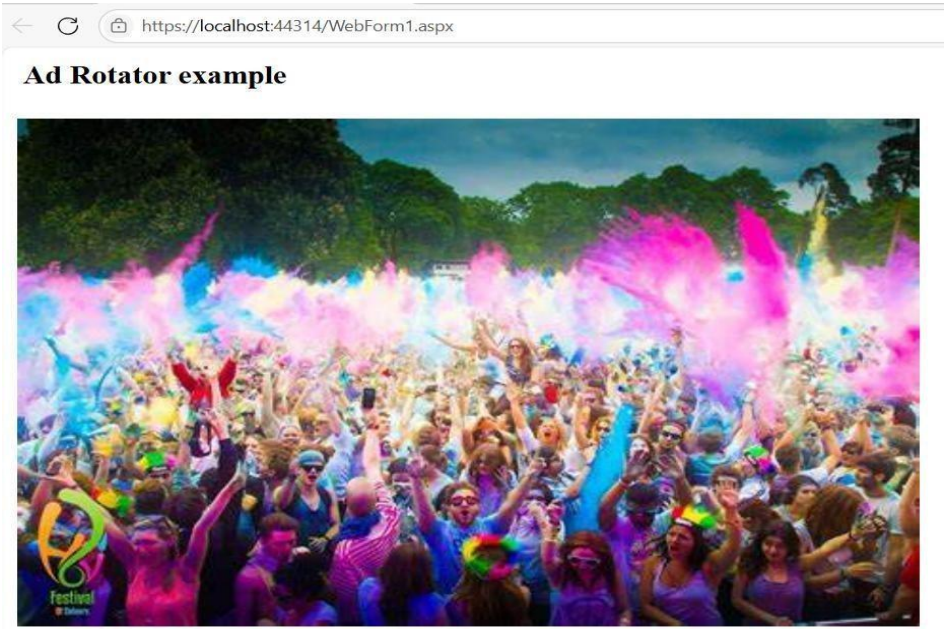
```
<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="WebForm1.aspx.cs" Inherits="pract3.WebForm1" %>


<!DOCTYPE html>


<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
    <title></title>
</head>
<body style="font-weight: 700">
    <form id="form1" runat="server">
        <div>
             Ad Rotator example<br />
            <br />
            <asp:AdRotator ID="AdRotator1" runat="server" DataSourceID="XmlDataSource1" OnAdCreated="AdRotator1_AdCreated" />
            <asp:XmlDataSource ID="XmlDataSource1" runat="server" DataFile="~/XMLFile1.xml"></asp:XmlDataSource>
        </div>
    </form>
</body>
</html>
```



Xmlfile.xml

```
<?xml version="1.0" encoding="utf-8" ?>
<Advertisements>
    <Ad>
        <ImageUrl>image2.jpeg</ImageUrl>
        <NavigateUrl>google.com</NavigateUrl>
        <AlternateText>First Ad</AlternateText>
        <Impressions>50</Impressions>
    </Ad>
    <Ad>
        <ImageUrl>image3.jpeg</ImageUrl>
        <NavigateUrl>gmail.com</NavigateUrl>
        <AlternateText>Second Ad</AlternateText>
        <Impressions>30</Impressions>
    </Ad>
</Advertisements>
```

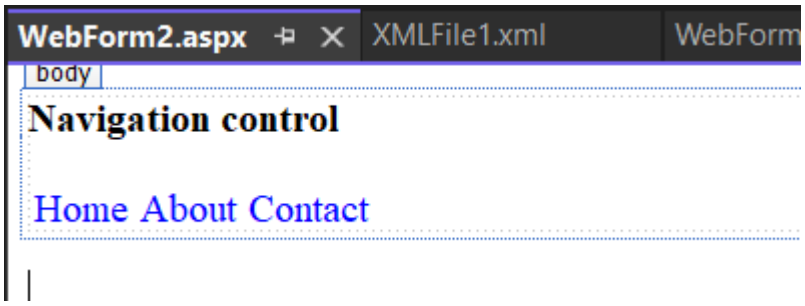


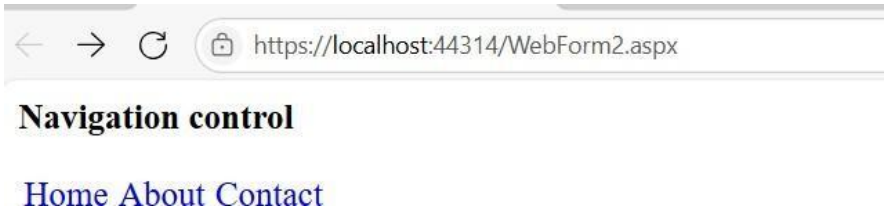


2. **Navigation Control**

Webform.aspx

```
<%@ Page Language="C#" AutoEventWireup="true"
CodeBehind="WebForm2.aspx.cs" Inherits="pract3.WebForm2" %>

<!DOCTYPE html>

<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
   <title></title>
</head>
<body>
   <form id="form1" runat="server">
      <div>
         <strong>Navigation control<br />
         <br />
         </strong>
         <asp:Menu ID="Menu1" runat="server" Orientation="Horizontal">
      <Items>
         <asp:MenuItem Text="Home" NavigateUrl="Home.aspx"/>
         <asp:MenuItem Text="About" NavigateUrl="About.aspx"/>
         <asp:MenuItem Text="Contact" NavigateUrl="Contact.aspx"/>
      </Items>
   </asp:Menu>

      </div>
   </form>
</body>
</html>
```

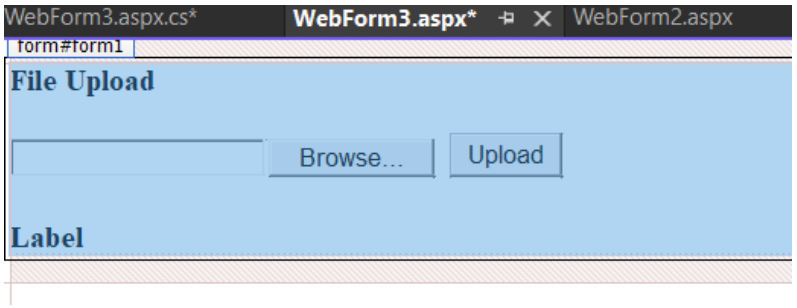




3. **Upload File**

Webform.aspx

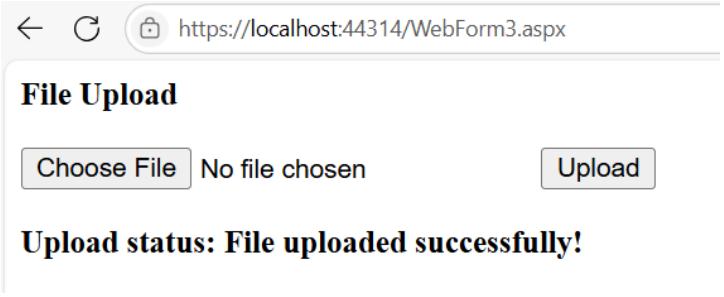
```
<%@ Page Language="C#" AutoEventWireup="true"
CodeBehind="WebForm3.aspx.cs" Inherits="pract3.WebForm3" %>

<!DOCTYPE html>

<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
    <title></title>
</head>
<body>
    <form id="form1" runat="server">
        <div style="font-weight: 700">
            File Upload<br />
            <br />
            <asp:FileUpload ID="FileUpload1" runat="server" />
 
            <asp:Button ID="Button1" runat="server" OnClick="Button1_Click"
Text="Upload" />
            <br />
            <br />
            <asp:Label ID="Label1" runat="server" Text="Label"></asp:Label>
        </div>
    </form>
</body>
</html>
```



Webform.aspx.cs

```
using System;
using System.Collections.Generic;
using System.IO;
using System.Linq;
using System.Web;
using System.Web.UI;
using System.Web.UI.WebControls;

namespace pract3
{
   public partial class WebForm3 : System.Web.UI.Page
   {
      protected void Page_Load(object sender, EventArgs e)
      {

      }

      protected void Button1_Click(object sender, EventArgs e)
      {
         if (FileUpload1.HasFile)
         {
            try
            {
               string filename = Path.GetFileName(FileUpload1.FileName);

               Label1.Text = "Upload status: File uploaded successfully!";
            }
            catch (Exception ex)
            {
               Label1.Text = "Upload status: Error - " + ex.Message;
            }
         }
         else
         {
            Label1.Text = "Upload status: No file selected.";
         }
```

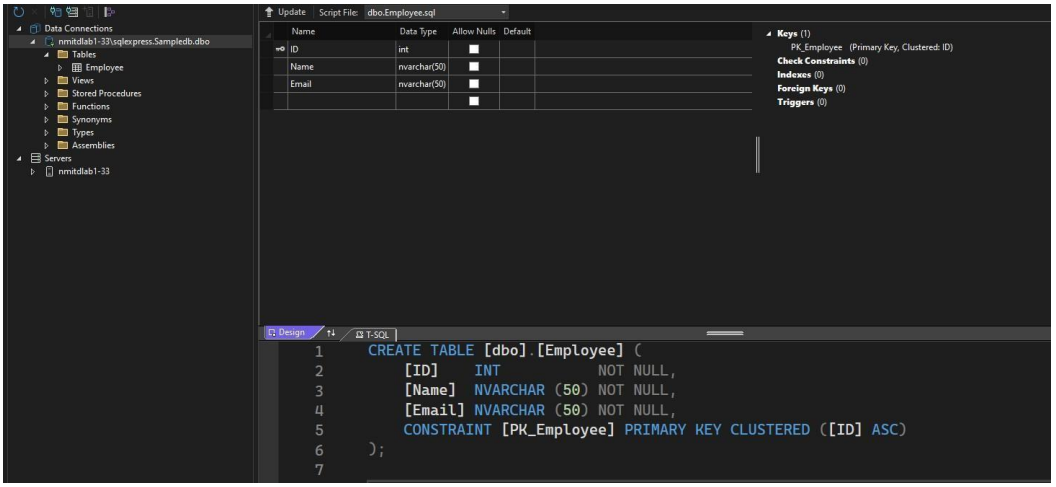
```
        }
    }
}
```


https://localhost:44314/WebForm3.aspx
File Upload
Choose File
No file chosen
Upload
Upload status: File uploaded successfully!

