Deccan Education Society's

Navinchandra Mehta Institute of Technology and Development

CERTIFICATE

This is to certify that Mr. / ~~Miss~~ JAY RAMESH NEVAREKAR of M.C.A. Semester II with Roll No.C22086 has completed All practicals of MCAL24 Advanced Web Technologies Lab under my supervision in this college during the year 2022-2023.

CO	R1: Journal	R2: Performance during lab session	R3: Implementation using different problem solving techniques	R4: Mock Viva	Attendance
CO1					
CO2					
CO3					
CO4					
CO5					

Practical-in-charge

Head of Department

MCA Department
(NMITD)

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Category 1: Windows Form Application

A. Design a calculator UI based applications using basic Windows forms Controls.

Code:

```
using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Linq;
using System.Reflection.Emit;
using System.Text;
using System.Threading.Tasks;
using System.Windows.Forms;
using static System.Windows.Forms.VisualStyles.VisualStyleElement;

namespace Calculator
{
    public partial class Form1 : Form
    {
        public Form1()
        {
            InitializeComponent();
        }
        float num1, ans;
        int count;
        private void btn0_Click(object sender, EventArgs e)
        {
```

```
    lbl1.Text = null;

    txt1.Text = txt1.Text + 0;

}

private void btn00_Click(object sender, EventArgs e)

{

    lbl1.Text = null;

    txt1.Text = txt1.Text + 0 + 0;

}

private void btnDot_Click(object sender, EventArgs e)

{

    lbl1.Text = null;

    txt1.Text = txt1.Text + ".";

}

private void btn1_Click(object sender, EventArgs e)

{

    lbl1.Text = null;

    txt1.Text = txt1.Text + 1;

}

private void btn2_Click(object sender, EventArgs e)

{

    lbl1.Text = null;

    txt1.Text = txt1.Text + 2;

}

private void btn3_Click(object sender, EventArgs e)

{

    lbl1.Text = null;

    txt1.Text = txt1.Text + 3;
```

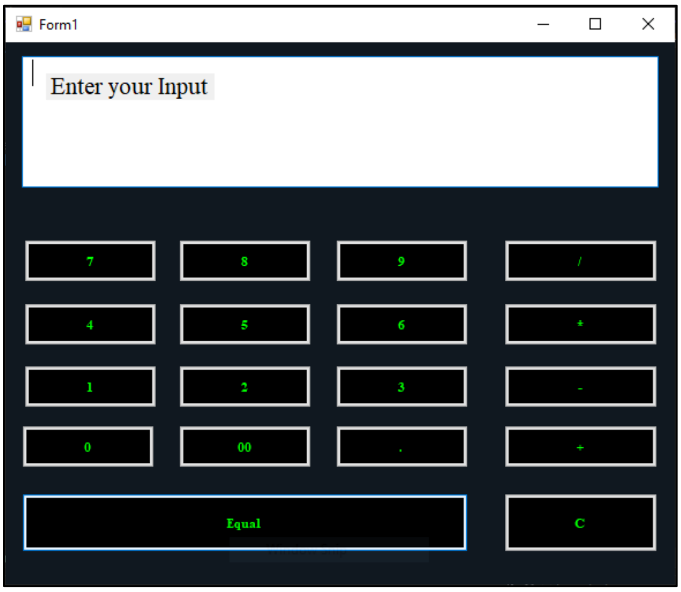
```
}
private void btn4_Click(object sender, EventArgs e)
{
   lbl1.Text = null;
   txt1.Text = txt1.Text + 4;
}
private void btn5_Click(object sender, EventArgs e)
{
   lbl1.Text = null;
   txt1.Text = txt1.Text + 5;
}
private void btn6_Click(object sender, EventArgs e)
{
   lbl1.Text = null;
   txt1.Text = txt1.Text + 6;
}
private void btn7_Click(object sender, EventArgs e)
{
   lbl1.Text = null;
   txt1.Text = txt1.Text + 7;
}
private void btn8_Click(object sender, EventArgs e)
{
   lbl1.Text = null;
   txt1.Text = txt1.Text + 8;
}
private void btn9_Click(object sender, EventArgs e)
```

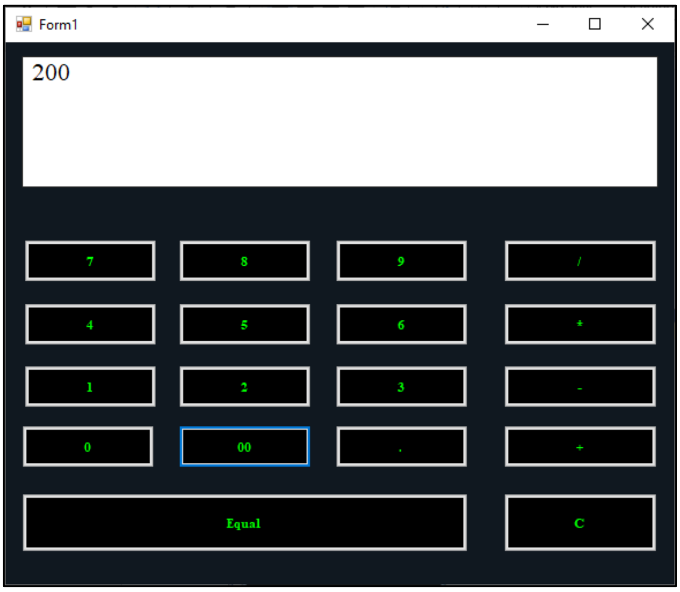
```
{
   lbl1.Text = null;
   txt1.Text = txt1.Text + 9;
}
private void btnClear_Click(object sender, EventArgs e)
{
   lbl1.Text = "Enter your input";
   txt1.Text = null;
}

private void btnAdd_Click(object sender, EventArgs e)
{
   num1 = float.Parse(txt1.Text);
   txt1.Clear();
   txt1.Focus();
   count = 1;
}

private void btnSub_Click(object sender, EventArgs e)
{
   num1 = float.Parse(txt1.Text);
   txt1.Clear();
   txt1.Focus();
   count = 2;
}

private void btnMul_Click(object sender, EventArgs e)
```

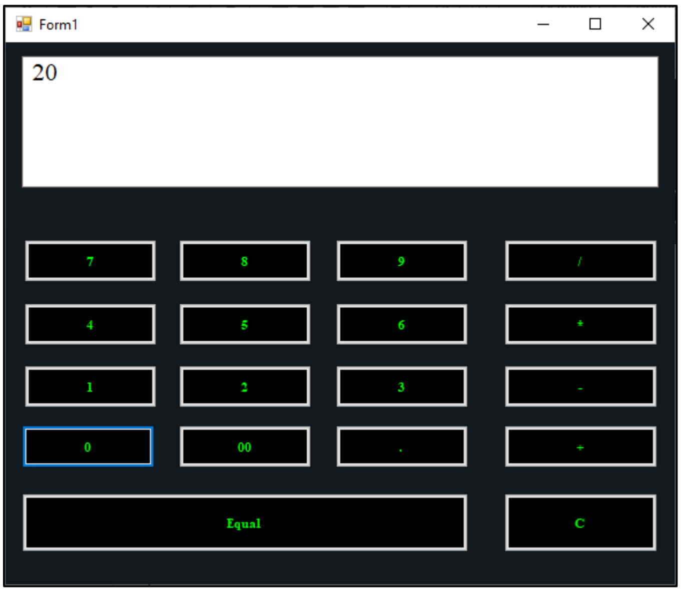
```
{
    num1 = float.Parse(txt1.Text);
    txt1.Clear();
    txt1.Focus();
    count = 3;
}

private void btnDiv_Click(object sender, EventArgs e)
{
    num1 = float.Parse(txt1.Text);
    txt1.Clear();
    txt1.Focus();
    count = 4;
}

private void btnEql_Click(object sender, EventArgs e)
{
    compute(count);
}

public void compute(int count)
{
    switch (count)
    {
        case 1:
            ans = num1 + float.Parse(txt1.Text);
            txt1.Text = ans.ToString();
```

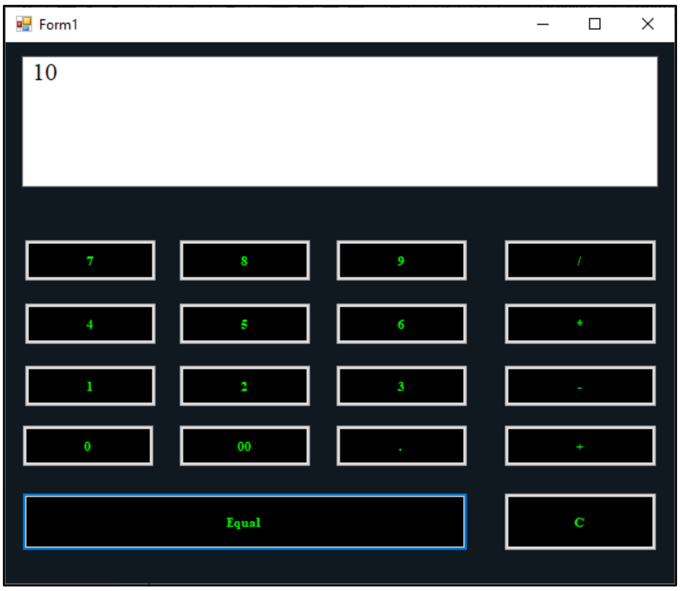
```
                break;
            case 2:
                ans = num1 - float.Parse(txt1.Text);
                txt1.Text = ans.ToString();
                break;
            case 3:
                ans = num1 * float.Parse(txt1.Text);
                txt1.Text = ans.ToString();
                break;
            case 4:
                ans = num1 / float.Parse(txt1.Text);
                txt1.Text = ans.ToString();
                break;
            default:
                break;
        }
    }


}
}
```

Output:


Enter your Input


200


20


10

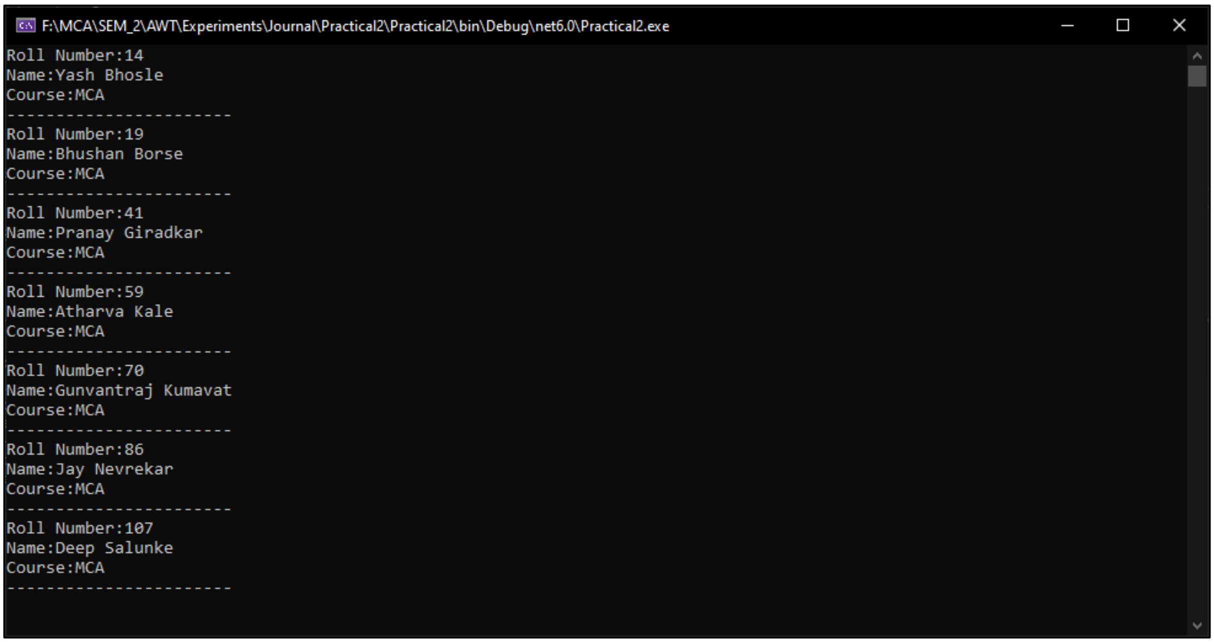
Category 2: C# Console

A. Design Applications using Classes and Objects

Code:

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;
namespace Practical2
{
    class program2
    {
        int rollnumber;
        string name;
        string course;

        public void insertData(int r, string n, string c)
        {
            rollnumber = r;
            name = n;
            course = c;

        }
        public void display()
        {
            Console.WriteLine("Roll Number:"+rollnumber);
            Console.WriteLine("Name:"+name);
            Console.WriteLine("Course:"+course);
            Console.WriteLine("-----------------------");
        }
    }
    class program
    {
        static void Main(string[] args)
        {
            program2 pro = new program2();
            pro.insertData(14, "Yash Bhosle", "MCA");
            pro.display();
            pro.insertData(19, "Bhushan Borse", "MCA");
            pro.display();
            pro.insertData(41, "Pranay Giradkar", "MCA");
            pro.display();
            pro.insertData(59, "Atharva Kale", "MCA");
            pro.display();
            pro.insertData(70, "Gunvantraj Kumavat", "MCA");
            pro.display();
            pro.insertData(86, "Jay Nevrekar", "MCA");
            pro.display();
            pro.insertData(107, "Deep Salunke", "MCA");
            pro.display();
            Console.ReadKey();
        }
    }
}
```

Output:



F:\MCA\SEM_2\AWT\Experiments\Journal\Practical2\Practical2\bin\Debug\net6.0\Practical2.exe

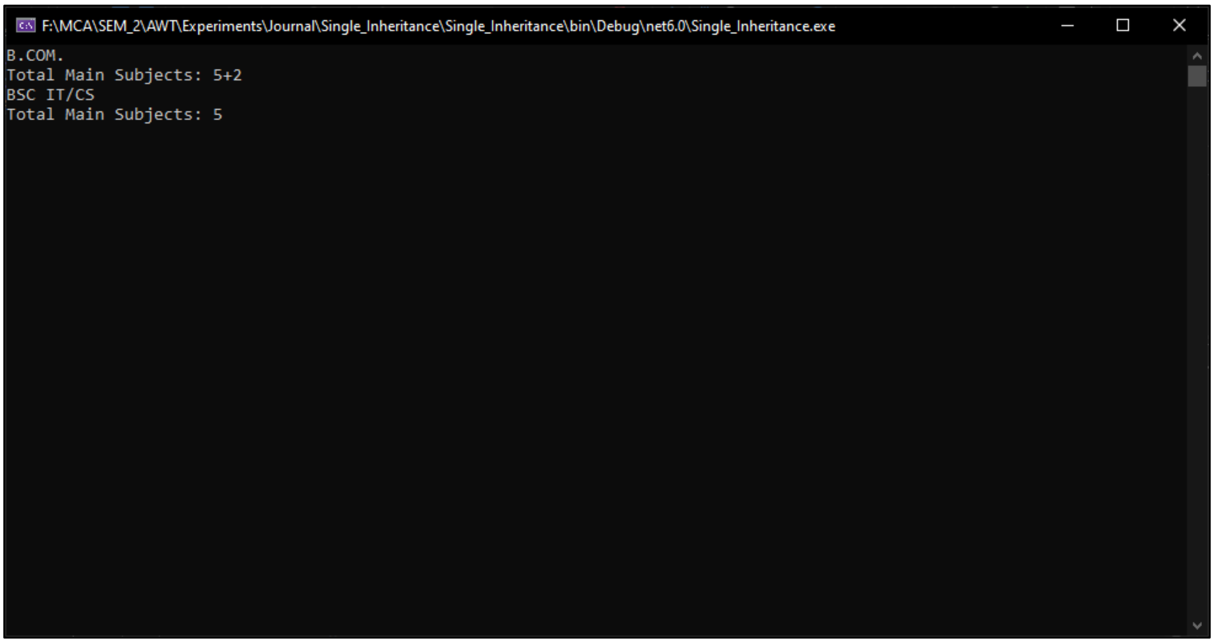
```
Roll Number:14
Name:Yash Bhosle
Course:MCA
-----------------------
Roll Number:19
Name:Bhushan Borse
Course:MCA
-----------------------
Roll Number:41
Name:Pranay Giradkar
Course:MCA
-----------------------
Roll Number:59
Name:Atharva Kale
Course:MCA
-----------------------
Roll Number:70
Name:Gunvantraj Kumavat
Course:MCA
-----------------------
Roll Number:86
Name:Jay Nevrekar
Course:MCA
-----------------------
Roll Number:107
Name:Deep Salunke
Course:MCA
-----------------------
```

B. Design Applications using Inheritance and Abstract Classes

Code:

```
namespace Single_Inheritance
{
    public abstract class Bridgecourse
    {
        public virtual void basicsubject()
        {


        }
    }
    public class MCA : Bridgecourse
    {
        int totalsubjects;
        public void subjects(int t)
        {
            totalsubjects = t;
            Console.Write("Total Main Subjects: "+totalsubjects);
        }
        public void basicsubject()
        {
            Console.WriteLine("+2");
        }
    }
    class Program
    {
        static void Main(string[] args)
        {
            MCA M=new MCA();
            Console.WriteLine("B.COM.");
            M.subjects(5);
            M.basicsubject();
            Console.WriteLine("BSC IT/CS");
            M.subjects(5);
            Console.ReadKey();
        }
    }
}
```

Output:



F:\MCA\SEM_2\AWT\Experiments\Journal\Single_Inheritance\Single_Inheritance\bin\Debug\net6.0\Single_Inheritance.exe

```
B.COM.
Total Main Subjects: 5+2
BSC IT/CS
Total Main Subjects: 5
```

Category 3: ASP.NET

A. Design a Web Application for an Organization with Registration forms and advanced controls(Validation)

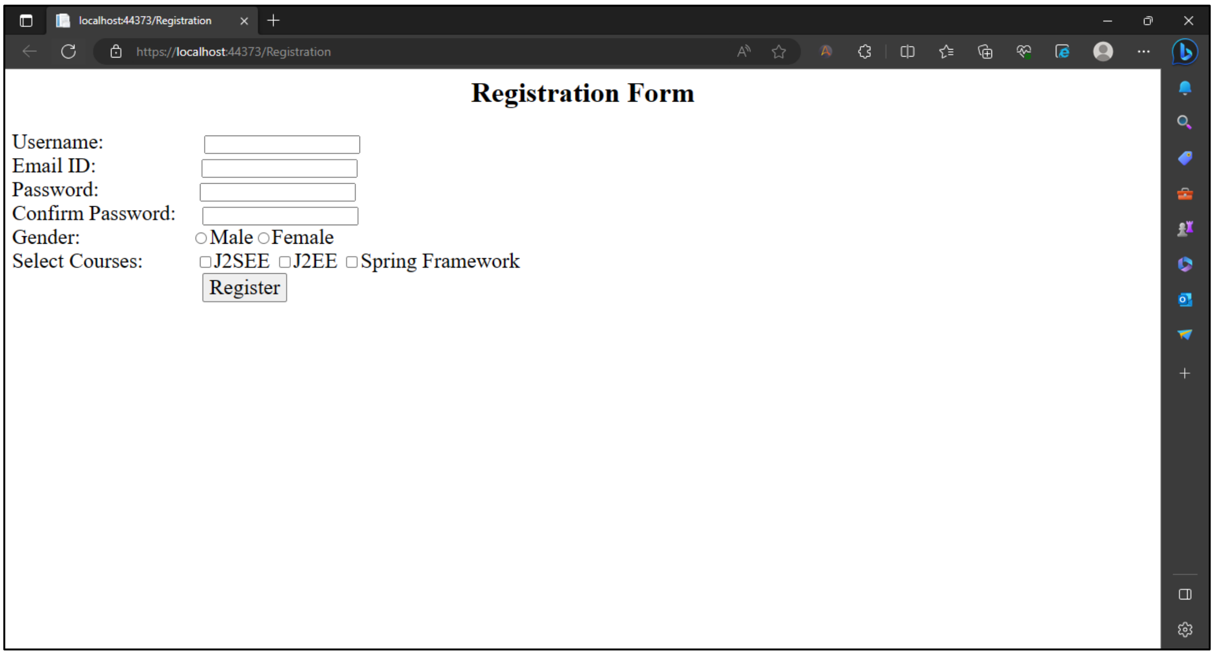
Code:

```
using System;

using System.Collections.Generic;

using System.Linq;

using System.Web;

using System.Web.UI;

using System.Web.UI.WebControls;

namespace Experiment4_Registration_Form

{

   public partial class Registration : System.Web.UI.Page

   {

      protected void Page_Load(object sender, EventArgs e)

      {

      }

      protected void Button1_Click(object sender, EventArgs e)

      {

         message.Text = "Hello " + username.Text + "!";

         message.Text = message.Text + "<br/> You have successfully registered with the
following details.";

         ShowUserName.Text=username.Text;

         ShowEmail.Text=emailID.Text;

         if(RadioButton1.Checked)

         {

            ShowGender.Text = RadioButton1.Text;

         }
```

```
else
   ShowGender.Text = RadioButton2.Text;
var courses = "";
if (CheckBox1.Checked)
{
   courses = CheckBox1.Text + " ";
}
if(CheckBox2.Checked)
{
   courses += CheckBox2.Text + " ";
}
if (CheckBox3.Checked)
{
   courses += CheckBox3.Text + " ";
}
ShowCourses.Text = courses;
ShowUserNameLabel.Text = "User Name";
ShowEmailIDLabel.Text = "Email ID";
ShowGenderLabel.Text = "Gender";
ShowCourseLabel.Text = "Courses";
username.Text = "";
emailID.Text = "";
RadioButton1.Checked = false;
RadioButton2.Checked = false;
CheckBox1.Checked = false;
CheckBox2.Checked = false;
CheckBox3.Checked = false;
```

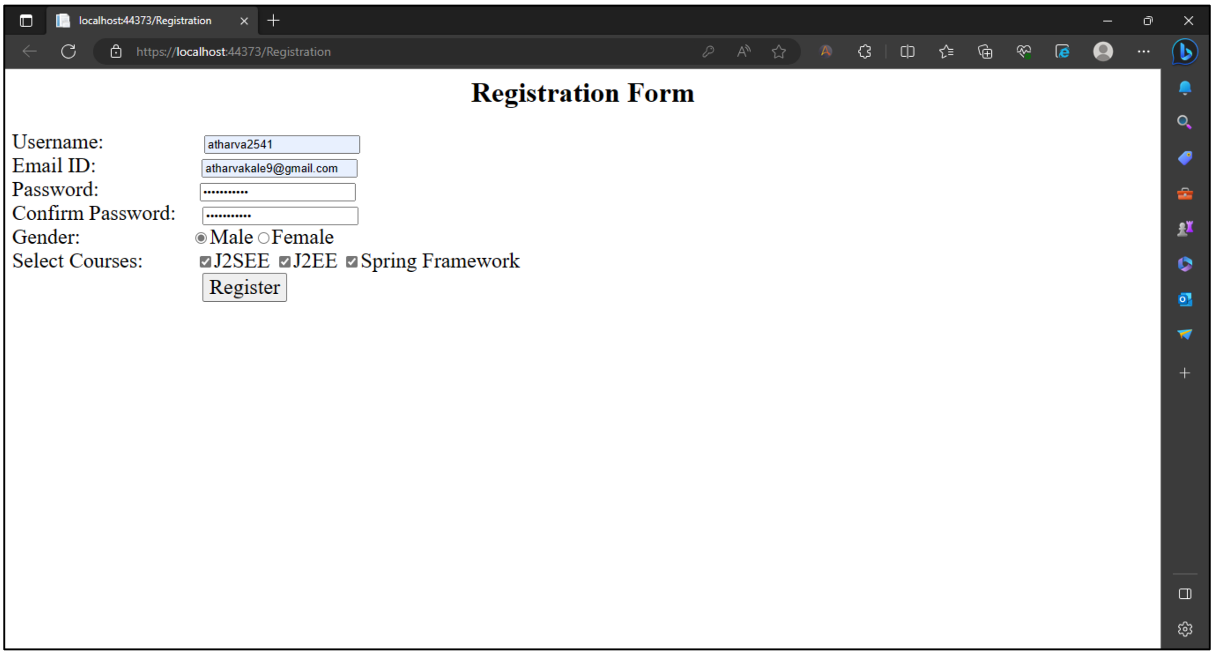
```
        }

    }

}
```

Output:


localhost:44373/Registration
https://localhost:44373/Registration

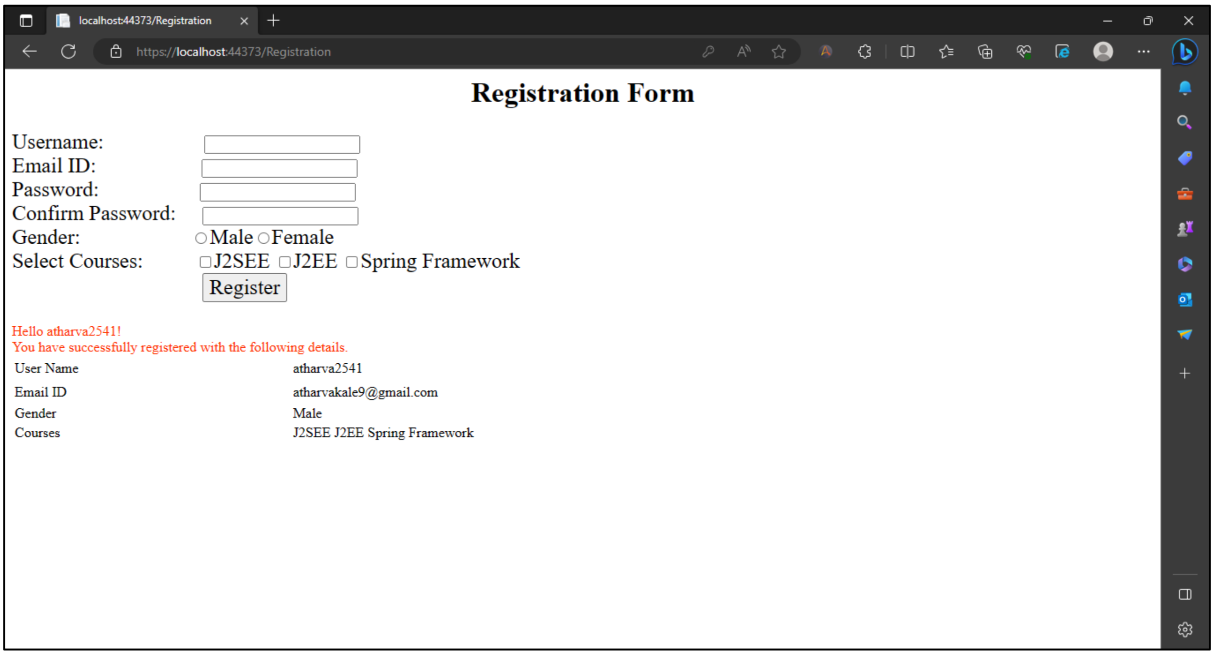
Registration Form

Username:
Email ID:
Password:
Confirm Password:
Gender: ○Male ○Female
Select Courses: □J2SEE □J2EE □Spring Framework
Register


localhost:44373/Registration
https://localhost:44373/Registration

Registration Form

Username: atharva2541
Email ID: atharvakale9@gmail.com
Password: ••••••••••
Confirm Password: ••••••••••
Gender: ●Male ○Female
Select Courses: ☑J2SEE ☑J2EE ☑Spring Framework
Register



localhost:44373/Registration
https://localhost:44373/Registration

Registration Form

Username:	
Email ID:	
Password:	
Confirm Password:	
Gender:	○Male ○Female
Select Courses:	□J2SEE □J2EE □Spring Framework
	Register

Hello atharva2541!
You have successfully registered with the following details.

User Name	atharva2541
Email ID	atharvakale9@gmail.com
Gender	Male
Courses	J2SEE J2EE Spring Framework

B. Create website using master page and theme concept.

Code:

Site1.Master

```
<%@ Master Language="C#" AutoEventWireup="true" CodeBehind="Site1.master.cs"
Inherits="PracMaster.Site1" %>

<!DOCTYPE html>

<html>

<head runat="server">

    <title></title>

    <asp:ContentPlaceHolder ID="head" runat="server">

    </asp:ContentPlaceHolder>

    <link rel="stylesheet"
href="https://cdn.jsdelivr.net/npm/bootstrap@4.6.2/dist/css/bootstrap.min.css">

  <script
src="https://cdn.jsdelivr.net/npm/jquery@3.6.4/dist/jquery.slim.min.js"></script>

  <script
src="https://cdn.jsdelivr.net/npm/popper.js@1.16.1/dist/umd/popper.min.js"></script>

  <script
src="https://cdn.jsdelivr.net/npm/bootstrap@4.6.2/dist/js/bootstrap.bundle.min.js"></scri
pt>

</head>

<body>

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

        <div>

            <!-- Grey with black text -->

<nav class="navbar navbar-expand-sm bg-dark navbar-dark">

  <ul class="navbar-nav">

    <li class="nav-item ">

      <a class="nav-link" href="WebForm1.aspx">Home</a>
    </li>
    <li class="nav-item">
      <a class="nav-link" href="Sport.aspx">Sports</a>
    </li>
    <li class="nav-item">
      <a class="nav-link" href="Entertainment.aspx">Entertainment</a>
    </li>
    <li class="nav-item">
      <a class="nav-link" href="Politics.aspx">Politics</a>
    </li>
  </ul>
</nav>
<asp:ContentPlaceHolder ID="ContentPlaceHolder1" runat="server">
</asp:ContentPlaceHolder>
</div>
</form>
</body>
</html>
```

WebForm1.aspx

```
<%@ Page Title="" Language="C#" MasterPageFile="~/Site1.Master"
AutoEventWireup="true" CodeBehind="WebForm1.aspx.cs"
Inherits="PracMaster.WebForm1" %>
<asp:Content ID="Content1" ContentPlaceHolderID="head" runat="server">
    <style type="text/css">
        .auto-style1 {
            width: 1400px;
            height: 700px;
        }
    </style>
</asp:Content>
<asp:Content ID="Content2" ContentPlaceHolderID="ContentPlaceHolder1" runat="server">
    <img src="news1.jpg" class="auto-style1" />
</asp:Content>
```

Sport.aspx

```
<%@ Page Title="" Language="C#" MasterPageFile="~/Site1.Master" AutoEventWireup="true" CodeBehind="Sport.aspx.cs" Inherits="PracMaster.Sport" %>
<asp:Content ID="Content1" ContentPlaceHolderID="head" runat="server">
</asp:Content>
<asp:Content ID="Content2" ContentPlaceHolderID="ContentPlaceHolder1" runat="server">
    <center>
        <p>
            <img src="mancity1.jpg" height="400px"/>
        </p>
        <h3>Manchester City have won their first-ever Champions League and a treble after a 1-0 win over Inter Milan.</h3>
        <p>
            They outpaced closest rivals Arsenal to comfortably win the Premier League, and last week beat fierce rivals Manchester United in the FA Cup final.</p>
        <p>
            It means City have become the first English Premier League club since United to win a treble of all three major trophies in one season.
Manchester City owner Sheikh Mansour was also present to watch his team's victory on Saturday evening.
It was only the second game he has attended since his investment vehicle, the Abu Dhabi United Group, purchased City in 2008.
```

```
The club has risen to become the dominant force in the English game under Mansour's stewardship, having won seven Premier League titles in the past 12 years and five of the last six.

