Practical-1(a)

Working with basic C# and ASP.NET

- **a)Create an application that obtains four int values from the users and display the product.**

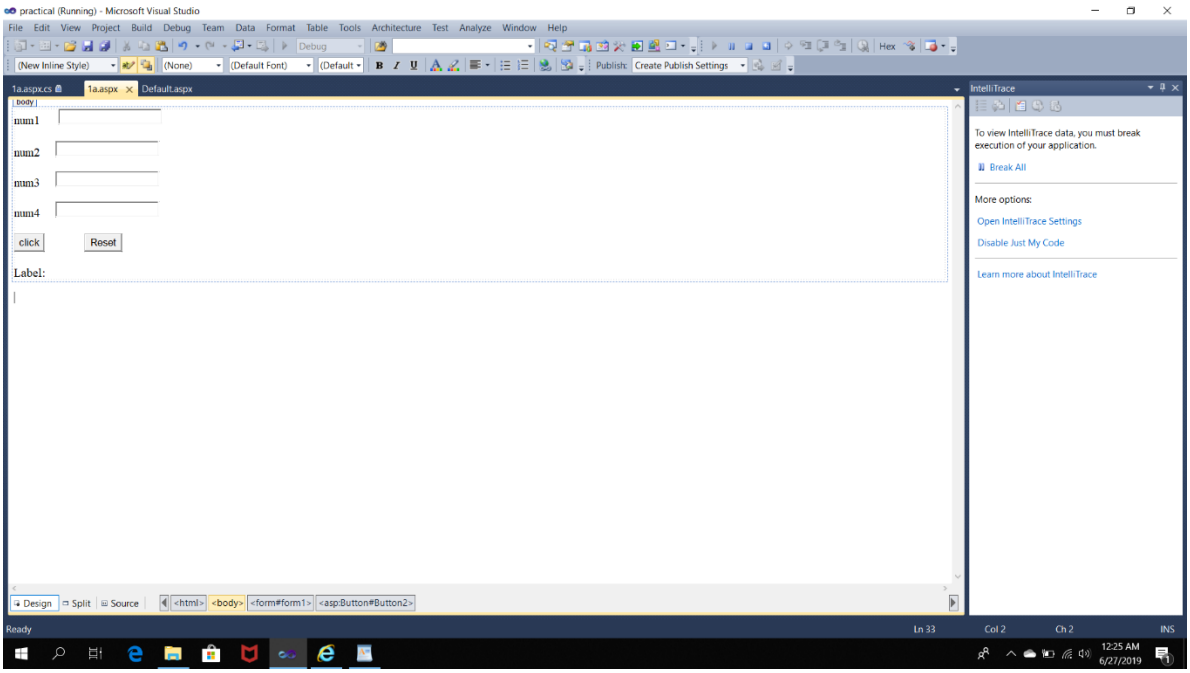
Solution:

Source Code:

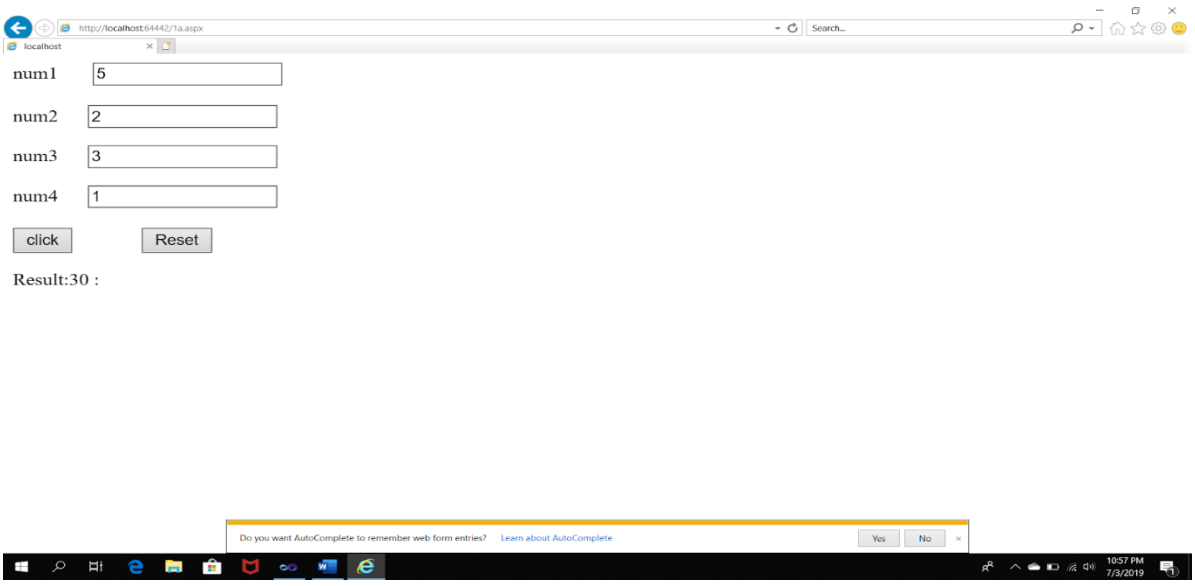
1a.aspx.cs :

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

namespace practical
{
   public partial class _1a : System.Web.UI.Page
   {
      protected void Page_Load(object sender, EventArgs e)
      {

      }

      protected void Button1_Click(object sender, EventArgs e)
      {
         int r;
         r = Convert.ToInt32(TextBox1.Text) * Convert.ToInt32(TextBox2.Text) *
Convert.ToInt32(TextBox3.Text) * Convert.ToInt32(TextBox4.Text);
         Label5.Text = "Result:" + r.ToString();
      }

      protected void Button2_Click(object sender, EventArgs e)
      {
         TextBox1.Text = "";
         TextBox2.Text = "";
         TextBox3.Text = "";
         TextBox4.Text = "";
         Label1.Text = "";
      }
   }
}
```

Design:



Output:



Practical-1(b)

Working with basic C# and ASP.NET

- **b)Create an application to demonstrate string operation.**

Solution:

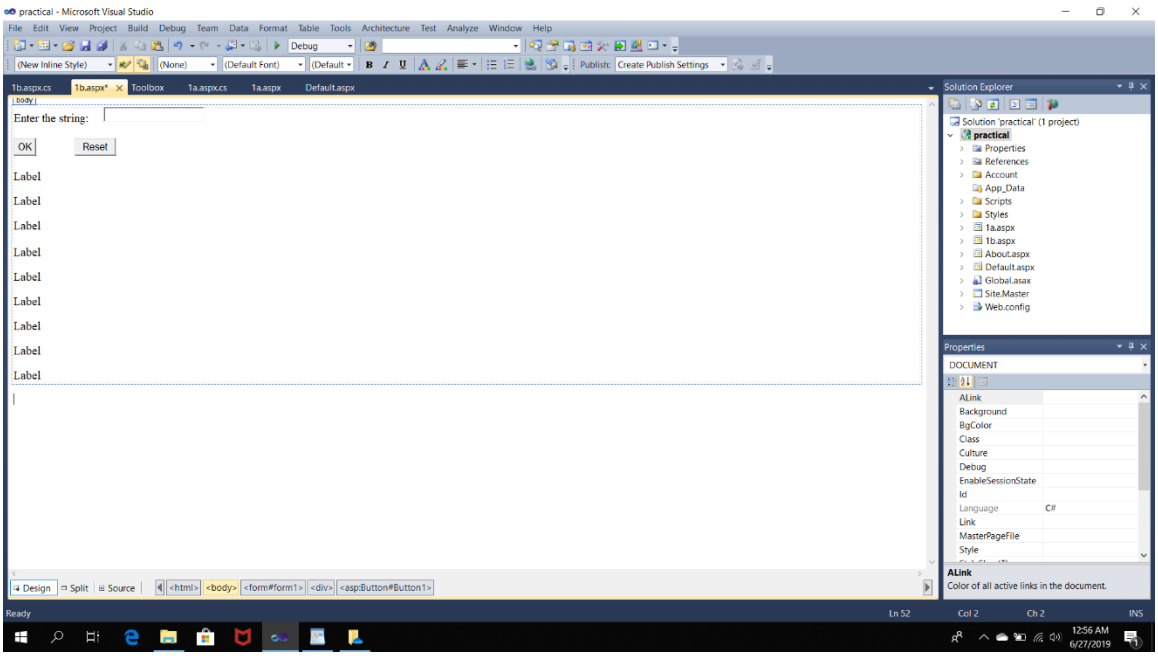
Source Code:

1b.aspx.cs :

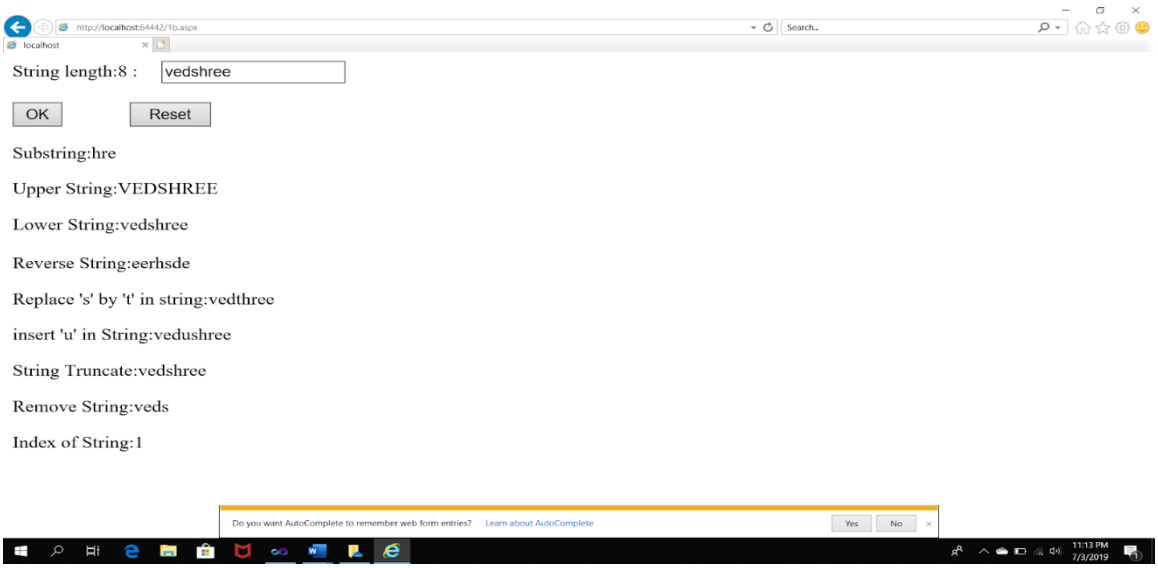
```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Web;
using System.Web.UI;
using System.Web.UI.WebControls;

namespace practical
{
   public partial class _1b : System.Web.UI.Page
   {
      protected void Page_Load(object sender, EventArgs e)
      {