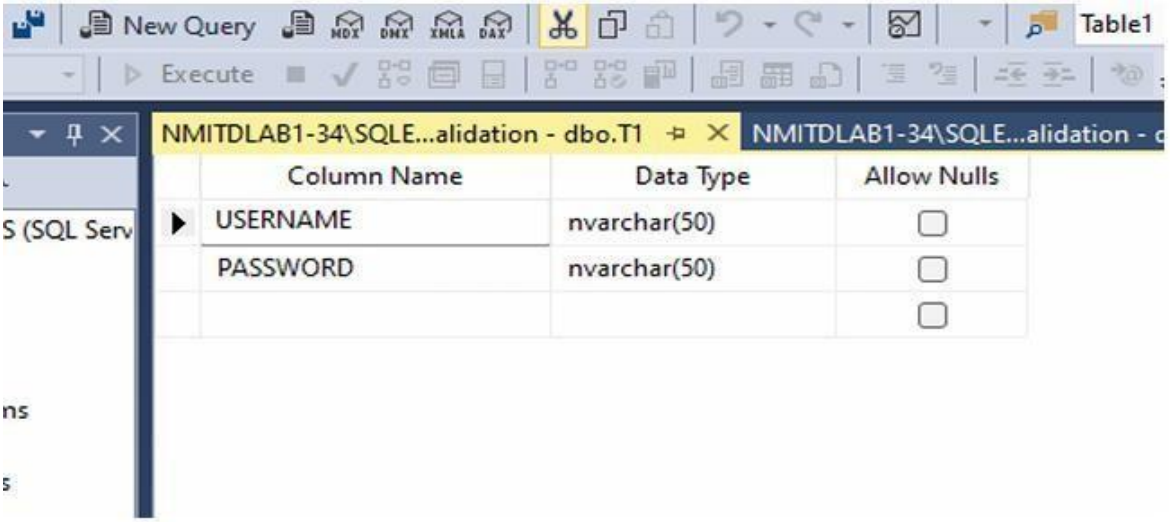
PRACTICAL NO. 4

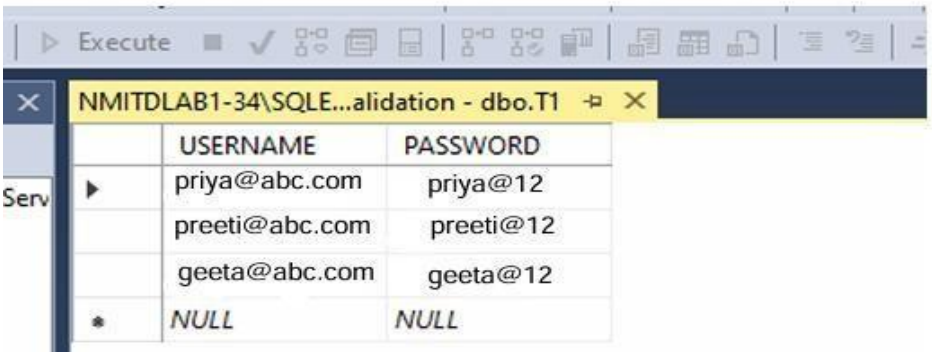
Webpage Demonstrating Connection-Oriented Architecture (ASP.NET Web Forms with SQL Server Database)

Open SSMS and create a table in it.



Insert some values in the Table

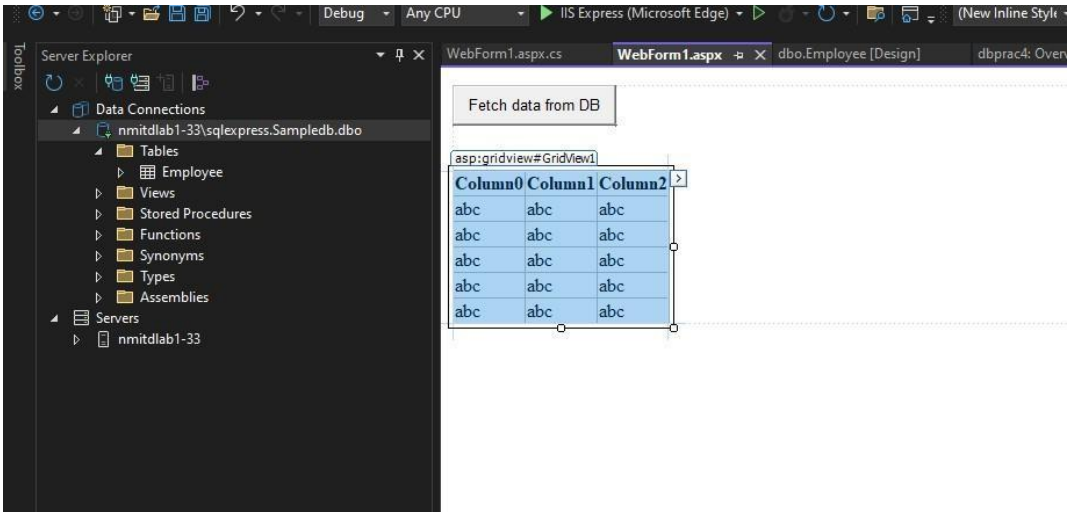




Open Visual studion and connect the Server and Database through Server Explorer.

Webform.aspx

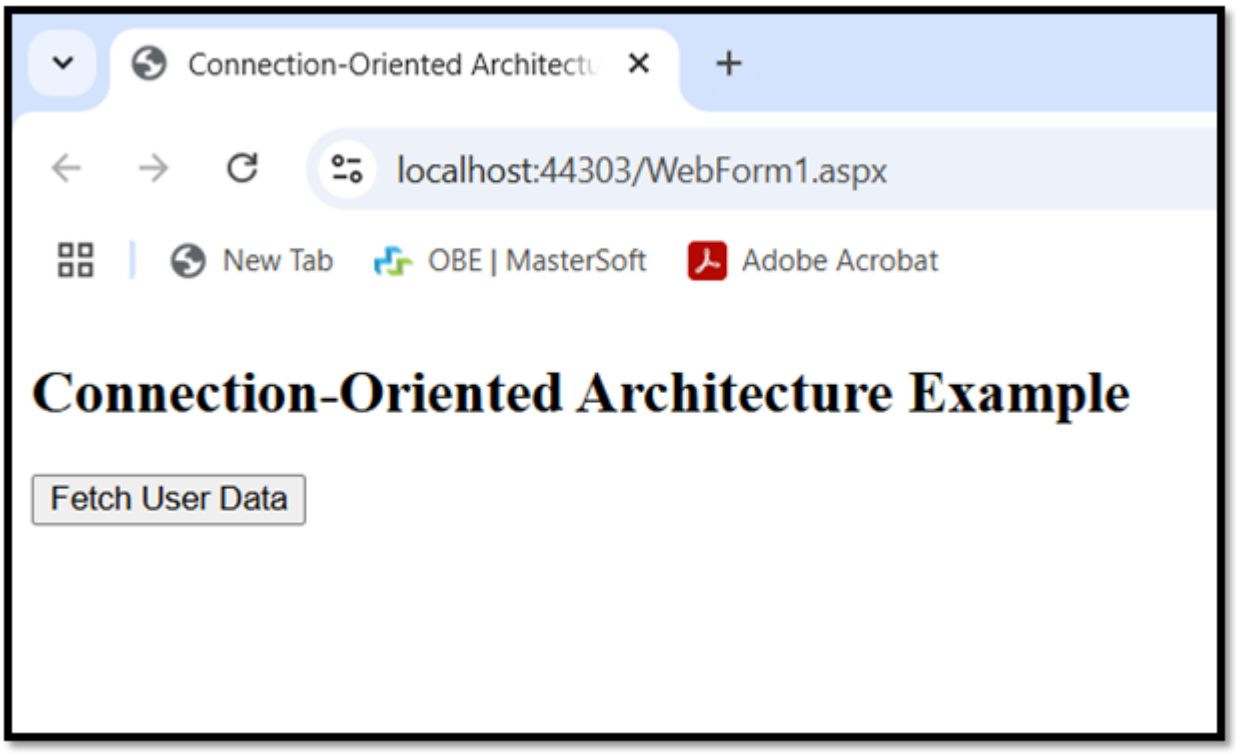
```
<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="WebForm1.aspx.cs" Inherits="prac2.WebForm1" %>


<!DOCTYPE html>

<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
    <title></title>
</head>
<body>
    <form id="form1" runat="server">
        <div>
            <asp:Button ID="Button1" runat="server" Text="Fetch Data from DB" />
            <br />
            <br />
            <asp:GridView ID="GridView1" runat="server">
            </asp:GridView>
        </div>
    </form>
</body>
</html>
```



Webform.aspx.cs

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Web;
using System.Web.UI;
using System.Web.UI.WebControls;
using System.Data.SqlClient;
using System.Data;
namespace dbprac4
{
   public partial class WebForm1 : System.Web.UI.Page
   {
      protected void Page_Load(object sender, EventArgs e)
      {
      }
      protected void Button1_Click(object sender, EventArgs e)
      {
```

```
        string connectionString = "Data Source=NMITDLAB1-33\\SQLEXPRESS;Initial
Catalog=Sampledb;Integrated Security=True";
        using (SqlConnection conn = new SqlConnection(connectionString))
        {
            try
            {
                conn.Open();
                string query = "Select * from Employee";
                SqlDataAdapter da = new SqlDataAdapter(query, conn);
                DataTable dt = new DataTable();
                da.Fill(dt);
                GridView1.DataSource = dt;
                GridView1.DataBind();
            }
            catch (Exception ex)
            {
                Response.Write("<script>alert('Error" + ex.Message + "');</script>");

            }
        }

    }
  }
}
```



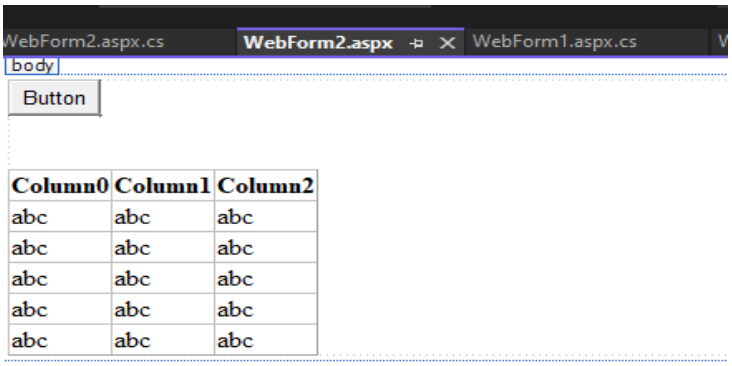
Id	Name	Email
1	Priya	priya@example.com
2	Ketki	ketki@example.com
3	Umera	umera@example.com
4	Mansi	mansi@example.com

PRACTICAL NO. 5

Webpage Demonstrating Disconnected Architecture (ASP.NET Web Forms with SQL Server Database)

Webform.aspx

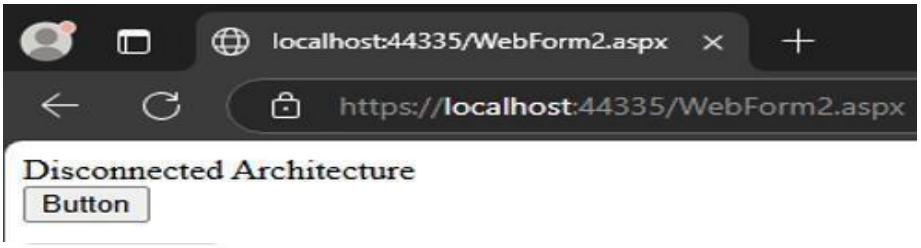
```
<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="WebForm2.aspx.cs" Inherits="PRAC_7_042.WebForm2" %>


<!DOCTYPE html>


<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
    <title></title>
</head>
<body>
    <form id="form1" runat="server">
        <div>
            <asp:Button ID="Button1" runat="server" OnClick="Button1_Click" Text="Button" />
            <br />
            <br />
            <asp:GridView ID="GridView1" runat="server">
            </asp:GridView>
        </div>
    </form>
</body>
</html>
```



Webform.aspx.cs

```
using System;
using System.Collections.Generic;
using System.Data.SqlClient;
using System.Data;
using System.Linq;
using System.Web;
using System.Web.UI;
using System.Web.UI.WebControls;


namespace PRAC_7_042
{
   public partial class WebForm2 : System.Web.UI.Page
   {
      protected void Page_Load(object sender, EventArgs e)
      {


      }


      protected void Button1_Click(object sender, EventArgs e)
      {
         string connStr = "Data Source=NMITDLAB1-33\\SQLEXPRESS;Initial
Catalog=Sampledb;Integrated Security=True";
```

```
        SqlDataAdapter da;
        DataSet ds = new DataSet();
        try
        {
            using (SqlConnection conn = new SqlConnection(connStr))
            {
                string query = "Select * from Employee";
                da = new SqlDataAdapter(query, conn);
                da.Fill(ds, "Employee");
            }
            GridView1.DataSource = ds.Tables["Employee"];
            GridView1.DataBind();