        </p>

    </center>

</asp:Content>
```

Entertainment.aspx

```
<%@ Page Title="" Language="C#" MasterPageFile="~/Site1.Master" AutoEventWireup="true" CodeBehind="Entertainment.aspx.cs" Inherits="PracMaster.Entertainment" %>

<asp:Content ID="Content1" ContentPlaceHolderID="head" runat="server">

</asp:Content>

<asp:Content ID="Content2" ContentPlaceHolderID="ContentPlaceHolder1" runat="server">

    <center>

        <img src="movie.jpg" height="300px"/>

        <h3>'Aanibaani': Sayaji Shinde and Upendra Limaye starrer is all ..</h3>

    </center>

    <p style="text-align:left">आपल्याकडे कधी काय घडेल याचा नेम नसतो. आता हेच बघा ना आपल्या प्रत्येकाला ‘आणीबाणी’ साठी सज्ज होण्याचं  फर्मान  काढलं  आहे. 28 जुलैपासून ही ‘आणीबाणी’ लागू होणार आहे आणि विशेष म्हणजे या ‘आणीबाणी’ला मराठीतल्या काही कलाकारांनी जाहीर पाठींबा दिला आहे. उपेंद्र लिमये, प्रवीण तरडे, सयाजी शिंदे, संजय खापरे, वीणा जामकर, उषा नाईक, प्राजक्ता हनमघर, सीमा कुलकर्णी, रोहित कोकाटे, सुनील अभ्यंकर, पद्मनाभ बिंड, किशोर नांदलस्कर अशा मराठीतील दिग्गजांचा या ‘आणीबाणी’त सहभाग असणार आहे.

        या ‘आणीबाणी’चा जनतेला कोणताही त्रास न होता, फक्त आणि फक्त मनोरंजनाचा दिलखुलास आनंद अनुभवायला  मिळणार आहे.  कारण ही मनोरंजनाची ‘आणीबाणी’ असणार आहे. दिग्ग्ज कलाकारांची मोट एकत्र बांधत सुप्रसिद्ध लेखक अरविंद जगताप यांच्या साथीने मराठी रुपेरी पडद्यावर दिग्दर्शकीय पदार्पण करणारे दिनेश जगताप यांनी या ‘आणीबाणी’ साठी  पुढाकार  घेतला आहे. 'दिनिशा फिल्म्स' निर्मित ‘आणीबाणी’ हा मराठी चित्रपट 28 जुलै ला प्रेक्षकांच्या भेटीला येणार आहे.  छोट्या  पडद्यावर बरंच काम केल्यानंतर आता मराठी रुपेरी पडदद्यावर ‘आणीबाणी’ सारखा संवेदनशील विषय रंजकपणे मांडण्याचं धाडस दिग्दर्शक दिनेश जगताप यांनी लेखकाच्या सोबतीने  दाखवलं  आहे.

        आणीबाणीच्या काळाच्या पार्श्वभूमीवर सांगितलेली ही हलकी-फुलकी गोष्ट आहे. या चित्रपटातील नायकाच्या अभिमन्यूच्या अफलातून संघर्षाची. एखाद्या सरकारी आदेशाची अंमलबजावणी करताना होणाऱ्या गोंधळाची. नवरा बायकोच्या प्रेमाची आणि सोबत बाप लेकाच्या नात्याची. राजकीय परिस्थितीवर आपल्या मिश्किल लिखाणाने प्रहार करत लेखक अरविद जगताप यांनी आणीबाणीच्या
```

```
पार्श्वभूमीवर  ही रंजक कथा लिहिली आहे. ‘आणीबाणी’ कोणासाठी अडचण ठरणार? आणि अडचणीत सापडलेले या ‘आणीबाणी’ तून
कसे बाहेर पडणार? याची मनोरंजक कथा चित्रपटात  मांडण्यात आली आहे.

    </p>

</asp:Content>
```

Politics.aspx

```
<%@ Page Title="" Language="C#" MasterPageFile="~/Site1.Master"
AutoEventWireup="true" CodeBehind="Politics.aspx.cs" Inherits="PracMaster.Politics"
%>

<asp:Content ID="Content1" ContentPlaceHolderID="head" runat="server">

</asp:Content>

<asp:Content ID="Content2" ContentPlaceHolderID="ContentPlaceHolder1"
runat="server">

    <center>

        <img src="modi.jpg" height="300px"/>

        <h3>PM Modi Returns To India After Landmark Visits To US,
Egypt</h3></center>

        <p>The prime minister had embarked on his visit to the US on June 20 and in New
York, he led a historic event at the UN Headquarters to commemorate the 9th
International Day of Yoga on June 21.</p>

        <p>Prime Minister Narendra Modi returned to India Sunday night after his six-day
visit to the US and Egypt during which several landmark agreements were signed.</p>

        <p>PM Modi was received at the Delhi airport by Union Minister of State for
External Affairs Meenakashi Lekhi and BJP chief J P Nadda. BJP leaders and party MPs
from Delhi such as Harsh Vardhan, Hans Raj Hans and Gautam Gambhir were also
present.</p>

    <p>The visit was marked by several major deals to boost cooperation in key areas such
as defence, space and trade.

PM Modi arrived in Cairo on June 24 after concluding his high-profile state visit to the
U.S. and was received at the airport by Egyptian Prime Minister Mostafa Madbouly.</p>

    <p>He concluded his first-ever visit to Egypt Sunday evening. During the visit, he held
talks with President Abdel Fattah El-Sisi and was conferred the Arab country's highest
honour 'Order of the Nile'.
```

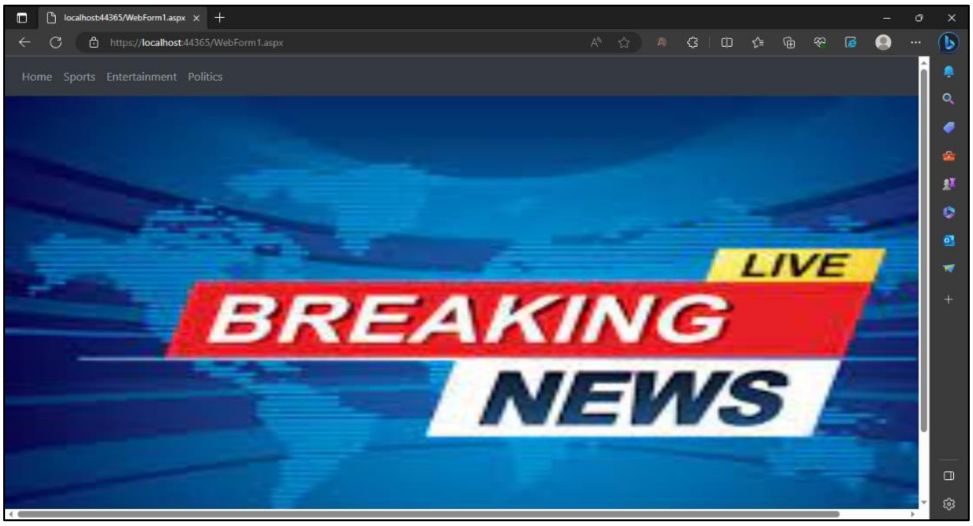
PM Modi and Mr. Sisi discussed ways to further strengthen the strategic partnership between the two countries with a focus on improving trade and investments, energy ties and people-to-people ties. The two countries elevated their relationship to a "Strategic Partnership".

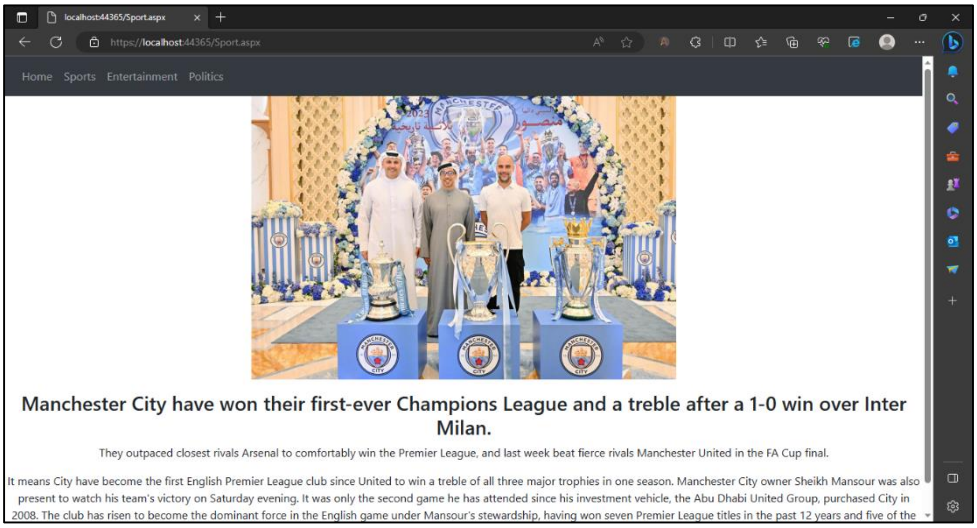
President El-Sisi conferred Modi the 'Order of the Nile' award - Egypt's highest state honour. This is the 13th highest state honour conferred upon Prime Minister Modi.</p>

<p>“He asked Nadda ji how it is going here, and Nadda ji told him that party leaders were reaching out to people with the report card of the nine years of his government, and the country is happy,” BJP MP Manoj Tiwari told reporters when asked what the Prime Minister asked them after meeting them at the airport.</p>

</asp:Content>

Output:

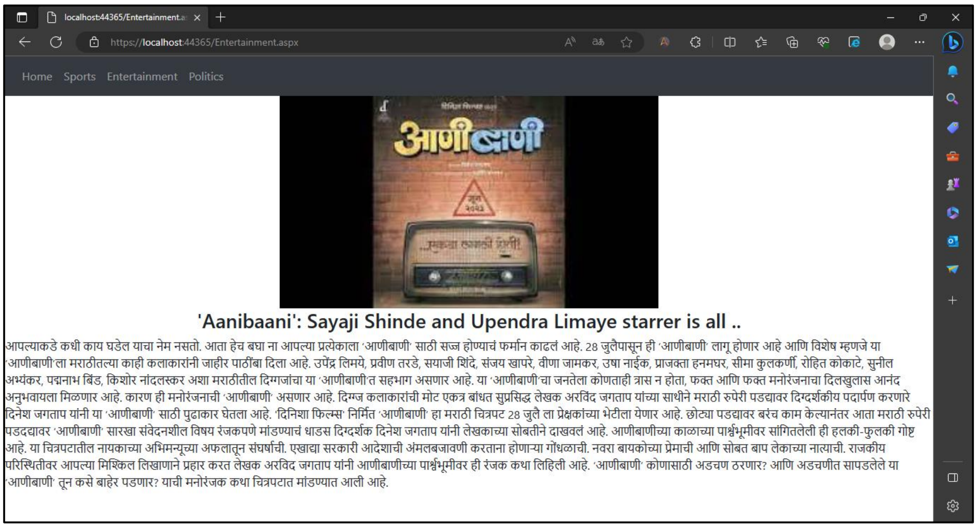

localhost:44365/WebForm1.aspx
https://localhost:44365/WebForm1.aspx
Home
Sports
Entertainment
Politics
LIVE
BREAKING
NEWS


localhost:44365/Sport.aspx
https://localhost:44365/Sport.aspx
Home
Sports
Entertainment
Politics

Manchester City have won their first-ever Champions League and a treble after a 1-0 win over Inter Milan.

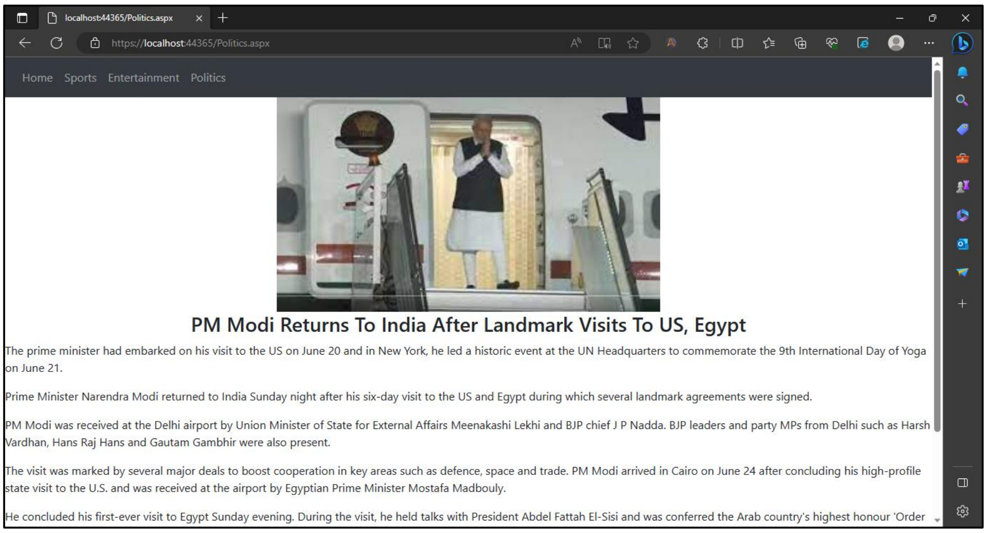
They outpaced closest rivals Arsenal to comfortably win the Premier League, and last week beat fierce rivals Manchester United in the FA Cup final.

It means City have become the first English Premier League club since United to win a treble of all three major trophies in one season. Manchester City owner Sheikh Mansour was also present to watch his team's victory on Saturday evening. It was only the second game he has attended since his investment vehicle, the Abu Dhabi United Group, purchased City in 2008. The club has risen to become the dominant force in the English game under Mansour's stewardship, having won seven Premier League titles in the past 12 years and five of the


localhost:44365/Entertainment.a
https://localhost:44365/Entertainment.aspx
Home
Sports
Entertainment
Politics

'Aanibaani': Sayaji Shinde and Upendra Limaye starrer is all ..

आपल्याकडे कधी काय घडेल याचा नेम नसतो. आता हेच बघा ना आपल्या प्रत्येकाला ‘आणीबाणी’ साठी सज्ज होण्याचं फर्मान काढलं आहे. 28 जुलैपासून ही ‘आणीबाणी’ लागू होणार आहे आणि विशेष म्हणजे या ‘आणीबाणी’ला मराठीतल्या काही कलाकारांनी जाहीर पाठींबा दिला आहे. उपेंद्र लिमये, प्रवीण तरडे, सयाजी शिंदे, संजय खापरे, वीणा जामकर, उषा नाईक, प्राजक्ता हनमघर, सीमा कुलकर्णी, रोहित कोकाटे, सुनील अभ्यंकर, पद्मनाभ बिंड, किशोर नांदलस्कर अशा मराठीतील दिग्गजांचा या ‘आणीबाणी’त सहभाग असणार आहे. या ‘आणीबाणी’चा जनतेला कोणताही त्रास न होता, फक्त आणि फक्त मनोरंजनाचा दिलखुलास आनंद अनुभवायला मिळणार आहे. कारण ही मनोरंजनाची ‘आणीबाणी’ असणार आहे. दिग्ज कलाकारांची मोट एकत्र बांधत सुप्रसिद्ध लेखक अरविंद जगताप यांच्या साथीने मराठी रुपेरी पडद्यावर दिग्दर्शकीय पदार्पण करणारे दिनेश जगताप यांनी या ‘आणीबाणी’ साठी पुढाकार घेतला आहे. 'दिनिशा फिल्म्स' निर्मित ‘आणीबाणी’ हा मराठी चित्रपट 28 जुलै ला प्रेक्षकांच्या भेटीला येणार आहे. छोट्या पडद्यावर बरंच काम केल्यानंतर आता मराठी रुपेरी पडदद्यावर ‘आणीबाणी’ सारखा संवेदनशील विषय रंजकपणे मांडण्याचं धाडस दिग्दर्शक दिनेश जगताप यांनी लेखकाच्या सोबतीने दाखवलं आहे. आणीबाणीच्या काळाच्या पार्श्वभूमीवर सांगितलेली ही हलकी-फुलकी गोष्ट आहे. या चित्रपटातील नायकाच्या अभिमन्यूच्या अफलातून संघर्षाची. एखाद्या सरकारी आदेशाची अंमलबजावणी करताना होणाऱ्या गोंधळाची. नवरा बायकोच्या प्रेमाची आणि सोबत बाप लेकाच्या नात्याची. राजकीय परिस्थितीवर आपल्या मिश्किल लिखाणाने प्रहार करत लेखक अरविंद जगताप यांनी आणीबाणीच्या पार्श्वभूमीवर ही रंजक कथा लिहिली आहे. ‘आणीबाणी’ कोणासाठी अडचण ठरणार? आणि अडचणीत सापडलेले या ‘आणीबाणी’ तून कसे बाहेर पडणार? याची मनोरंजक कथा चित्रपटात मांडण्यात आली आहे.


localhost:44365/Politics.aspx
https://localhost:44365/Politics.aspx
Home
Sports
Entertainment
Politics

PM Modi Returns To India After Landmark Visits To US, Egypt

The prime minister had embarked on his visit to the US on June 20 and in New York, he led a historic event at the UN Headquarters to commemorate the 9th International Day of Yoga on June 21.

Prime Minister Narendra Modi returned to India Sunday night after his six-day visit to the US and Egypt during which several landmark agreements were signed.

PM Modi was received at the Delhi airport by Union Minister of State for External Affairs Meenakashi Lekhi and BJP chief J P Nadda. BJP leaders and party MPs from Delhi such as Harsh Vardhan, Hans Raj Hans and Gautam Gambhir were also present.

The visit was marked by several major deals to boost cooperation in key areas such as defence, space and trade. PM Modi arrived in Cairo on June 24 after concluding his high-profile state visit to the U.S. and was received at the airport by Egyptian Prime Minister Mostafa Madbouly.

He concluded his first-ever visit to Egypt Sunday evening. During the visit, he held talks with President Abdel Fattah El-Sisi and was conferred the Arab country's highest honour 'Order

Category 4: ADO.NET

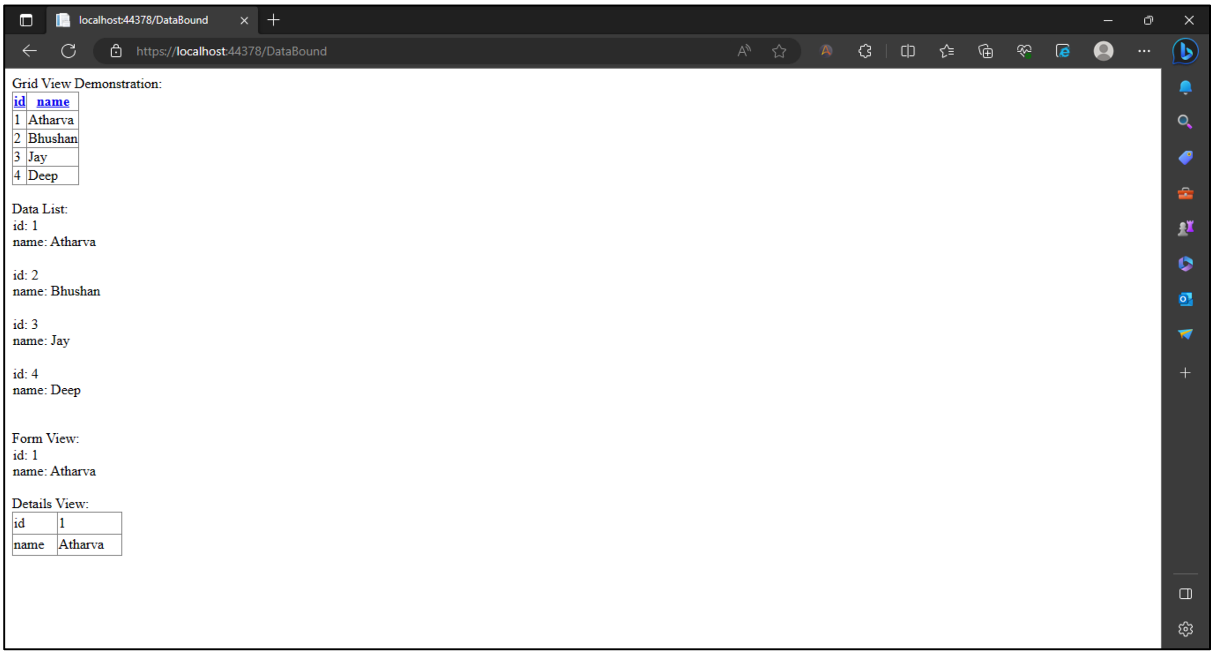
A. Create a webpage that demonstrates the use of data bound controls of ASP.NET

Code:

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

<!DOCTYPE html>

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

```
<head runat="server">
    <title></title>
</head>
<body>
    <form id="form1" runat="server">
        <div>
            Grid View Demonstration:<asp:GridView ID="GridView1" runat="server"
AllowSorting="True" AutoGenerateColumns="False" DataSourceID="SqlDataSource1">
                <Columns>
                    <asp:BoundField DataField="id" HeaderText="id" SortExpression="id" />
                    <asp:BoundField DataField="name" HeaderText="name"
SortExpression="name" />
                </Columns>
            </asp:GridView>
            <br />
            Data List:<asp:DataList ID="DataList1" runat="server"
DataSourceID="SqlDataSource1">
                <ItemTemplate>
                    id:
                    <asp:Label ID="idLabel" runat="server" Text='<%# Eval("id") %>' />
                    <br />
                    name:
                    <asp:Label ID="nameLabel" runat="server" Text='<%# Eval("name") %>' />
                    <br />
<br />
                </ItemTemplate>
            </asp:DataList>
            <br />
        Form View:<asp:FormView ID="FormView1" runat="server"
    DataSourceID="SqlDataSource1">

            <EditItemTemplate>

              id:

              <asp:TextBox ID="idTextBox" runat="server" Text='<%# Bind("id") %>' />

              <br />

              name:

              <asp:TextBox ID="nameTextBox" runat="server" Text='<%# Bind("name")
    %>' />

              <br />

              <asp:LinkButton ID="UpdateButton" runat="server"
    CausesValidation="True" CommandName="Update" Text="Update" />

              &nbsp;<asp:LinkButton ID="UpdateCancelButton" runat="server"
    CausesValidation="False" CommandName="Cancel" Text="Cancel" />

            </EditItemTemplate>

            <InsertItemTemplate>

              id:

              <asp:TextBox ID="idTextBox" runat="server" Text='<%# Bind("id") %>' />

              <br />

              name:

              <asp:TextBox ID="nameTextBox" runat="server" Text='<%# Bind("name")
    %>' />

              <br />

              <asp:LinkButton ID="InsertButton" runat="server"
    CausesValidation="True" CommandName="Insert" Text="Insert" />

              &nbsp;<asp:LinkButton ID="InsertCancelButton" runat="server"
    CausesValidation="False" CommandName="Cancel" Text="Cancel" />

            </InsertItemTemplate>

            <ItemTemplate>

              id:
                <asp:Label ID="idLabel" runat="server" Text='<%# Bind("id") %>' />

                <br />

                name:

                <asp:Label ID="nameLabel" runat="server" Text='<%# Bind("name") %>'
/>

                <br />


            </ItemTemplate>

        </asp:FormView>

        <br />

        Details View:<br />

        <asp:DetailsView ID="DetailsView1" runat="server"
AutoGenerateRows="False" DataSourceID="SqlDataSource1" Height="50px"
Width="125px">

            <Fields>

                <asp:BoundField DataField="id" HeaderText="id" SortExpression="id" />

                <asp:BoundField DataField="name" HeaderText="name"
SortExpression="name" />

            </Fields>

        </asp:DetailsView>

        <br />

        <asp:SqlDataSource ID="SqlDataSource1" runat="server"
ConnectionString="<%$ ConnectionStrings:NMITD_C22059ConnectionString %>"
ProviderName="<%$
ConnectionStrings:NMITD_C22059ConnectionString.ProviderName %>"
SelectCommand="SELECT * FROM [student]"></asp:SqlDataSource>

      </div>

   </form>

</body>

</html>
```

Output:



Grid View Demonstration:

id	name
1	Atharva
2	Bhushan
3	Jay
4	Deep

Data List:
id: 1
name: Atharva

id: 2
name: Bhushan

id: 3
name: Jay

id: 4
name: Deep

Form View:
id: 1
name: Atharva

Details View:

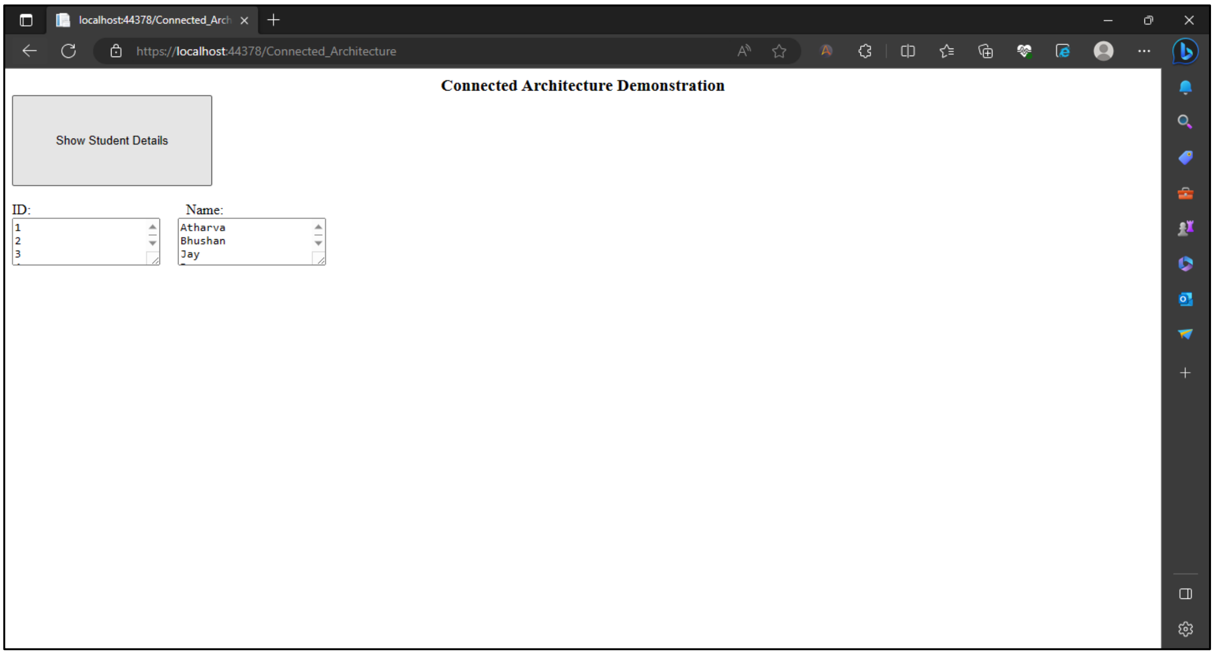
id	1
name	Atharva

B. Design a webpage to demonstrate a connection oriented architecture.

Code:

```
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;
namespace Database_Connectivity
{
    public partial class Connected_Architecture : System.Web.UI.Page
    {
        SqlConnection myConn;
        SqlCommand myCmd;
        SqlDataReader myRdr;
        protected void Page_Load(object sender, EventArgs e)
        {
            myConn = new SqlConnection();
            String connStr = @"Data Source=DESKTOP-HR1RK6B;Initial
Catalog=NMITD_C22059;Integrated Security=True";
            myConn.ConnectionString= connStr;
            myConn.Open();
        }
        protected void Button1_Click(object sender, EventArgs e)
        {
            TextBox1.Text = null;
            TextBox2.Text = null;
            myCmd = new SqlCommand("select * from student",myConn);
            myRdr = myCmd.ExecuteReader();
            while(myRdr.Read())
            {
                string id = myRdr[0].ToString();
                string name = myRdr[1].ToString();
                TextBox1.Text += id + " " + Environment.NewLine;

                TextBox2.Text += name + " " + Environment.NewLine;

            }

            myConn.Close();

        }

    }

}
```

Output:


localhost:44378/Connected_Arch
https://localhost:44378/Connected_Architecture

Connected Architecture Demonstration

ID:

```
1
2
3
```

Name:

```
Atharva
Bhushan
Jay
```

C. Design a webpage to demonstrate a disconnected architecture.

Code:

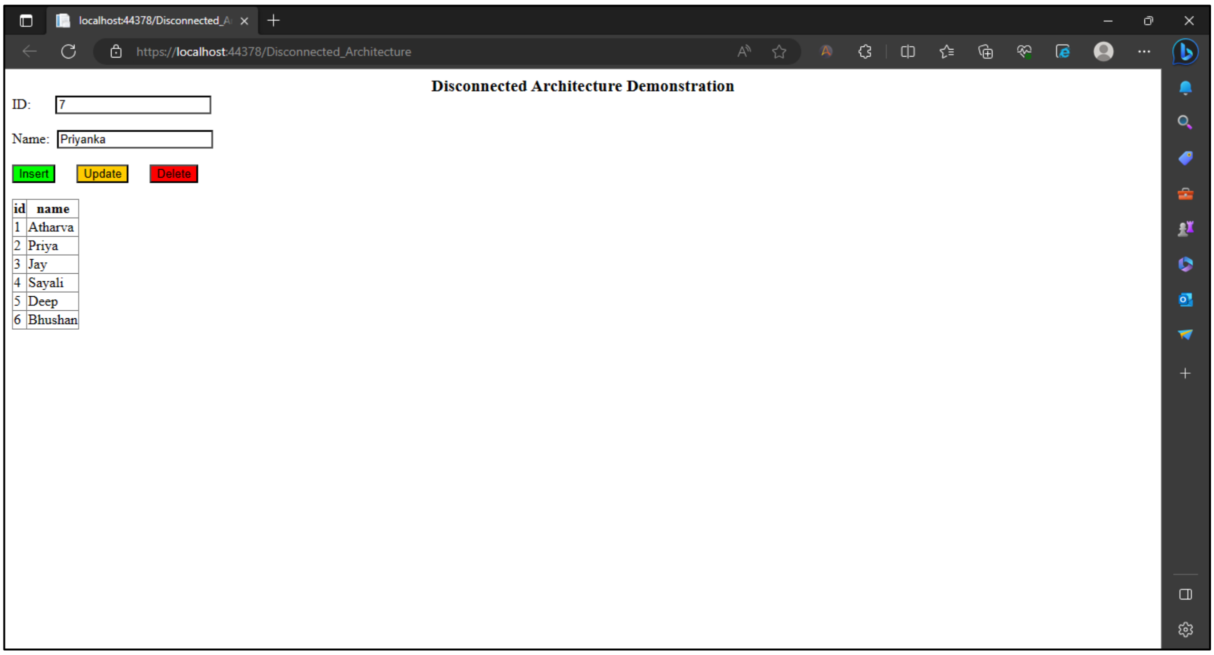
```
using System;

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 Database_Connectivity
{
    public partial class Disconnected_Architecture : System.Web.UI.Page
    {
        SqlConnection myConn;
        SqlDataAdapter myAdapter;
        static int sindex;
        protected void Page_Load(object sender, EventArgs e)
        {
            myConn = new SqlConnection();
            String connStr = @"Data Source=DESKTOP-HR1RK6B;Initial
Catalog=NMITD_C22059;Integrated Security=True";
            myConn.ConnectionString = connStr;
            myConn.Open();
            String query = "select * from student";
            myAdapter = new SqlDataAdapter(query,myConn);
            DataSet ds = new DataSet();
            myAdapter.Fill(ds);
            GridView1.DataSource = ds;
            GridView1.DataBind();
        }
        protected void GridView1_SelectedIndexChanged(object sender, EventArgs e)
        {
            GridViewRow row = GridView1.SelectedRow;
            TextBox1.Text = row.Cells[0].Text;

            TextBox2.Text = row.Cells[1].Text;

            sindex = GridView1.SelectedIndex;

        }

        protected void GridView1_RowDataBound(object sender, GridViewRowEventArgs
e)

        {

            if(e.Row.RowType == DataControlRowType.DataRow)

            {

                e.Row.Attributes["onclick"] =
Page.ClientScript.GetPostBackClientHyperlink(GridView1, "select$" +
e.Row.RowIndex);

                e.Row.ToolTip = "Click to Select this Row";

            }

        }

        protected void Button1_Click(object sender, EventArgs e)

        {

            String query = "select * from student";

            myAdapter = new SqlDataAdapter(query, myConn);

            DataSet ds = new DataSet();

            myAdapter.Fill(ds);

            SqlCommandBuilder cmb = new SqlCommandBuilder(myAdapter);

            DataRow dr = ds.Tables[0].NewRow();

            dr["id"] = TextBox1.Text;

            dr["name"] = TextBox2.Text;

            ds.Tables[0].Rows.Add(dr);

            myAdapter.Update(ds);

            GridView1.DataSource = ds.Tables[0];
```

```
    GridView1.DataBind();
}
protected void Button2_Click(object sender, EventArgs e)
{
    String query = "select * from student";
    myAdapter = new SqlDataAdapter(query, myConn);
    DataSet ds = new DataSet();
    myAdapter.Fill(ds);
    SqlCommandBuilder cmb = new SqlCommandBuilder(myAdapter);
    DataRow dr = ds.Tables[0].Rows[sindex];
    dr["id"] = Convert.ToInt32(TextBox1.Text);
    dr["name"] = TextBox2.Text;
    myAdapter.Update(ds);
    GridView1.DataSource = ds;
    GridView1.DataBind();
}
protected void Button3_Click(object sender, EventArgs e)
{
    String query = "select * from student";
    myAdapter = new SqlDataAdapter(query, myConn);
    DataSet ds = new DataSet();
    myAdapter.Fill(ds);
    SqlCommandBuilder cmb = new SqlCommandBuilder(myAdapter);
    ds.Tables[0].Rows[sindex].Delete();
    myAdapter.Update(ds);
    GridView1.DataSource = ds;
    GridView1.DataBind();
```

```
        }
    }
}
```

Output:

Before Inserting



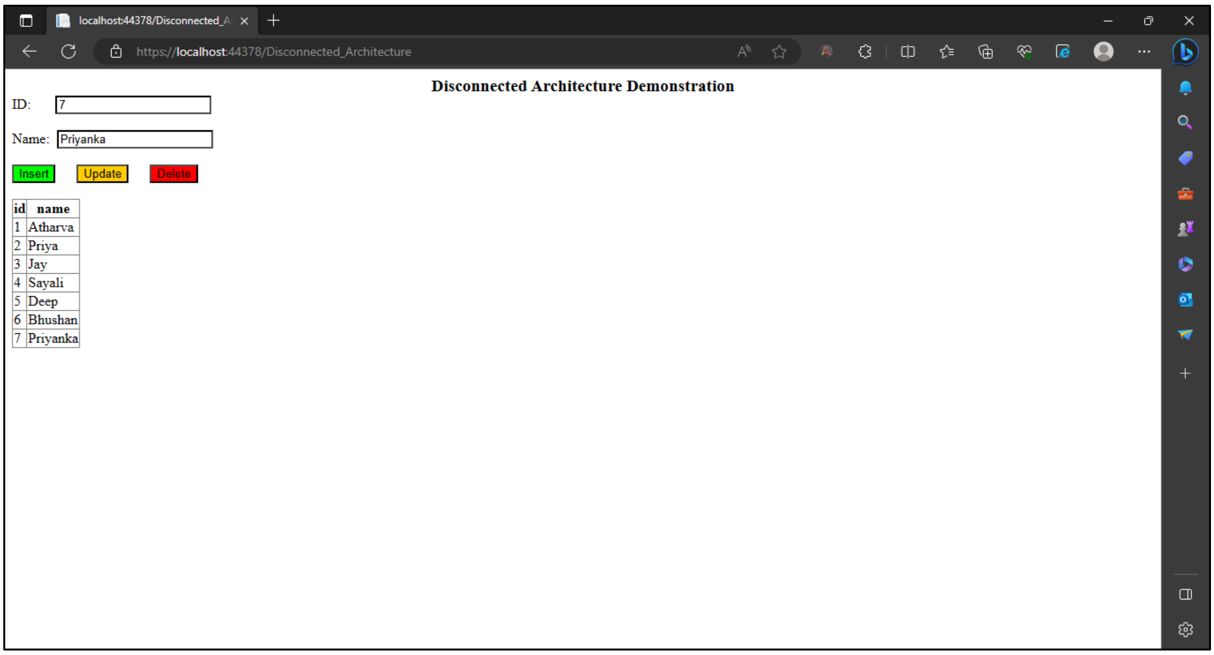
Disconnected Architecture Demonstration

ID: 7

Name: Priyanka

id	name
1	Atharva
2	Priya
3	Jay
4	Sayali
5	Deep
6	Bhushan

After Inserting



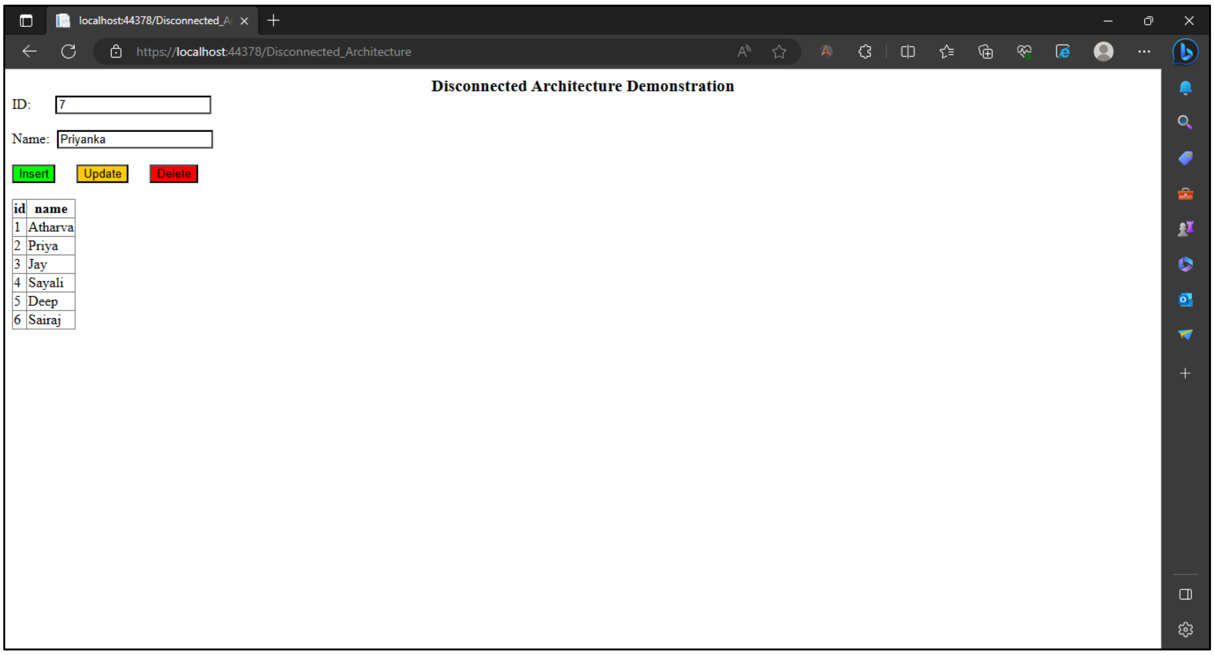
Disconnected Architecture Demonstration

ID: 7

Name: Priyanka

id	name
1	Atharva
2	Priya
3	Jay
4	Sayali
5	Deep
6	Bhushan
7	Priyanka

After Updating



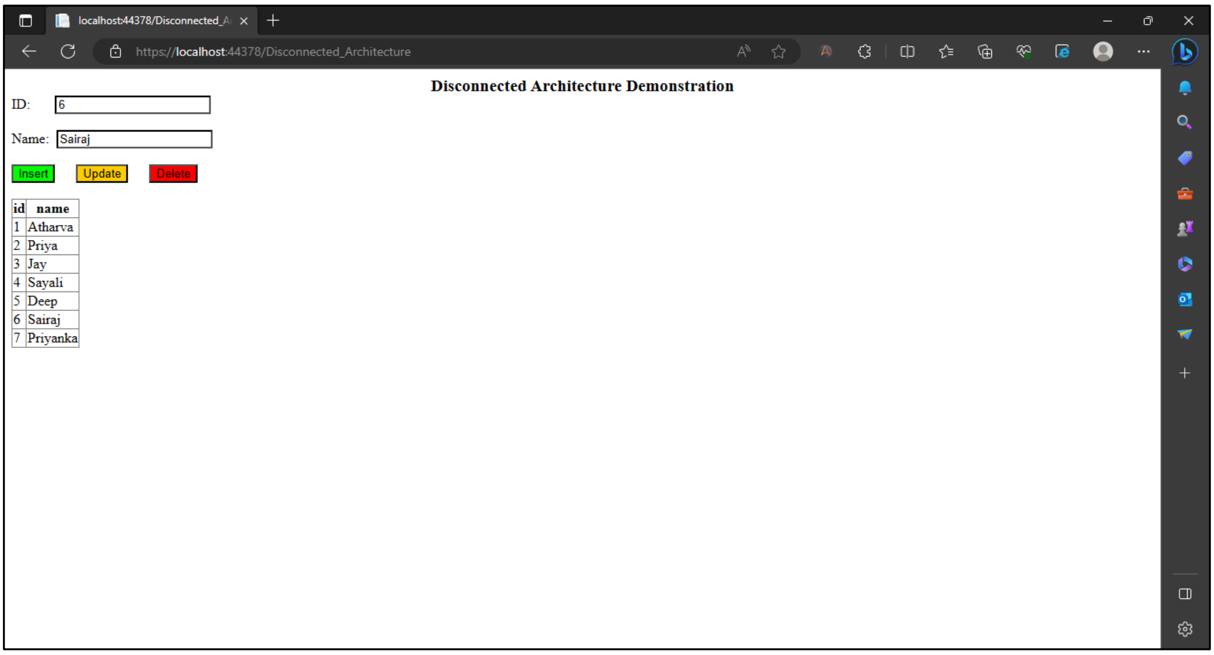
Disconnected Architecture Demonstration

ID: 7

Name: Priyanka

id	name
1	Atharva
2	Priya
3	Jay
4	Sayali
5	Deep
6	Sairaj

After Deleting Id : 7



localhost:44378/Disconnected_A
https://localhost:44378/Disconnected_Architecture

Disconnected Architecture Demonstration

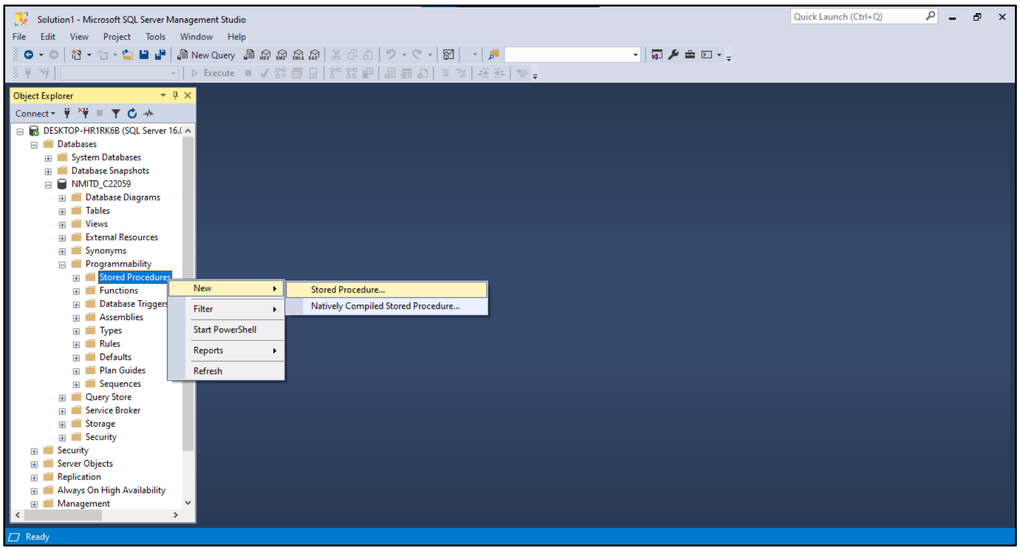
ID: 6

Name: Sairaj

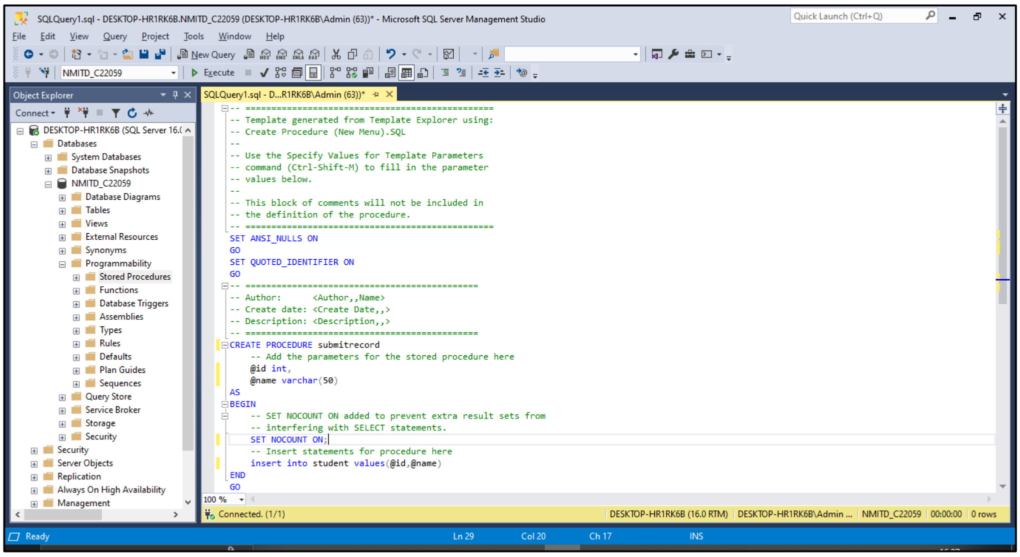
id	name
1	Atharva
2	Priya
3	Jay
4	Sayali
5	Deep
6	Sairaj
7	Priyanka

D. Design a webpage to demonstrate use of stored procedure.

Steps:

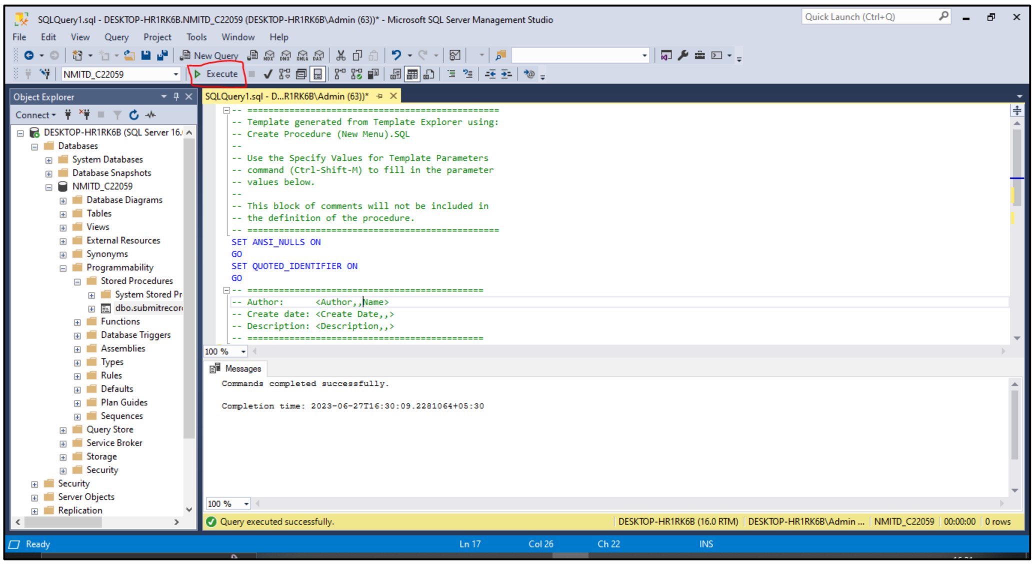


Write the following code given below:


SQLQuery1.sql - DESKTOP-HR1RK6B.NMITD_C22059 (DESKTOP-HR1RK6B\Admin (63))* - Microsoft SQL Server Management Studio
Execute
NMITD_C22059
Object Explorer
SQLQuery1.sql - D...R1RK6B\Admin (63))*
Connected. (1/1)
DESKTOP-HR1RK6B (16.0 RTM)
DESKTOP-HR1RK6B\Admin ...
NMITD_C22059
00:00:00
0 rows
Ready
Ln 29
Col 20
Ch 17
INS

```
-- ================================================
-- Template generated from Template Explorer using:
-- Create Procedure (New Menu).SQL
--
-- Use the Specify Values for Template Parameters
-- command (Ctrl-Shift-M) to fill in the parameter
-- values below.
--
-- This block of comments will not be included in
-- the definition of the procedure.
-- ================================================
SET ANSI_NULLS ON
GO
SET QUOTED_IDENTIFIER ON
GO
-- =============================================
-- Author:      <Author,,Name>
-- Create date: <Create Date,,>
-- Description: <Description,,>
-- =============================================
CREATE PROCEDURE submitrecord
    -- Add the parameters for the stored procedure here
    @id int,
    @name varchar(50)
AS
BEGIN
    -- SET NOCOUNT ON added to prevent extra result sets from
    -- interfering with SELECT statements.
    SET NOCOUNT ON;
    -- Insert statements for procedure here
    insert into student values(@id,@name)
END
GO
```

After Writing Code Click on Execute and then Refresh the Database



```
-- ================================================
-- Template generated from Template Explorer using:
-- Create Procedure (New Menu).SQL
--
-- Use the Specify Values for Template Parameters
-- command (Ctrl-Shift-M) to fill in the parameter
-- values below.
--
-- This block of comments will not be included in
-- the definition of the procedure.
-- ================================================
SET ANSI_NULLS ON
GO
SET QUOTED_IDENTIFIER ON
GO
-- =============================================
-- Author:      <Author,,Name>
-- Create date: <Create Date,,>
-- Description: <Description,,>
-- =============================================
```

```
Commands completed successfully.

Completion time: 2023-06-27T16:30:09.2281064+05:30
```

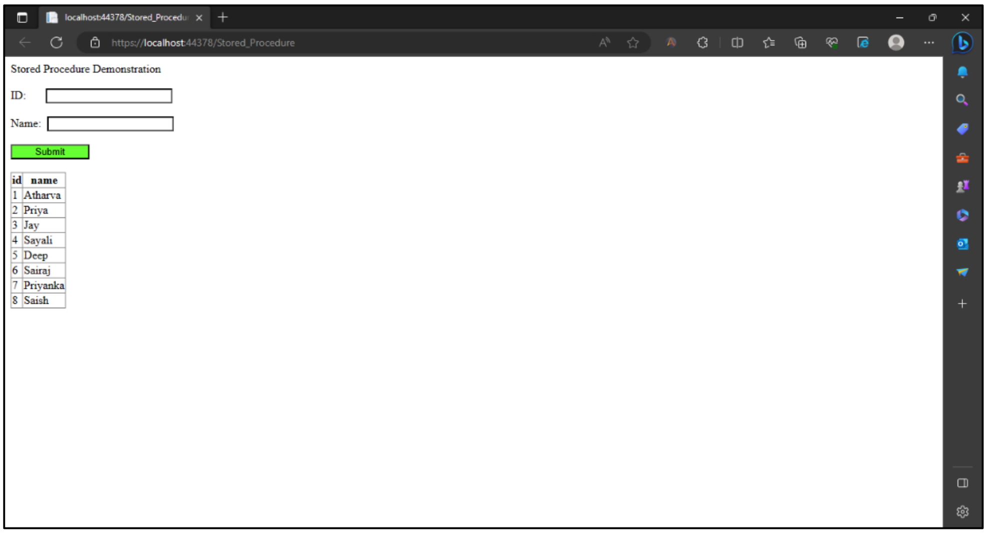
Query executed successfully.

Code:

```
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 Database_Connectivity
{
    public partial class Stored_Procedure : System.Web.UI.Page
    {
        SqlConnection myConn;
        SqlCommand myCmd;
        protected void Page_Load(object sender, EventArgs e)
        {
        }
        protected void Button1_Click(object sender, EventArgs e)
        {
            myConn = new SqlConnection(@"Data Source=DESKTOP-HR1RK6B;Initial
    Catalog=NMITD_C22059;Integrated Security=True");
            myConn.Open();
            myCmd = new SqlCommand("submitrecord", myConn);
            myCmd.CommandType = CommandType.StoredProcedure;
            SqlParameter param1 = myCmd.Parameters.Add("@id",SqlDbType.Int);
            param1.Value = TextBox1.Text;
            SqlParameter param2 = myCmd.Parameters.Add("@name",SqlDbType.VarChar);
            param2.Value = TextBox2.Text;
            myCmd.ExecuteNonQuery();
            GridView1.DataBind();
            myConn.Close();
        }
    }
}
```

Output:

Before Entering Data


localhost:44378/Stored_Procedu
https://localhost:44378/Stored_Procedure

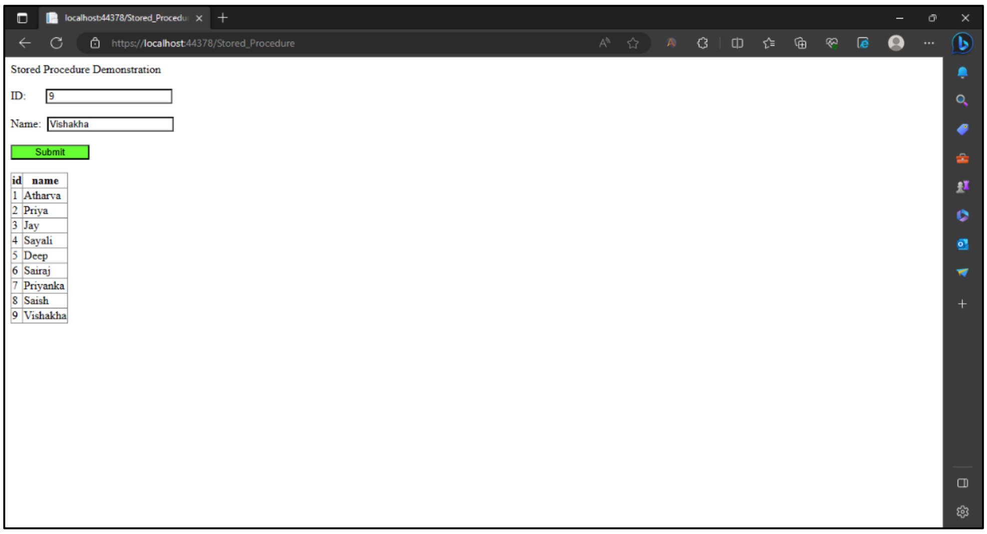
Stored Procedure Demonstration

ID:

Name:

id	name
1	Atharva
2	Priya
3	Jay
4	Sayali
5	Deep
6	Sairaj
7	Priyanka
8	Saish

After Entering Data:



localhost:44378/Stored_Procedu
https://localhost:44378/Stored_Procedure

Stored Procedure Demonstration

ID: 9

Name: Vishakha

id	name
1	Atharva
2	Priya
3	Jay
4	Sayali
5	Deep
6	Sairaj
7	Priyanka
8	Saish
9	Vishakha

Category 5: State Management Techniques

A. Design Web Applications using Client Side Session Managements Techniques

Code:

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 Client_Side_State_Management
{
    public partial class WebForm1 : System.Web.UI.Page
    {
        int count = 0;
        protected void Page_Load(object sender, EventArgs e)
        {
            if (!IsPostBack)
            {
                TextBox1.Text = "0";
            }


        }
        protected void Button2_Click(object sender, EventArgs e)
        {
            count++;
            TextBox1.Text = count.ToString();
        }
        protected void Button1_Click(object sender, EventArgs e)
        {
            if (ViewState["click"] != null)
            {
                count = (int)ViewState["click"] + 1;
            }
            TextBox1.Text = count.ToString();
            ViewState["click"] = count;
        }
    }
}
```

WebForm2.aspx.cs

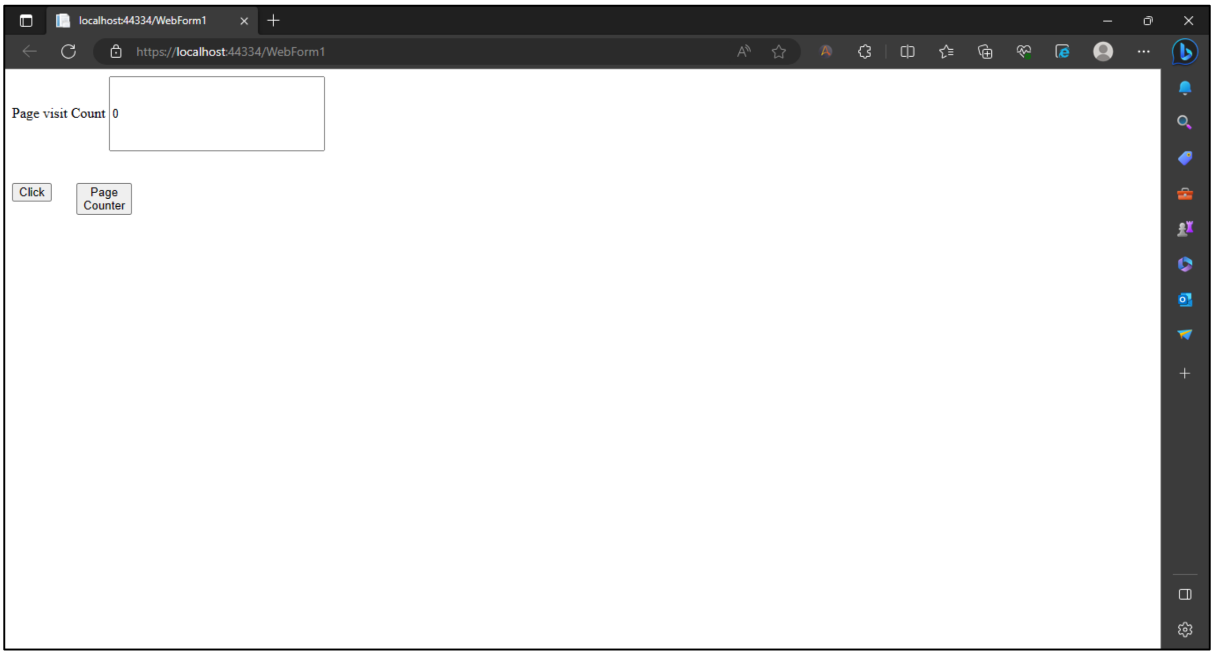
```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Web;
using System.Web.UI;
using System.Web.UI.WebControls;
namespace Client_Side_State_Management
{
    public partial class WebForm2 : System.Web.UI.Page
    {
        protected void Page_Load(object sender, EventArgs e)
        {


        }
        protected void Button1_Click(object sender, EventArgs e)
        {
            HttpCookie cookie1 = new HttpCookie("Info");
            cookie1["Username"] = TextBox1.Text;
            cookie1["Password"] = TextBox2.Text;
            Response.Cookies.Add(cookie1);
            Response.Write("Created a Cookie");
        }
        protected void Button2_Click(object sender, EventArgs e)
        {
            Response.Cookies["Info"].Value = null;
            Response.Cookies["Info"].Expires = DateTime.Now.AddDays(-1);
            Response.Write("Cookies Deleted!!");
        }
    }
}
```