      }

      protected void Button1_Click(object sender, EventArgs e)
      {
         string s = TextBox1.Text;
         Label1.Text = "String length:" + s.Length;
         Label2.Text = "Substring:" + s.Substring(4, 3);
         Label3.Text = "Upper String:" + s.ToUpper();
         Label4.Text = "Lower String:" + s.ToLower();
         string rev = "";
         for (int i = s.Length - 1; i > 0; i--)
         {
            rev = rev + s[i];
         }
         Label5.Text = "Reverse String:" + rev.ToString();
         Label6.Text = "Replace 's' by 't' in string:" + s.Replace('s','t');
         Label7.Text = "insert 'u' in String:" + s.Insert(3,"u");
         Label8.Text = "String Truncate:" + s.Trim();
         Label9.Text = "Remove String:" + s.Remove(4);
         Label10.Text = "Index of String:" + s.IndexOf('e');
      }
```

```
    protected void Button2_Click(object sender, EventArgs e)
    {
        Label1.Text = "";
        Label2.Text = "";
        Label3.Text = "";
        Label4.Text = "";
        Label5.Text = "";
        Label6.Text = "";
        Label7.Text = "";
        Label8.Text = "";
        Label9.Text = "";
        Label10.Text = "";
        TextBox1.Text = "";
    }
  }
}
```

Design:



Output:


http://localhost:64442/1b.aspx
Search...
localhost
String length:8 :
vedshree
OK
Reset
Substring:hre
Upper String:VEDSHREE
Lower String:vedshree
Reverse String:eerhsde
Replace 's' by 't' in string:vedthree
insert 'u' in String:vedushree
String Truncate:vedshree
Remove String:veds
Index of String:1
Do you want AutoComplete to remember web form entries?
Learn about AutoComplete
Yes
No
11:13 PM
7/3/2019

Practical-1(c)

Working with basic C# and ASP.NET

- **c)Create an application that receives the(Student Id,Student Name,Course Name,Date of Birth)information from the set of student.The application should also display the information of all the student once the data entered.**

Solution:

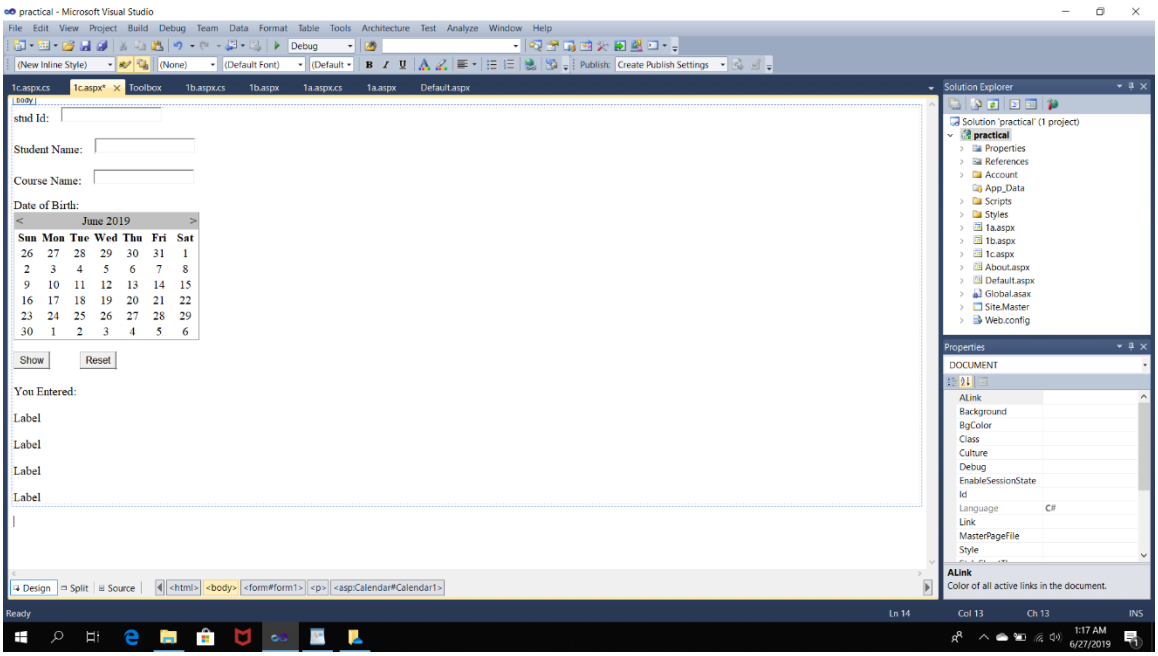
Source Code:

1c.aspx.cs :

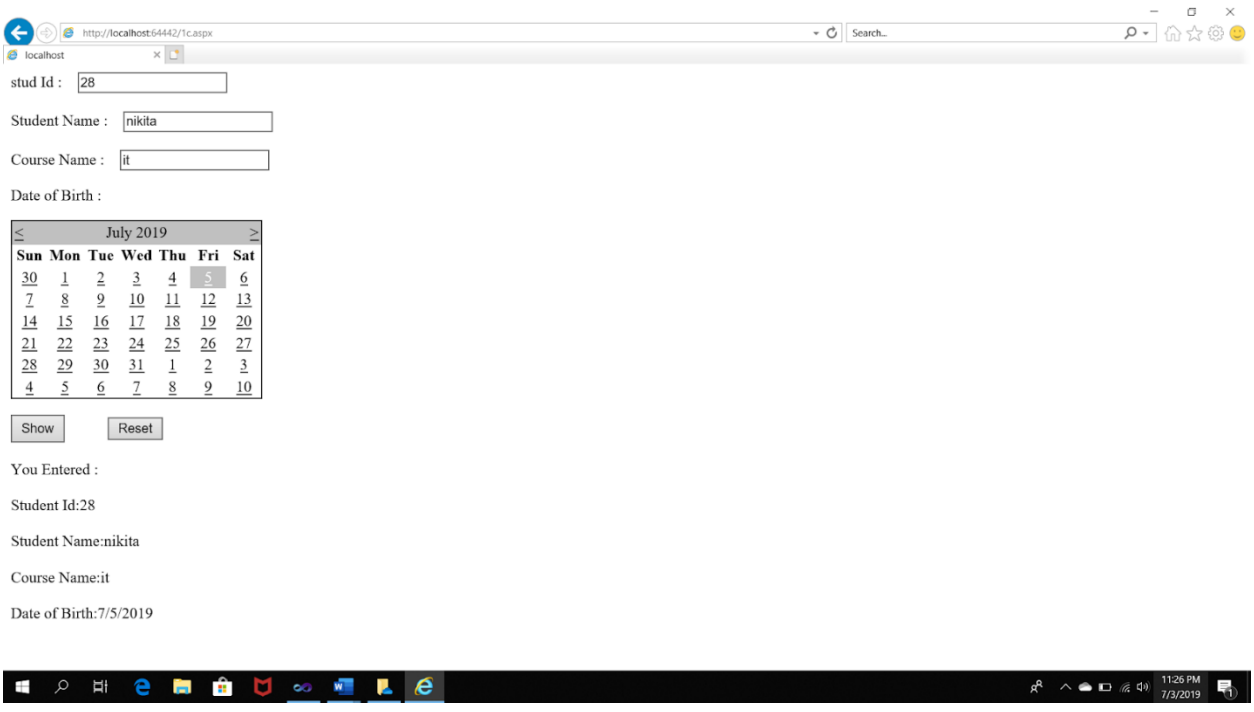
```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Web;
using System.Web.UI;
using System.Web.UI.WebControls;

namespace practical
{
   public partial class _1c : System.Web.UI.Page
   {
      protected void Page_Load(object sender, EventArgs e) {

      }

      protected void Button2_Click(object sender, EventArgs e)
      {
         Label1.Text = "";
         Label2.Text = "";
         Label3.Text = "";
         Label4.Text = "";
         TextBox1.Text = "";
         TextBox2.Text = "";
         TextBox3.Text = "";
         Calendar1.SelectedDates.Clear();
      }

      protected void Button1_Click(object sender, EventArgs e)
      {
         Label6.Text = "Student Id:" + TextBox1.Text;
         Label7.Text = "Student Name:" + TextBox2.Text;
         Label8.Text = "Course Name:" + TextBox3.Text;
         Label9.Text = "Date of Birth:" + Calendar1.SelectedDate.ToShortDateString();
      }
```

```
    }
}
```

Design:



Output:



Practical-1(d)

Working with basic C# and ASP.NET

- **d)Create an application to demonstrate following operation.**

  i)Generate Fibonacci series **ii)Test for prime numbers**

  iii)Test for vowels **iv)Use of foreach loop with array**

  v)Reverse a number and find sum of digit of a number.

Solution:

Source Code :

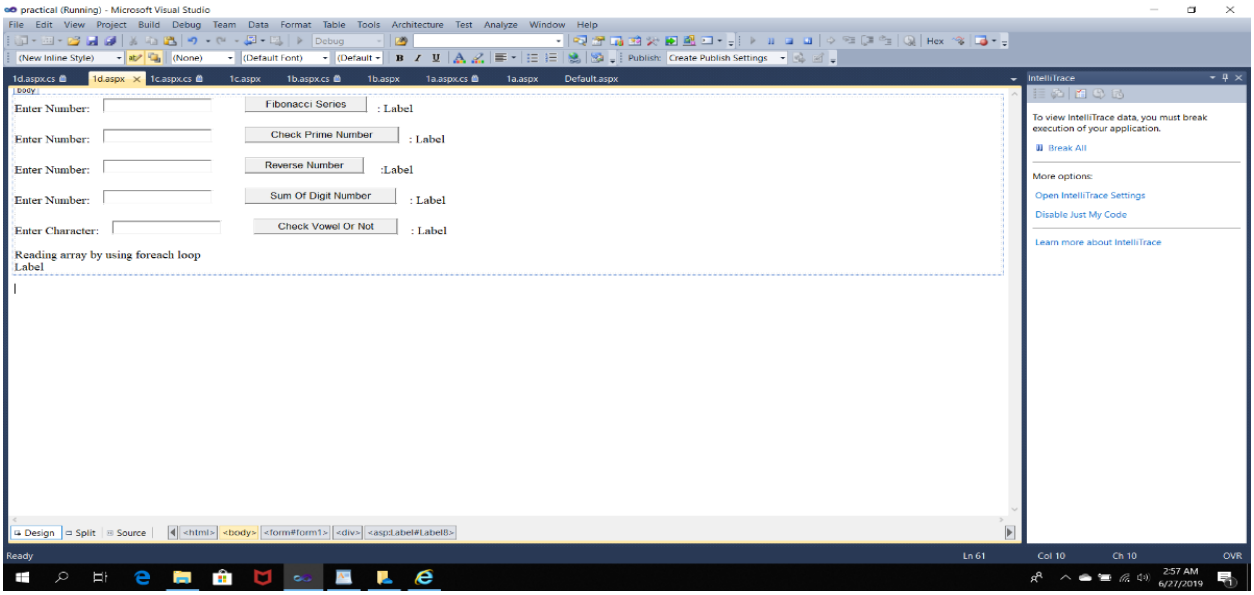
1d.aspx.cd

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

namespace practical
{
   public partial class _1d : System.Web.UI.Page
   {
      protected void Page_Load(object sender, EventArgs e)
      {
         Label7.Text = "";
         string[] ColorNames = new string[]{"RED","YELLOW","BLACK","GREEN","BLUE","PINK"
         };
         foreach (string ColorName in ColorNames)
         {
            Label7.Text = Label7.Text + " "+ ColorName.ToString();
         }

      }

      protected void Button2_Click(object sender, EventArgs e)                    //Prime number
      {
         int i,c=0,j,num;
         num=Convert.ToInt32(TextBox2.Text);
         for(j=1;j<=num;j++)
         {
            i=num%j;
```