        }
        catch (Exception ex)
        {
            Response.Write("<script>alert('Error: " + ex.Message + "');</script>");
        }
    }
  }
}
```



Id	Name	Email
1	Priya	priya@example.com
2	Ketki	ketki@example.com
3	Umera	umera@example.com
4	Mansi	mansi@example.com

PRACTICAL NO. 6

Create a webpage that demonstrates the use of data bound controls of ASP.NET.

In SSMS, create a table and insert values into it

Open Visual Studio, create a new project and connect it to sever through Server explorer

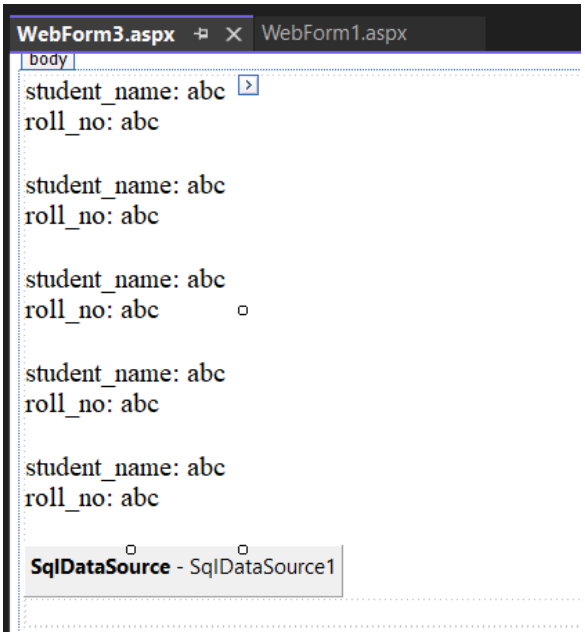
Add a webform and the add a datalist into that webform .

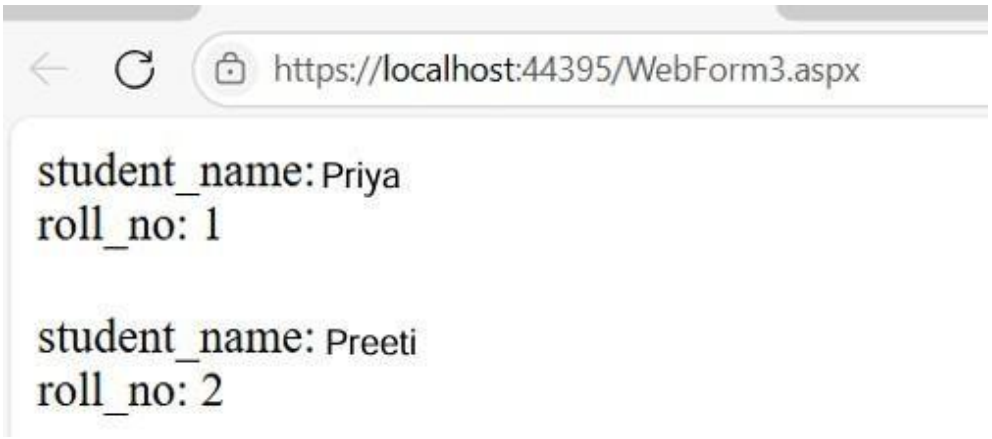
Now add SQL data source to the datalist and also select the table name and columns from it.

Webform.aspx

```
<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="WebForm3.aspx.cs" Inherits="prac2.WebForm3" %>

<!DOCTYPE html>

<html xmlns="http://www.w3.org/1999/xhtml">

<head runat="server">

    <title></title>

</head>

<body>

    <form id="form1" runat="server">

        <asp:DataList ID="DataList1" runat="server" DataSourceID="SqlDataSource1" Width="155px">

            <ItemTemplate>

                student_name:

                <asp:Label ID="student_nameLabel" runat="server" Text='<%# Eval("student_name") %>' />

                <br />

                roll_no:

                <asp:Label ID="roll_noLabel" runat="server" Text='<%# Eval("roll_no") %>' />

                <br />

<br />

            </ItemTemplate>

        </asp:DataList>

        <asp:SqlDataSource ID="SqlDataSource1" runat="server" ConnectionString="<%$ ConnectionStrings:pract1ConnectionString %>" ProviderName="<%$
```

```
ConnectionStrings:pract1ConnectionString.ProviderName %>" SelectCommand="SELECT
[student_name], [roll_no] FROM [slist]"></asp:SqlDataSource>

        <div>

        </div>

    </form>

</body>

</html>
```



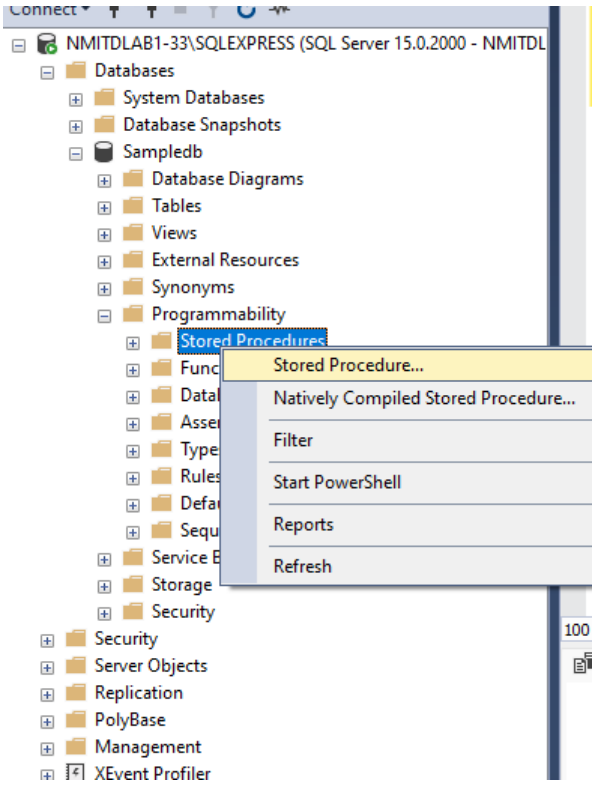


PRACTICAL NO. 7

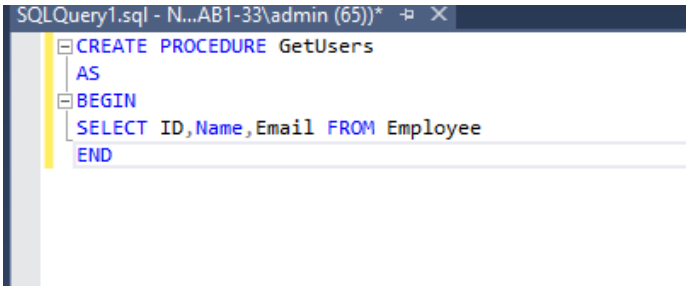
Design a webpage to demonstrate the working of a simple stored procedure.

In SSMS, create a table and insert values in it.

Now to create a Stored procedure, Click on programmability →Stored procedure

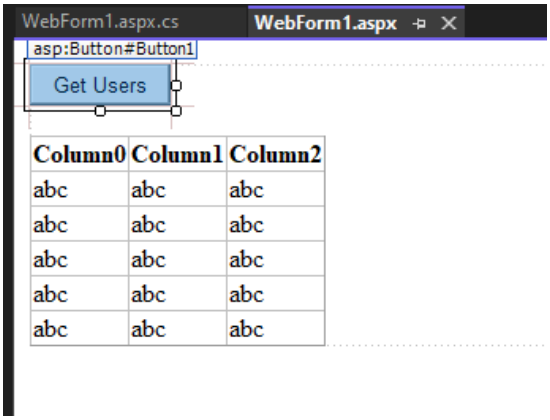


Write the procedure in it.



Webform.aspx

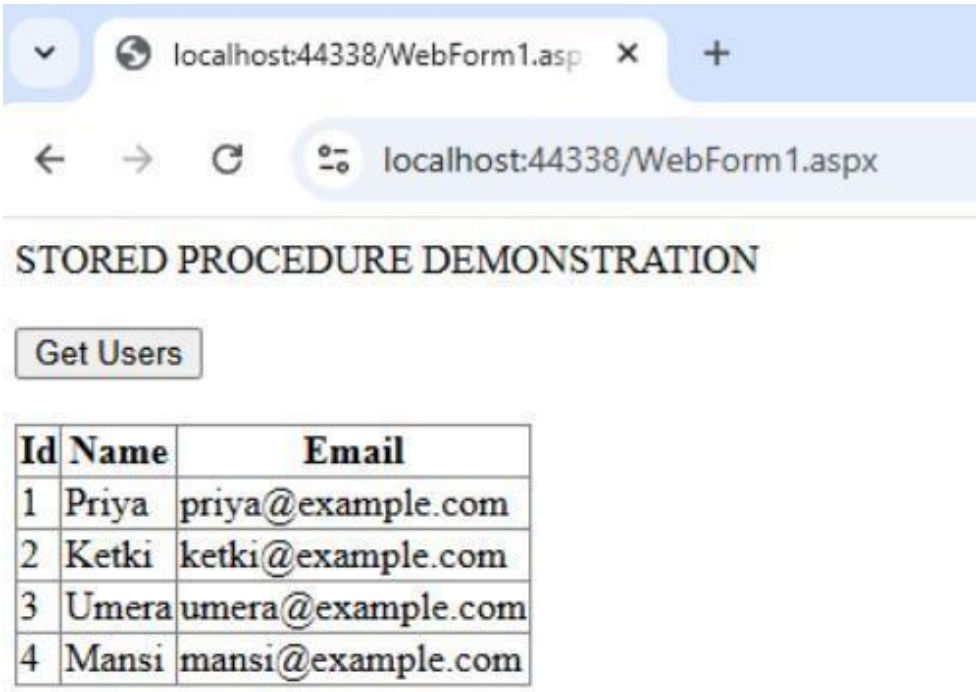
```
<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="WebForm1.aspx.cs"
Inherits="PRAC_7_042.WebForm1" %>


<!DOCTYPE html>


<html xmlns="http://www.w3.org/1999/xhtml">

<head runat="server">

    <title></title>

</head>

<body>

    <form id="form1" runat="server">

        <div>

            <asp:Button ID="Button1" runat="server" Text="Get Users"
OnClick="Button1_Click" />

            <br />

            <br />

            <asp:GridView ID="GridView1" runat="server">

            </asp:GridView>

        </div>

    </form>

</body>

</html>
```



Webform.aspx.cs

```
using System;
using System.Collections.Generic;
using System.Data;
using System.Data.SqlClient;
using System.Linq;
using System.Web;
using System.Web.UI;
using System.Web.UI.WebControls;

namespace PRAC_7_042
{
   public partial class WebForm1 : System.Web.UI.Page
   {
      protected void Page_Load(object sender, EventArgs e)
      {

      }

      protected void Button1_Click(object sender, EventArgs e)
      {
         string connStr = "Data Source=NMITDLAB1-33\\SQLEXPRESS;Initial
Catalog=Sampledb;Integrated Security=True";
         using (SqlConnection conn = new SqlConnection(connStr))
         {
            using (SqlCommand cmd = new SqlCommand("GetUsers", conn))
            {
               cmd.CommandType = System.Data.CommandType.StoredProcedure;
               conn.Open();
               SqlDataAdapter da = new SqlDataAdapter(cmd);
               DataTable dt = new DataTable();
```

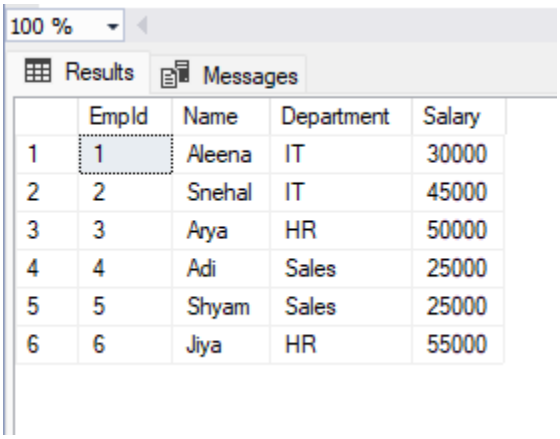
```
                da.Fill(dt);
                GridView1.DataSource = dt;
                GridView1.DataBind();