WebForm3.aspx.cs

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Web;
using System.Web.UI;
using System.Web.UI.WebControls;
namespace Client_Side_State_Management
{
    public partial class WebForm3 : System.Web.UI.Page
    {
        protected void Page_Load(object sender, EventArgs e)
        {
            HttpCookie cookie1 = Request.Cookies["Info"];
            if (cookie1 != null)
            {
                Label1.Text = cookie1["Username"];
                Label2.Text = cookie1["Password"];
            }
        }
    }
}
```

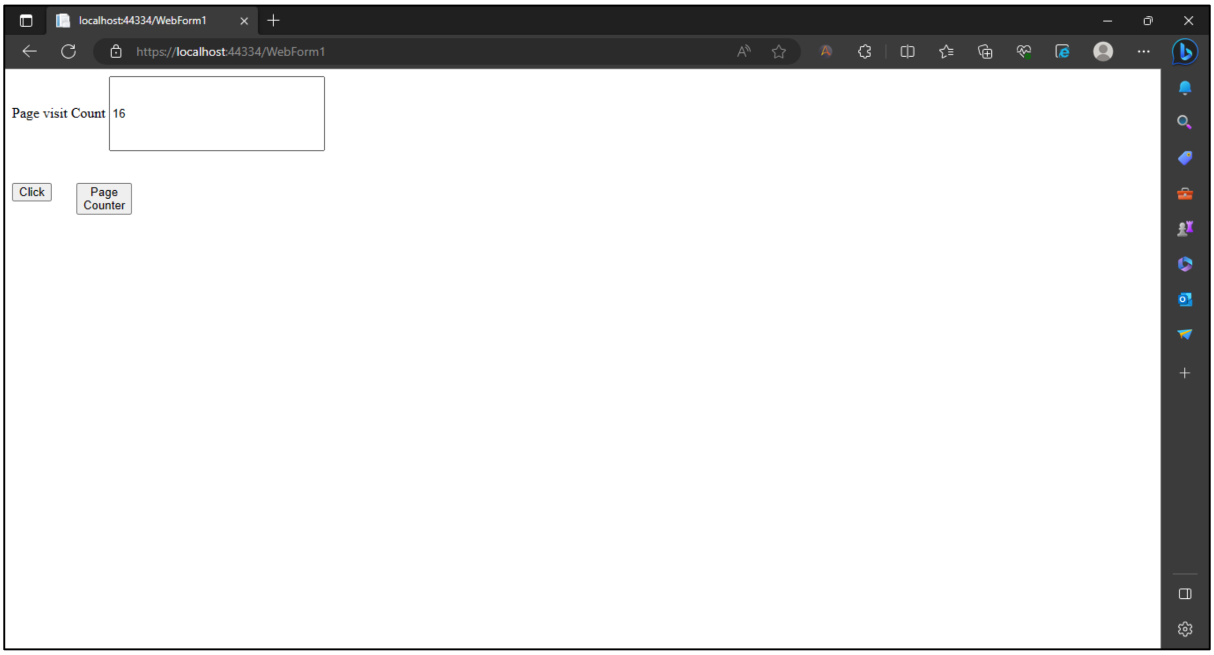
Output:

WebForm1.aspx



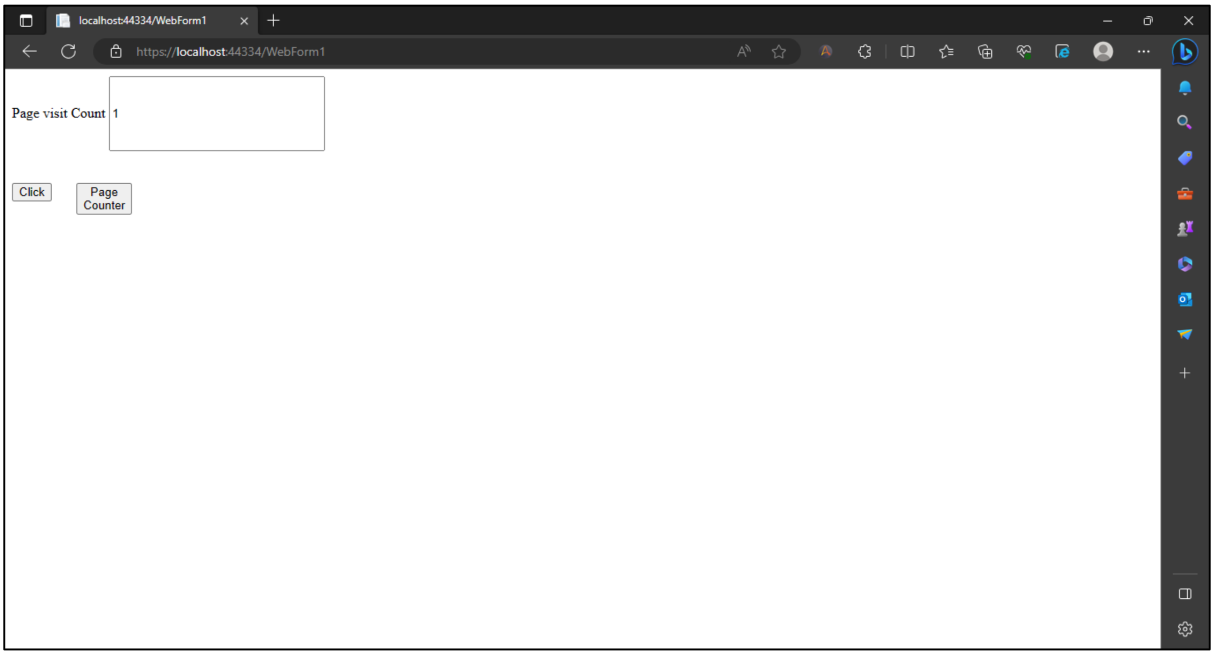
Page visit Count 0

After Clicking on Click multiple times



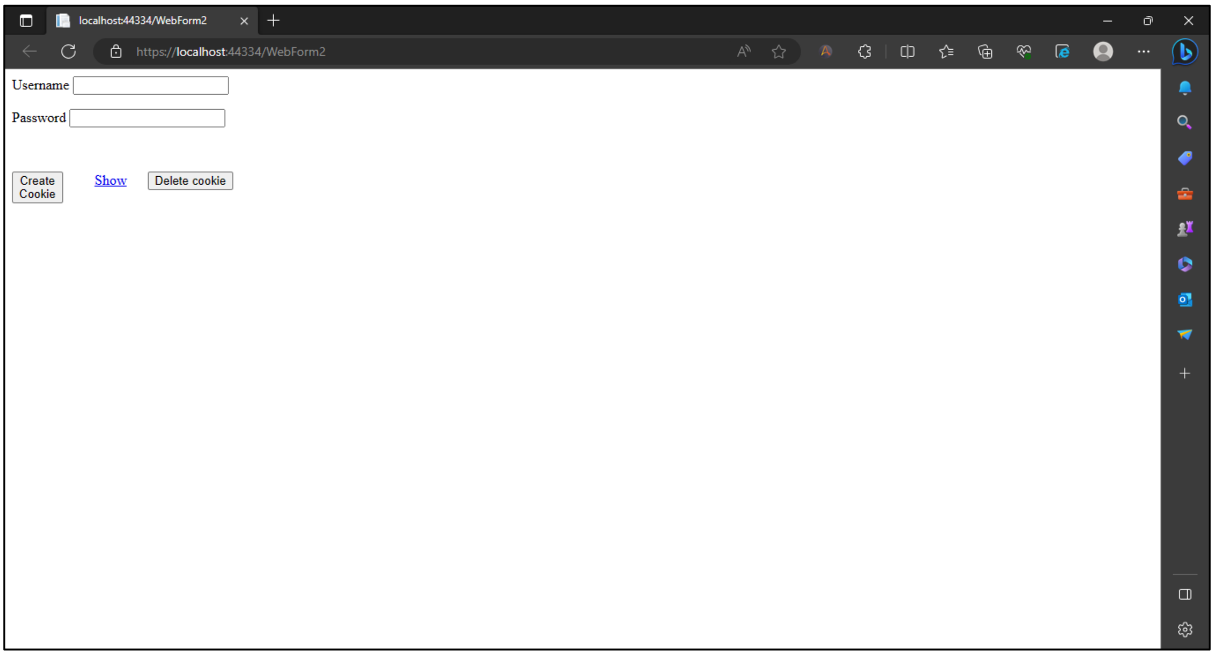
Page visit Count 16

After Clicking on Page Counter



Page visit Count 1

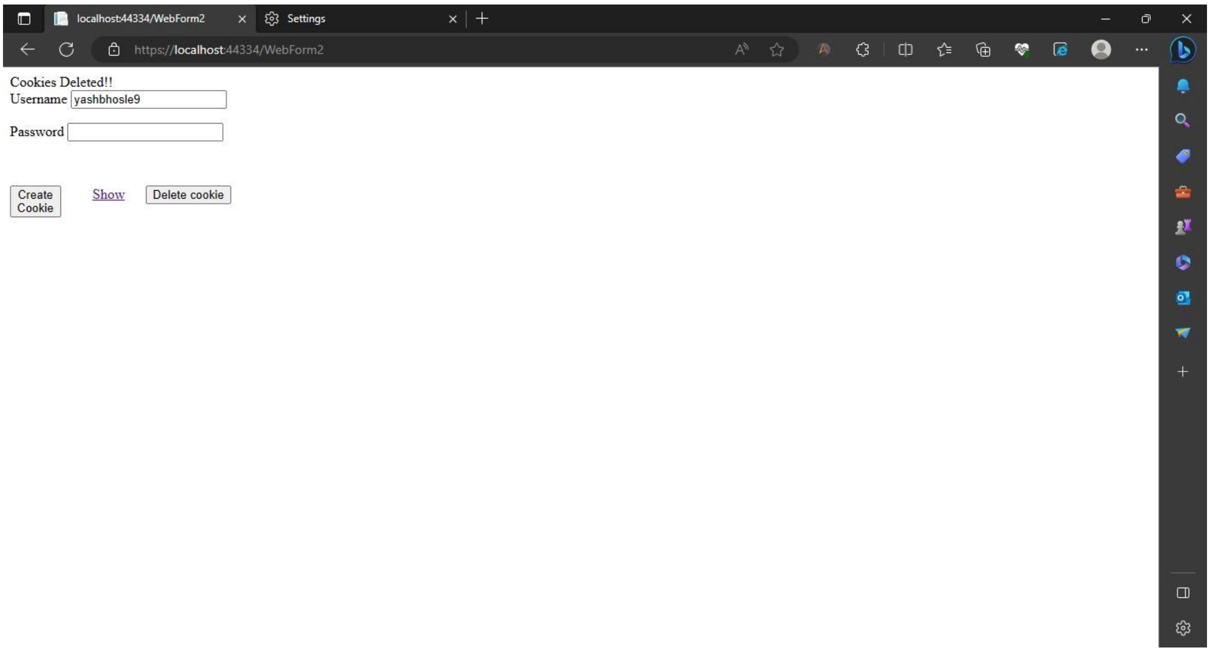
WebForm2.aspx



Username

Password

After Clicking on Create Cookie, A Cookie is created

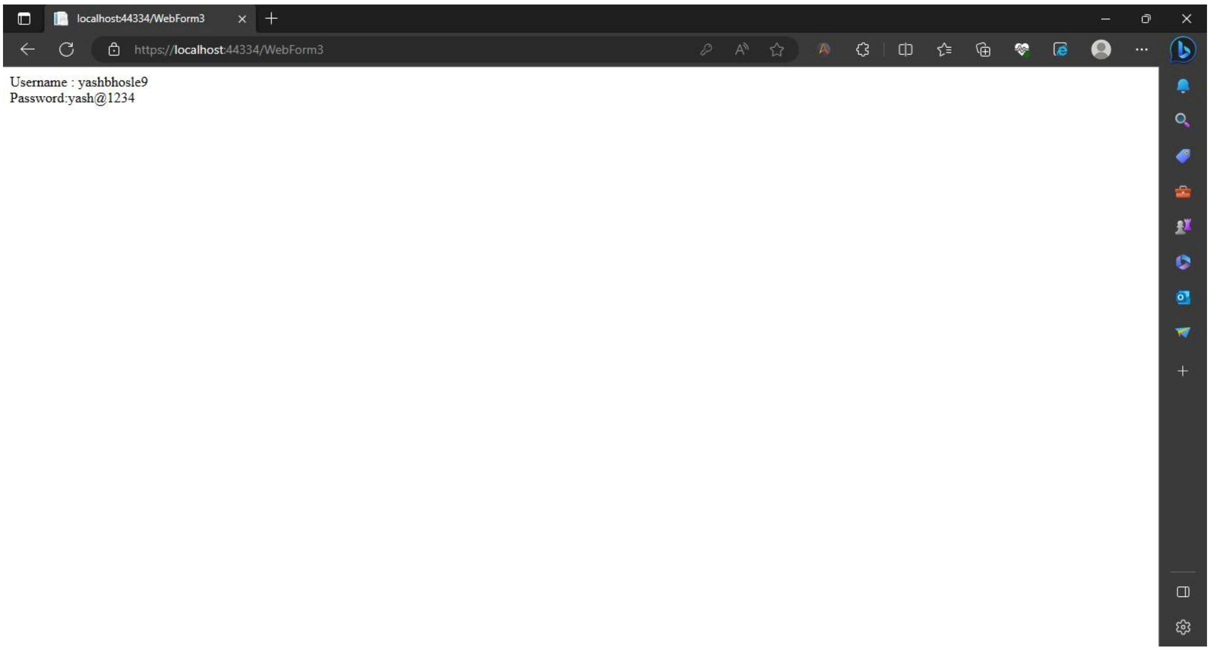


Cookies Deleted!!

Username yashbhosle9

Password

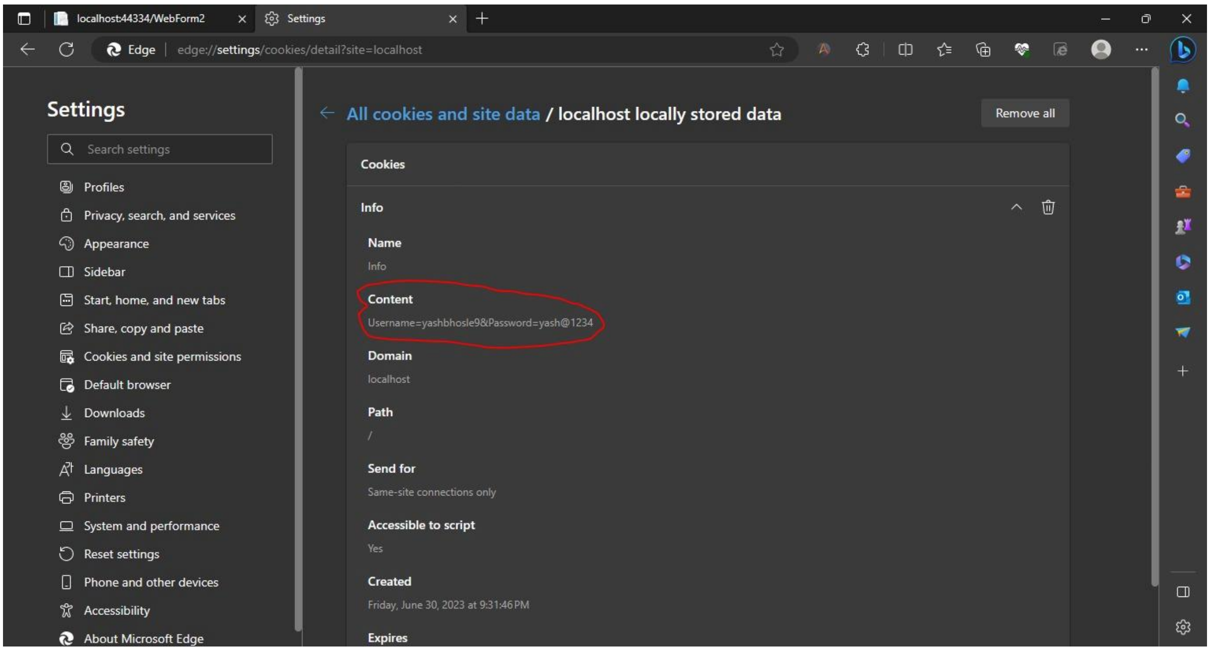
After Clicking on Show



Username : yashbhosle9
Password:yash@1234

You can see the cookies being stored in Browser

After clicking on Delete Cookie, the cookie gets deleted



Name
Info

Content
Username=yashbhosle9&Password=yash@1234

Domain
localhost

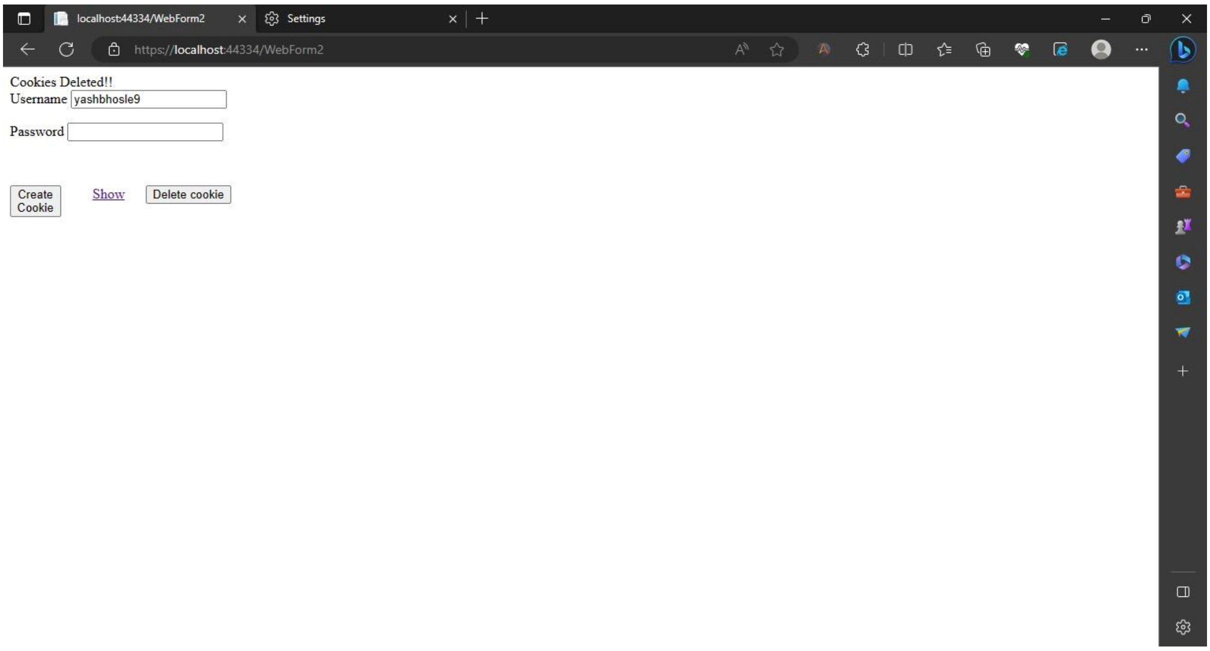
Path
/

Send for
Same-site connections only

Accessible to script
Yes

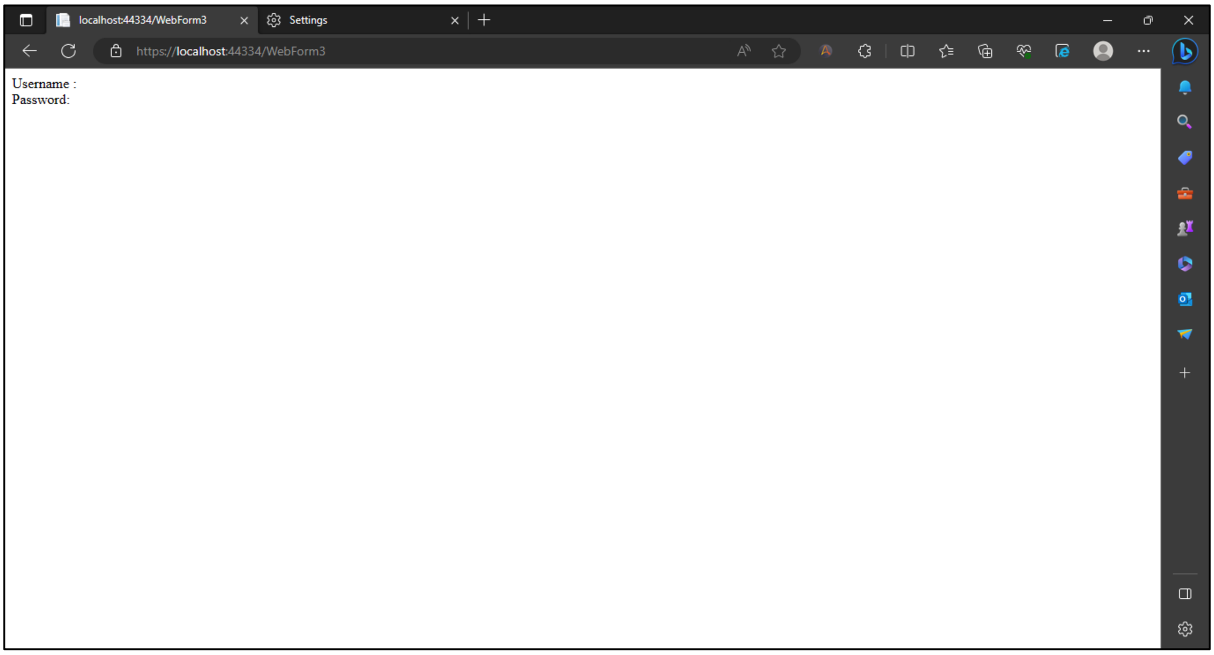
Created
Friday, June 30, 2023 at 9:31:46 PM

Expires



Cookies Deleted!!
Username yashbhosle9

Password



Username :
Password:

B. **Design Web Applications using Server Side Session Management Techniques**

Code:

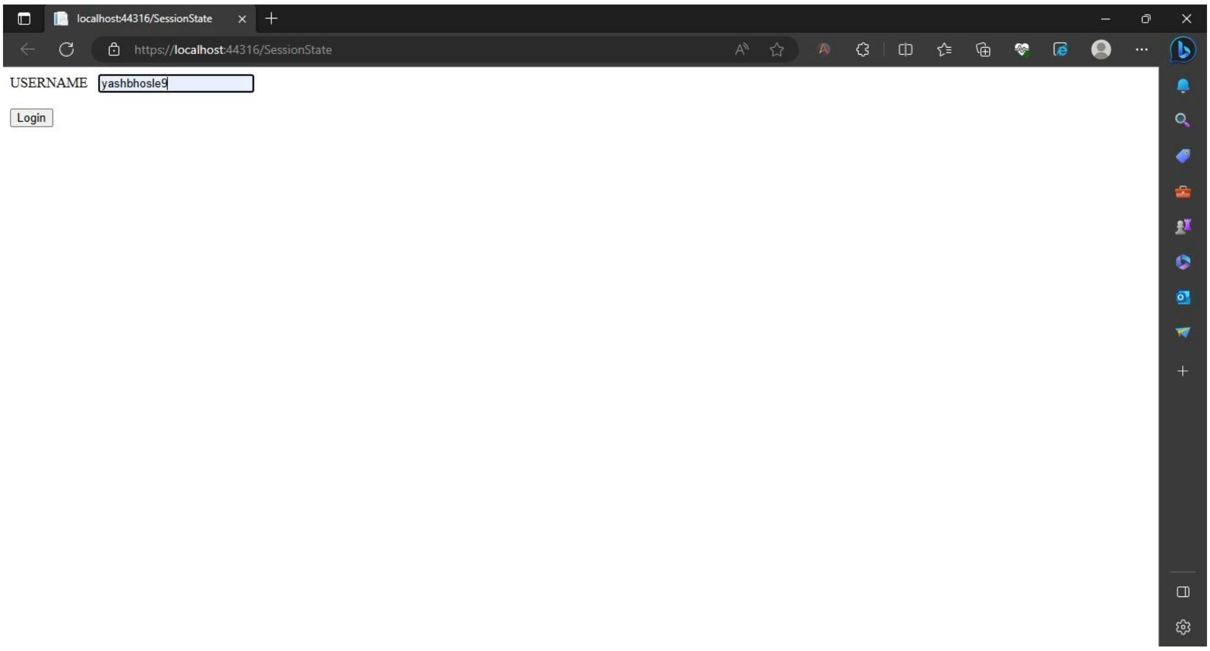
SessionState.aspx.cs

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Web;
using System.Web.UI;
using System.Web.UI.WebControls;
namespace Server_Side_State_Management
{
    public partial class SessionState : System.Web.UI.Page
    {
        protected void Page_Load(object sender, EventArgs e)
        {

        }
        protected void Button1_Click(object sender, EventArgs e)
        {
            Session["Name"] = TextBox1.Text;
            Response.Redirect("~/Home.aspx");
        }
    }
}
```

Home.aspx.cs

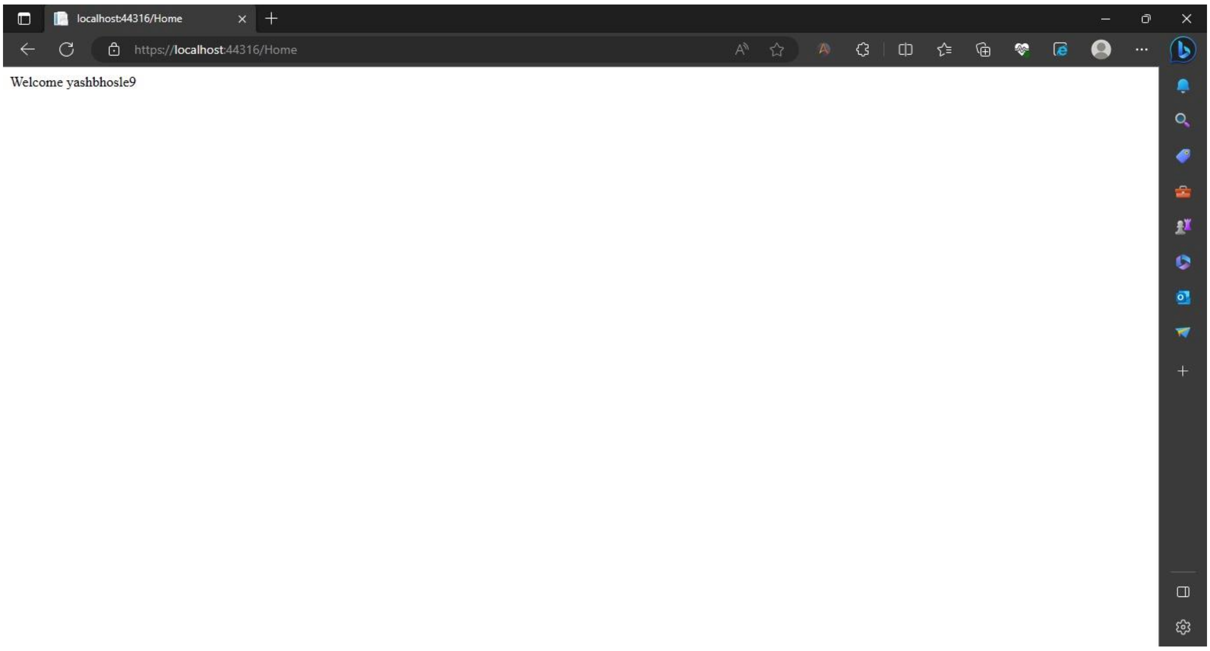
```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Reflection.Emit;
using System.Web;
using System.Web.UI;
using System.Web.UI.WebControls;

namespace Server_Side_State_Management
{
    public partial class Home : System.Web.UI.Page
    {
        protected void Page_Load(object sender, EventArgs e)
        {
            if (Session["Name"] != null && Session["Name"].ToString() != "")
            {
                Lbl1.Text = "Welcome "+Session["Name"].ToString();
            }
            else
            {
                Lbl1.Text = "ANONYMOUS USER";
            }
        }
    }
}
```