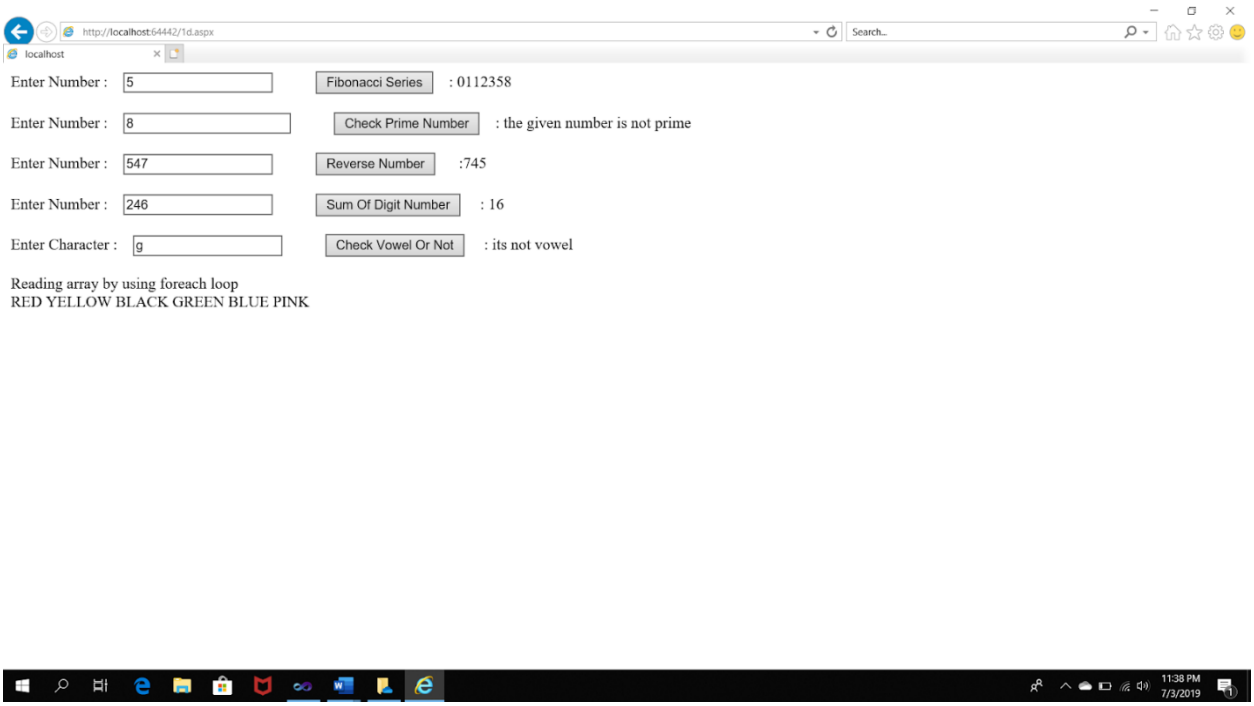
```
            if(i==0)
            {
               c=c+1;
            }
         }
         if (c == 2)
            Label9.Text = "The given number is prime";
         else
            Label9.Text = "the given number is not prime";
      }

      protected void Button4_Click(object sender, EventArgs e)                    //Sum of digits
      {
         long num,i,sum=0;
         num=Convert.ToInt32(TextBox3.Text);
         while(num>0)
         {
            i=num %10;
            sum = i + sum;
            num=num/10;
         }
         Label11.Text = sum.ToString();
      }

      protected void TextBox5_TextChanged(object sender, EventArgs e)
      {

      }

      protected void Button1_Click(object sender, EventArgs e)                    //Fibonacci Series
      {
         int a, b, c, i, n;
         a = 0;
         b = 1;
         Label8.Text = a.ToString() + b.ToString();
         n = Convert.ToInt32(TextBox1.Text);
         for(i=1;i<=n;++i)
         {
            c=a+b;
            Label8.Text=Label8.Text+c.ToString();
            a=b;
            b=c;
         }
   }

      protected void Button3_Click(object sender, EventArgs e)
      {
```

```
        long num,i,sum=0;
        num=Convert.ToInt32(TextBox3.Text);
        while(num>0)
        {
           i=num % 10;
           sum=i+sum*10;
           num=num/10;
        }
        Label10.Text=sum.ToString();
    }

    protected void Button5_Click(object sender, EventArgs e)    //Vowels or not
    {
        char c=Convert.ToChar(TextBox5.Text);
        switch(c)
        {
           case 'a':
              Label12.Text = "a is vowel";
              break;
           case 'e':
              Label12.Text = "e is vowel";
              break;
           case 'i':
              Label12.Text = "i is vowel";
              break;
           case 'o':
              Label12.Text = "0 is vowel";
              break;
           case 'u':
              Label12.Text = "u is vowel";
              break;
           default:
              Label12.Text = "its not vowel";
              break;
        }
            }

    }
}
```

Design:



Output:



Practical-2(a)

Working with Object Oriented C# and ASP.NET

- **a)Create simple application to perform following operations:**

  i)Finding factorial Value **ii)Money Conversion**

  iii)Quadratic Equation **iv)Temperature Conversion**

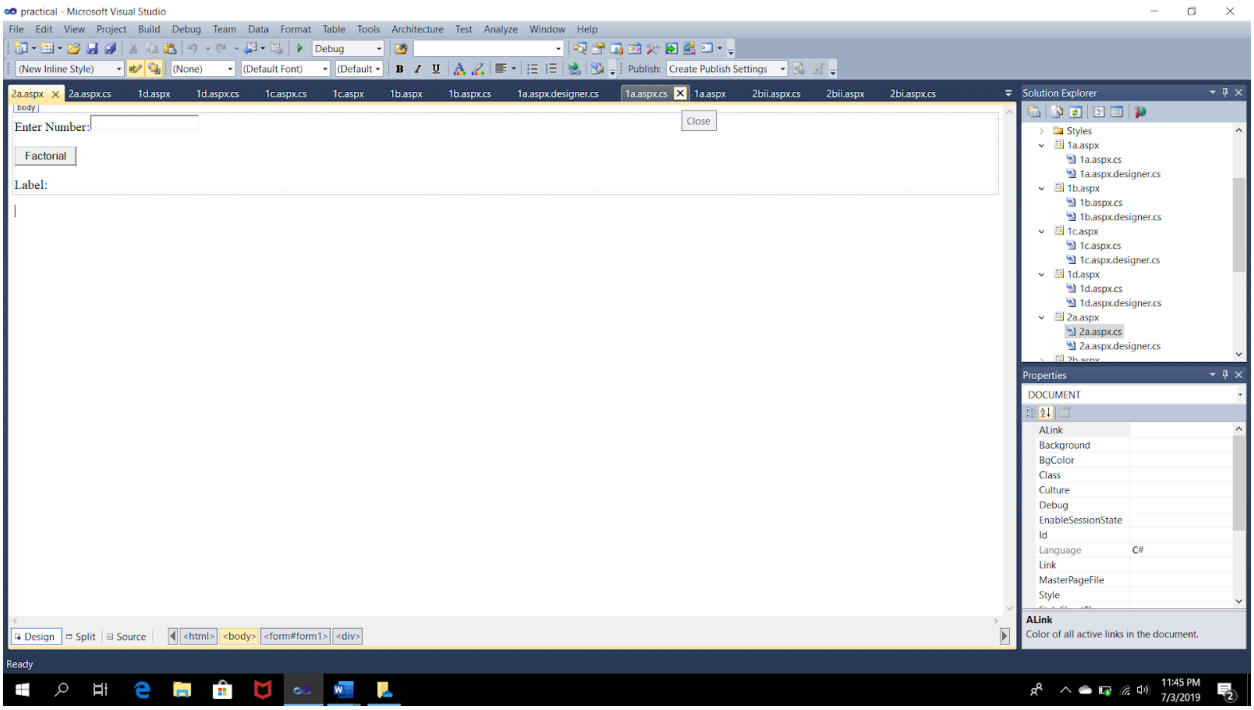
Solution:

i) Source Code (Factorial Value):

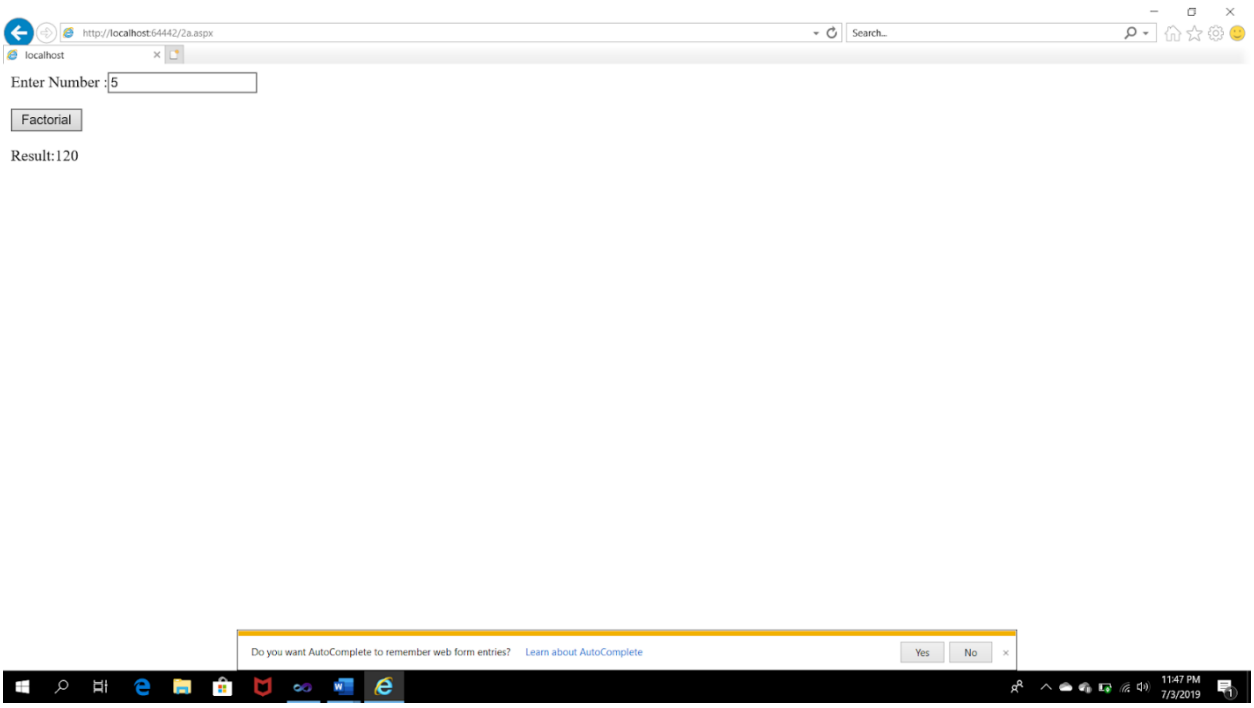
2a.aspx.cs :