            }
        }
    }
  }
}
```



PRACTICAL NO. 8

Design a webpage to demonstrate the working of parameterized stored procedure.

Create a table in SSMS and insert values in to it.



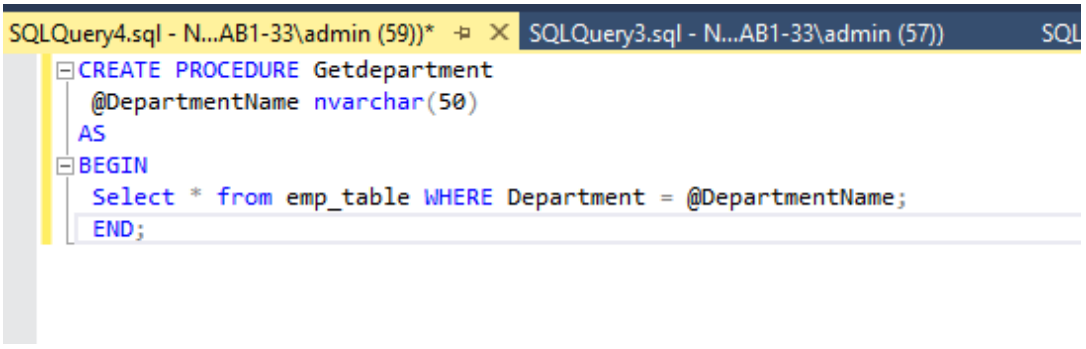
100 %

Results | Messages

	EmpId	Name	Department	Salary
1	1	Aleena	IT	30000
2	2	Snehal	IT	45000
3	3	Arya	HR	50000
4	4	Adi	Sales	25000
5	5	Shyam	Sales	25000
6	6	Jiya	HR	55000

Create a stored procedure

```
CREATE PROCEDURE Getdepartment
 @DepartmentName nvarchar(50)
AS
BEGIN
 Select * from emp_table WHERE Department = @DepartmentName;
 END;
```

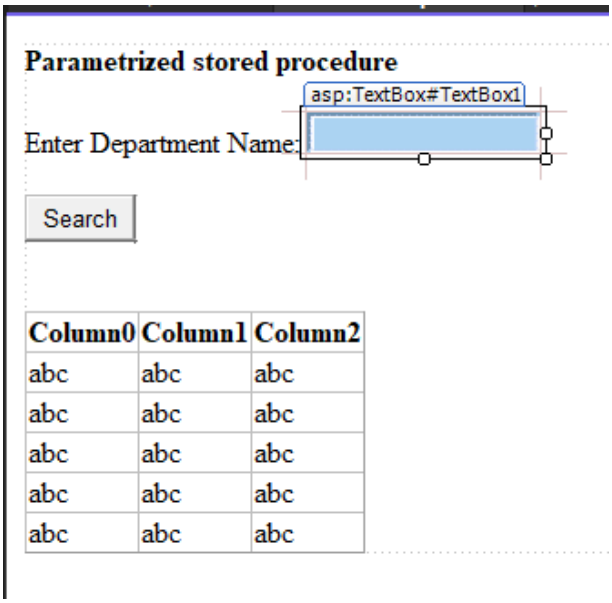


SQLQuery4.sql - N...AB1-33\admin (59))* | SQLQuery3.sql - N...AB1-33\admin (57)) | SQL

```
CREATE PROCEDURE Getdepartment
  @DepartmentName nvarchar(50)
AS
BEGIN
  Select * from emp_table WHERE Department = @DepartmentName;
  END;
```

Webform.aspx

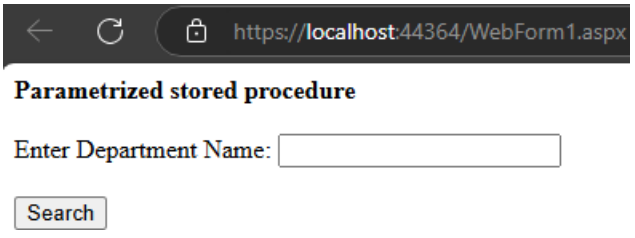
```
<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="WebForm1.aspx.cs"
Inherits="prac8_042.WebForm1" %>


<!DOCTYPE html>


<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
    <title></title>
</head>
<body>
    <form id="form1" runat="server">
        <div>
            <b>Parametrized stored procedure</b><br />
            <br />
            Enter Department Name:
            <asp:TextBox ID="TextBox1" runat="server"></asp:TextBox>
            <br />
            <br />
            <asp:Button ID="Button1" runat="server" Text="Search" OnClick="Button1_Click"
/>
            <br />
            <br />
            <asp:GridView ID="GridView1" runat="server">
            </asp:GridView>
        </div>
    </form>
</body>
</html>
```

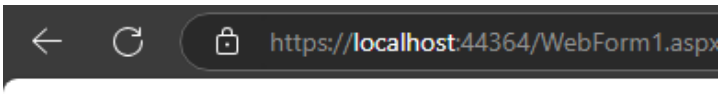


Webform.aspx.cs

```
using System;
using System.Collections.Generic;
using System.Data.SqlClient;
using System.Data;
using System.Linq;
using System.Web;
using System.Web.UI;
using System.Web.UI.WebControls;

namespace prac8_042
{
    public partial class WebForm1 : System.Web.UI.Page
    {
        protected void Page_Load(object sender, EventArgs e)
        {

        }
```

```
    protected void Button1_Click(object sender, EventArgs e)
    {
        string connStr = "Data Source=NMITDLAB1-33\\SQLEXPRESS;Initial
Catalog=Employeedb;Integrated Security=True";
        {
            SqlConnection conn = new SqlConnection(connStr);
            SqlCommand cmd = new SqlCommand("Getdepartment", conn);

            cmd.CommandType = System.Data.CommandType.StoredProcedure;
            cmd.Parameters.AddWithValue("@DepartmentName", TextBox1.Text);
            SqlDataAdapter da = new SqlDataAdapter(cmd);
            DataTable dt = new DataTable();
            da.Fill(dt);
            GridView1.DataSource = dt;
            GridView1.DataBind();


        }
    }
  }
}
```



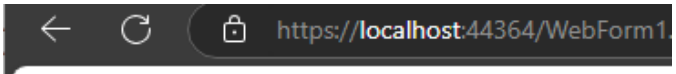


Parametrized stored procedure

Enter Department Name: IT

Search

EmpId	Name	Department	Salary
1	Aleena	IT	30000
2	Snehal	IT	45000



Parametrized stored procedure

Enter Department Name: Sales

Search

EmpId	Name	Department	Salary
4	Adi	Sales	25000
5	Shyam	Sales	25000

Parametrized stored procedure

Enter Department Name: HR

Search

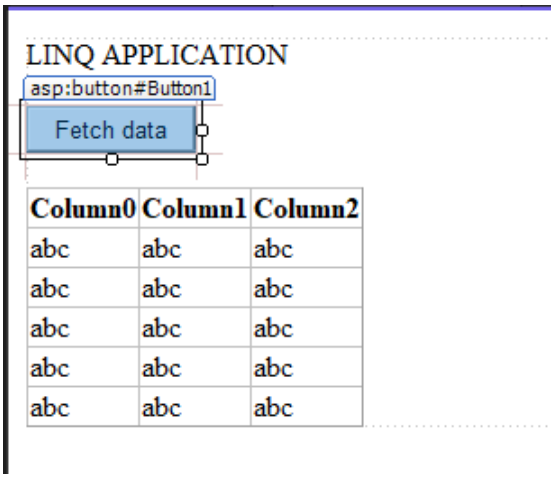
EmpId	Name	Department	Salary
3	Arya	HR	50000
6	Jiya	HR	55000

PRACTICAL NO. 9

Design a webpage to display the use of LINQ.

Webform.aspx

```
<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="WebForm1.aspx.cs"
Inherits="pract_9_042.WebForm1" %>


<!DOCTYPE html>


<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
    <title></title>
</head>
<body>
    <form id="form1" runat="server">
        <div>
            LINQ APPLICATION<br />
            <br />
            <asp:Button ID="Button1" runat="server" OnClick="Button1_Click" Text="Fetch
data" />
            <br />
        </div>
        <asp:GridView ID="GridView1" runat="server">
        </asp:GridView>
    </form>


</body>
</html>
```



Webform.aspx.cs

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Web;
using System.Web.UI;
using System.Web.UI.WebControls;

namespace pract_9_042
{
    public partial class WebForm1 : System.Web.UI.Page
    {
        public class Employee
        {
            public int EmpID { get; set; }
            public String Name { get; set; }
            public String Department { get; set; }

            public decimal Salary { get; set; }
        }
        private List<Employee> employees = new List<Employee> {
```

```
        new Employee {EmpID=1,Name="Aleena",Department="IT",Salary=55000 }, new Employee
        {EmpID=2,Name="Arya",Department="IT",Salary=45000 }, new Employee
        {EmpID=3,Name="Mansi",Department="IT",Salary=65000 }, new Employee
        {EmpID=4,Name="Sharath",Department="IT",Salary=55000 }
    };
    protected void Page_Load(object sender, EventArgs e)
    {
    }

    protected void Button1_Click(object sender, EventArgs e)
    {
        var result=from emp in employees
                   where emp.Department=="IT" && emp.Salary>50000 select emp;
        GridView1.DataSource=result.ToList(); GridView1.DataBind();
    }
  }
}
```

OUTPUT:

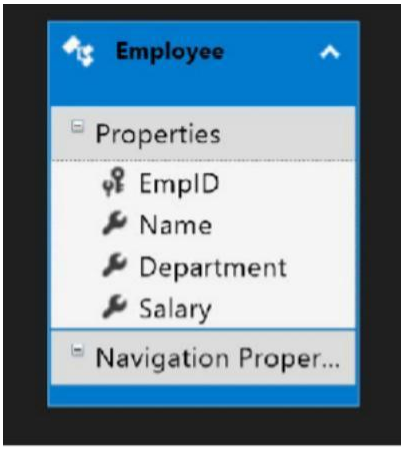
PRACTICAL 10

Build websites to demonstrate the working of entity frameworks in dot net.