Output:


localhost:44316/SessionState
https://localhost:44316/SessionState

USERNAME yashbhosle9

Login



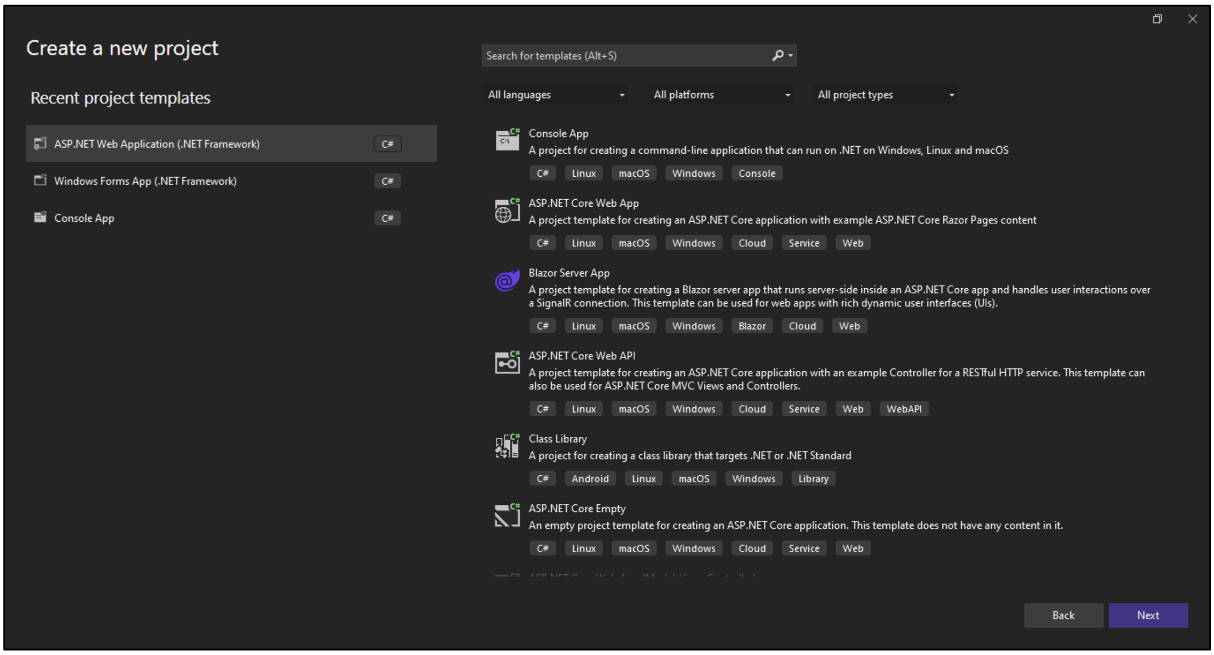
Welcome yashbhosle9

Category 6: Web Services and WCF Service

A. Design Web Application to produce and Consume a web service

Steps:

Create an Empty ASP.NET Web Application (.NET Framework)



Create a new project

Recent project templates

- ASP.NET Web Application (.NET Framework) C#
- Windows Forms App (.NET Framework) C#
- Console App C#

Search for templates (Alt+S)

All languages | All platforms | All project types

Console App
A project for creating a command-line application that can run on .NET on Windows, Linux and macOS
C# Linux macOS Windows Console

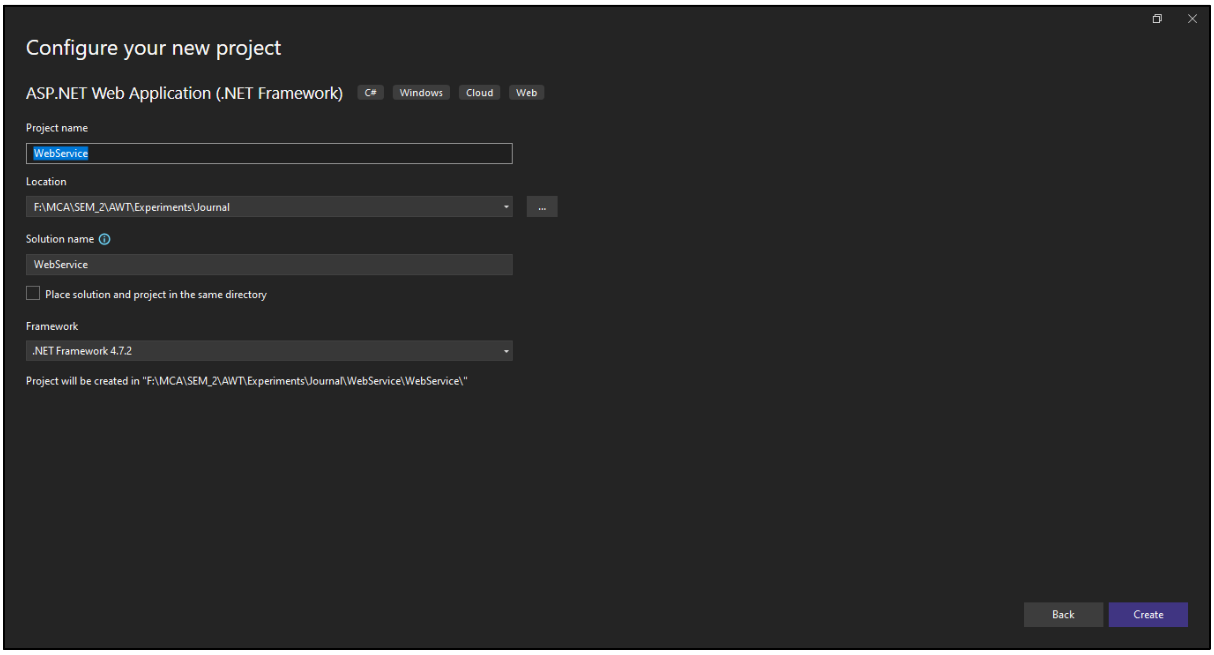
ASP.NET Core Web App
A project template for creating an ASP.NET Core application with example ASP.NET Core Razor Pages content
C# Linux macOS Windows Cloud Service Web

Blazor Server App
A project template for creating a Blazor server app that runs server-side inside an ASP.NET Core app and handles user interactions over a SignalR connection. This template can be used for web apps with rich dynamic user interfaces (UIs).
C# Linux macOS Windows Blazor Cloud Web

ASP.NET Core Web API
A project template for creating an ASP.NET Core application with an example Controller for a RESTful HTTP service. This template can also be used for ASP.NET Core MVC Views and Controllers.
C# Linux macOS Windows Cloud Service Web WebAPI

Class Library
A project for creating a class library that targets .NET or .NET Standard
C# Android Linux macOS Windows Library

ASP.NET Core Empty
An empty project template for creating an ASP.NET Core application. This template does not have any content in it.
C# Linux macOS Windows Cloud Service Web



Configure your new project

ASP.NET Web Application (.NET Framework) C# Windows Cloud Web

Project name: WebService

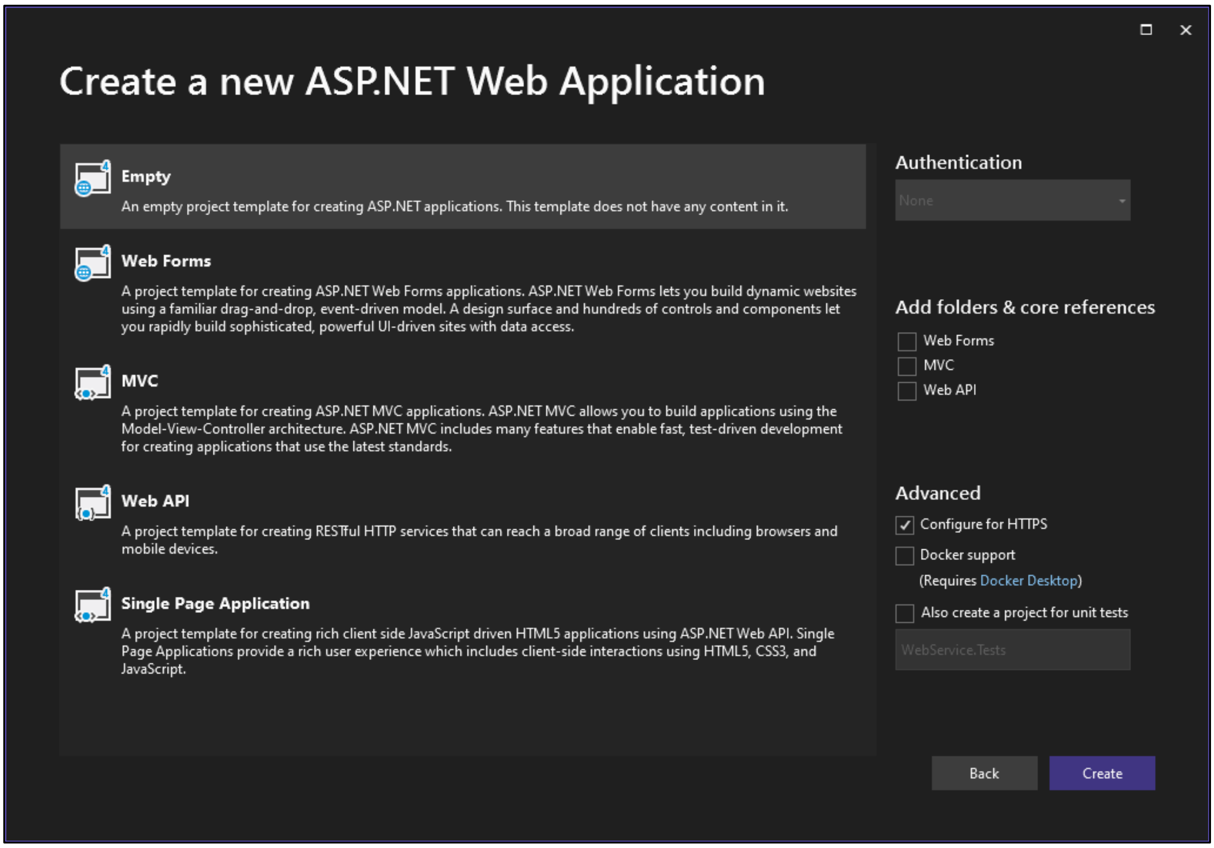
Location: F:\MCA\SEM_2\AWT\Experiments\Journal

Solution name: WebService

□ Place solution and project in the same directory

Framework: .NET Framework 4.7.2

Project will be created in "F:\MCA\SEM_2\AWT\Experiments\Journal\WebService\WebService\"



Create a new ASP.NET Web Application

Empty
An empty project template for creating ASP.NET applications. This template does not have any content in it.

Web Forms
A project template for creating ASP.NET Web Forms applications. ASP.NET Web Forms lets you build dynamic websites using a familiar drag-and-drop, event-driven model. A design surface and hundreds of controls and components let you rapidly build sophisticated, powerful UI-driven sites with data access.

MVC
A project template for creating ASP.NET MVC applications. ASP.NET MVC allows you to build applications using the Model-View-Controller architecture. ASP.NET MVC includes many features that enable fast, test-driven development for creating applications that use the latest standards.

Web API
A project template for creating RESTful HTTP services that can reach a broad range of clients including browsers and mobile devices.

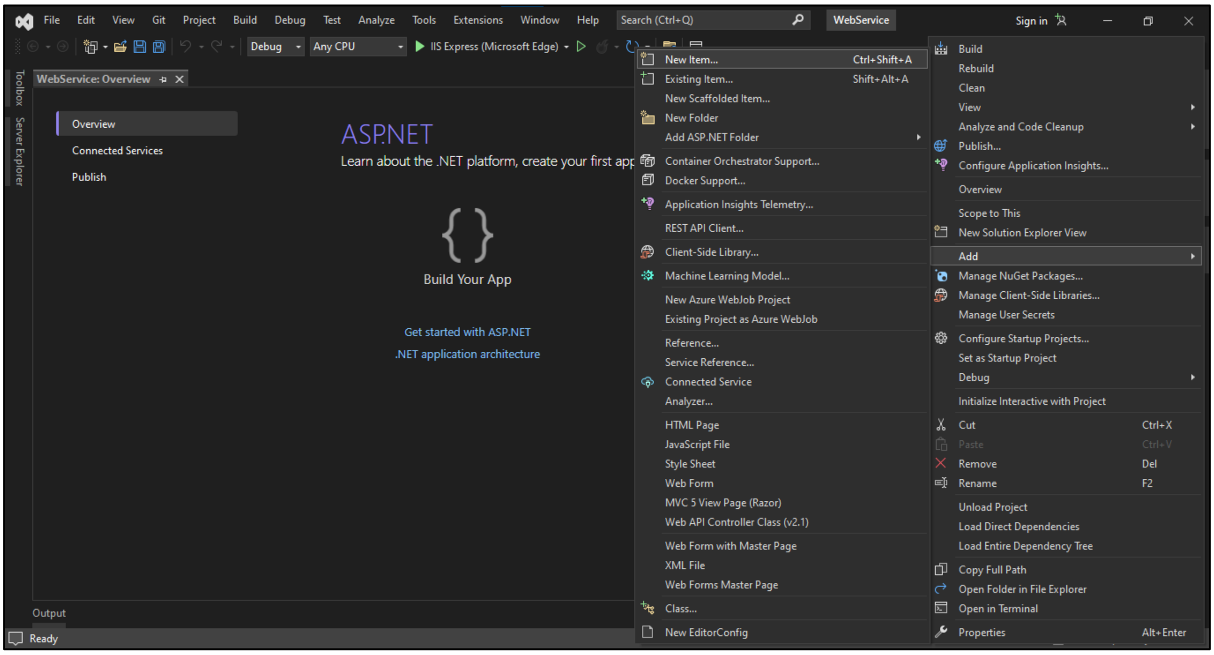
Single Page Application
A project template for creating rich client side JavaScript driven HTML5 applications using ASP.NET Web API. Single Page Applications provide a rich user experience which includes client-side interactions using HTML5, CSS3, and JavaScript.

Authentication: None

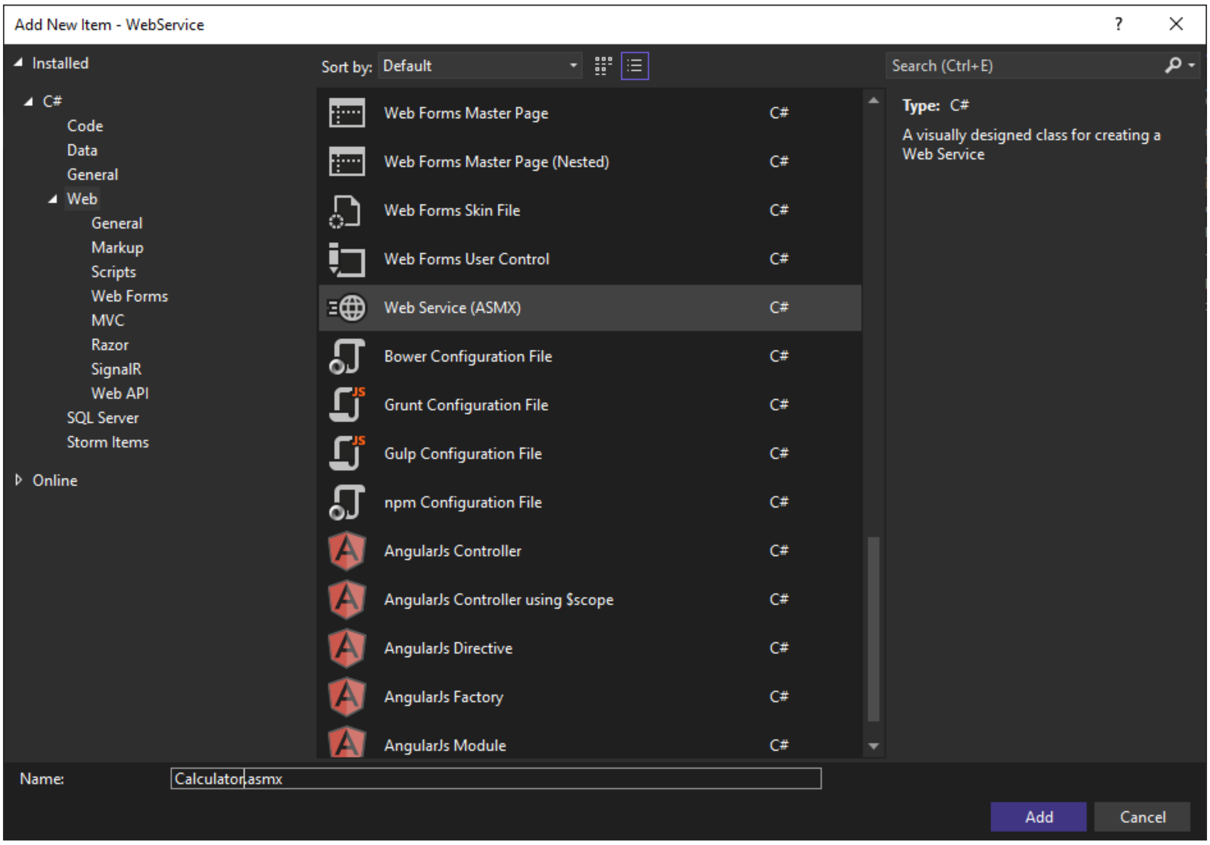
Add folders & core references
□ Web Forms
□ MVC
□ Web API

Advanced
☑ Configure for HTTPS
□ Docker support
(Requires Docker Desktop)
□ Also create a project for unit tests
WebService.Tests

Right Click on Project -> Add New Item



Select Web Service -> Click on Add

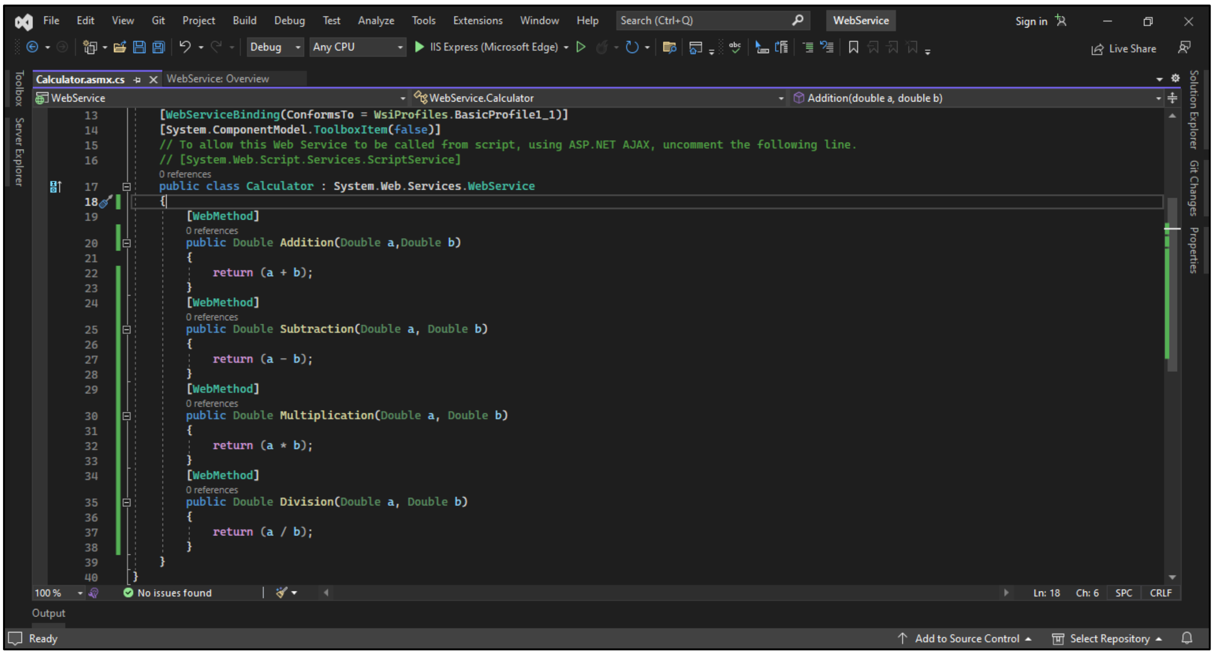


Type: C#

A visually designed class for creating a Web Service

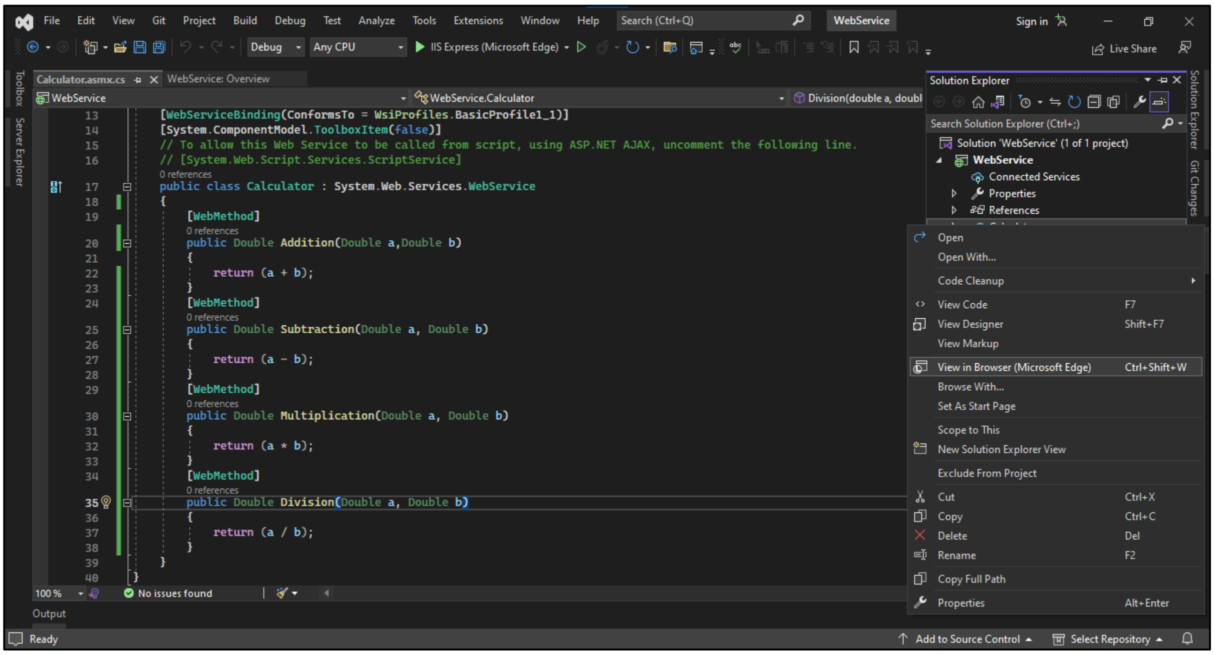
Name: Calculator.asmx

Write the following Code



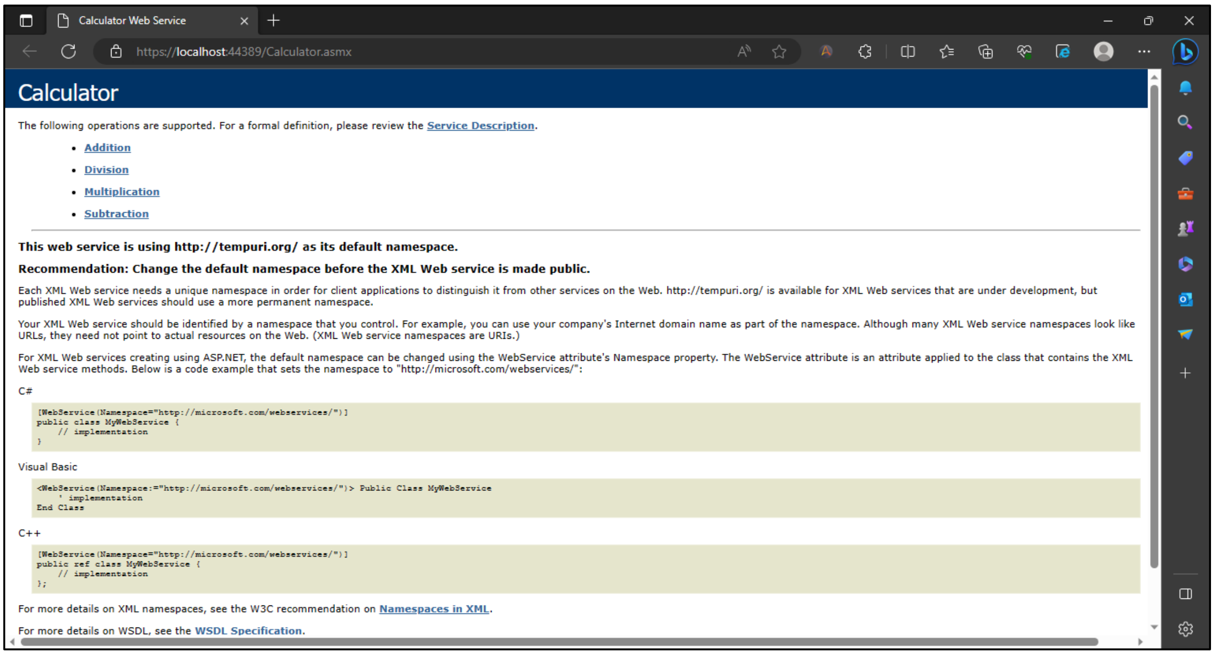
```
    [WebServiceBinding(ConformsTo = WsiProfiles.BasicProfile1_1)]
    [System.ComponentModel.ToolboxItem(false)]
    // To allow this Web Service to be called from script, using ASP.NET AJAX, uncomment the following line.
    // [System.Web.Script.Services.ScriptService]
    public class Calculator : System.Web.Services.WebService
    {
        [WebMethod]
        public Double Addition(Double a,Double b)
        {
            return (a + b);
        }
        [WebMethod]
        public Double Subtraction(Double a, Double b)
        {
            return (a - b);
        }
        [WebMethod]
        public Double Multiplication(Double a, Double b)
        {
            return (a * b);
        }
        [WebMethod]
        public Double Division(Double a, Double b)
        {
            return (a / b);
        }
    }
}
```

Right Click on Calculator.asmx -> View in Browser



```
    [WebServiceBinding(ConformsTo = WsiProfiles.BasicProfile1_1)]
    [System.ComponentModel.ToolboxItem(false)]
    // To allow this Web Service to be called from script, using ASP.NET AJAX, uncomment the following line.
    // [System.Web.Script.Services.ScriptService]
    public class Calculator : System.Web.Services.WebService
    {
        [WebMethod]
        public Double Addition(Double a,Double b)
        {
            return (a + b);
        }
        [WebMethod]
        public Double Subtraction(Double a, Double b)
        {
            return (a - b);
        }
        [WebMethod]
        public Double Multiplication(Double a, Double b)
        {
            return (a * b);
        }
        [WebMethod]
        public Double Division(Double a, Double b)
        {
            return (a / b);
        }
    }
}
```

Check Each Method



Calculator

The following operations are supported. For a formal definition, please review the Service Description.

- Addition
- Division
- Multiplication
- Subtraction

This web service is using http://tempuri.org/ as its default namespace.

Recommendation: Change the default namespace before the XML Web service is made public.

Each XML Web service needs a unique namespace in order for client applications to distinguish it from other services on the Web. http://tempuri.org/ is available for XML Web services that are under development, but published XML Web services should use a more permanent namespace.

Your XML Web service should be identified by a namespace that you control. For example, you can use your company's Internet domain name as part of the namespace. Although many XML Web service namespaces look like URLs, they need not point to actual resources on the Web. (XML Web service namespaces are URIs.)

For XML Web services creating using ASP.NET, the default namespace can be changed using the WebService attribute's Namespace property. The WebService attribute is an attribute applied to the class that contains the XML Web service methods. Below is a code example that sets the namespace to "http://microsoft.com/webservices/":

C#

```
[WebService(Namespace="http://microsoft.com/webservices/")]
public class MyWebService {
    // implementation
}
```

Visual Basic

```
<WebService(Namespace:="http://microsoft.com/webservices/")> Public Class MyWebService
    ' implementation
End Class
```

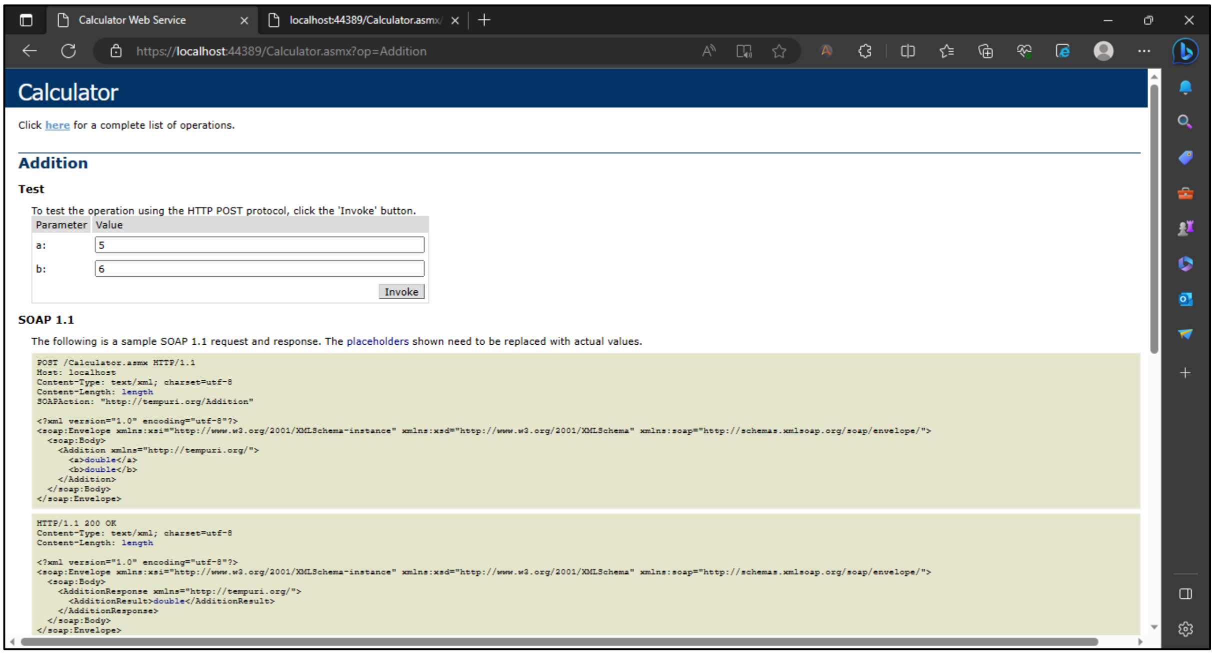
C++

```
[WebService(Namespace="http://microsoft.com/webservices/")]
public ref class MyWebService {
    // implementation
};
```

For more details on XML namespaces, see the W3C recommendation on Namespaces in XML.

For more details on WSDL, see the WSDL Specification.

Enter Values as per your choice and Click on Invoke


Calculator Web Service
localhost:44389/Calculator.asmx/
https://localhost:44389/Calculator.asmx?op=Addition

Calculator

Click here for a complete list of operations.

Addition

Test

To test the operation using the HTTP POST protocol, click the 'Invoke' button.