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

namespace practical
{
  public partial class _2a : System.Web.UI.Page
  {
    protected void Page_Load(object sender, EventArgs e)
    {

    }

    protected void Button1_Click(object sender, EventArgs e)
    {
      int i, n, f;
      n = Convert.ToInt32(TextBox1.Text);
      f = 1;
      for (i = 1; i <= n; i++)
      {
        f = f * i;
      }
      Label2.Text = "Result:" + f;
    }
  }
}
```

Design:



Output:



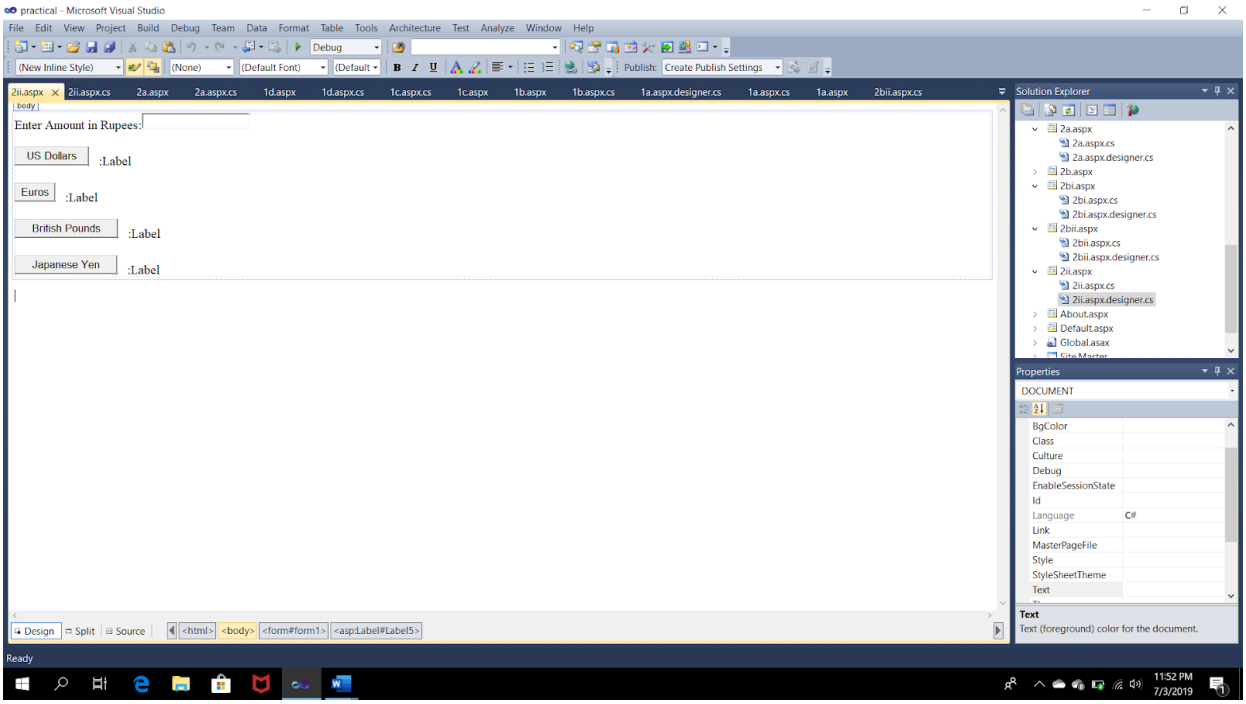
ii) Source Code (Money Conversion):

2ii.aspx.cs:

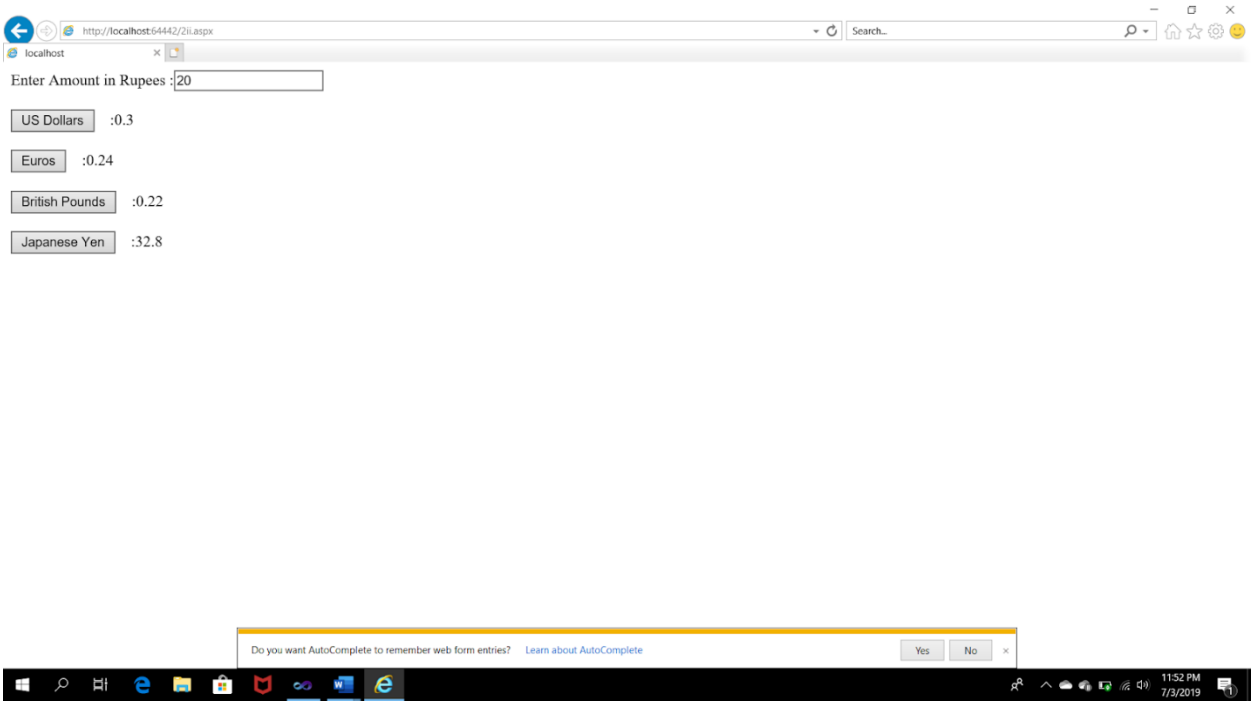
```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Web;
using System.Web.UI;
using System.Web.UI.WebControls;

namespace practical
{
   public partial class _2ii : System.Web.UI.Page
   {
      protected void Page_Load(object sender, EventArgs e)
      {

      }

      protected void Button1_Click(object sender, EventArgs e)
      {
         cons s = new cons();
         double r=Convert.ToDouble(TextBox1.Text);
         double rate=s.Dolr(r);
         Label2.Text=rate.ToString();
      }

      protected void Button2_Click(object sender, EventArgs e)
      {
         cons s = new cons();
         double r=Convert.ToDouble(TextBox1.Text);
         double rate=s.Euro(r);
         Label3.Text=rate.ToString();
      }

      protected void Button3_Click(object sender, EventArgs e)
      {
          cons s = new cons();
         double r=Convert.ToDouble(TextBox1.Text);
         double rate=s.Pound(r);
         Label4.Text=rate.ToString();
      }

      protected void Button4_Click(object sender, EventArgs e)
      {
          cons s = new cons();
         double r=Convert.ToDouble(TextBox1.Text);
```

```
            double rate=s.Yen(r);
            Label5.Text=rate.ToString();
        }
    }

public class cons
{
    public double Dolr(double r)
    {
        r=r*0.015;
        return r;
    }
    public double Euro(double r)
    {
        r=r*0.012;
        return r;
    }
    public double Pound(double r)
    {
        r=r*0.011;
        return r;
    }
    public double Yen(double r)
    {
        r=r*1.64;
        return r;
    }
}

}
```

Design:



Output:



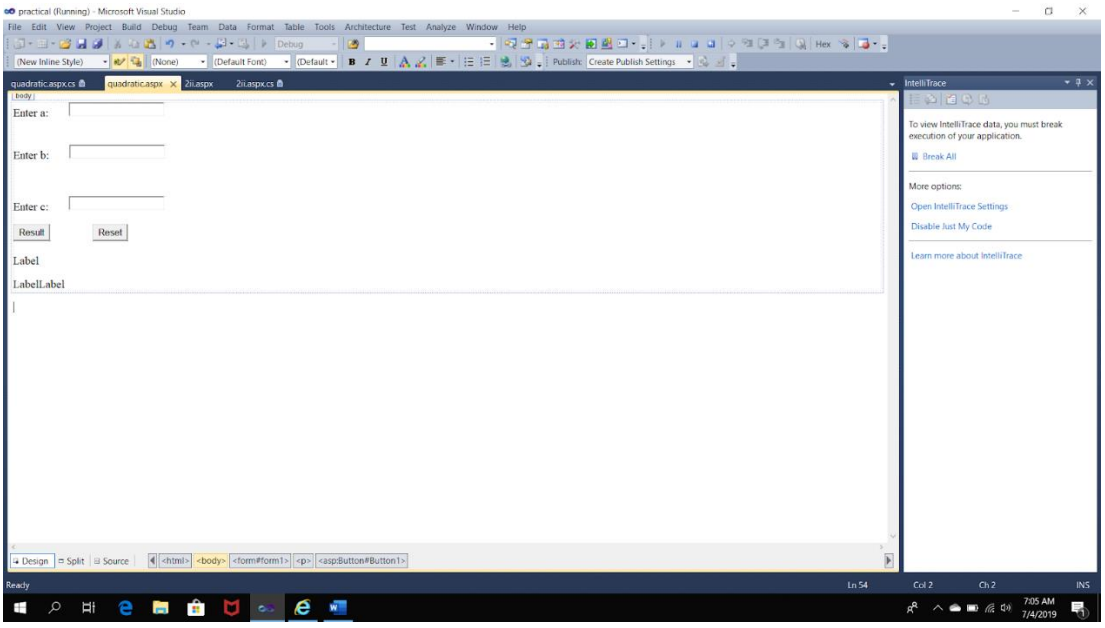
iii) Source Code (Quadratic Equation):

quadratic.aspx.cs :

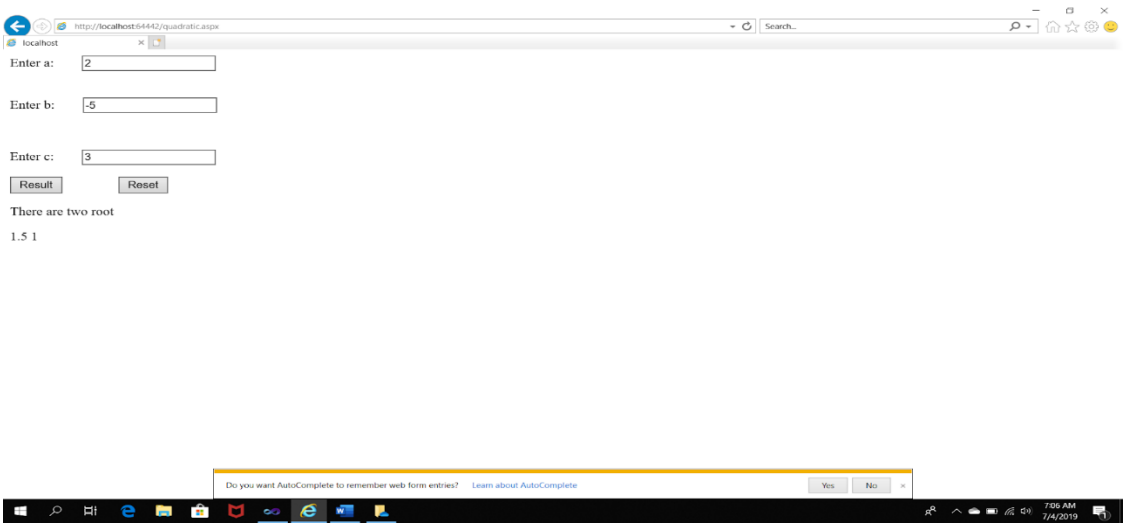
```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Web;
using System.Web.UI;
using System.Web.UI.WebControls;