Steps to Implement

1. **Create a SQL Server Database & Table**
2. **Create an ASP.NET Web Application in Visual Studio**
3. **Install & Configure Entity Framework (EF) ORM**
4. **Use EF to perform CRUD operations**
5. **Display data in GridView & allow users to Add, Edit, Delete records**

ENTITY MODEL:



CODE:

WebForm.aspx:

```
<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="WebForm1.aspx.cs"
Inherits="Practical10.WebForm1" %>

<!DOCTYPE html>
<html lang="en">
<head runat="server">
  <title>Entity Framework CRUD Demo</title>
</head>
<body>
  <form id="form1" runat="server">
    <div>
      <h2>Employee Management (Entity Framework)</h2>

      <!-- Add Employee Form -->
      <asp:Label runat="server" Text="Name:"></asp:Label>
      <asp:TextBox ID="txtName" runat="server" style="margin-left: 46px"></asp:TextBox>
```

```
        <br />

        <asp:Label runat="server" Text="Department:"></asp:Label>
        <asp:TextBox ID="txtDepartment" runat="server"></asp:TextBox> <br />


        <asp:Label runat="server" Text="Salary:"></asp:Label>
        <asp:TextBox ID="txtSalary" runat="server" style="margin-left: 41px"></asp:TextBox>
        <br />
        <br />
        <br />
        <asp:Button ID="btnAdd" runat="server" Text="Add Employee" OnClick="btnAdd_Click" />

        <br /><br />

        <!-- Display Employees -->
        <asp:GridView ID="gvEmployees" runat="server" AutoGenerateColumns="False"
DataKeyNames="EmpID"
          OnRowEditing="gvEmployees_RowEditing"
          OnRowUpdating="gvEmployees_RowUpdating"
          OnRowCancelingEdit="gvEmployees_RowCancelingEdit"
OnRowDeleting="gvEmployees_RowDeleting" Height="233px" Width="677px">
          <Columns>
            <asp:BoundField DataField="EmpID" HeaderText="EmpID" ReadOnly="True" />
            <asp:BoundField DataField="Name" HeaderText="Name" />
            <asp:BoundField DataField="Department" HeaderText="Department" />
            <asp:BoundField DataField="Salary" HeaderText="Salary" />

         <asp:CommandField ShowEditButton="True" ShowDeleteButton="True" />
          </Columns>
       </asp:GridView>
     </div>
  </form>
</body>
</html>
```

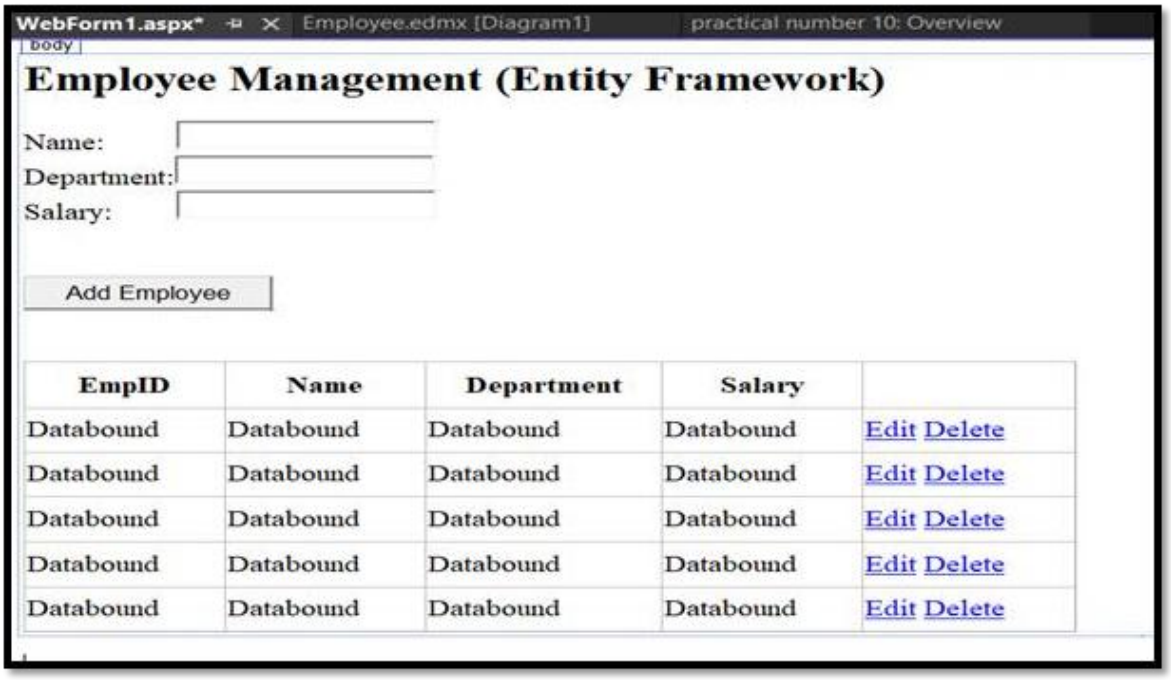
WebForm.aspx.cs:

```
using System;
using
System.Collections.Generic;
using System.Linq;
using System.Web;
using
System.Web.UI;
using System.Web.UI.WebControls;
namespace Practical10
{
   public partial class WebForm1 : System.Web.UI.Page
   {
      EmployeeDBEntities db = new EmployeeDBEntities();
```

```
protected void Page_Load(object sender, EventArgs e)
{
  if (!IsPostBack)
  {
    LoadEmployees();
  }}
private void LoadEmployees()
{
  gvEmployees.DataSource = db.Employees.ToList();
  gvEmployees.DataBind();
}

// Add Employee
protected void btnAdd_Click(object sender, EventArgs e)
{
  Employee emp = new Employee
  {
    Name = txtName.Text,
    Department =
    txtDepartment.Text,
    Salary = Convert.ToDecimal(txtSalary.Text)
  };

  db.Employees.Add(emp)
  ; db.SaveChanges();
  LoadEmployees();
}

// Edit Employee
protected void gvEmployees_RowEditing(object sender, GridViewEditEventArgs e)
{
  gvEmployees.EditIndex =
  e.NewEditIndex; LoadEmployees();
}

// Update Employee
protected void gvEmployees_RowUpdating(object sender, GridViewUpdateEventArgs e)
{
  int empID =
  Convert.ToInt32(gvEmployees.DataKeys[e.RowIndex].Value);
  Employee emp = db.Employees.Find(empID);

  TextBox txtName =
  (TextBox)gvEmployees.Rows[e.RowIndex].Cells[1].Controls[0]; TextBox
  txtDepartment = (TextBox)gvEmployees.Rows[e.RowIndex].Cells[2].Controls[0];
  TextBox txtSalary =
  (TextBox)gvEmployees.Rows[e.RowIndex].Cells[3].Controls[0];
  emp.Name = txtName.Text;
  emp.Department = txtDepartment.Text;
  emp.Salary = Convert.ToDecimal(txtSalary.Text);

  db.SaveChanges();
```

```
        gvEmployees.EditIndex = -1;
        LoadEmployees();
    }

    // Cancel Edit
    protected void gvEmployees_RowCancelingEdit(object sender, GridViewCancelEditEventArgs e)
    {
        gvEmployees.EditIndex = -1;
        LoadEmployees();
    }

    // Delete Employee
    protected void gvEmployees_RowDeleting(object sender, GridViewDeleteEventArgs e)
    {
        int empID =
        Convert.ToInt32(gvEmployees.DataKeys[e.RowIndex].Value);
        Employee emp = db.Employees.Find(empID);

        db.Employees.Remove(emp);
        db.SaveChanges();
        LoadEmployees();
    }

  }
}
```

OUTPUT:



PRACTICAL 11

Design Web Applications using Client-Side Session Management

1. View State

CODE:

ViewPage.aspx:

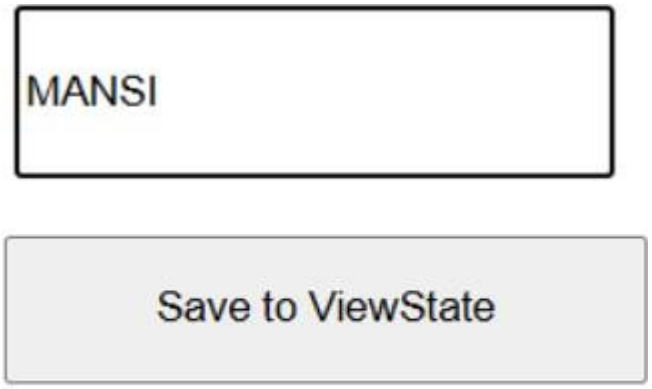
```
<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="viewState.aspx.cs"
Inherits="Practical11.viewState" %>
<!DOCTYPE html>
<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
  <title></title>
</head>
<body>
  <form id="form1" runat="server">
    <div>
      <asp:TextBox ID="TextBox1" runat="server" Height="52px" Width="157px"></asp:TextBox>
      <br />
      <br />
      <asp:Button ID="Button1" runat="server" Height="30px" OnClick="Button1_Click"
Text="Save to ViewState" Width="164px" />
      <br />
      <br />
      <asp:Label ID="Label1" runat="server"></asp:Label>
    </div>
  </form>
</body>
</html>
```

ViewPage.aspx.cs:

```
using System;
using
System.Collections.Generic;
using System.Linq;
using System.Web;
using
System.Web.UI;
using System.Web.UI.WebControls;

namespace Practical11
{
  public partial class viewState : System.Web.UI.Page
  {
    protected void Page_Load(object sender, EventArgs e)
    {
      if (ViewState["UserName"] != null)
      {
        Label1.Text="Stored in View State: " + ViewState["UserName"].ToString();
```

```
        }
    }

    protected void Button1_Click(object sender, EventArgs e)
    {
        ViewState["UserName"] =
        TextBox1.Text; Label1.Text = "Data
        saved in View State!";
    }
  }
}
```

OUTPUT:



2. QueryString

CODE:

WebForm1.aspx:

```
<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="QueryString.aspx.cs"
Inherits="Practical11.QueryString" %>

<!DOCTYPE html>

<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
  <title></title>
</head>
<body>
  <form id="form1" runat="server">
    <asp:TextBox ID="TextBox1" runat="server" Height="65px" Width="207px"></asp:TextBox>
```

```
      <div>
        <br />
        <asp:Button ID="Button1" runat="server" OnClick="Button1_Click" Text="Go to
Next Page" Width="214px" />
      </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 Practical11
{
  public partial class QueryString : System.Web.UI.Page
  {
    protected void Page_Load(object sender, EventArgs e)
    {

    }

    protected void Button1_Click(object sender, EventArgs e)
    {
      Response.Redirect("qs2.aspx?name="+TextBox1.Text);
    }
  }
}
```

WebForm2.aspx:

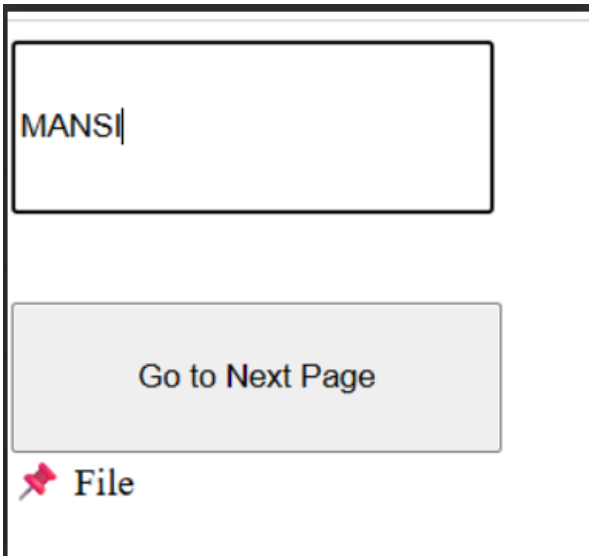
```
<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="qs2.aspx.cs"
Inherits="Practical11.qs2" %>

<!DOCTYPE html>

<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
  <title></title>
</head>
<body>
  <form id="form1" runat="server">
    <div>
      <asp:Label ID="Label1" runat="server"></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 Practical11
{
  public partial class qs2 : System.Web.UI.Page
  {
    protected void Page_Load(object sender, EventArgs e)
    {
      if (Request.QueryString["name"] != null)
      {
        Label1.Text = "QueryString Value: "+Request.QueryString["name"];
      }
    }
  }
}
```

OUTPUT:



3. Cookies:

CODE:

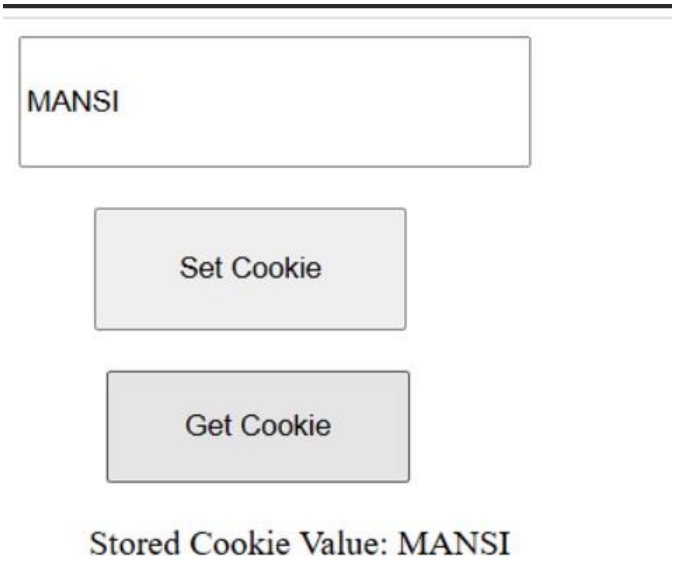
WebForm1.aspx:

```
<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="Cookies.aspx.cs"
Inherits="Practical11.Cookies" %>

<!DOCTYPE html>

<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
  <title></title>
</head>
<body>
  <form id="form1" runat="server">
    <div>
      <asp:TextBox ID="TextBox1" runat="server" Height="68px" Width="179px"></asp:TextBox>
      <br />
      <br />
      &n
bsp;
      <asp:Button ID="Button1" runat="server" Height="27px" OnClick="Button1_Click"
Text="Set Cookie" Width="114px" />
      <br />
      <br />
      &n
bsp;
      <asp:Button ID="Button2" runat="server" Height="24px" OnClick="Button2_Click"
Text="Get Cookie" Width="115px" />
      <br />
      <br />
      &n
bsp;
      <asp:Label ID="Label1" 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 Practical11
{
  public partial class Cookies : System.Web.UI.Page
  {
    protected void Page_Load(object sender, EventArgs e)
    {

    }

    protected void Button1_Click(object sender, EventArgs e)
    {
      HttpCookie cookie = new
      HttpCookie("UserName",TextBox1.Text); cookie.Expires =
      DateTime.Now.AddDays(7); Response.Cookies.Add(cookie);
      Label1.Text = "Cookie Set Successfuly!";
    }

    protected void Button2_Click(object sender, EventArgs e)
    {
      HttpCookie cookie =
      Request.Cookies["UserName"]; if(cookie != null)
      {
        Label1.Text="Stored Cookie Value: "+cookie.Value;
      }
      else
      {
        Label1.Text = "No Cookie Found!";
      }
    }
  }
}
```

OUTPUT:



4. Hidden Fields:

CODE:

WebForm1.aspx:

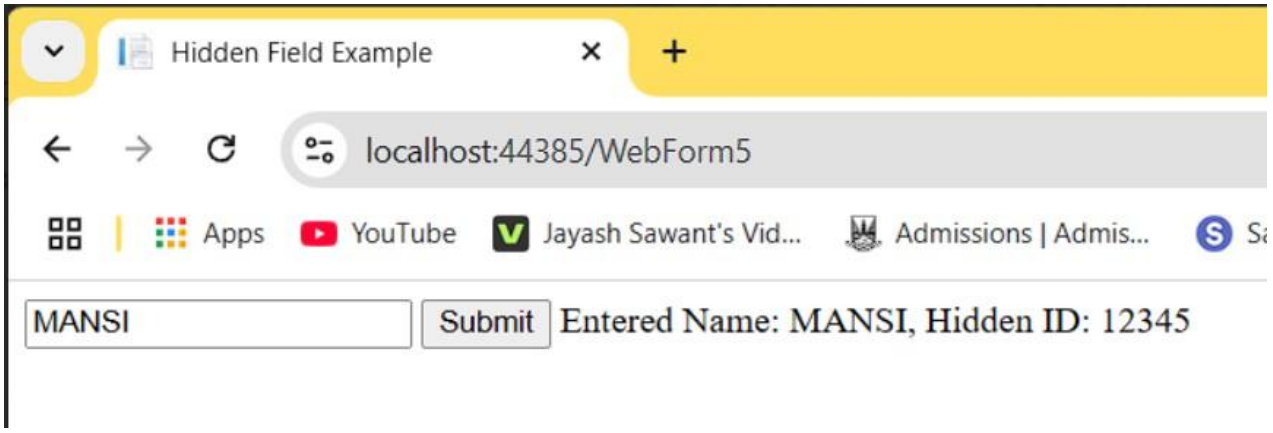
```
<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="HiddenField.aspx.cs"
Inherits="Practical11.HiddenField" %>

<!DOCTYPE html>

<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
  <title></title>
</head>
<body>
  <form id="form1" runat="server">
    <div>
      <asp:TextBox ID="TextBox1" runat="server" Height="44px" Width="151px"></asp:TextBox>
      <br />
      <asp:HiddenField ID="HiddenField1" runat="server" Value="0508" />
      <br />
      <asp:Button ID="Button1" runat="server" Height="29px"
OnClick="Button1_Click" style="margin-bottom: 32px" Text="Submit"
Width="154px" />
      <br />
      <asp:Label ID="Label1" 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 Practical11
{
  public partial class HiddenField : System.Web.UI.Page
  {
    protected void Page_Load(object sender, EventArgs e)
    {
    }
    protected void Button1_Click(object sender, EventArgs e)
    {
      Label1.Text="Entered Name: "+TextBox1.Text+", HiddenID: "+HiddenField1.Value;
    }
```

```
    }
}
```

OUTPUT:

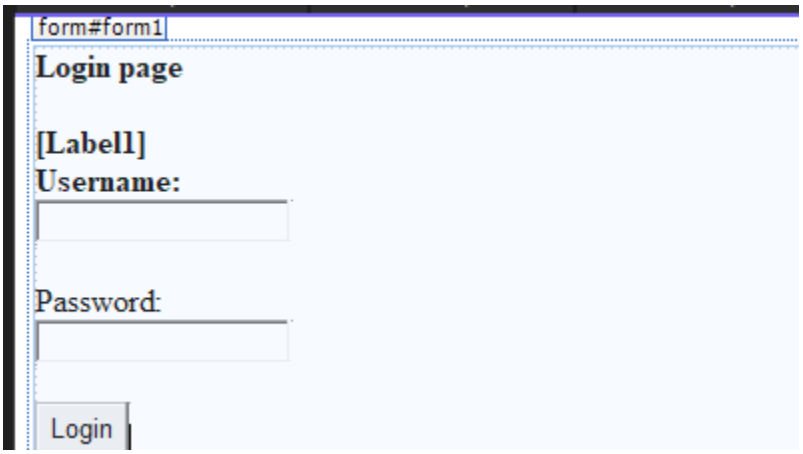

Hidden Field Example
localhost:44385/WebForm5
Apps
YouTube
Jayash Sawant's Vid...
Admissions | Admis...
MANSI
Submit
Entered Name: MANSI, Hidden ID: 12345

PRACTICAL NO. 12

Design Web Applications using Server Side Session Management Techniques

Webform1.aspx

```
<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="WebForm1.aspx.cs"
Inherits="pract_12_042.WebForm1" %>


<!DOCTYPE html>


<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
    <title></title>
</head>
<body>
    <form id="form1" runat="server">
        <div style="font-weight: 700">
            Login page<br />
            <br />
            <asp:Label ID="Label1" runat="server"></asp:Label>
            <br />
            Username:</div>
        <asp:TextBox ID="TextBox1" runat="server"></asp:TextBox>
        <br />
        <br />
        Password:<br />
        <asp:TextBox ID="TextBox2" runat="server"></asp:TextBox>
        <br />
        <br />
        <asp:Button ID="Button1" runat="server" OnClick="Button1_Click" Text="Login" />
    </form>
</body>
</html>
```



Webform1.aspx.cs

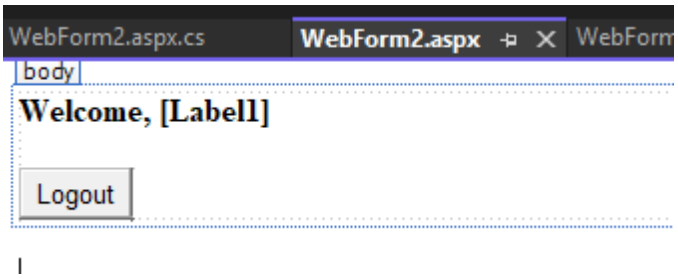
```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Web;
using System.Web.UI;
using System.Web.UI.WebControls;

namespace pract_12_042
{
    public partial class WebForm1 : System.Web.UI.Page
    {
        protected void Page_Load(object sender, EventArgs e)
        {
            if (Session["Username"]!=null)
            {
                Response.Redirect("WebForm2.aspx");
            }
        }

        protected void Button1_Click(object sender, EventArgs e)
        {
```

```
        string username=TextBox1.Text;
        string password=TextBox2.Text;
        if(username=="Aleena" && password=="3456")
        {
           Session["Username"] = username;
           Response.Redirect("WebForm2.aspx");
        }
        else
        {
           {
              Label1.Text = "Invalid username or password";
           }
        }
     }
  }
}
```

Webform2.aspx

```
<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="WebForm2.aspx.cs"
Inherits="pract_12_042.WebForm2" %>


<!DOCTYPE html>


<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
   <title></title>
</head>
<body style="font-weight: 700">
   <form id="form1" runat="server">
      <div>
         Welcome,
         <asp:Label ID="Label1" runat="server"></asp:Label>
```

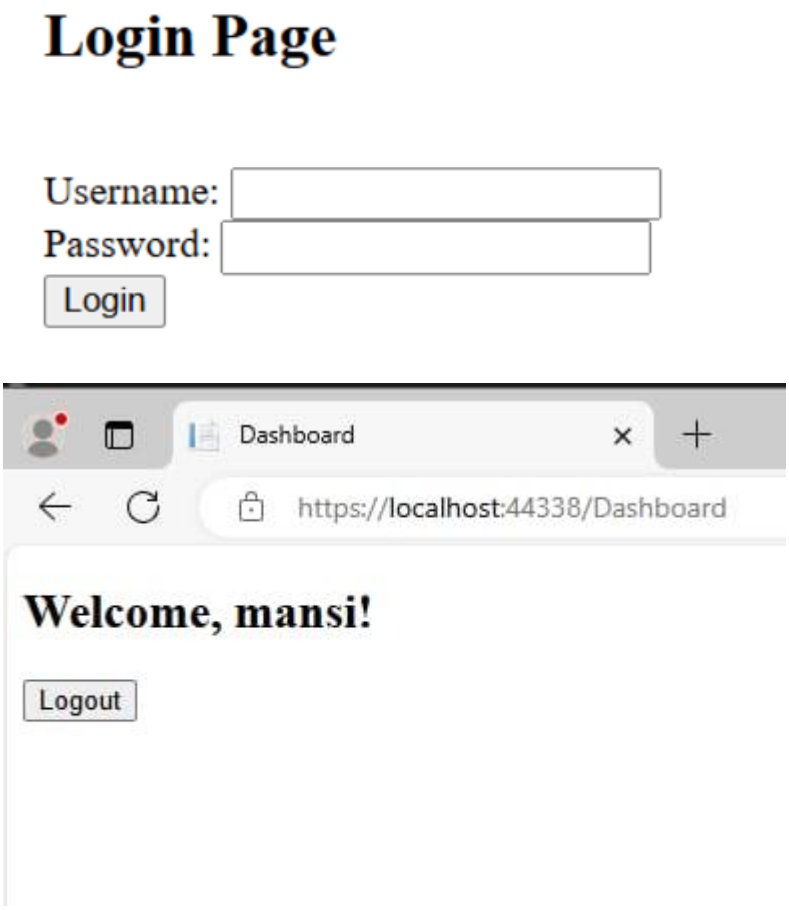
```
        <br />
    </div>
    <asp:Button ID="Button1" runat="server" OnClick="Button1_Click" Text="Logout" />
  </form>
</body>
</html>
```



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 pract_12_042
{
  public partial class WebForm2 : System.Web.UI.Page
  {
    protected void Page_Load(object sender, EventArgs e)
    {
      if (Session["Username"] == null)
      {
        Response.Redirect("WebForm1.aspx");
      }
      else
```