Parameter	Value
a:	5
b:	6

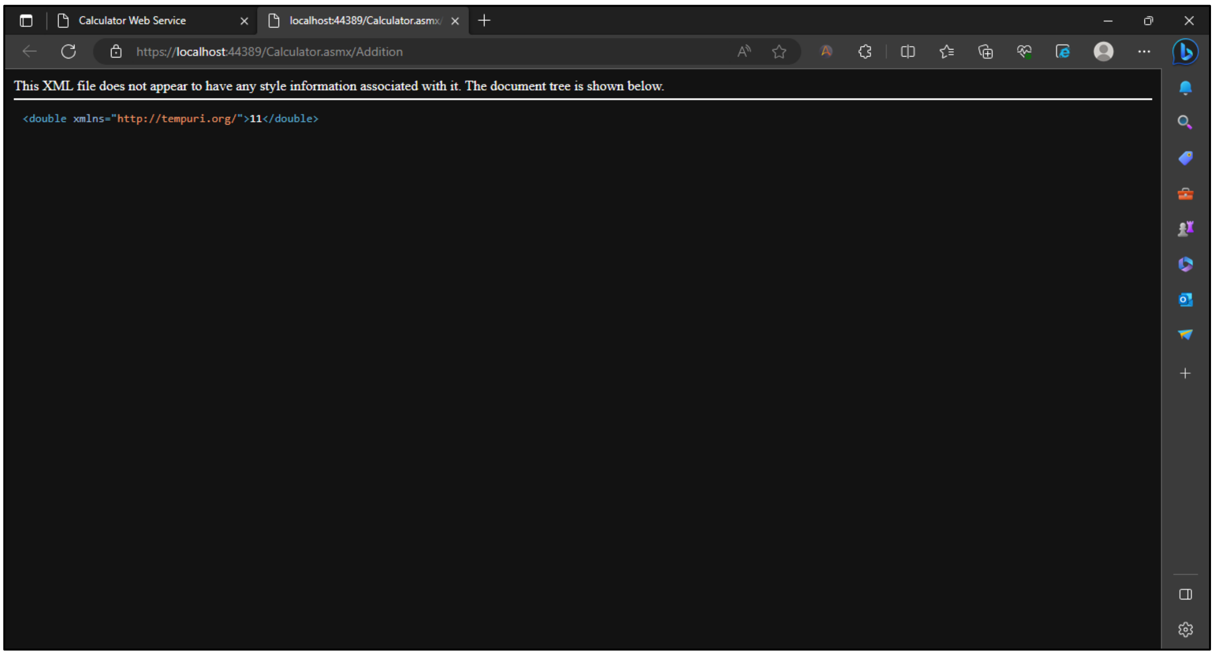
Invoke

SOAP 1.1

The following is a sample SOAP 1.1 request and response. The placeholders shown need to be replaced with actual values.

```
POST /Calculator.asmx HTTP/1.1
Host: localhost
Content-Type: text/xml; charset=utf-8
Content-Length: length
SOAPAction: "http://tempuri.org/Addition"

<?xml version="1.0" encoding="utf-8"?>
<soap:Envelope xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">
  <soap:Body>
    <Addition xmlns="http://tempuri.org/">
      <a>double</a>
      <b>double</b>
    </Addition>
  </soap:Body>
</soap:Envelope>
```

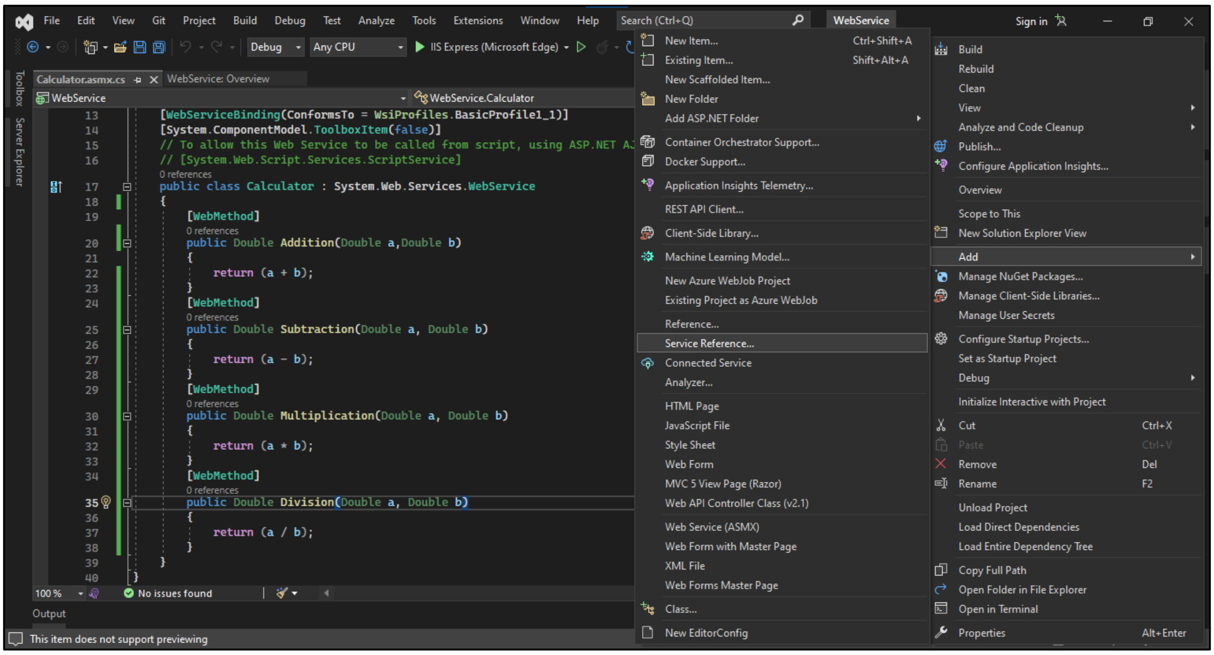
```
HTTP/1.1 200 OK
Content-Type: text/xml; charset=utf-8
Content-Length: length

<?xml version="1.0" encoding="utf-8"?>
<soap:Envelope xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/">
  <soap:Body>
    <AdditionResponse xmlns="http://tempuri.org/">
      <AdditionResult>double</AdditionResult>
    </AdditionResponse>
  </soap:Body>
</soap:Envelope>
```


Calculator Web Service
localhost:44389/Calculator.asmx/
https://localhost:44389/Calculator.asmx/Addition

This XML file does not appear to have any style information associated with it. The document tree is shown below.

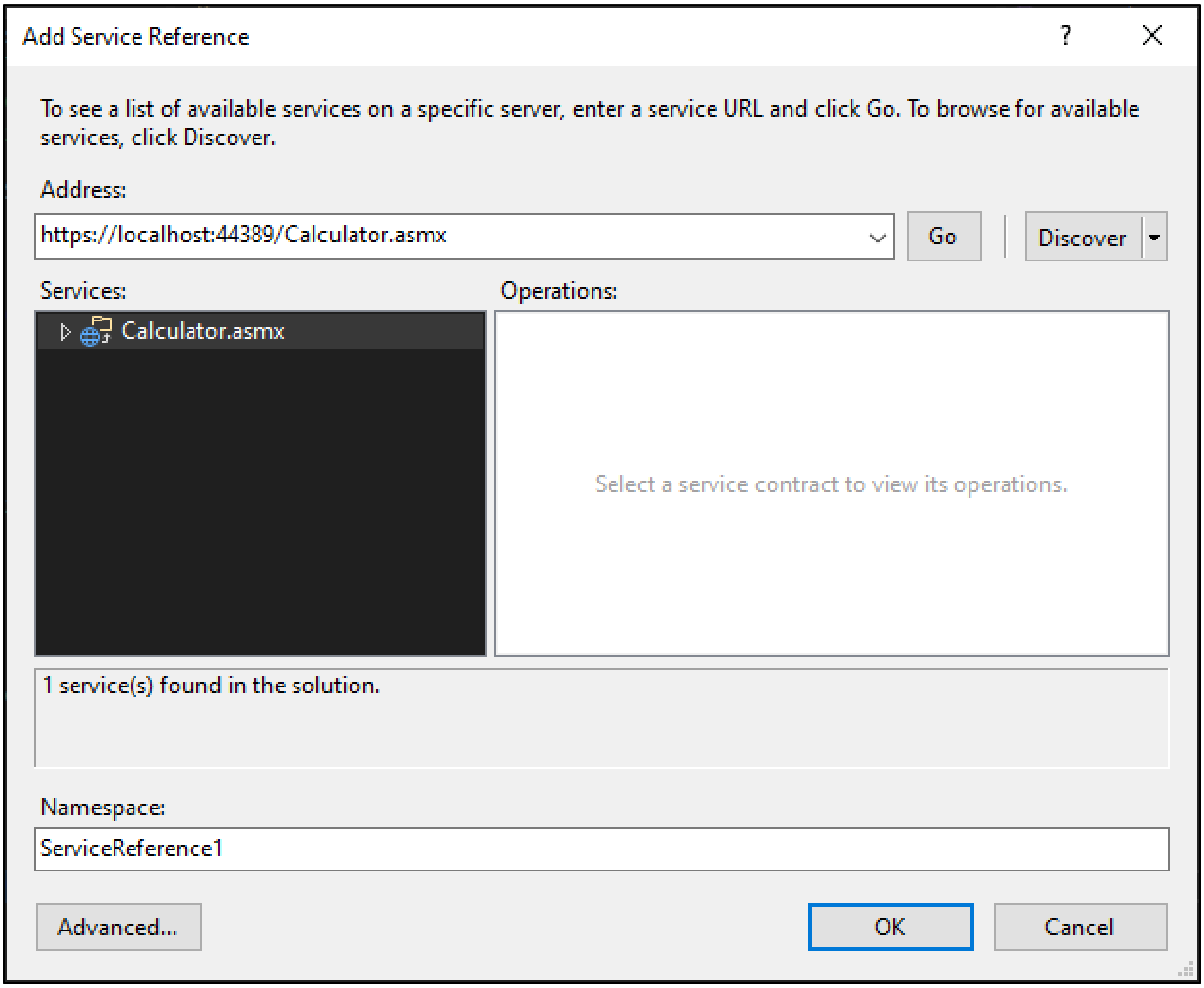
```
<double xmlns="http://tempuri.org/">11</double>
```

Right Click on Project-> Add -> Service Reference



```
    [WebServiceBinding(ConformsTo = WsiProfiles.BasicProfile1_1)]
    [System.ComponentModel.ToolboxItem(false)]
    // To allow this Web Service to be called from script, using ASP.NET A
    // [System.Web.Script.Services.ScriptService]
    public class Calculator : System.Web.Services.WebService
    {
        [WebMethod]
        public Double Addition(Double a,Double b)
        {
            return (a + b);
        }
        [WebMethod]
        public Double Subtraction(Double a, Double b)
        {
            return (a - b);
        }
        [WebMethod]
        public Double Multiplication(Double a, Double b)
        {
            return (a * b);
        }
        [WebMethod]
        public Double Division(Double a, Double b)
        {
            return (a / b);
        }
    }
}
```

Click on Discover



Add Service Reference

To see a list of available services on a specific server, enter a service URL and click Go. To browse for available services, click Discover.

Address: https://localhost:44389/Calculator.asmx

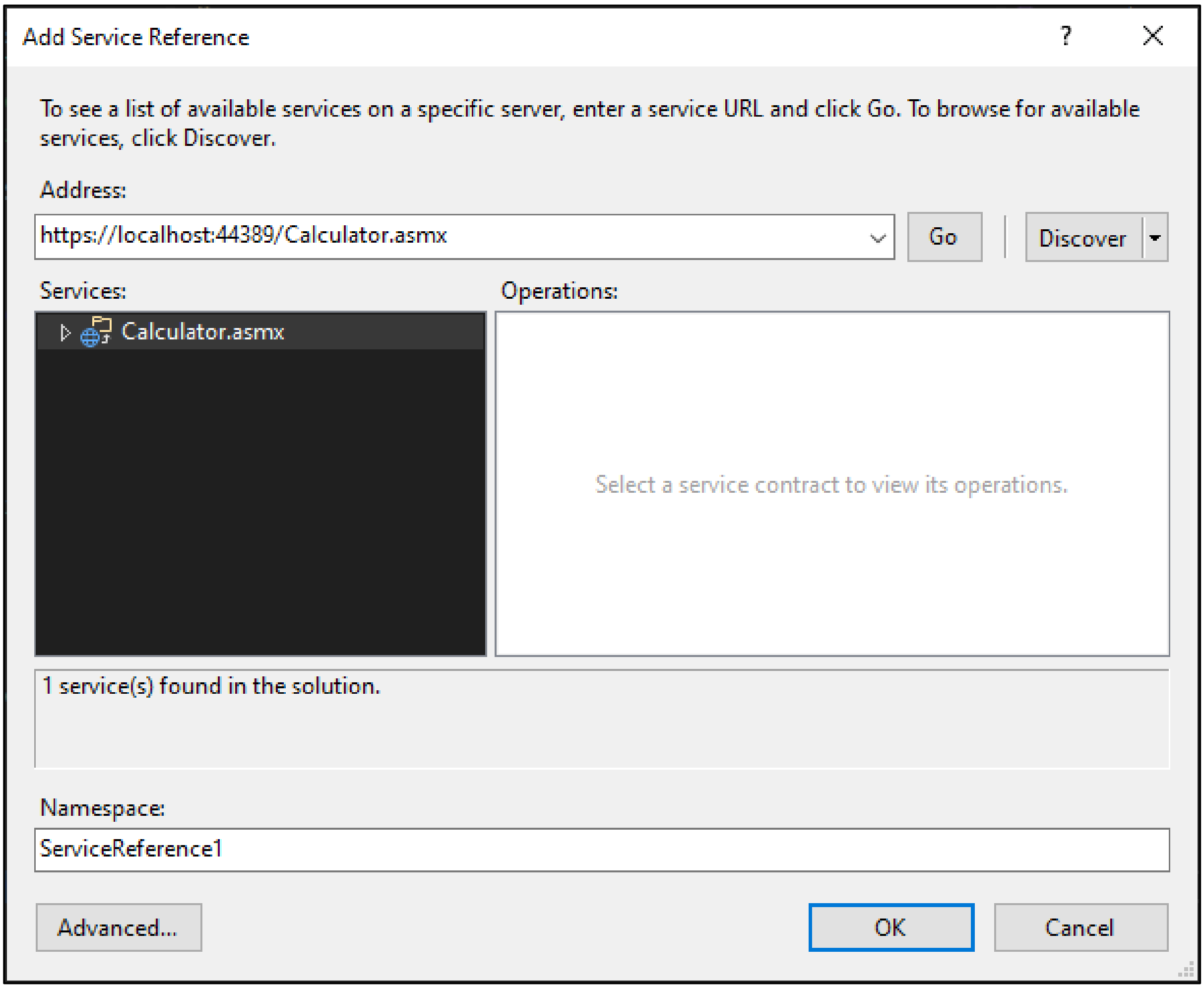
Services: Calculator.asmx

Operations: Select a service contract to view its operations.

1 service(s) found in the solution.

Namespace: ServiceReference1

Click on Advanced



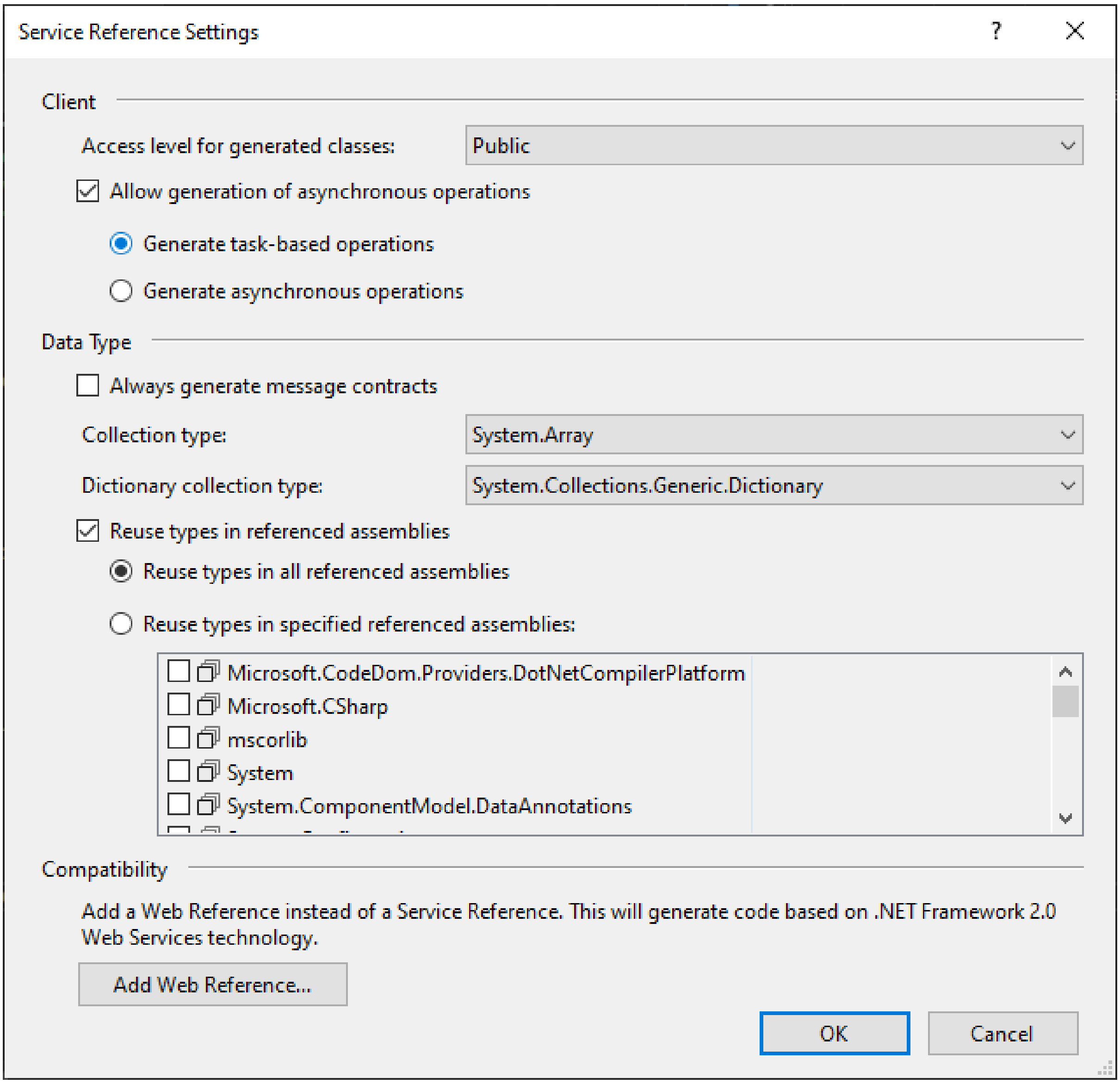
To see a list of available services on a specific server, enter a service URL and click Go. To browse for available services, click Discover.

Address: https://localhost:44389/Calculator.asmx

1 service(s) found in the solution.

Namespace: ServiceReference1

Click on Add Web Reference



Service Reference Settings

Client

Access level for generated classes: Public

☑ Allow generation of asynchronous operations

● Generate task-based operations

○ Generate asynchronous operations

Data Type

□ Always generate message contracts

Collection type: System.Array

Dictionary collection type: System.Collections.Generic.Dictionary

☑ Reuse types in referenced assemblies

● Reuse types in all referenced assemblies

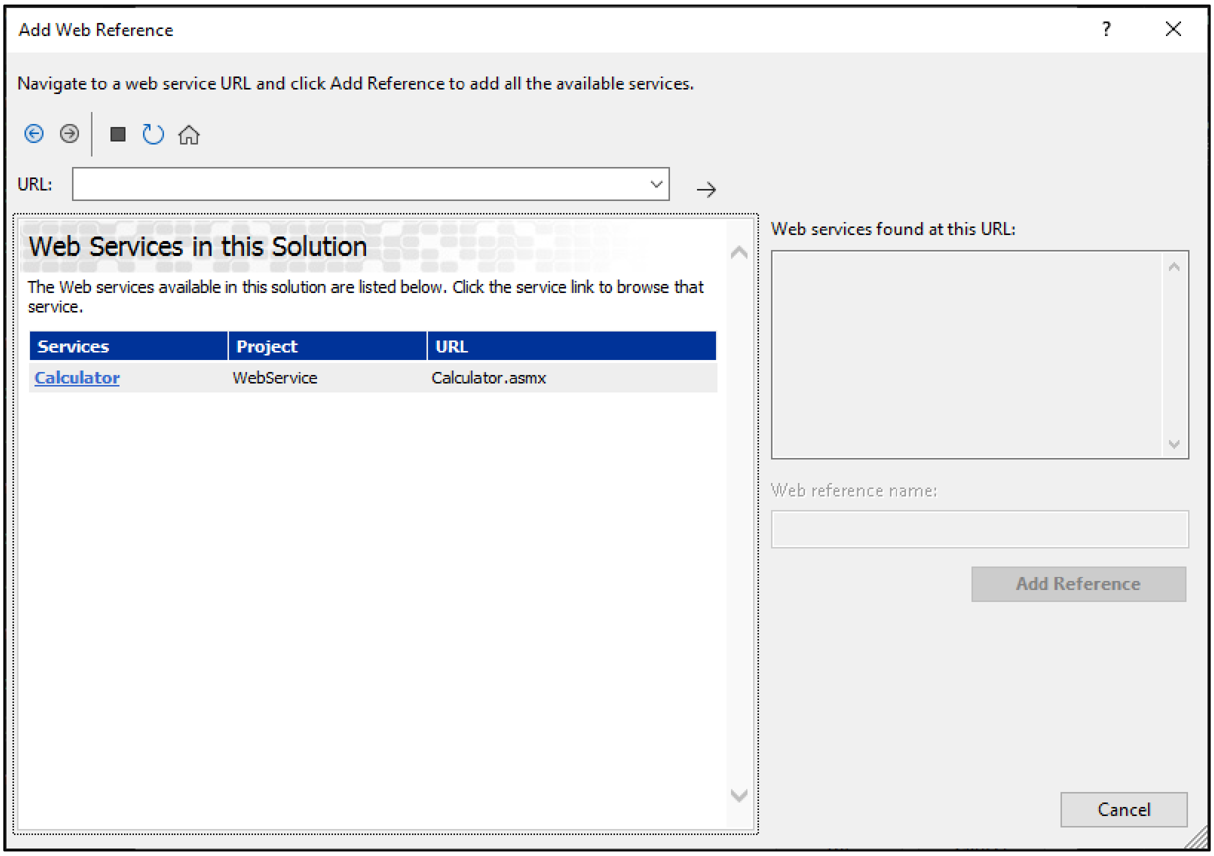
○ Reuse types in specified referenced assemblies:

□ Microsoft.CodeDom.Providers.DotNetCompilerPlatform
□ Microsoft.CSharp
□ mscorlib
□ System
□ System.ComponentModel.DataAnnotations

Compatibility

Add a Web Reference instead of a Service Reference. This will generate code based on .NET Framework 2.0 Web Services technology.

Click on Web Services in this Solution



Add Web Reference

Navigate to a web service URL and click Add Reference to add all the available services.

URL:

Web Services in this Solution

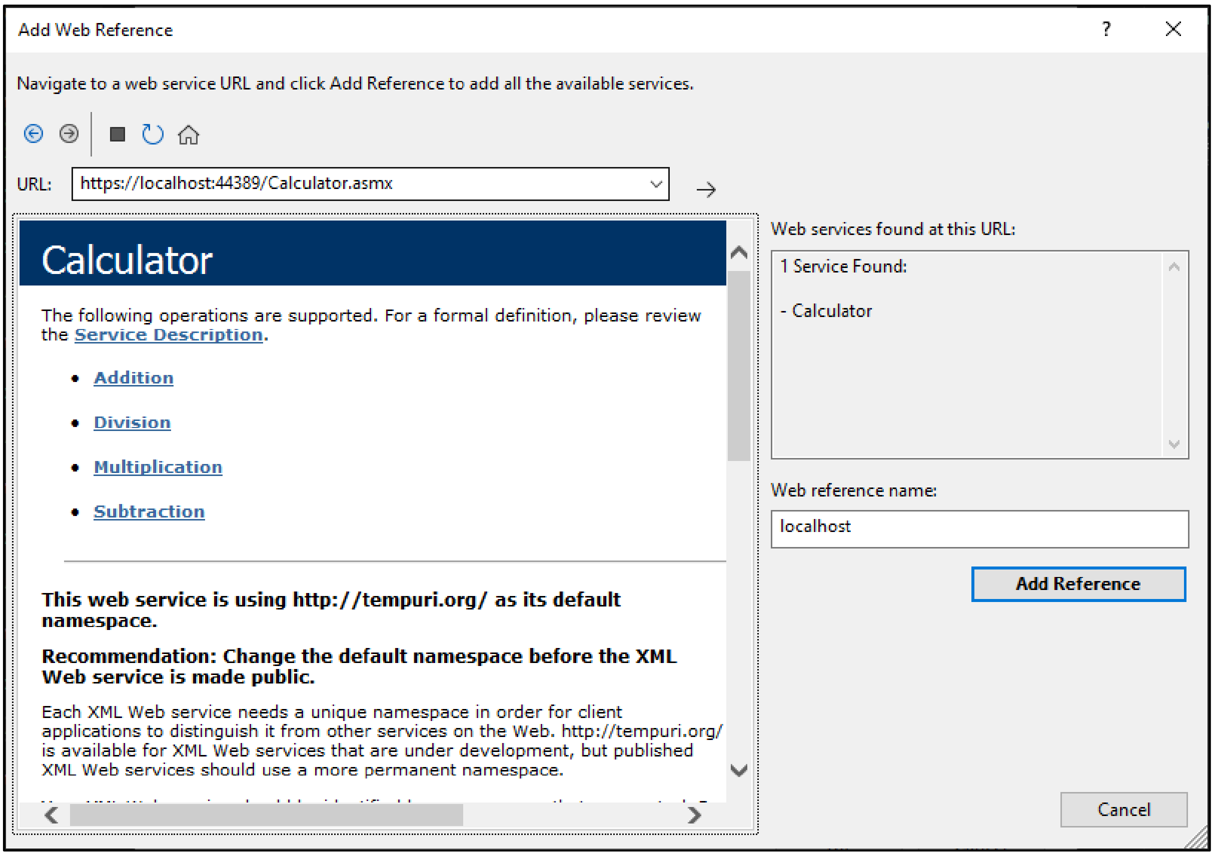
The Web services available in this solution are listed below. Click the service link to browse that service.

Services	Project	URL
Calculator	WebService	Calculator.asmx

Web services found at this URL:

Web reference name:

Click on Calculator -> Click on Add Reference



Add Web Reference

Navigate to a web service URL and click Add Reference to add all the available services.

URL: https://localhost:44389/Calculator.asmx

Calculator

The following operations are supported. For a formal definition, please review the Service Description.

- Addition
- Division
- Multiplication
- Subtraction

This web service is using http://tempuri.org/ as its default namespace.

Recommendation: Change the default namespace before the XML Web service is made public.

Each XML Web service needs a unique namespace in order for client applications to distinguish it from other services on the Web. http://tempuri.org/ is available for XML Web services that are under development, but published XML Web services should use a more permanent namespace.