namespace practical
{

   public partial class quadratic : System.Web.UI.Page
   {
      public void demo()
      {
         double a, b, c, r1, r2, x;

         double det;
         a = Convert.ToInt32(TextBox1.Text);
         b = Convert.ToInt32(TextBox2.Text);
         c = Convert.ToInt32(TextBox3.Text);
         det = (b * b) - 4 * a * c;
         if (det > 0)
         {
            x = Math.Sqrt(det);
            r1 = (-b + x) / (2 * a);
            r2 = (-b - x) / (2 * a);
            Label4.Text = "There are two root";
            Label5.Text = r1.ToString();
            Label6.Text = r2.ToString();
         }
         else if (det == 0)
         {
            x = Math.Sqrt(det);
            r1 = (-b + x) / 2 * a;
            Label4.Text = "There is only one root";
            Label6.Text = r1.ToString();
         }
         else
         {
            Label4.Text = "There is no root";
         }
      }
```

```
    protected void Page_Load(object sender, EventArgs e)
    {
    }

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

Design:



Output:



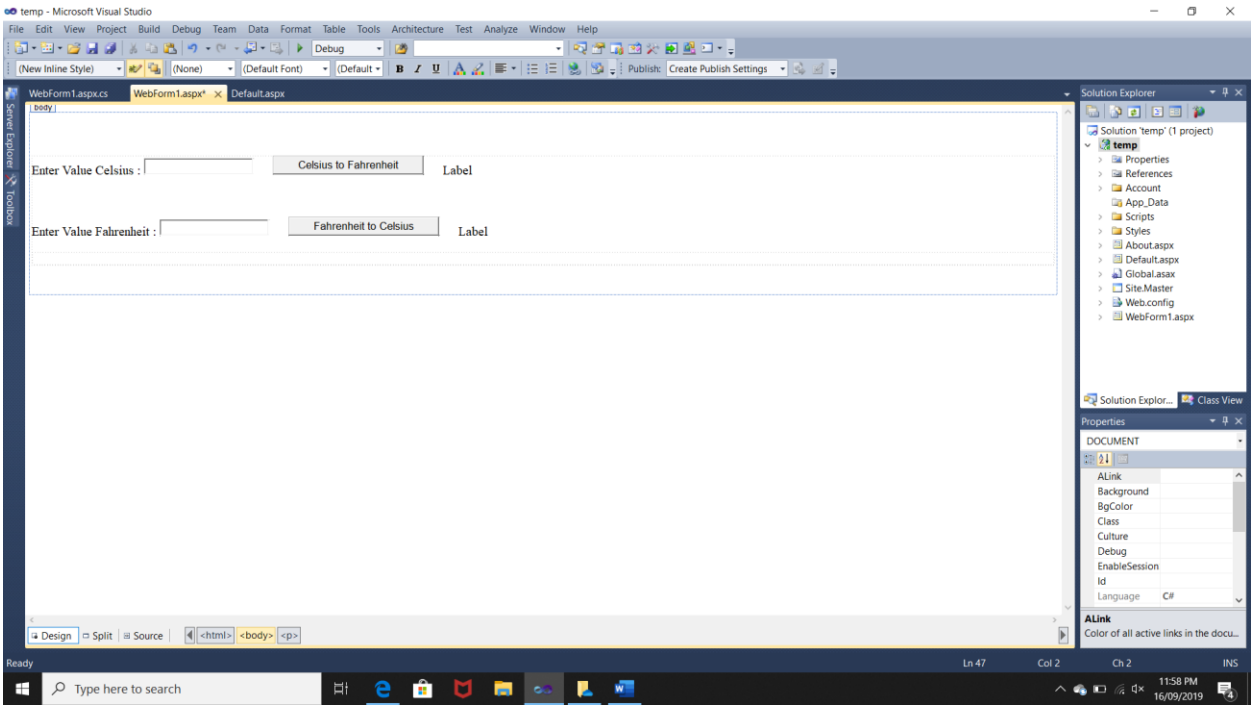
iv) Source Code (Temperature Conversion):

Webform1.aspx.cs:

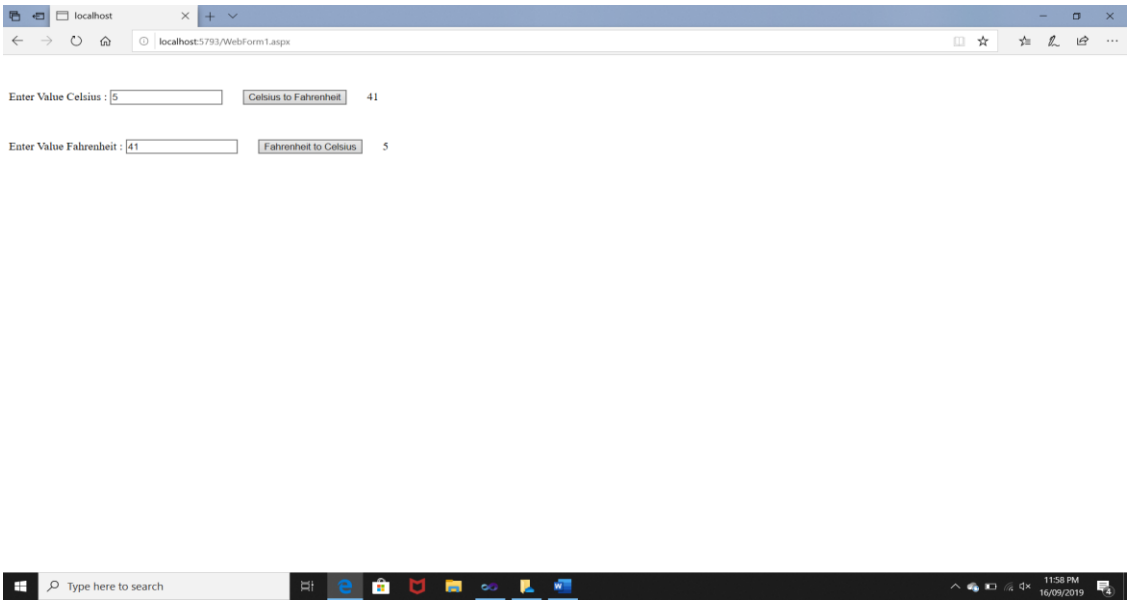
```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Web;
using System.Web.UI;
using System.Web.UI.WebControls;

namespace temp
{
  public class tempConv
  {
    public double ctof(double temp)
    {
      temp = 9.0 / 5.0 * temp + 32;
      return temp;
    }
    public double ftoc(double temp)
    {
      temp = (temp - 32) * 5 / 9;
      return temp;
    }
  }

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

    }

    protected void Button1_Click(object sender, EventArgs e)
    {
      tempConv s = new tempConv();
      double n = Convert.ToDouble(TextBox1.Text);
      double x = s.ctof(n);
      Label1.Text = x.ToString();
    }

    protected void Button2_Click(object sender, EventArgs e)
    {
      tempConv s = new tempConv();
      double n = Convert.ToDouble(TextBox2.Text);
      double x = s.ftoc(n);
      Label2.Text = x.ToString();
```

```
    }
  }
}
```

Design:



Output:



Practical-2(b)

Working with Object Oriented C# and ASP.NET

- **b)Create simple application to demonstrate use of following concepts.**

  i)Function Overloading **ii)Inheritance(all types)**

  iii)Constructor Overloading **iv)Interfaces**

Solution:

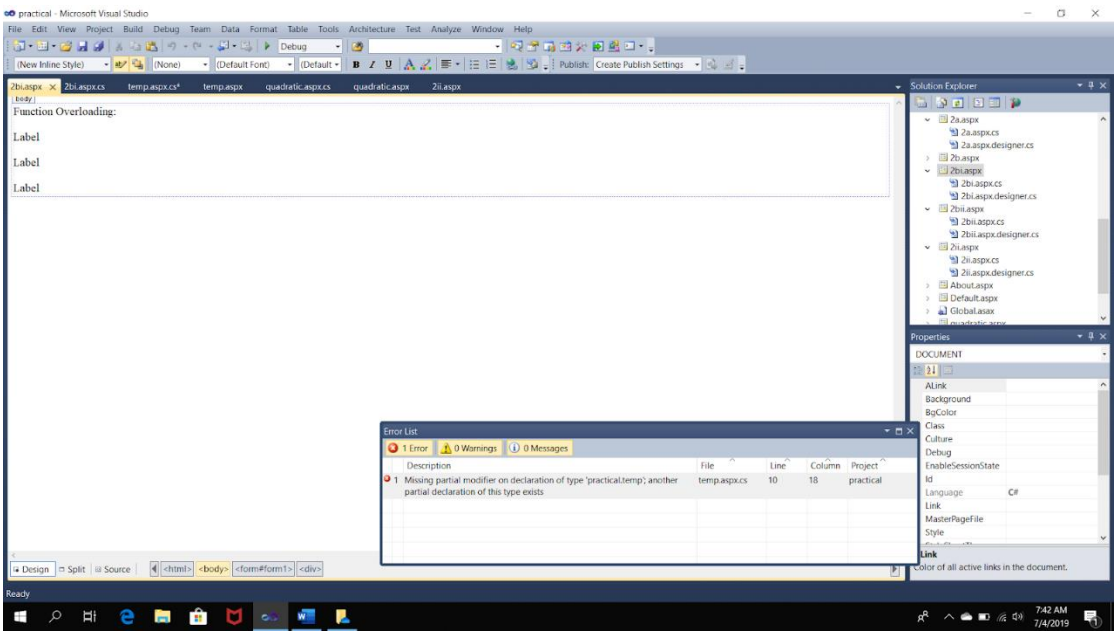
i) Source Code(Function Overloading):

2bi.aspx.cs :