```
        {
            Label1.Text = Session["Username"].ToString();
        }
    }

    protected void Button1_Click(object sender, EventArgs e)
    {
        Session.Abandon();
        Response.Redirect("WebForm1.aspx");
    }
  }
}
```



PRACTICAL NO. 13

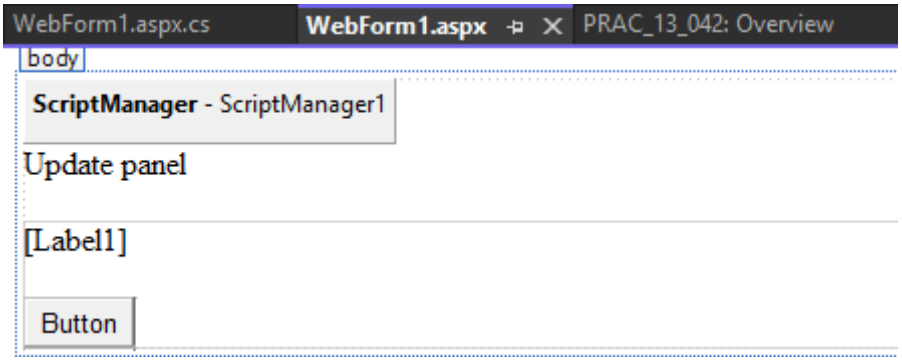
Build a web page using AJAX Controls.

Partial page update

Webform.aspx

```
<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="WebForm1.aspx.cs"
Inherits="PRAC_13_042.WebForm1" %>


<!DOCTYPE html>


<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
    <title></title>
</head>
<body>
    <form id="form1" runat="server">
        <div>
            <asp:ScriptManager ID="ScriptManager1" runat="server">
            </asp:ScriptManager>
            Update panel<br />
            <asp:UpdatePanel ID="UpdatePanel1" runat="server">
                <ContentTemplate>
                    <asp:Label ID="Label1" runat="server"></asp:Label>
                    <br />
                    <br />
                    <asp:Button ID="Button1" runat="server" OnClick="Button1_Click"
Text="Button" />
                </ContentTemplate>
            </asp:UpdatePanel>
        </div>
    </form>
</body>
```

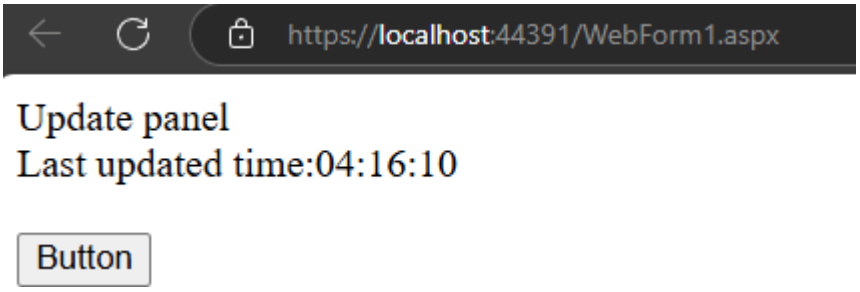
</html>

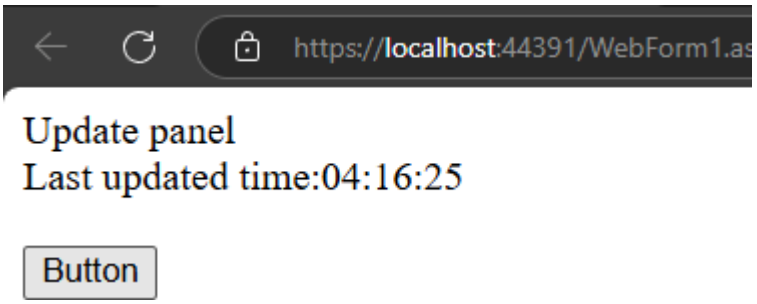


Webform.aspx.cs

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Web;
using System.Web.UI;
using System.Web.UI.WebControls;

namespace PRAC_13_042
{
    public partial class WebForm1 : System.Web.UI.Page
    {
        protected void Page_Load(object sender, EventArgs e)
        {
            if(!IsPostBack)
            {
                Label1.Text = "Last updated time:" + DateTime.Now.ToString("hh:mm:ss");
            }
        }

        protected void Button1_Click(object sender, EventArgs e)
        {
            Label1.Text = "Last updated time:" + DateTime.Now.ToString("hh:mm:ss");
```

```
    }
  }
}
```



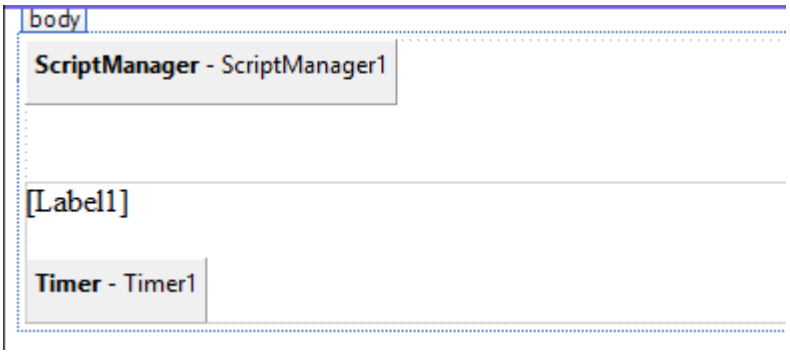


Auto refresh without full page load

Webform.aspx

```
<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="WebForm2.aspx.cs"
Inherits="PRAC_13_042.WebForm2" %>


<!DOCTYPE html>


<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
    <title></title>
</head>
<body>
    <form id="form1" runat="server">
        <div>
            <asp:ScriptManager ID="ScriptManager1" runat="server">
            </asp:ScriptManager>
```

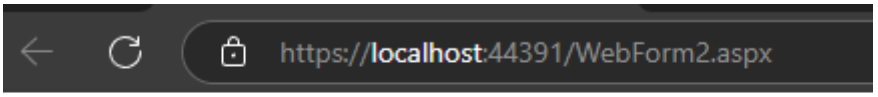
```
        <br />
        <asp:UpdatePanel ID="UpdatePanel1" runat="server">
            <ContentTemplate>
                <asp:Label ID="Label1" runat="server"></asp:Label>
                <br />
                <asp:Timer ID="Timer1" runat="server" Interval="1000"
OnTick="Timer1_Tick">
                </asp:Timer>
            </ContentTemplate>
        </asp:UpdatePanel>
      </div>
    </form>
</body>
</html>
```



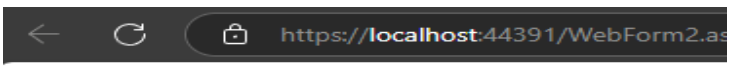
Webform.aspx.cs

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Web;
using System.Web.UI;
using System.Web.UI.WebControls;

namespace PRAC_13_042
{
```

```
public partial class WebForm2 : System.Web.UI.Page
{
    protected void Page_Load(object sender, EventArgs e)
    {
        if (!IsPostBack)
        {
            Label1.Text = "Current Time:" + DateTime.Now.ToString("hh:mm:ss");
        }
    }

    protected void Timer1_Tick(object sender, EventArgs e)
    {
        Label1.Text = "updated time:" + DateTime.Now.ToString("hh:mm:ss");
    }
}
}
```



Updated time:04:37:32



Updated time:04:37:48

PRACTICAL 14

Build a web application to create and use web service in ASP.net

CODE:

Default.aspx:

```
<!DOCTYPE html>
<html>
<head runat="server">
  <title>Calculator Web Service Client</title>
</head>
<body>
  <form id="form1" runat="server">
    <div>
      Number 1: <asp:TextBox ID="txtA" runat="server" /><br />
      Number 2: <asp:TextBox ID="txtB" runat="server" /><br
      /><br />
      <asp:Button ID="btnAdd" runat="server" Text="Add" OnClick="btnAdd_Click" />
      <asp:Button ID="btnSub" runat="server" Text="Subtract" OnClick="btnSub_Click" /><br /><br
/>
      Result: <asp:Label ID="lblResult" runat="server" Text="" />
    </div>
  </form>
</body>
</html>
```

Default.aspx.cs:

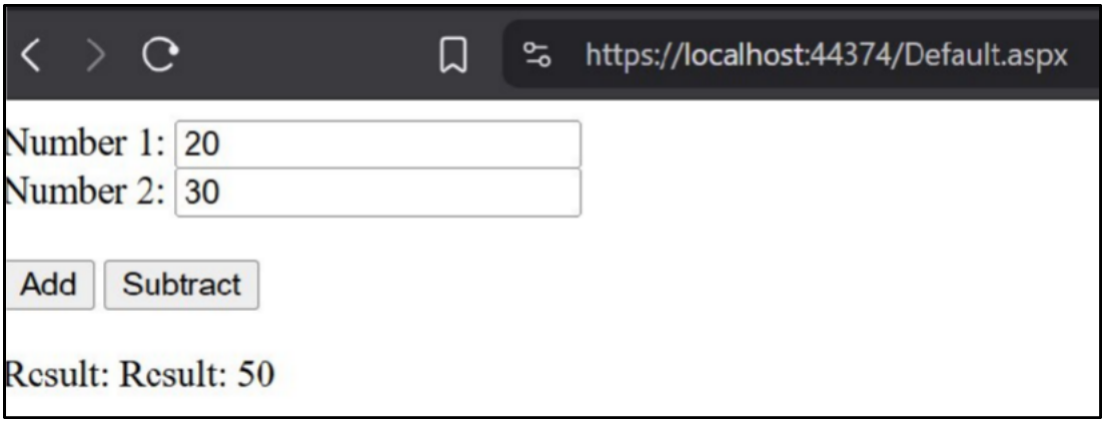
```
using System;
using CalculatorApp.CalcRef;
namespace CalculatorApp
{
  public partial class Default : System.Web.UI.Page
  {
    CalculatorServiceSoapClient client;

    protected void Page_Load(object sender, EventArgs e)
    {
      client = new CalculatorServiceSoapClient();
    }

    protected void btnAdd_Click(object sender, EventArgs e)
    {
      int a =
      int.Parse(txtA.Text); int
      b = int.Parse(txtB.Text);
      int result = client.Add(a,
      b);
      lblResult.Text = "Result: " + result;
    }

    protected void btnSub_Click(object sender, EventArgs e)
    {
```

```
        int a =
        int.Parse(txtA.Text); int
        b = int.Parse(txtB.Text);
        int result = client.Subtract(a, b);
        lblResult.Text = "Result: " + result;
      }
    }
}
```

CalculatorService.asmx.cs:

```
using System;
using
System.Collections.Generic;
using System.Linq;
using System.Web;
using System.Web.Services;

namespace CalculatorApp
{
  [WebService(Namespace = "http://tempuri.org/")]
  [WebServiceBinding(ConformsTo =
  WsiProfiles.BasicProfile1_1)] public class CalculatorService
  : WebService
  {
    [WebMethod]
    public int Add(int a, int b)
    {
      return a + b;
    }

    [WebMethod]
    public int Subtract(int a, int b)
    {
      return a - b;
    }
  }
}
```

OUTPUT:



PRACTICAL 15

Build a web application to create and use WCF service in ASP.net

CODE:

Service.cs:

```
using System;
using
System.Collections.Generic;
using System.Linq;
using
System.Runtime.Serialization;
using System.ServiceModel;
using
System.ServiceModel.Web;
using System.Text;

// NOTE: You can use the "Rename" command on the "Refactor" menu to change the class
name "Service" in code, svc and config file together.
public class Service : IService
{
  public string GetData(int value)
  {
    return string.Format("You entered: {0}", value);
  }

  public double add(double a, double b)
  {
    return a + b;
  }

  public double sub(double a, double b)
  {
    return a - b;
  }

  public double mul(double a, double b)
  {
    return a * b;
  }

  public double div(double a, double b)
  {
    return a / b;
  }
  public CompositeType GetDataUsingDataContract(CompositeType composite)
  {
    if (composite == null)
    {
      throw new ArgumentNullException("composite");
    }
    if (composite.BoolValue)
```