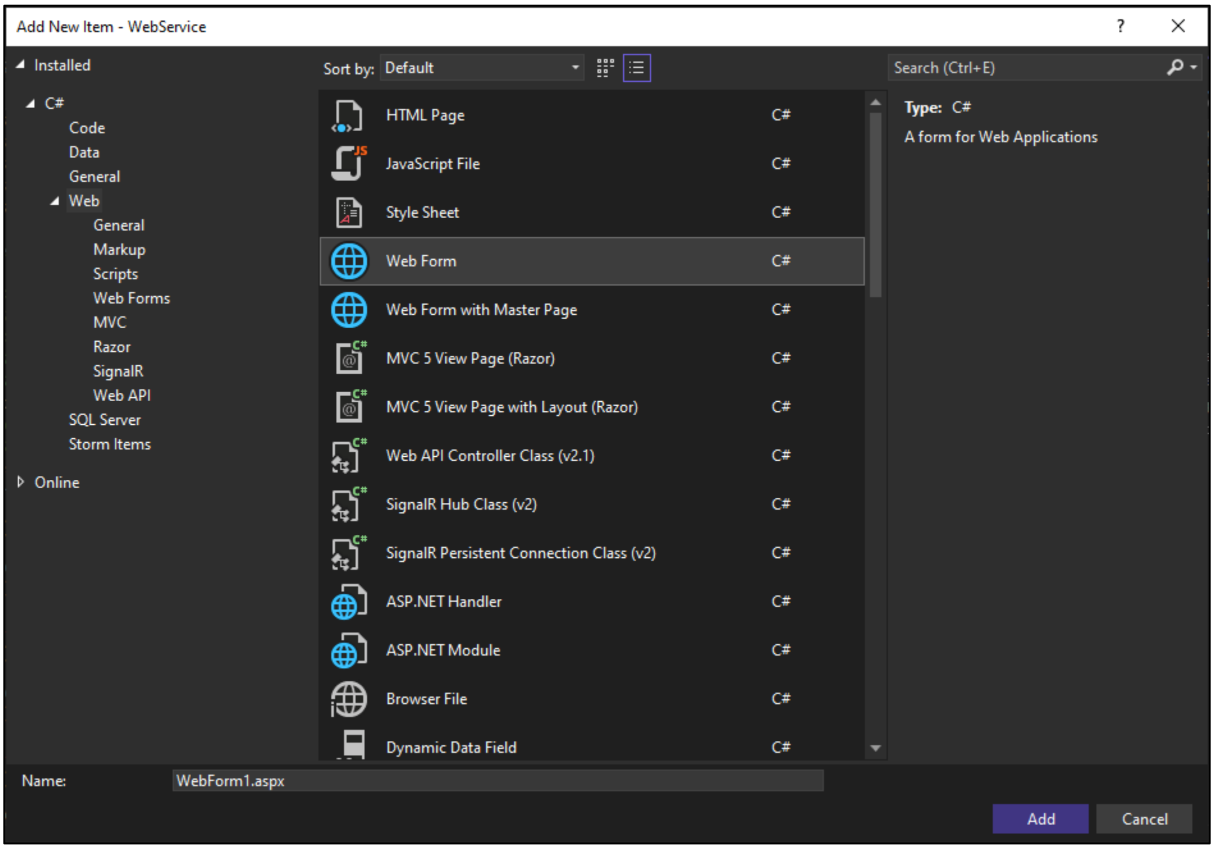
Web services found at this URL:

1 Service Found:

- Calculator

Web reference name: localhost

Right Click on Project -> Add New Item -> Select Web Form



Add New Item - WebService

Installed
- C#
  - Code
  - Data
  - General
  - Web
    - General
    - Markup
    - Scripts
    - Web Forms
    - MVC
    - Razor
    - SignalR
    - Web API
  - SQL Server
  - Storm Items
- Online

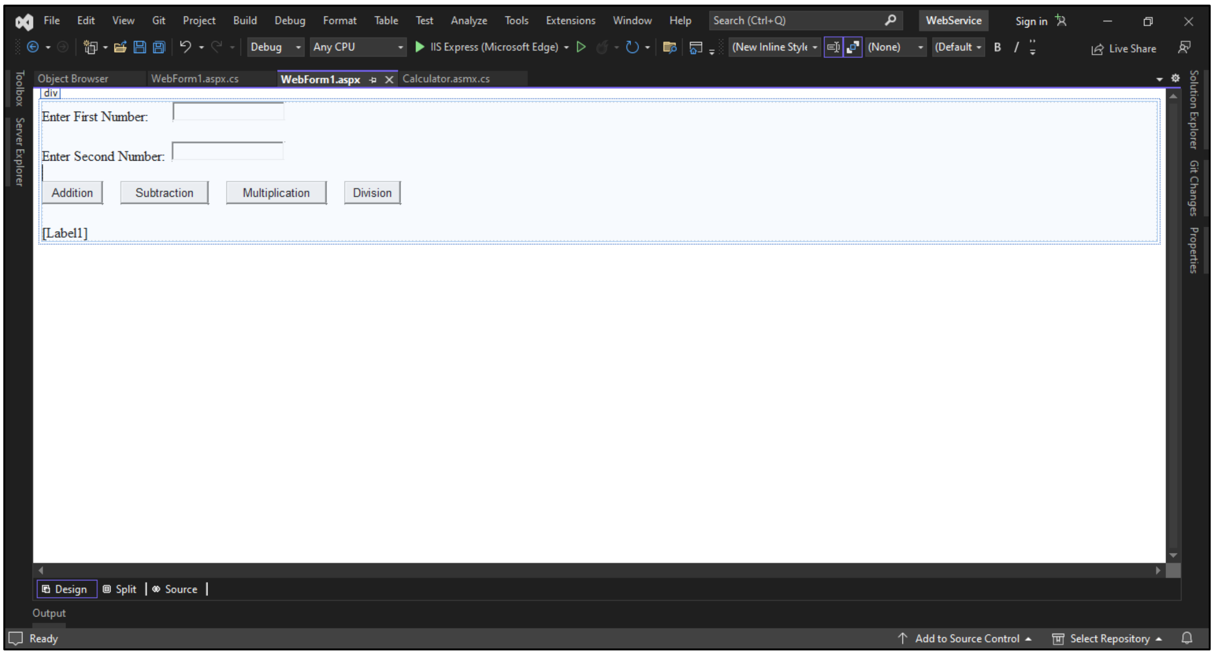
Sort by: Default

HTML Page	C#
JavaScript File	C#
Style Sheet	C#
Web Form	C#
Web Form with Master Page	C#
MVC 5 View Page (Razor)	C#
MVC 5 View Page with Layout (Razor)	C#
Web API Controller Class (v2.1)	C#
SignalR Hub Class (v2)	C#
SignalR Persistent Connection Class (v2)	C#
ASP.NET Handler	C#
ASP.NET Module	C#
Browser File	C#
Dynamic Data Field	C#

Type: C#
A form for Web Applications

Name: WebForm1.aspx

Design given below:



Object Browser | WebForm1.aspx.cs | WebForm1.aspx | Calculator.asmx.cs

Enter First Number:

Enter Second Number:

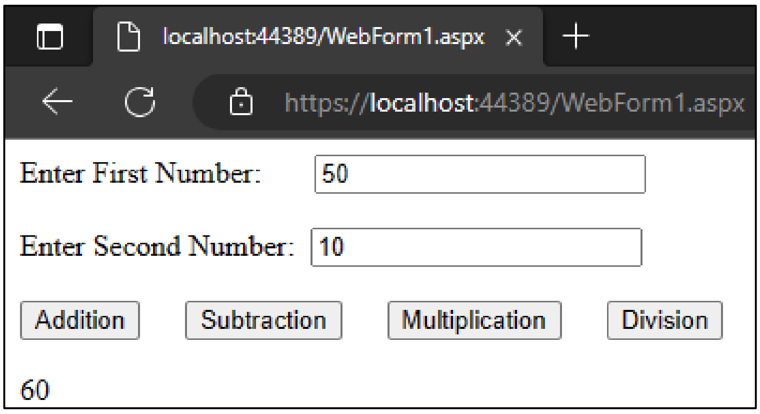
Addition Subtraction Multiplication Division

[Label1]

Code:

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

        }
        protected void Button1_Click(object sender, EventArgs e)
        {
            localhost.Calculator Service1 = new localhost.Calculator();
            double a= Convert.ToDouble(TextBox1.Text);
            double b= Convert.ToDouble(TextBox2.Text);
            double result=Service1.Addition(a, b);
            Label1.Text = result.ToString();
        }
        protected void Button2_Click(object sender, EventArgs e)
        {
            localhost.Calculator Service1 = new localhost.Calculator();
            double a = Convert.ToDouble(TextBox1.Text);

            double b = Convert.ToDouble(TextBox2.Text);

            double result = Service1.Subtraction(a, b);

            Label1.Text = result.ToString();

        }

        protected void Button3_Click(object sender, EventArgs e)

        {

            localhost.Calculator Service1 = new localhost.Calculator();

            double a = Convert.ToDouble(TextBox1.Text);

            double b = Convert.ToDouble(TextBox2.Text);

            double result = Service1.Multiplication(a, b);

            Label1.Text = result.ToString();

        }

        protected void Button4_Click(object sender, EventArgs e)

        {

            localhost.Calculator Service1 = new localhost.Calculator();

            double a = Convert.ToDouble(TextBox1.Text);

            double b = Convert.ToDouble(TextBox2.Text);

            double result = Service1.Division(a, b);

            Label1.Text = result.ToString();

        }

    }

}
```

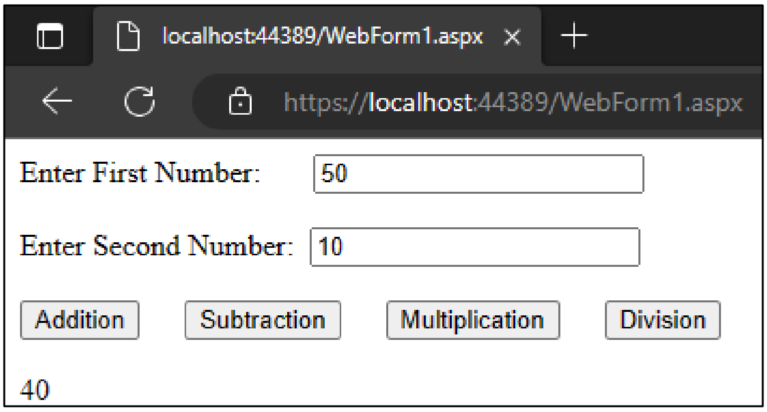
Output:


localhost:44389/WebForm1.aspx
https://localhost:44389/WebForm1.aspx
Addition
Subtraction
Multiplication
Division

Enter First Number: 50

Enter Second Number: 10

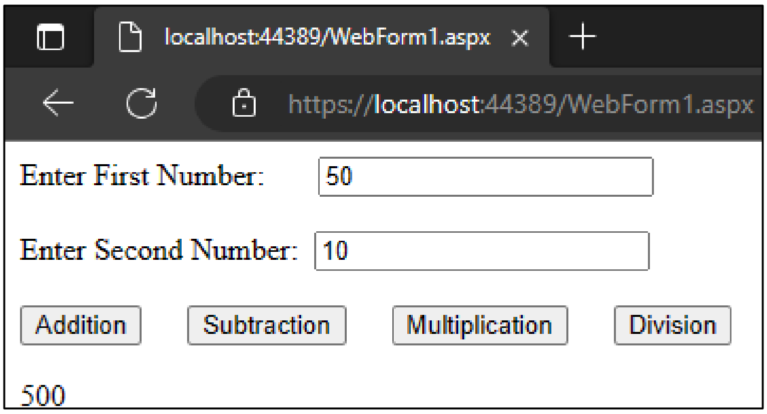
60


localhost:44389/WebForm1.aspx
https://localhost:44389/WebForm1.aspx
Addition
Subtraction
Multiplication
Division

Enter First Number: 50

Enter Second Number: 10

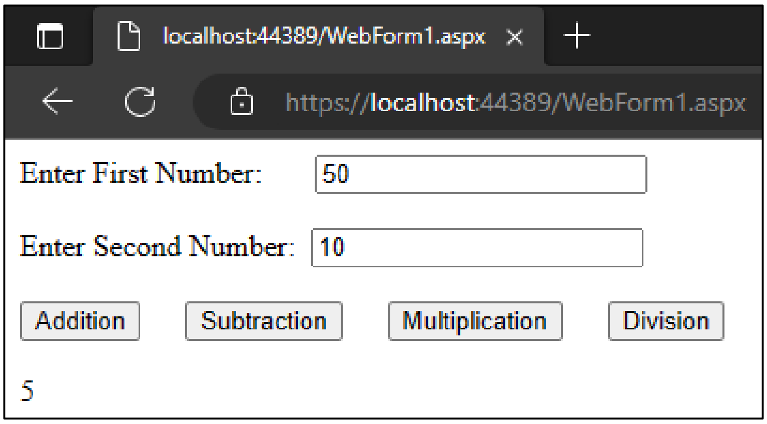
40


localhost:44389/WebForm1.aspx
https://localhost:44389/WebForm1.aspx
Addition
Subtraction
Multiplication
Division

Enter First Number: 50

Enter Second Number: 10

500


localhost:44389/WebForm1.aspx
https://localhost:44389/WebForm1.aspx
Addition
Subtraction
Multiplication
Division

Enter First Number: 50

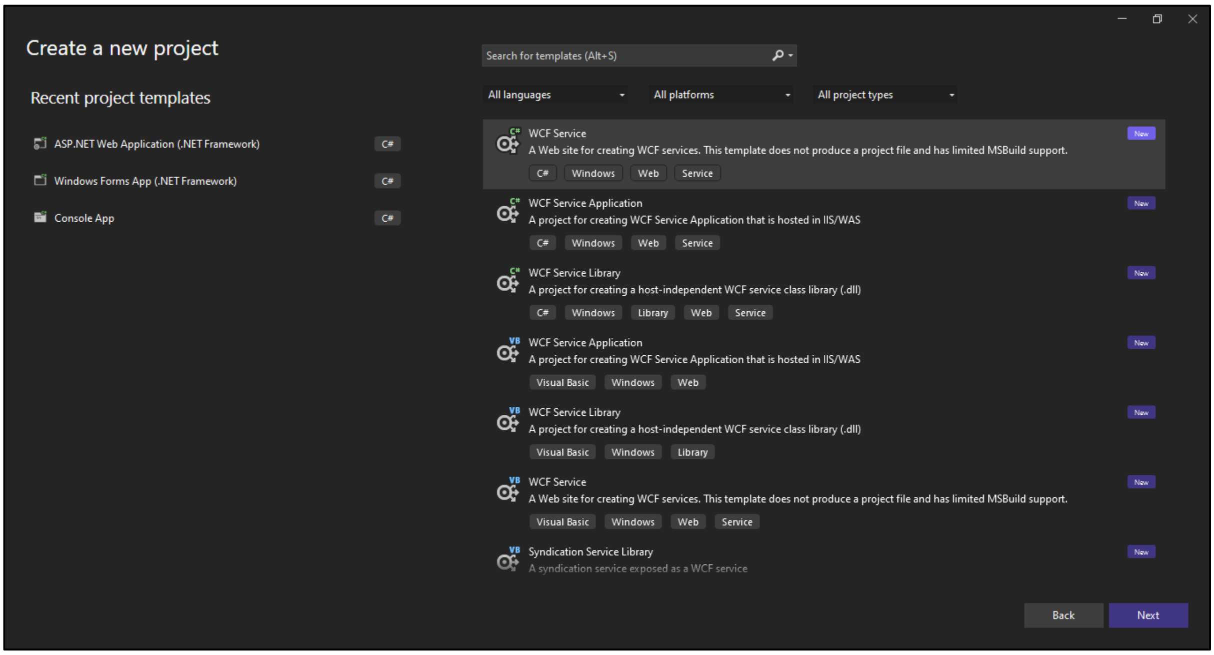
Enter Second Number: 10

5

B. Design Web Application to produce and Consume a WCF Service

Steps:

Create New Project -> Search for WCF Service -> Click on Next -> Enter Name As per your choice -> Click on Create



Create a new project

Search for templates (Alt+S)

All languages | All platforms | All project types

Recent project templates

- ASP.NET Web Application (.NET Framework) C#
- Windows Forms App (.NET Framework) C#
- Console App C#

WCF Service — A Web site for creating WCF services. This template does not produce a project file and has limited MSBuild support. C# Windows Web Service

WCF Service Application — A project for creating WCF Service Application that is hosted in IIS/WAS C# Windows Web Service

WCF Service Library — A project for creating a host-independent WCF service class library (.dll) C# Windows Library Web Service

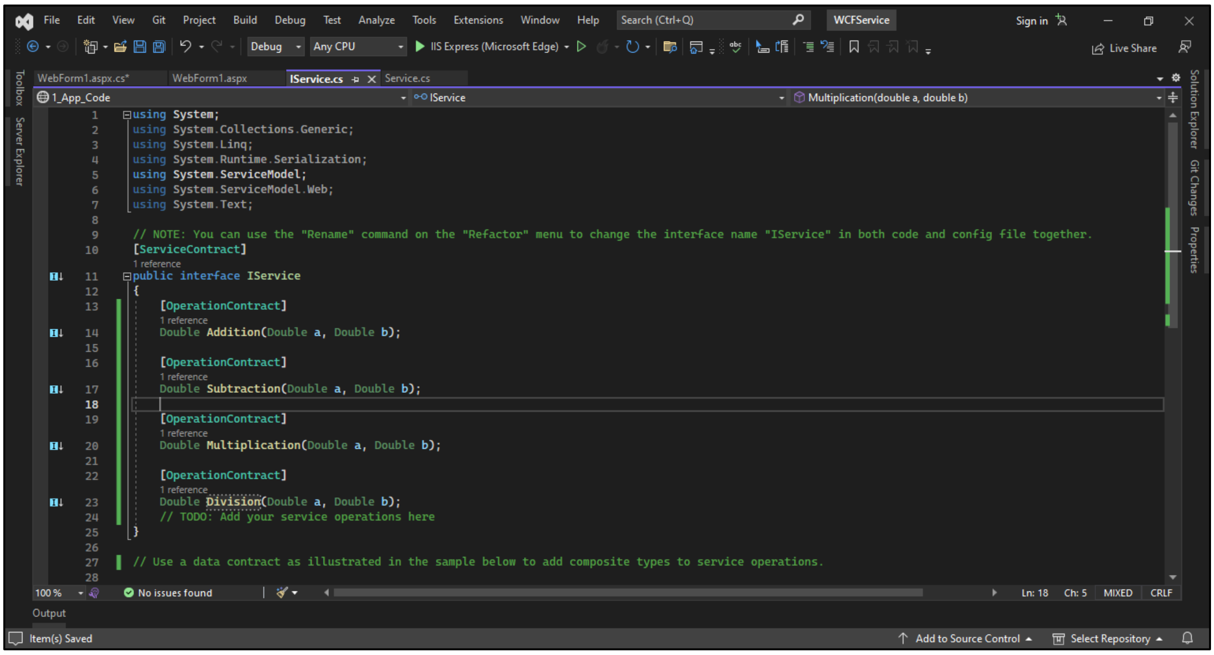
WCF Service Application — A project for creating WCF Service Application that is hosted in IIS/WAS Visual Basic Windows Web

WCF Service Library — A project for creating a host-independent WCF service class library (.dll) Visual Basic Windows Library

WCF Service — A Web site for creating WCF services. This template does not produce a project file and has limited MSBuild support. Visual Basic Windows Web Service

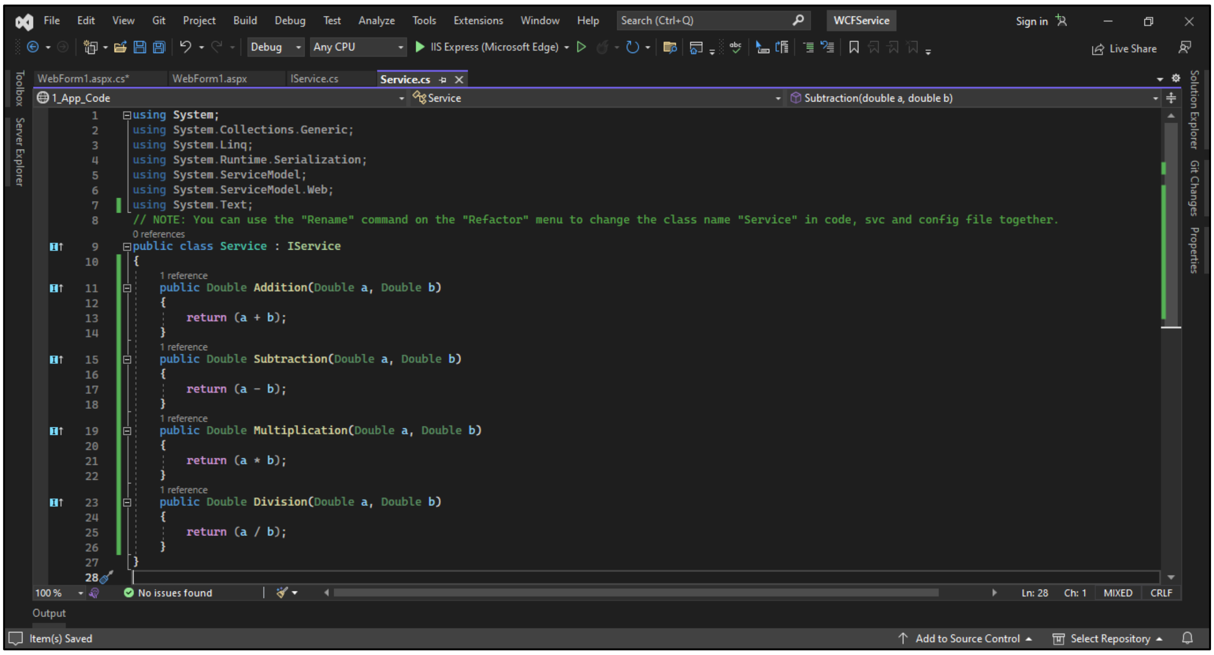
Syndication Service Library — A syndication service exposed as a WCF service

Inside IService.cs add the following code



```
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]
    Double Addition(Double a, Double b);

    [OperationContract]
    Double Subtraction(Double a, Double b);

    [OperationContract]
    Double Multiplication(Double a, Double b);

    [OperationContract]
    Double Division(Double a, Double b);
    // TODO: Add your service operations here
}

// Use a data contract as illustrated in the sample below to add composite types to service operations.
```

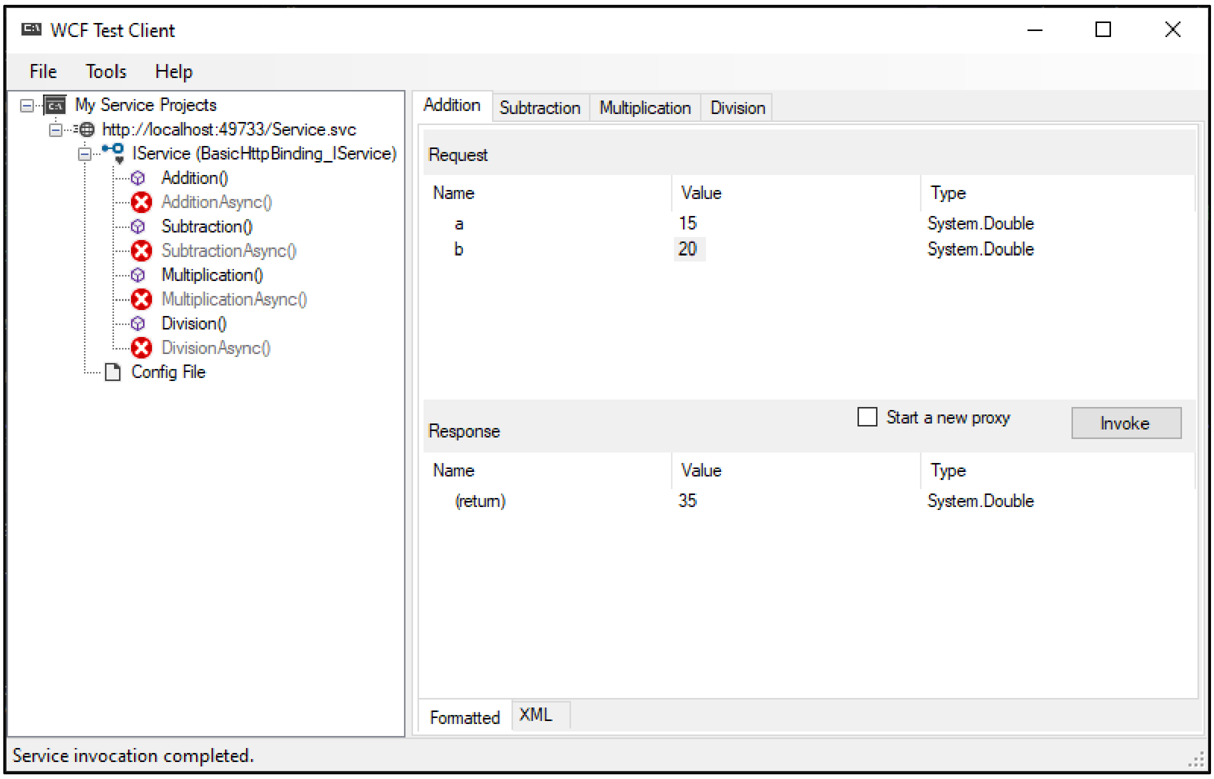
Inside Service.cs add the following code:



```
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 Double Addition(Double a, Double b)
    {
        return (a + b);
    }
    public Double Subtraction(Double a, Double b)
    {
        return (a - b);
    }
    public Double Multiplication(Double a, Double b)
    {
        return (a * b);
    }
    public Double Division(Double a, Double b)
    {
        return (a / b);
    }
}
```

Run the Service.cs file

Check Whether All operations are working properly



WCF Test Client

- My Service Projects
  - http://localhost:49733/Service.svc
    - IService (BasicHttpBinding_IService)
      - Addition()
      - AdditionAsync()
      - Subtraction()
      - SubtractionAsync()
      - Multiplication()
      - MultiplicationAsync()
      - Division()
      - DivisionAsync()
    - Config File

Addition | Subtraction | Multiplication | Division

Request

Name	Value	Type
a	15	System.Double
b	20	System.Double

□ Start a new proxy   Invoke

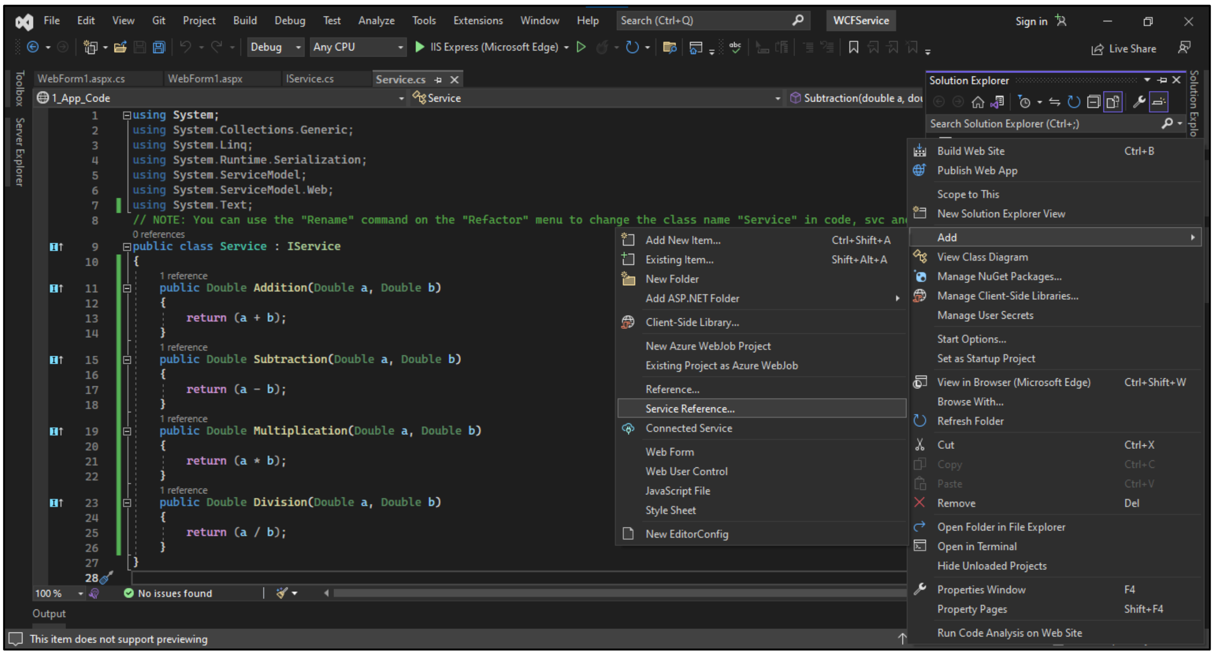
Response

Name	Value	Type
(return)	35	System.Double

Formatted | XML

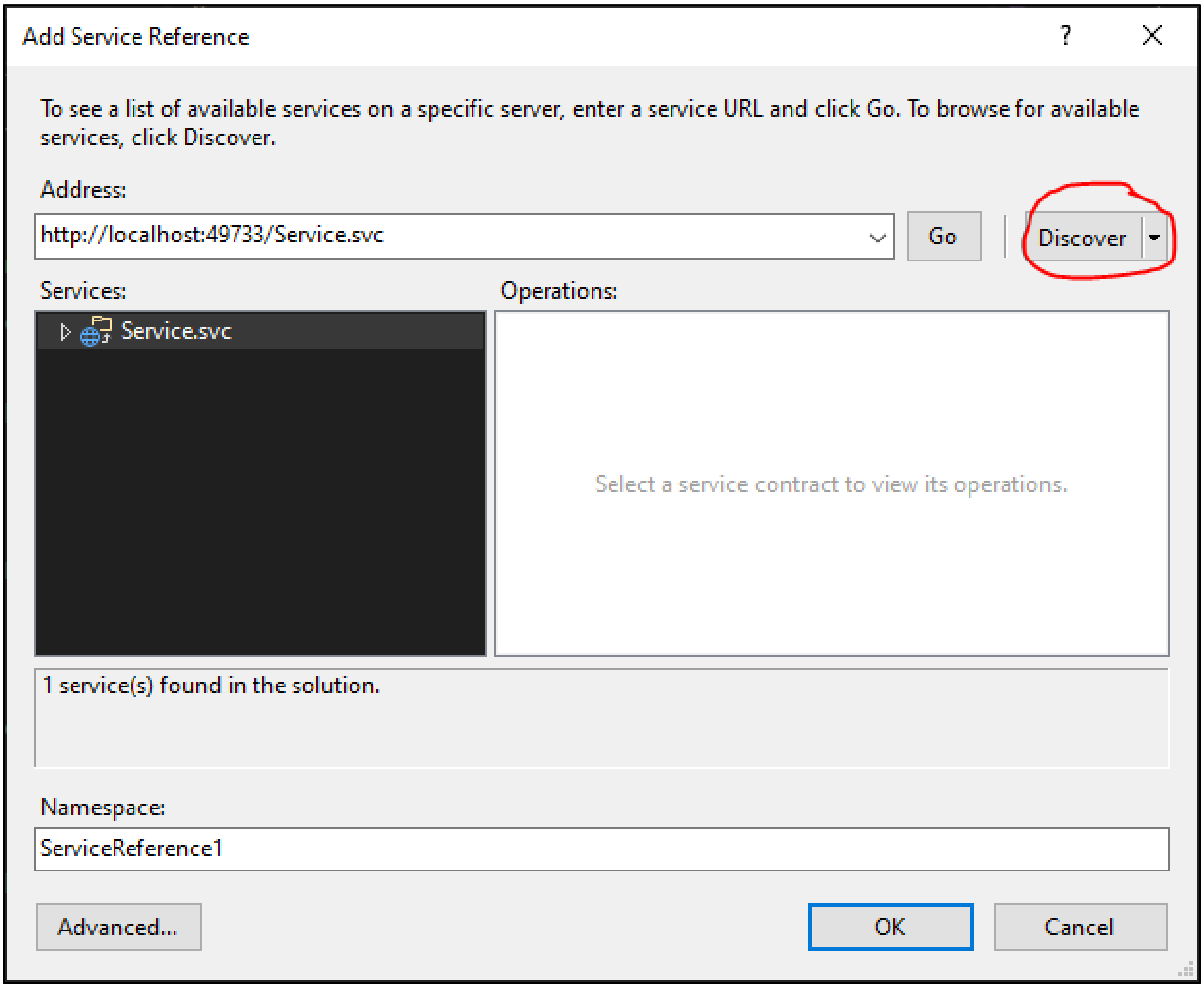
Service invocation completed.

Right Click on Project -> Click on Add -> Service Reference