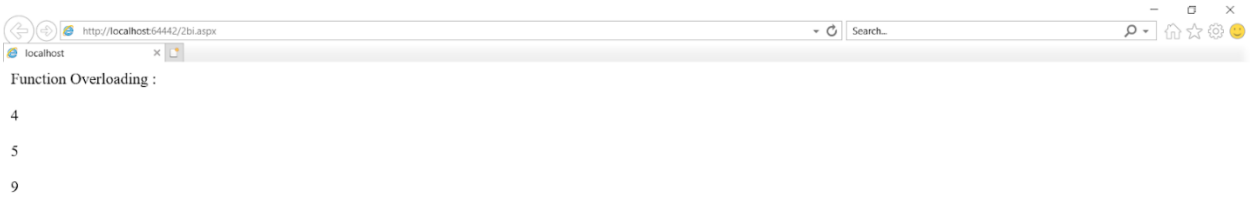
```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Web;
using System.Web.UI;
using System.Web.UI.WebControls;

namespace practical
{
  public partial class _2bi : System.Web.UI.Page
  {
    public int add(int a)
    {
      return a + a;
    }
    public int add(int a, int b)
    {
      return a + b;
    }
    public int add(int a, int b,int c)
    {
      return a + b + c;
    }

    protected void Page_Load(object sender, EventArgs e)
    {
      int x, y, z;
      x = add(2);
      y = add(2, 3);
      z = add(2, 3, 4);
      Label2.Text = x.ToString();
      Label3.Text = y.ToString();
```

```
        Label4.Text = z.ToString();

      }
   }
}
```

Design:



Output:

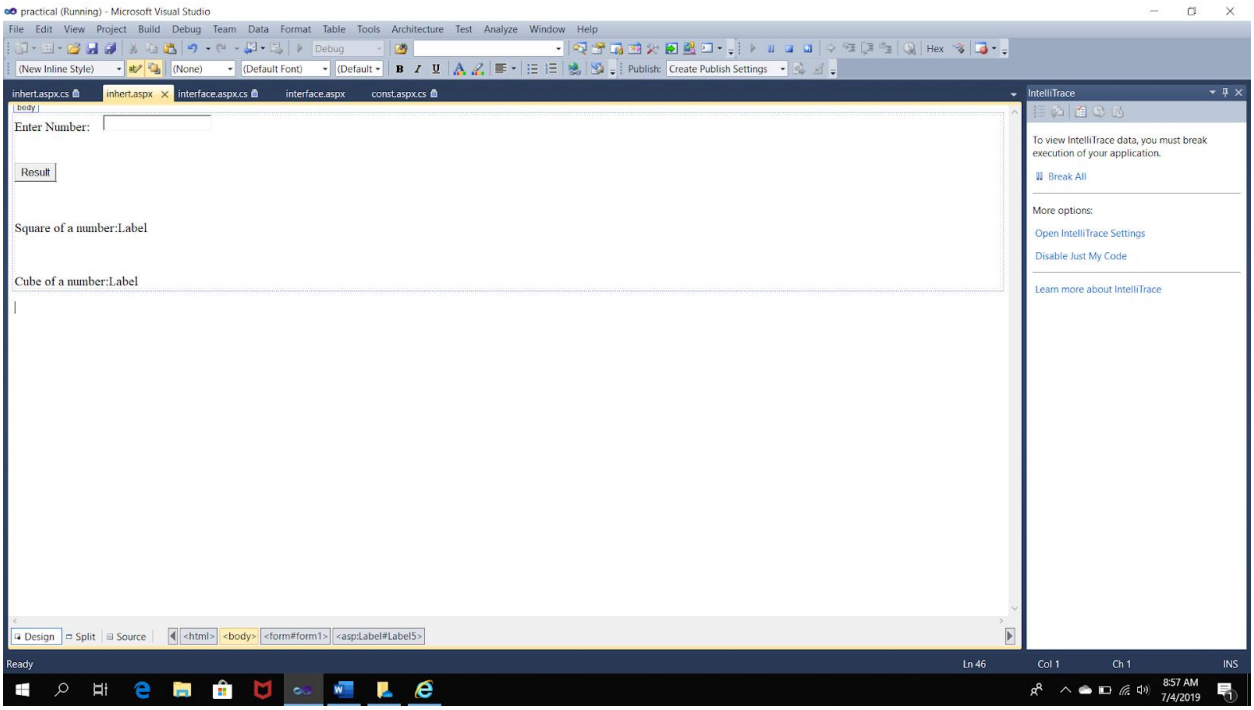


ii) Source Code (Single Inheritance):

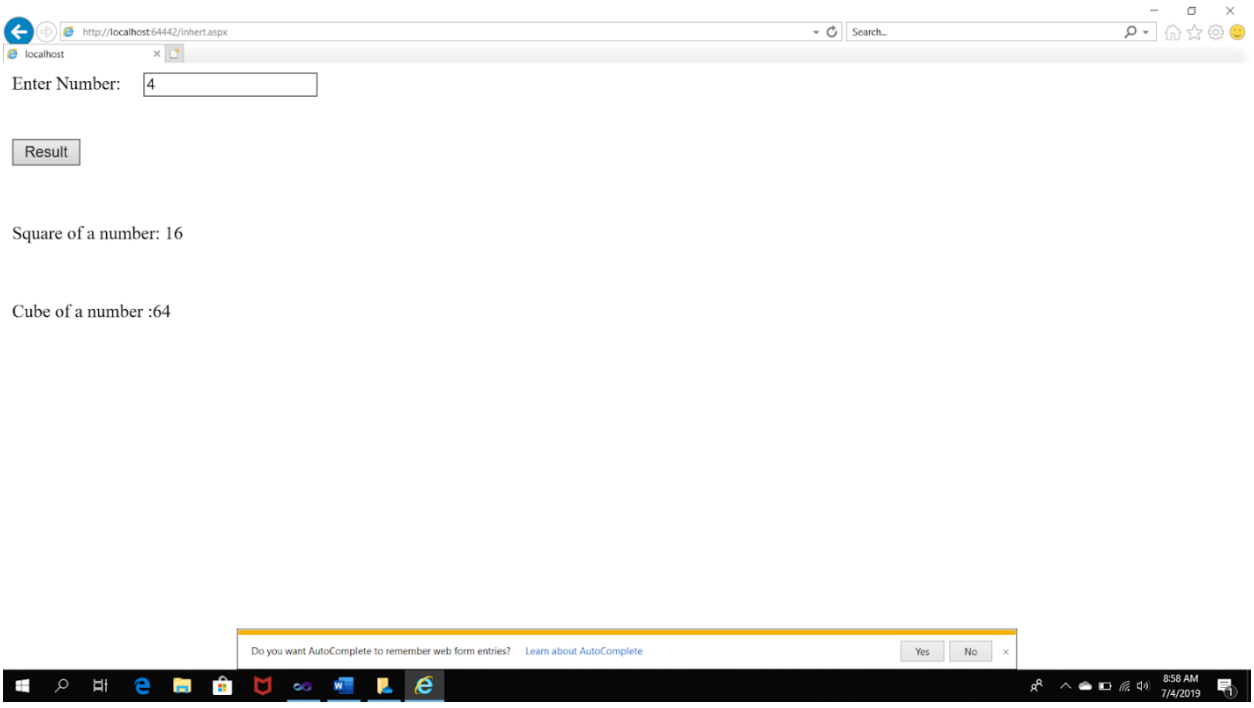
inhert.aspx.cs :

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

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

      }

      protected void Button1_Click(object sender, EventArgs e)
      {
         B s = new B();
         int n = Convert.ToInt32(TextBox1.Text);
         int x = s.sqrt(n);
         int y = s.cube(n);
         Label3.Text = x.ToString();
         Label5.Text = y.ToString();

      }
   }
   public class A
   {
      public int sqrt(int val1)
      {
         return val1 * val1;
      }
   }
   public class B : A
   {
      public int cube(int val1)
      {
         int v1 = sqrt(val1);
         return v1 * val1;
      }
   }
}
```

Design:



Output:

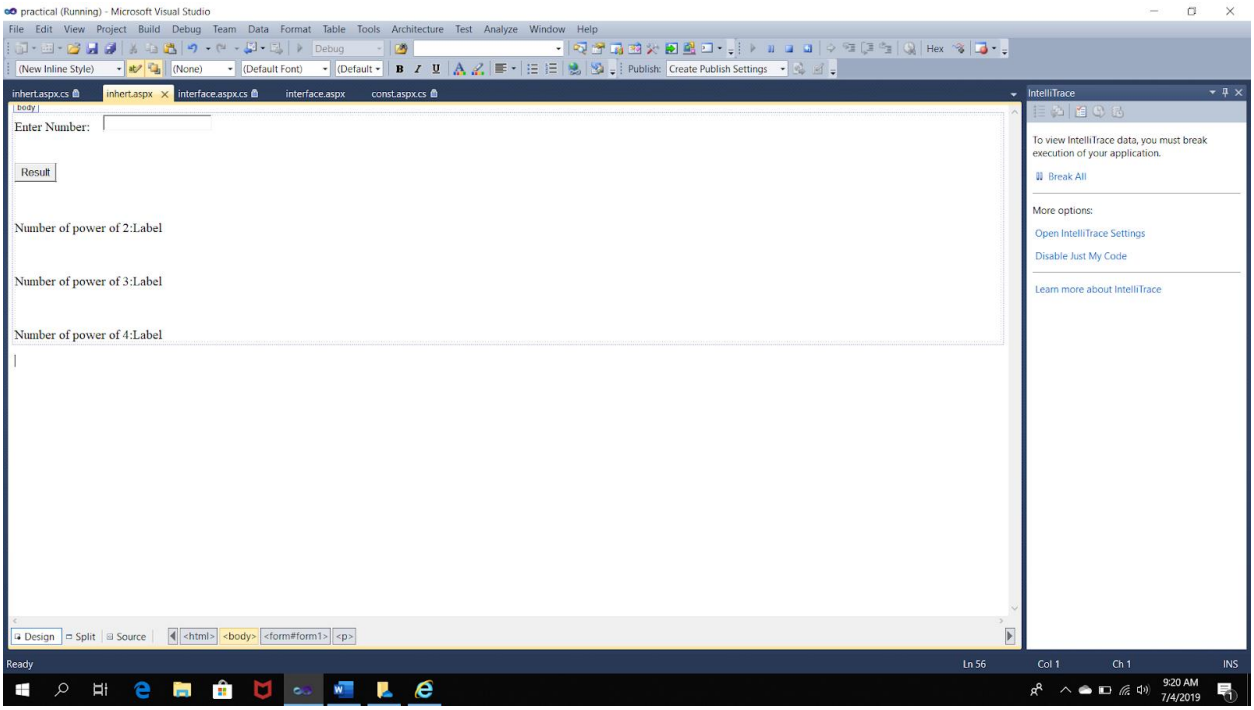


Source Code (Multilevel Inheritance):

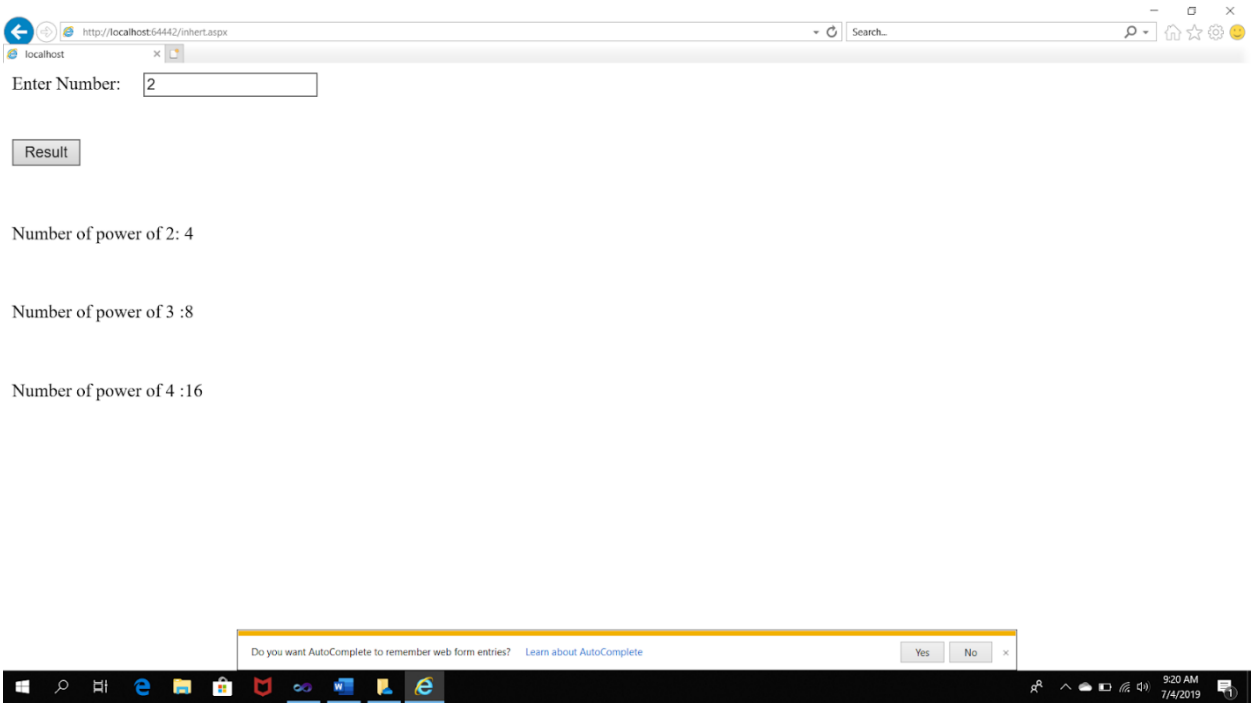
```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Web;
using System.Web.UI;
using System.Web.UI.WebControls;