```
    {
      composite.StringValue += "Suffix";
    }
    return composite;
  }
}
```

IService.cs:

```
using System;
using
System.Collections.Generic;
using System.Linq;
using
System.Runtime.Serialization;
using System.ServiceModel;
using
System.ServiceModel.Web;
using System.Text;

// NOTE: You can use the "Rename" command on the "Refactor" menu to change the interface
name "IService" in both code and config file together.
[ServiceContract]
public interface IService
{

  [OperationContract]
  string GetData(int
  value);

  [OperationContract]
  double add(double a, double b);

  [OperationContract]
  double sub(double a, double b);

  [OperationContract]
  double mul(double a, double b);

  [OperationContract]
  double div(double a, double b);

  [OperationContract]
  CompositeType GetDataUsingDataContract(CompositeType composite);}

// Use a data contract as illustrated in the sample below to add composite types to service
operations.
[DataContract]
public class CompositeType
{
  bool boolValue = true;
  string stringValue =
  "Hello ";
```

```
    [DataMember]
    public bool BoolValue
    {
      get { return boolValue; }
      set { boolValue = value;
      }
    }

    [DataMember]
    public string StringValue
    {
      get { return stringValue;
      } set { stringValue =
      value; }
    }
}
```

Default.aspx:

```
<%@ Page Language="C#" AutoEventWireup="true"
CodeFile="Default.aspx.cs" Inherits="_Default" %>

<!DOCTYPE html>

<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
  <title></title>
</head>
<body>
  <form id="form1" runat="server">
    <div>
      Calculator using WCF<br />
      <br />
      First Number :<asp:TextBox ID="TextBox1" runat="server" style="margin-left: 44px"
Width="171px"></asp:TextBox>
      <br />
      Second Number :
      <asp:TextBox ID="TextBox2" runat="server" style="margin-left: 19px"
Width="171px"></asp:TextBox>
      <br />
      <br />
      <br />
      <br />
      <asp:Button ID="Button1" runat="server" Height="39px" OnClick="Button1_Click"
Text="ADD" Width="88px" />
      <asp:Button ID="Button2" runat="server" Height="39px" OnClick="Button2_Click"
Text="SUB" Width="88px" />
      <asp:Button ID="Button3" runat="server" Height="39px" OnClick="Button3_Click"
Text="MUL" Width="88px" />
      <asp:Button ID="Button4" runat="server" Height="39px" OnClick="Button4_Click"
Text="DIV" Width="88px" />
      <br />
      <br />
```

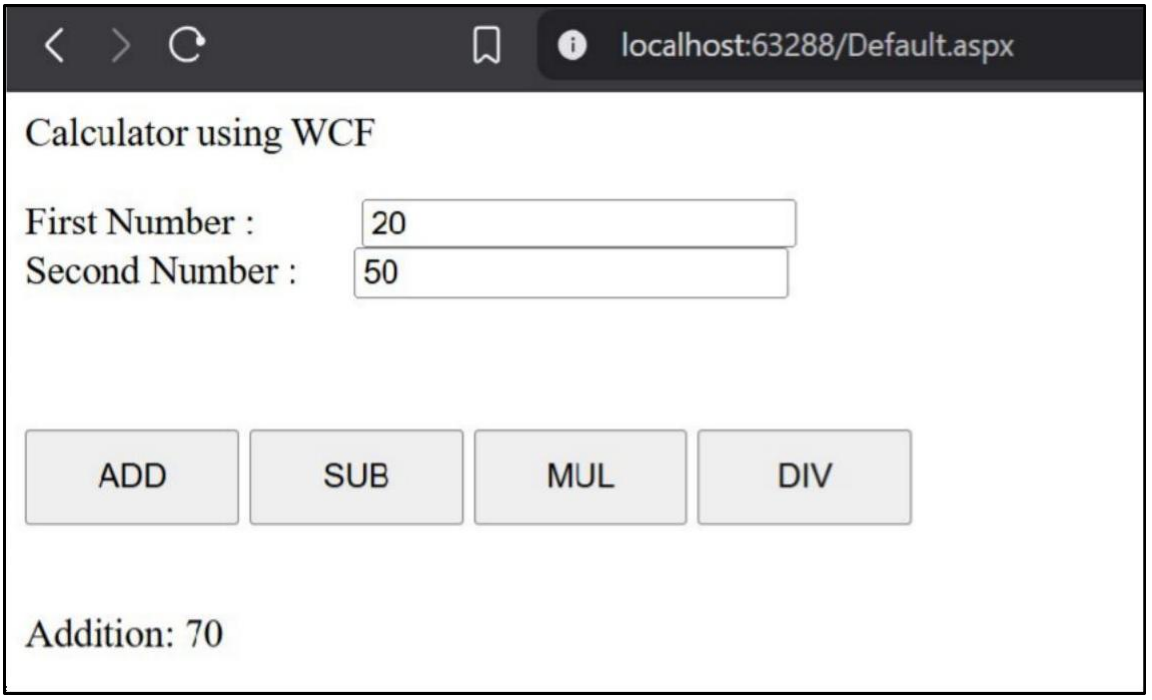
```
            <br />
            <asp:Label ID="Label1" runat="server" Text="RESULT :"></asp:Label>
            <br />
            <br />
            <br />
            <br />
            <br />
            <br />
            <br />
          </div>
        </form>
      </body>
      </html>
```

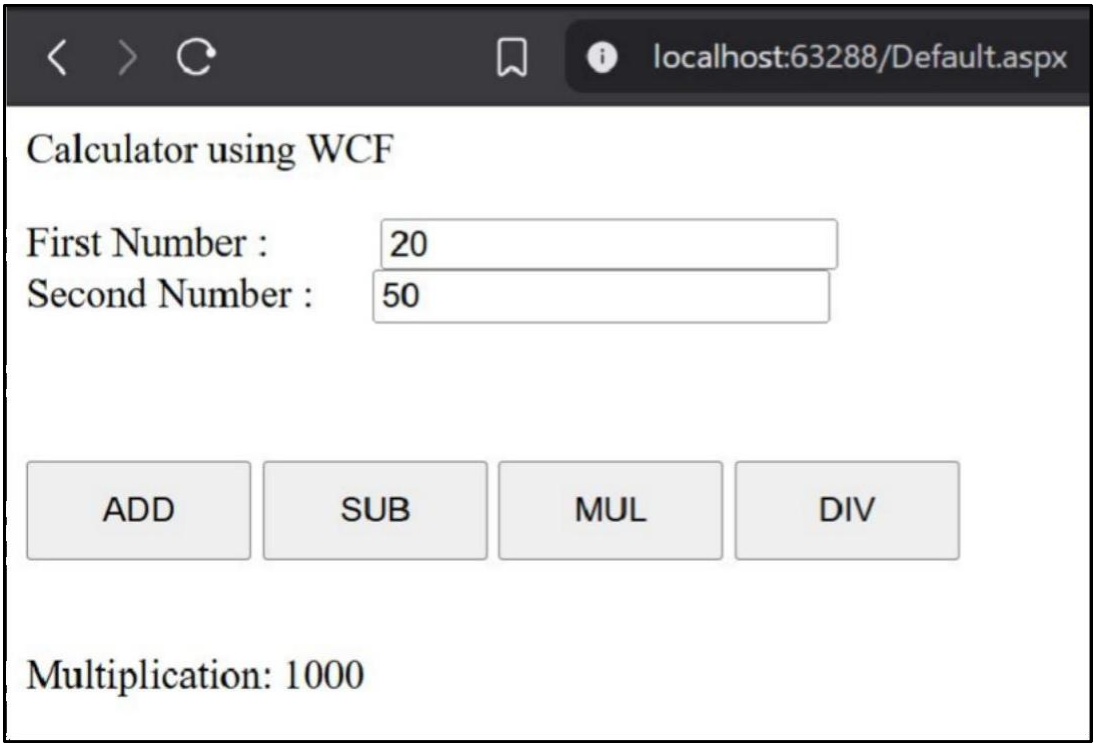
Default.aspx.cs:

```
      using System;
      using
      System.Collections.Generic;
      using System.Linq;
      using System.Web;
      using
      System.Web.UI;
      using System.Web.UI.WebControls;

      public partial class _Default : System.Web.UI.Page
      {
        ServiceReference1.ServiceClient service = new ServiceReference1.ServiceClient();
        protected void Page_Load(object sender, EventArgs e)
        {
}
        protected void Button1_Click(object sender, EventArgs e)
        {
          double a =
          Convert.ToDouble(TextBox1.Text);
          double b =
          Convert.ToDouble(TextBox2.Text);

          double result = service.add(a, b);

          Label1.Text = "Addition: " + result.ToString();
        }

        protected void Button2_Click(object sender, EventArgs e)
        {
          double a =
          Convert.ToDouble(TextBox1.Text);
          double b =
          Convert.ToDouble(TextBox2.Text);

          double result = service.sub(a, b);

          Label1.Text = "Subtraction: " + result.ToString();
        }
```

```
    protected void Button3_Click(object sender, EventArgs e)
    {
        double a =
        Convert.ToDouble(TextBox1.Text);
        double b =
        Convert.ToDouble(TextBox2.Text);

        double result = service.mul(a, b);

        Label1.Text = "Multiplication: " + result.ToString();

    }

    protected void Button4_Click(object sender, EventArgs e)
    {
        double a =
        Convert.ToDouble(TextBox1.Text);
        double b =
        Convert.ToDouble(TextBox2.Text);

        double result = service.div(a, b);

        Label1.Text = "Division: " + result.ToString();
    }
}
```

OUTPUT:




localhost:63288/Default.aspx
Calculator using WCF
First Number :
20
Second Number :
50
ADD
SUB
MUL
DIV
Multiplication: 1000

PRACTICAL 16

MVC Application using Entity Framework

Step 1: Create a Database in SQL Server

Open SQL Server Management Studio (SSMS) or Visual Studio SQL Server Object Explorer.
Create a Database named StudentDB.
Create a Table using the following SQL: Create Database StudentDB
use StudentDB

```
CREATE TABLE Students (
  Id INT PRIMARY KEY
  IDENTITY, Name
  NVARCHAR(100) NOT NULL,
  Email NVARCHAR(100) NOT
  NULL, Age INT NOT NULL
);
```

Step 2: Create a New ASP.NET MVC Project

1. Open **Visual Studio**
2. Select **Create a new project**
3. Choose: **ASP.NET Web Application (.NET Framework)**
4. Name: StudentMVCApp
5. Choose **MVC** as the template

Click **Create**

Step 3: Add Entity Framework Model

1. Right-click the **Models** folder → Add → New Item
2. Choose **ADO.NET Entity Data Model**
3. Name it: StudentModel.edmx
4. Choose: "EF Designer from database"
5. Select your SQL Server database (StudentDB)
6. Select the Students table

Finish to generate model classes

Step 4: Create Controller

1. Right-click **Controllers** → Add → Controller
2. Choose: **MVC 5 Controller with views, using Entity Framework**
3. Model class: Student
4. Data context: StudentDBEntities (if using .edmx) or

StudentDBContext Click **Add**

Step 5: Set Default Route

In App_Start/RouteConfig.cs, change default route to:
csharp
CopyEdit
defaults: new { controller = "Students", action = "Index", id = UrlParameter.Optional }

RUN Application

OUTPUT:

```
);

select * from Students
```

161 %

Results | Messages

	Id	Name	Email	Age
1	1	Chinmay	chinmay@gmail.com	23
2	2	sejal	sejal@gmail.com	23
3	3	siddhesh	siddhesh@gamil.com	23
4	4	anuj	anuj@gmail.com	22
5	5	atharva	atharva@gmail.com	22
6	6	prathmesh	prathmesh@gmail.com	22
7	7	aishwarya	aishwarya@gamil.com	22
8	8	mansi	mansi@gamil.coom	23
9	9	sahil	sahil@gamil.com	23