```
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 an
0 references
public class Service : IService
{
    1 reference
    public Double Addition(Double a, Double b)
    {
        return (a + b);
    }
    1 reference
    public Double Subtraction(Double a, Double b)
    {
        return (a - b);
    }
    1 reference
    public Double Multiplication(Double a, Double b)
    {
        return (a * b);
    }
    1 reference
    public Double Division(Double a, Double b)
    {
        return (a / b);
    }
}
```

Click on Discover -> Click on Ok



Add Service Reference

To see a list of available services on a specific server, enter a service URL and click Go. To browse for available services, click Discover.

Address: http://localhost:49733/Service.svc

Services: Service.svc

Operations: Select a service contract to view its operations.

1 service(s) found in the solution.

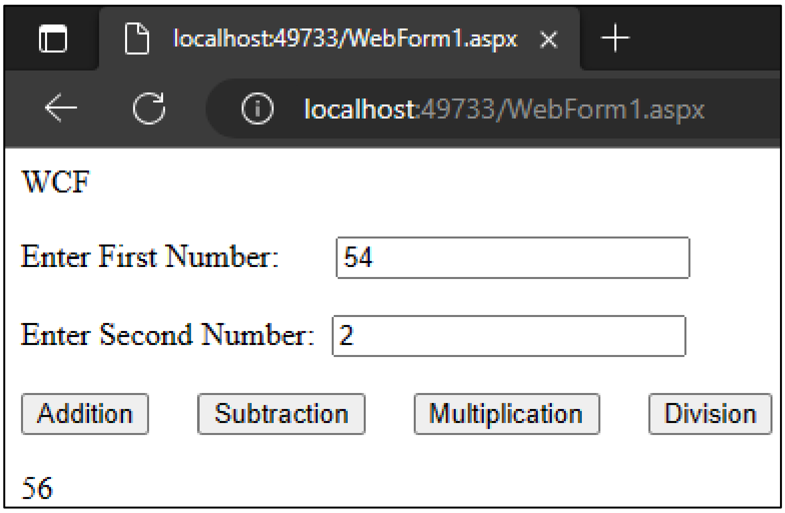
Namespace: ServiceReference1

Create a new WebForm and add the following code

Code:

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

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

    }

    protected void Button1_Click(object sender, EventArgs e)
    {
        ServiceReference1.ServiceClient svc=new ServiceReference1.ServiceClient();
        double a=Convert.ToDouble(TextBox1.Text);
        double b=Convert.ToDouble(TextBox2.Text);
        Label1.Text=svc.Addition(a,b).ToString();
    }

    protected void Button2_Click(object sender, EventArgs e)
    {
        ServiceReference1.ServiceClient svc = new ServiceReference1.ServiceClient();
        double a = Convert.ToDouble(TextBox1.Text);
        double b = Convert.ToDouble(TextBox2.Text);
        Label1.Text = svc.Subtraction(a,b).ToString();
    }

    protected void Button3_Click(object sender, EventArgs e)
    {
        ServiceReference1.ServiceClient svc = new ServiceReference1.ServiceClient();
        double a = Convert.ToDouble(TextBox1.Text);
        double b = Convert.ToDouble(TextBox2.Text);
        Label1.Text = svc.Multiplication(a,b).ToString();
    }

    protected void Button4_Click(object sender, EventArgs e)
    {
        ServiceReference1.ServiceClient svc = new ServiceReference1.ServiceClient();
        double a = Convert.ToDouble(TextBox1.Text);
        double b = Convert.ToDouble(TextBox2.Text);
        Label1.Text = svc.Division(a,b).ToString();
    }
}
```

Output:

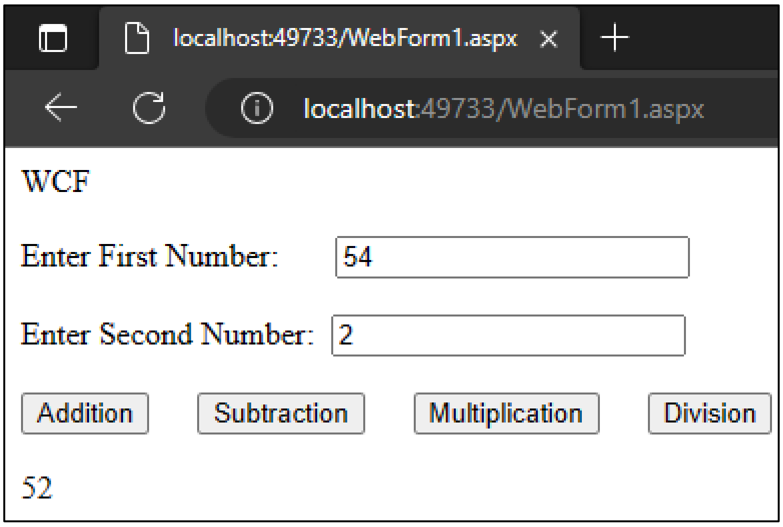


WCF

Enter First Number: 54

Enter Second Number: 2

56

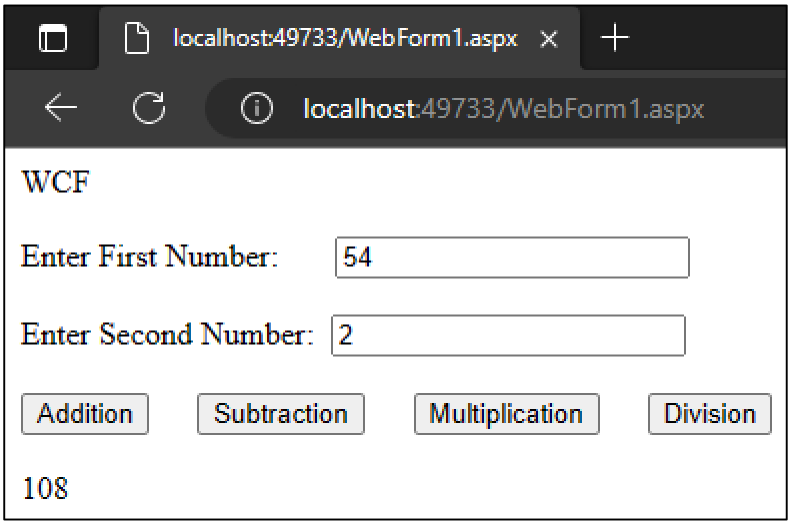


WCF

Enter First Number: 54

Enter Second Number: 2

52

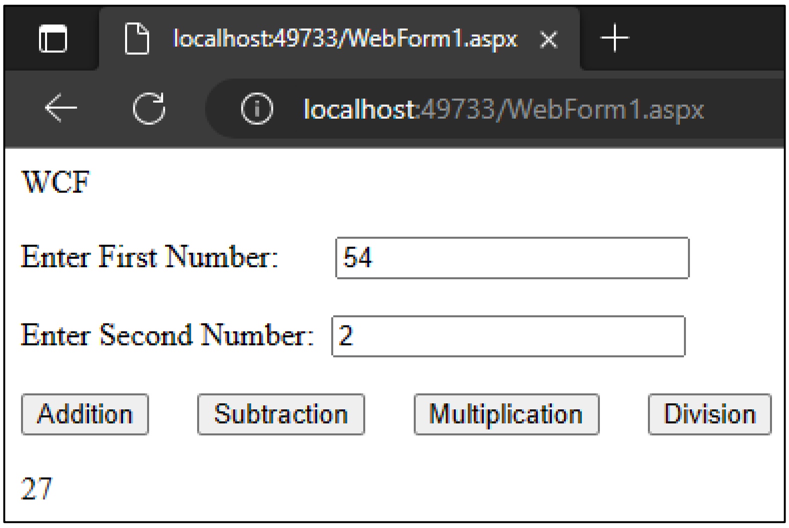


WCF

Enter First Number: 54

Enter Second Number: 2

108



WCF

Enter First Number: 54

Enter Second Number: 2

27

Category 7: ASP.NET MVC

A. **Design MVC based Web applications.**

Code:

HomeController.cs

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Web;
using System.Web.Mvc;
namespace MVC_Application.Controllers
{
    public class HomeController : Controller
    {
        public ActionResult Index()
        {
            return View();
        }
        public ActionResult RegsForm()
        {
            ViewBag.Message = "Your application Registration page.";
            return View();
        }
        public ActionResult About()
        {
            ViewBag.Message = "Your application description page.";
            return View();
        }
        public ActionResult Contact()
        {
            ViewBag.Message = "Your contact page.";
            return View();
        }
    }
}
```

Index.cshtml

```
@{
    ViewBag.Title = "Home Page";
}
<main>
    <section class="row" aria-labelledby="aspnetTitle">
        <h1 id="title">Formula 1</h1>
        <p class="lead">The official Home of Formula 1© Racing.</p>
        <p><a href="~/Views/Home/RegsForm" class="btn btn-outline-danger
btnmd">Register &raquo;</a></p>
    </section>
    <br />
    <div class="row">
        <section class="col-md-4" aria-labelledby="gettingStartedTitle">
            <h2 id="gettingStartedTitle">Unlock the inside world of F1</h2>
            <p>
                With F1 Unlocked, get exclusive insider stories. Discover the latest
                action on and off the track, take a peek behind-the-scenes and dissect post-race
                analysis.
            </p>
```

```
      <p>
        <a class="btn btn-outline-danger"
          href="https://www.formula1.com/en/page.discover-unlocked.html#skinnyregistration">Learn more &raquo;</a>
      </p>
    </section>
    <section class="col-md-4" aria-labelledby="librariesTitle">
      <h2 id="librariesTitle">Unlock money-can’t-buy competitions</h2>
      <p>
        It. Could. Be. You. Be in with a chance to win once-in-a-lifetime
        prizes. Like an all-expenses-paid trip to the Grand Prix weekend. Flights.
      </p>
      <p>
        <a class="btn btn-outline-danger"
          href="https://www.formula1.com/en/page.competition.html">Learn more &raquo;</a>
      </p>
    </section>
    <section class="col-md-4" aria-labelledby="hostingTitle">
      <h2 id="hostingTitle">Unlock every detail with every race</h2>
      <p>
        Immerse yourself into every racing detail with free Live Timing data.
        Track your favourites with a live leader board, sector performance and eavesdrop on
        teams with radio.
      </p>
      <p>
        <a class="btn btn-outline-danger"
```

```
                href="https://www.formula1.com/en/page.discover-unlocked.html#skinnyregistration">Learn more &raquo;</a>
         </p>
      </section>
   </div>
</main>
```

About.cshtml

```
@{
   ViewBag.Title = "About";
}
<main aria-labelledby="title">
   <h3>@ViewBag.Message</h3>
   <p>
      F1 is a car race. It is named as Formula 1, because this race and the car for
      this race has certain formulas to follow.
   </p>
</main>
```

Contact.cshtml

```
@{
   ViewBag.Title = "Contact";
}
<main aria-labelledby="title">
   <h2 id="title">@ViewBag.Title.</h2>
   <h3>@ViewBag.Message</h3>
   <address>
      One Formula Way<br />
      England, WA 98052-6399<br />
```

```
        <abbr title="Phone">P:</abbr>
        +1 (877) 772-1518
    </address>
    <address>
        <strong>General:</strong> <a
href="mailto:WebMaster@Formula1.com">WebMaster@Formula1.com</a><br />
        <strong>Customer Service:</strong> <a
href="mailto:customerservices@f1store.formula1.com">
            customerservices@f1store.formula1.c
            om
        </a>
    </address>
</main>
```

RegsForm.cshtml

```
@{
    ViewBag.Title = "Registration Form";
}
<!DOCTYPE html>
<html>
<head>
    <meta name="viewport" content="width=device-width" />
    <title></title>
</head>
<body>
    <h3>@ViewBag.Message</h3>
    <div>
        <form action="/" method="post">
            <div class="p-3 border border-danger" style="width:50%;">
```

```
<div class="d-flex justify-content-around">
  <div>
    Name: <br />
    <input type="text" name="name" value="" required />
  </div>
  <div>
    ID: <br />
    <input type="text" name="name" value="" required />
  </div>
</div><br />
<div class="d-flex justify-content-around">
  <div>
    Car Name: <br />
    <input type="text" name="name" value="" required />
  </div>
  <div>
    Car Model: <br />
    <input type="text" name="name" value="" required />
  </div>
</div><br />
<div class="d-flex justify-content-around">
  <div>
    Manufacturer Name: <br />
    <input type="text" name="name" value="" required />
  </div>
  <div>
    Manufacturer ID: <br />
```

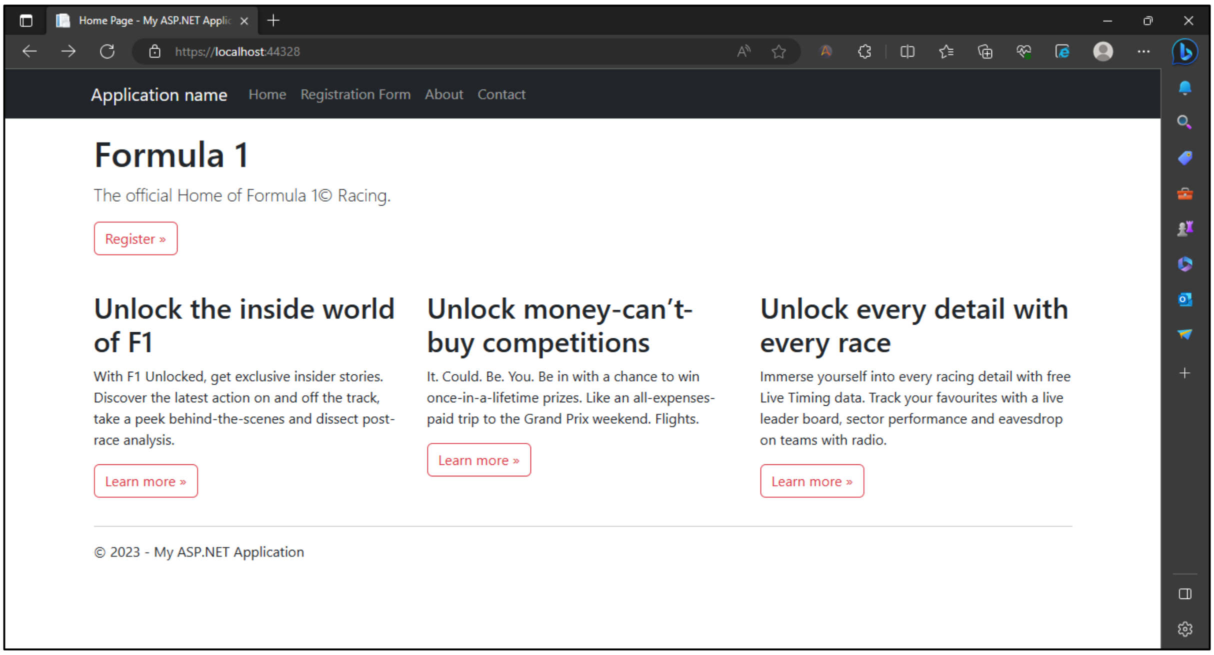
```
                        <input type="text" name="name" value="" required />
                    </div>
                </div><br />
                <div class="d-flex justify-content-around">
                    <asp:Button runat="server" Text="Button" class="btn btn-danger
btnlg">Race!</asp:Button>
                </div>
            </div>
        </form>
    </div>
</body>
</html>
```

__Layout.cshtml

```
<!DOCTYPE html>
<html>
<head>
    <meta charset="utf-8" />
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>@ViewBag.Title - My ASP.NET Application</title>
    @Styles.Render("~/Content/css")
    @Scripts.Render("~/bundles/modernizr")
</head>
<body>
    <nav class="navbar navbar-expand-sm navbar-toggleable-sm navbar-dark bg-dark">
        <div class="container">
            @Html.ActionLink("Application name", "Index", "Home", new { area = "" }, new
{ @class = "navbar-brand" })
```

```
            <button type="button" class="navbar-toggler" data-bs-toggle="collapse" data-bs-target=".navbar-collapse" title="Toggle navigation" aria-controls="navbarSupportedContent"
                    aria-expanded="false" aria-label="Toggle navigation">
                <span class="navbar-toggler-icon"></span>
            </button>
            <div class="collapse navbar-collapse d-sm-inline-flex justify-content-between">
                <ul class="navbar-nav flex-grow-1">
                    <li>@Html.ActionLink("Home", "Index", "Home", new { area = "" }, new { @class = "nav-link" })</li>
                    <li>@Html.ActionLink("Registration Form", "RegsForm", "Home", new { area = "" }, new { @class = "nav-link" })</li>
                    <li>@Html.ActionLink("About", "About", "Home", new { area = "" }, new { @class = "nav-link" })</li>
                    <li>@Html.ActionLink("Contact", "Contact", "Home", new { area = "" }, new { @class = "nav-link" })</li>
                </ul>
            </div>
        </div>
    </nav>
    <div class="container body-content">
        @RenderBody()
        <hr />
        <footer>
            <p>&copy; @DateTime.Now.Year - My ASP.NET Application</p>
        </footer>
    </div>
    @Scripts.Render("~/bundles/jquery")
    @Scripts.Render("~/bundles/bootstrap")
    @RenderSection("scripts", required: false)
</body>
</html>
```

Output:



Formula 1

The official Home of Formula 1© Racing.

Unlock the inside world of F1

With F1 Unlocked, get exclusive insider stories. Discover the latest action on and off the track, take a peek behind-the-scenes and dissect post-race analysis.

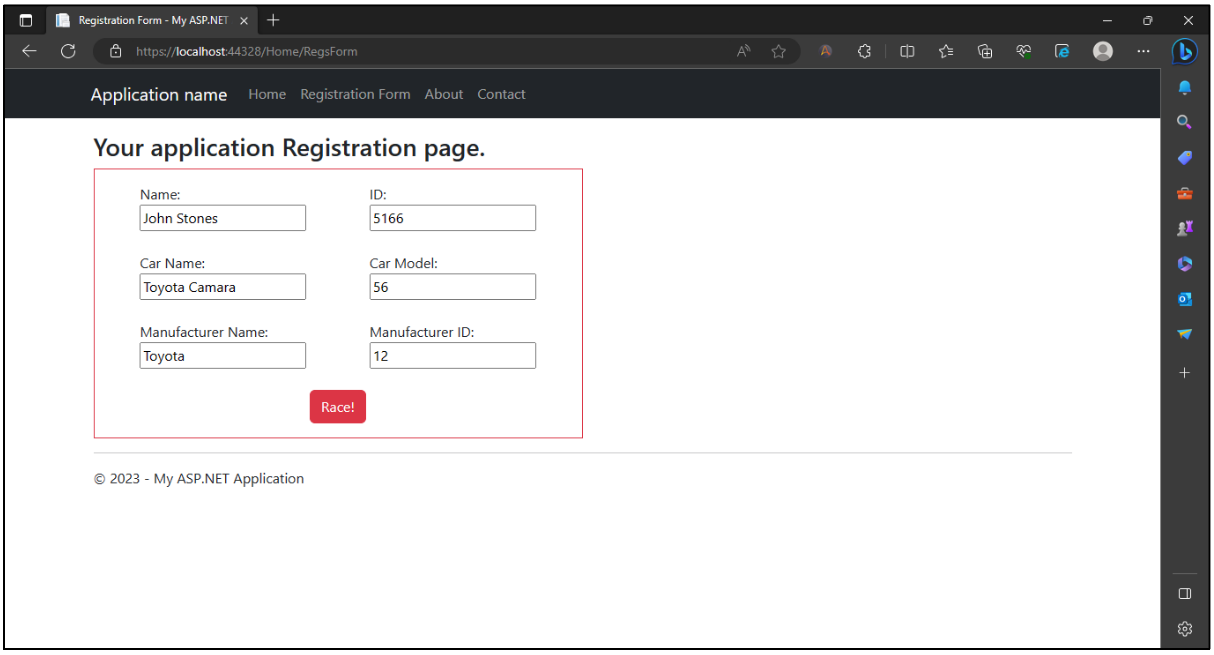
Unlock money-can't-buy competitions

It. Could. Be. You. Be in with a chance to win once-in-a-lifetime prizes. Like an all-expenses-paid trip to the Grand Prix weekend. Flights.

Unlock every detail with every race

Immerse yourself into every racing detail with free Live Timing data. Track your favourites with a live leader board, sector performance and eavesdrop on teams with radio.

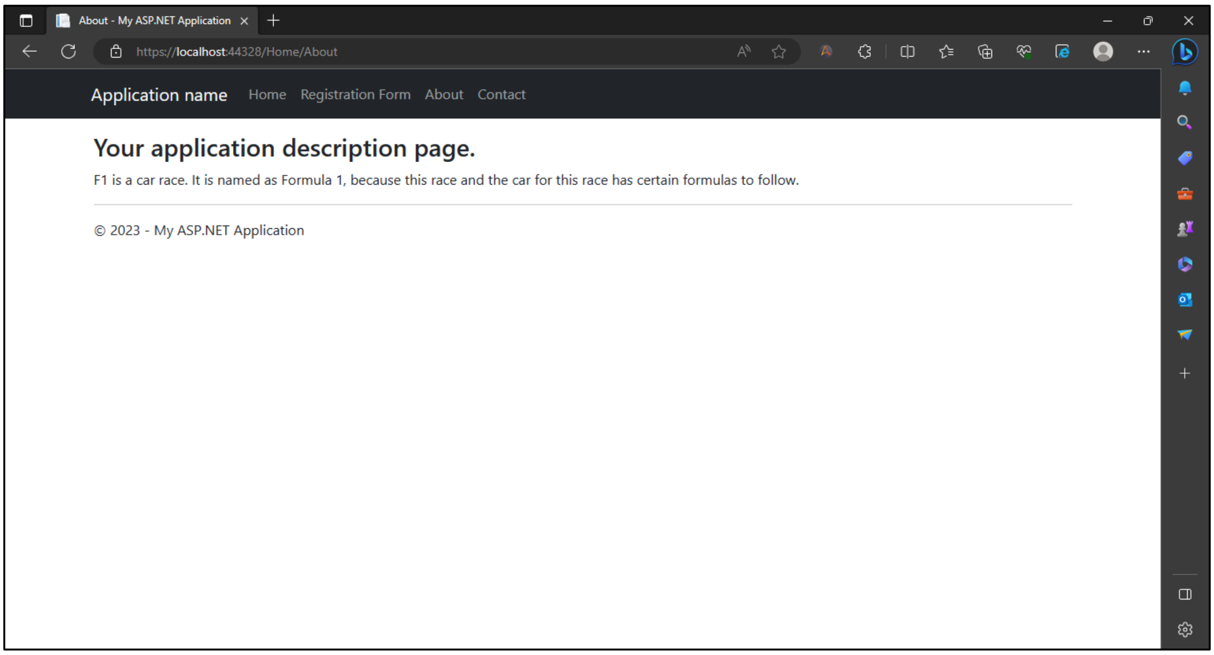
© 2023 - My ASP.NET Application


Registration Form - My ASP.NET
https://localhost:44328/Home/RegsForm
Application name
Home
Registration Form
About
Contact
Race!

Your application Registration page.

Name: John Stones	ID: 5166
Car Name: Toyota Camara	Car Model: 56
Manufacturer Name: Toyota	Manufacturer ID: 12

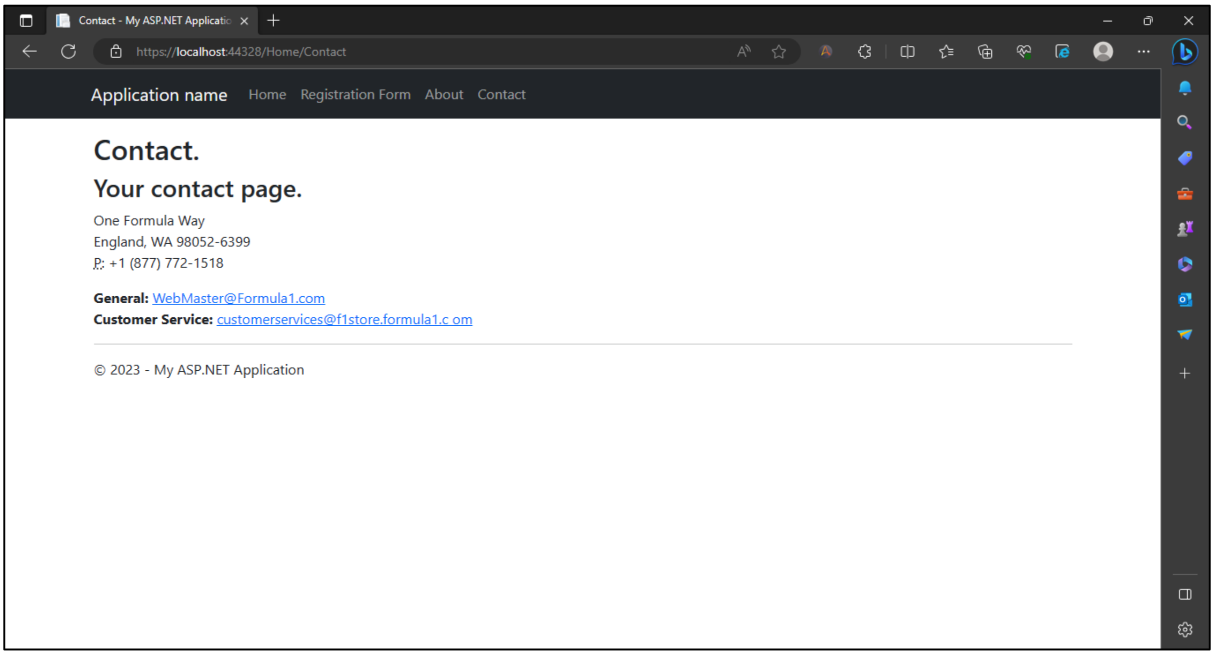
© 2023 - My ASP.NET Application


About - My ASP.NET Application
https://localhost:44328/Home/About
Application name
Home
Registration Form
About
Contact

Your application description page.

F1 is a car race. It is named as Formula 1, because this race and the car for this race has certain formulas to follow.

© 2023 - My ASP.NET Application


Contact - My ASP.NET Applicatio
https://localhost:44328/Home/Contact
Application name
Home
Registration Form
About
Contact

Contact.

Your contact page.

One Formula Way
England, WA 98052-6399
P: +1 (877) 772-1518

General: WebMaster@Formula1.com
Customer Service: customerservices@f1store.formula1.c om

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Category 8: LINQ

A. Design a webpage to display the use of LINQ.

Code:

Class1.cs

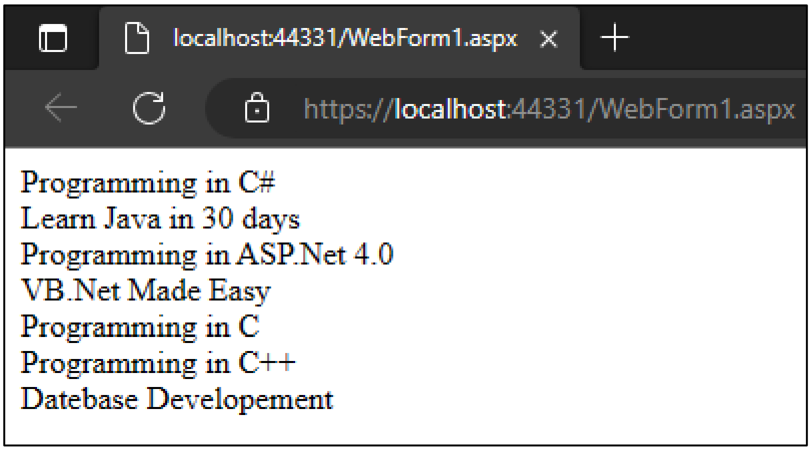
```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Web;
namespace WebApplication_LINQ
{
    public class Books
    {
        public string ID { get; set; }
        public string Title { get; set; }
        public decimal Price { get; set; }
        public DateTime DateOfRelease { get; set; }
        public static List<Books> GetBooks()
        {
            List<Books> list = new List<Books>();
            list.Add(new Books
            {
                ID = "001",
                Title = "Programming in C#",
                Price = 634.76m,
                DateOfRelease = Convert.ToDateTime("2010-02-05")
            });
            list.Add(new Books
{
   ID = "002",
   Title = "Learn Java in 30 days",
   Price = 250.76m,
   DateOfRelease = Convert.ToDateTime("2011-08-15")
});
list.Add(new Books
{
   ID = "003",
   Title = "Programming in ASP.Net 4.0",
   Price = 700.00m,
   DateOfRelease = Convert.ToDateTime("2011-02-05")
});
list.Add(new Books
{
   ID = "004",
   Title = "VB.Net Made Easy",
   Price = 500.99m,
   DateOfRelease = Convert.ToDateTime("2011-12-31")
});
list.Add(new Books
{
   ID = "005",
   Title = "Programming in C",
   Price = 314.76m,
   DateOfRelease = Convert.ToDateTime("2010-02-05")
});
```

```
            list.Add(new Books
            {
                ID = "006",
                Title = "Programming in C++",
                Price = 456.76m,
                DateOfRelease = Convert.ToDateTime("2010-02-05")
            });
            list.Add(new Books
            {
                ID = "007",
                Title = "Datebase Developement",
                Price = 1000.76m,
                DateOfRelease = Convert.ToDateTime("2010-02-05")
            });
            return list;
        }
    }
}
```

WebForm1.apsx

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Web;
using System.Web.UI;
using System.Web.UI.WebControls;
namespace WebApplication_LINQ
{
    public partial class WebForm1 : System.Web.UI.Page
    {
        protected void Page_Load(object sender, EventArgs e)
        {
            List<Books> books=Books.GetBooks();
            var booktitles=from book in books select book.Title;
            foreach (var title in booktitles)
                Label1.Text += String.Format("{0} <br/>",title);
        }
    }
}
```

Output:


localhost:44331/WebForm1.aspx
https://localhost:44331/WebForm1.aspx

```
Programming in C#
Learn Java in 30 days
Programming in ASP.Net 4.0
VB.Net Made Easy
Programming in C
Programming in C++
Datebase Developement
```