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

      }

      protected void Button1_Click(object sender, EventArgs e)
      {
         C s = new C();
         int n = Convert.ToInt32(TextBox1.Text);
         int x = s.pow2(n);
         int y = s.pow3(n);
         int z = s.pow4(n);
         Label3.Text = x.ToString();
         Label5.Text = y.ToString();
         Label7.Text = z.ToString();

      }
   }
   public class A
   {
      public int pow2(int val1)
      {
         return val1 * val1;
      }
   }
   public class B:A
   {
      public int pow3(int val1)
      {
         int v1 = pow2(val1);
         return v1 * val1;
      }
   }
   public class C:B
   {
```

```
    public int pow4(int val1)
    {
        int v1 = pow3(val1);
        return v1 * val1;
    }
  }
}
```

Design:



Output:

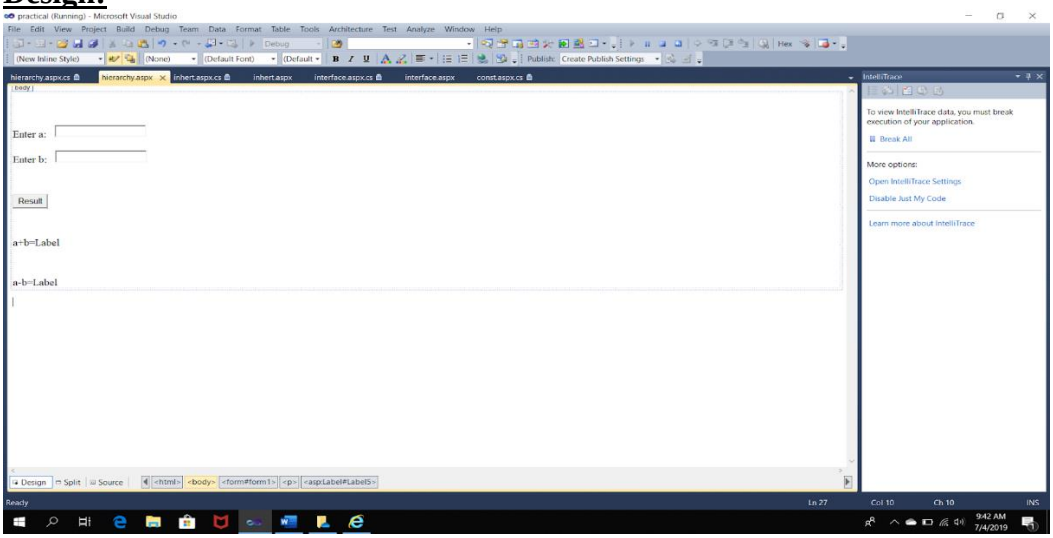


Source Code (Hierarchical Inheritance) :

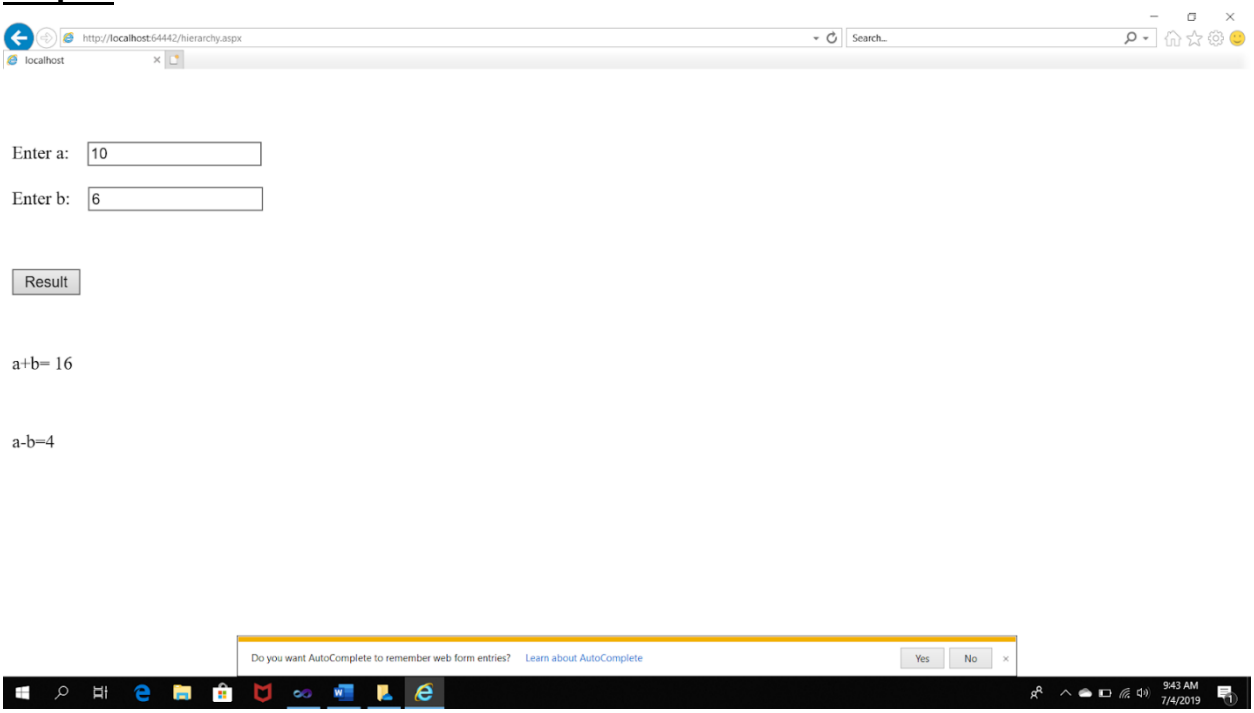
```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Web;
using System.Web.UI;
using System.Web.UI.WebControls;

namespace practical
{


  public partial class hierarchy : System.Web.UI.Page
  {
    public class A
    {
      public int a;
      public int b;
    }
    public class B : A
    {
      public int add(int val1, int val2)
      {
        a = val1;
        b = val2;
```

```
            return a + b;
        }
    }
    public class C : A
    {
        public int sub(int val1, int val2)
        {
            a = val1;
            b = val2;
            return a - b;
        }
    }
    protected void Page_Load(object sender, EventArgs e)
    {

    }

    protected void Button1_Click(object sender, EventArgs e)
    {
        B s1 = new B();
        C s2 = new C();
        int m = Convert.ToInt32(TextBox1.Text);
        int n = Convert.ToInt32(TextBox2.Text);
        int x = s1.add(m, n);
        int y = s2.sub(m, n);
        Label4.Text = x.ToString();
        Label5.Text = y.ToString();
    }
  }
}
```

Design:



Output:

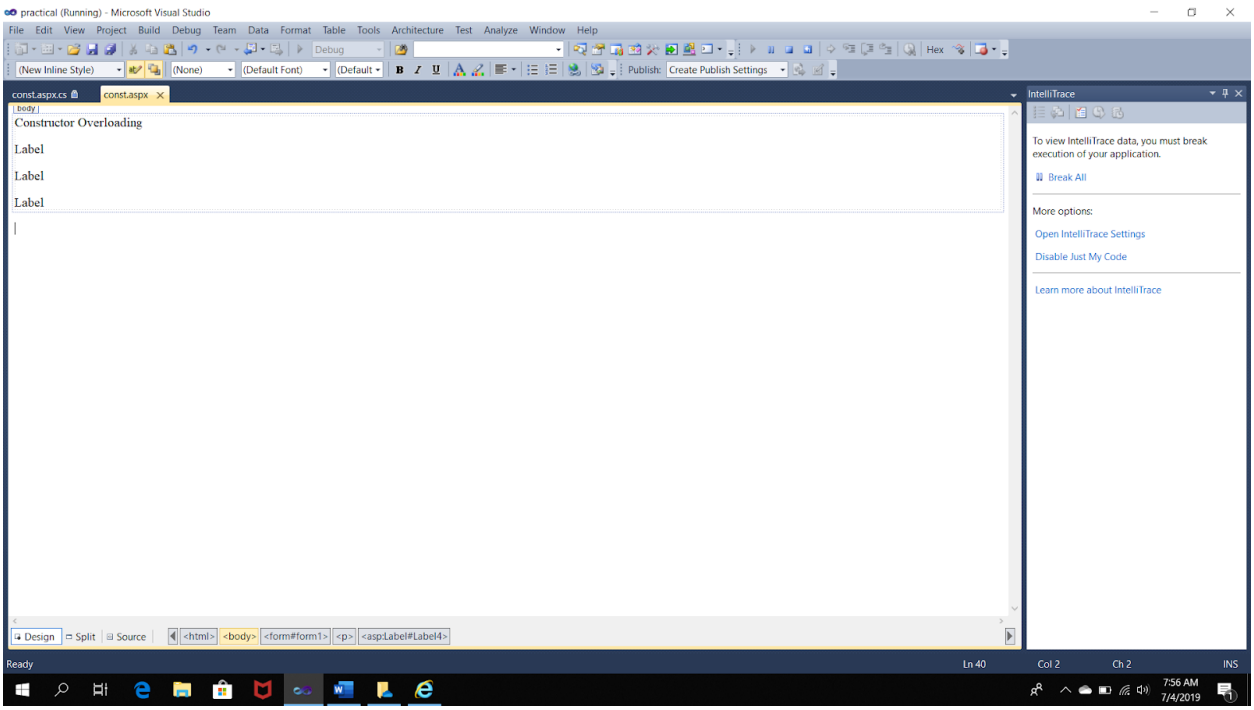


v) Source Code (Constructor Overloading) :

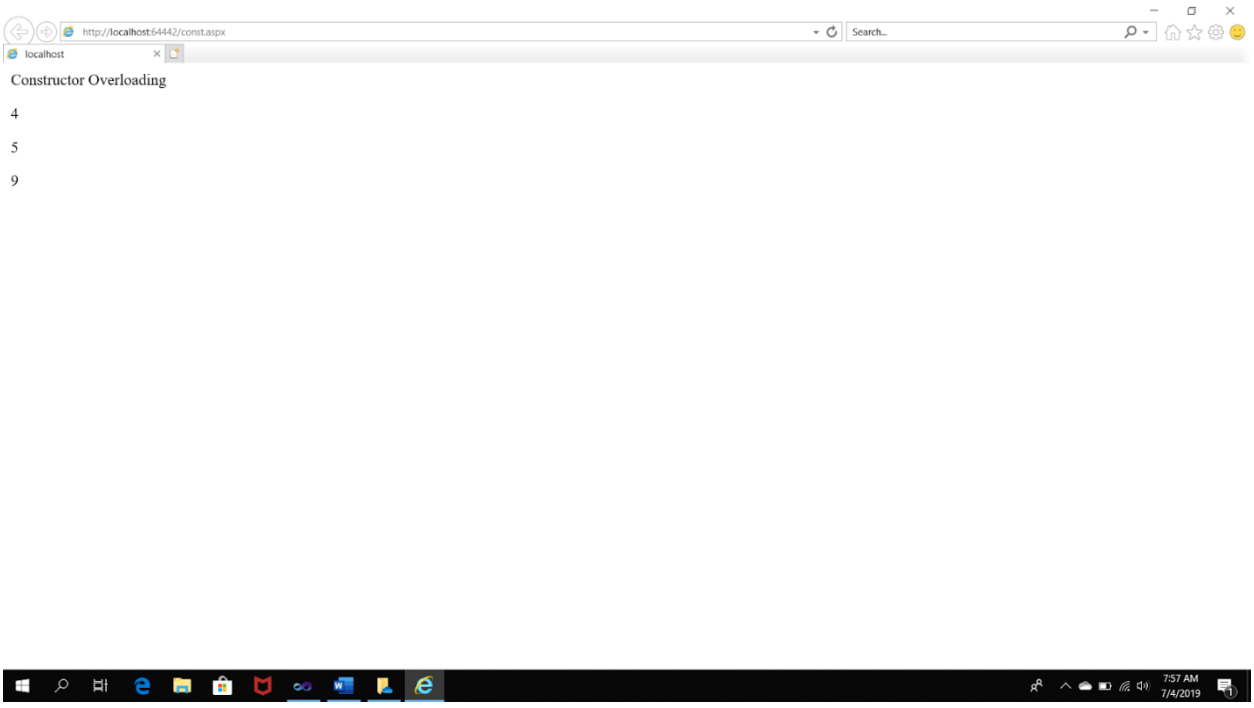
```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Web;
using System.Web.UI;
using System.Web.UI.WebControls;

namespace practical
{
   public partial class _const : System.Web.UI.Page
   {
      protected void Page_Load(object sender, EventArgs e)
      {
         add obj1 = new add(2);
         add obj2 = new add(2, 3);
         add obj3 = new add(2, 3, 4);
         Label2.Text = obj1.r.ToString();
         Label3.Text = obj2.r.ToString();
         Label4.Text = obj3.r.ToString();

      }
   }
```

```
}
   public class add
   {
      public int r;
      public add(int a)
      {
         r = a + a;
      }
      public add(int a, int b)
      {
         r = a + b;
      }
      public add(int a, int b, int c)
      {
         r = a + b + c;
      }

}
```

Design:



Output:



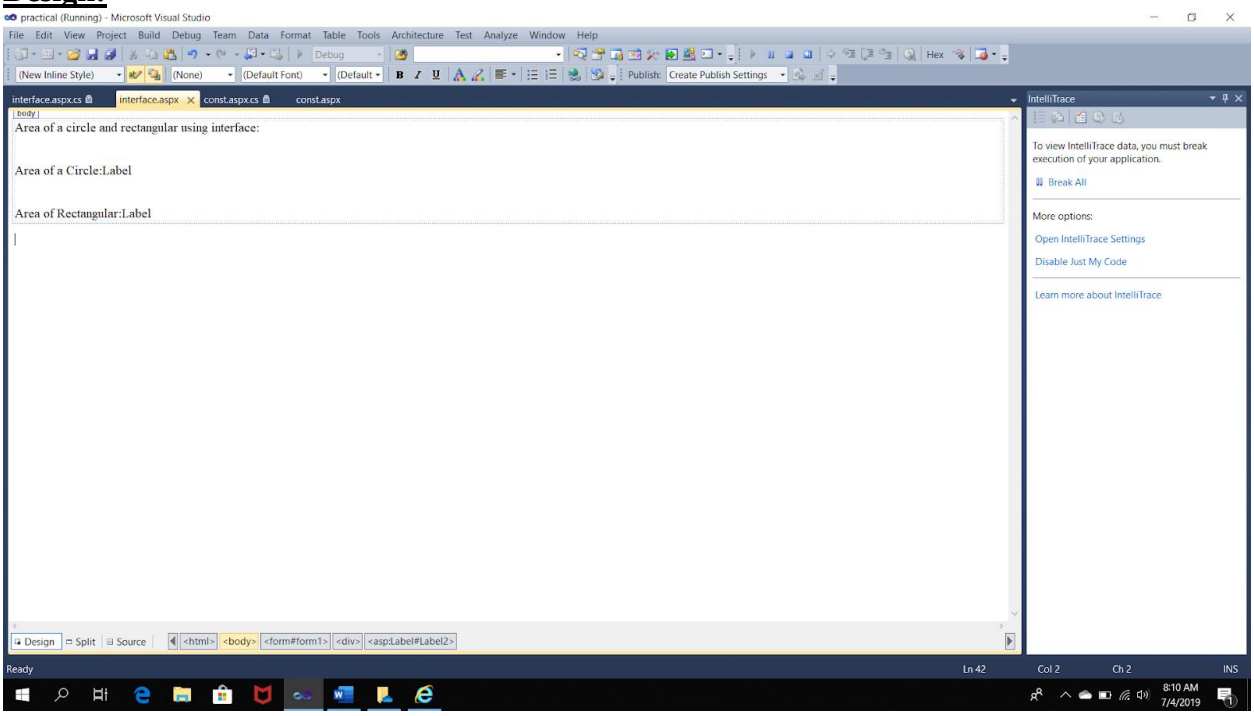
vi) Source Code (Interfaces) :

interface.aspx.cs

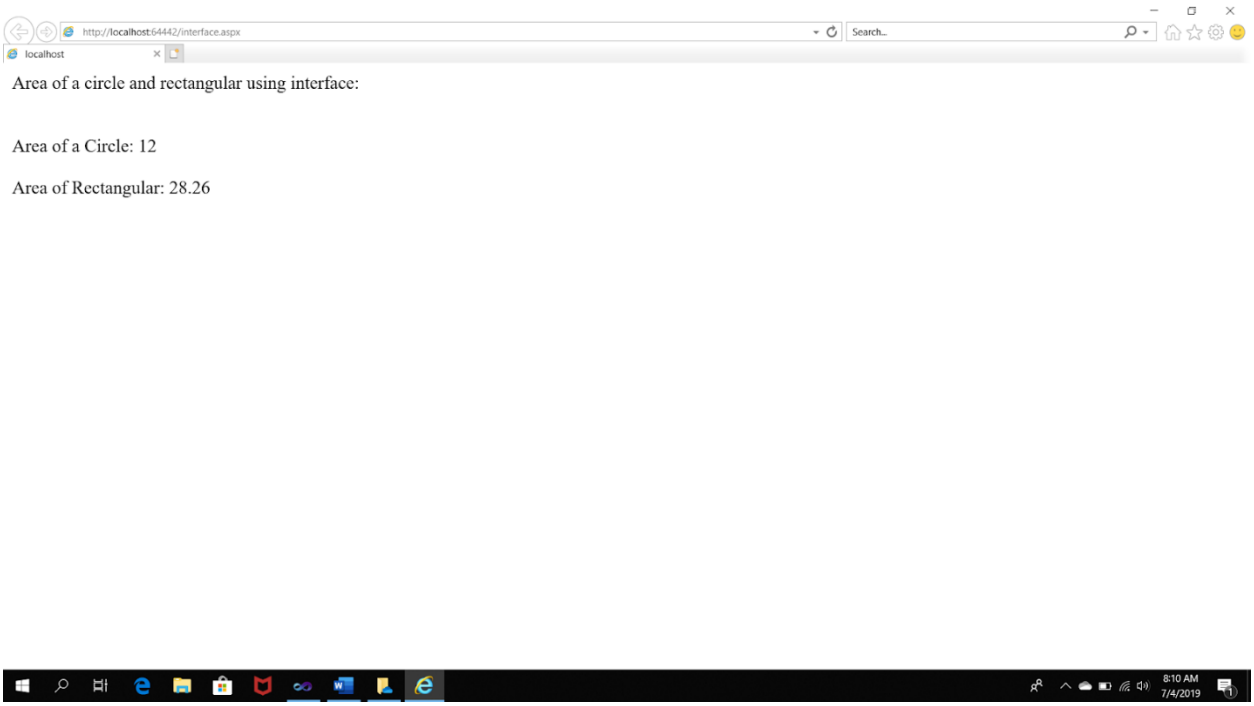
```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Web;
using System.Web.UI;
using System.Web.UI.WebControls;

namespace practical
{
  interface Area
  {
    double show(double s, double t);
  }
  class rect : Area
  {
    public double show(double s, double t)
    {
      return s * t;
    }
  }
```

```
class Circle:Area
{
    public double show(double s, double t)
    {
        return (3.14*s*s);
    }
}

public partial class _interface : System.Web.UI.Page
{
    protected void Page_Load(object sender, EventArgs e)
    {
        rect r1 = new rect();
        double x = r1.show(3, 4);
        Circle r2 = new Circle();
        double y = r2.show(3, 4);
        Label2.Text = x.ToString();
        Label4.Text = y.ToString();

    }
}
}
```

Design:



Output:


http://localhost:64442/interface.aspx
Search...
localhost
Area of a circle and rectangular using interface:
Area of a Circle: 12
Area of Rectangular: 28.26
8:10 AM
7/4/2019

Practical-2(c)

Working with Object Oriented C# and ASP.NET

c)Create simple application to demonstrate use of following concepts:

i)Using delegates and events **ii)Exception handling**

Solution:

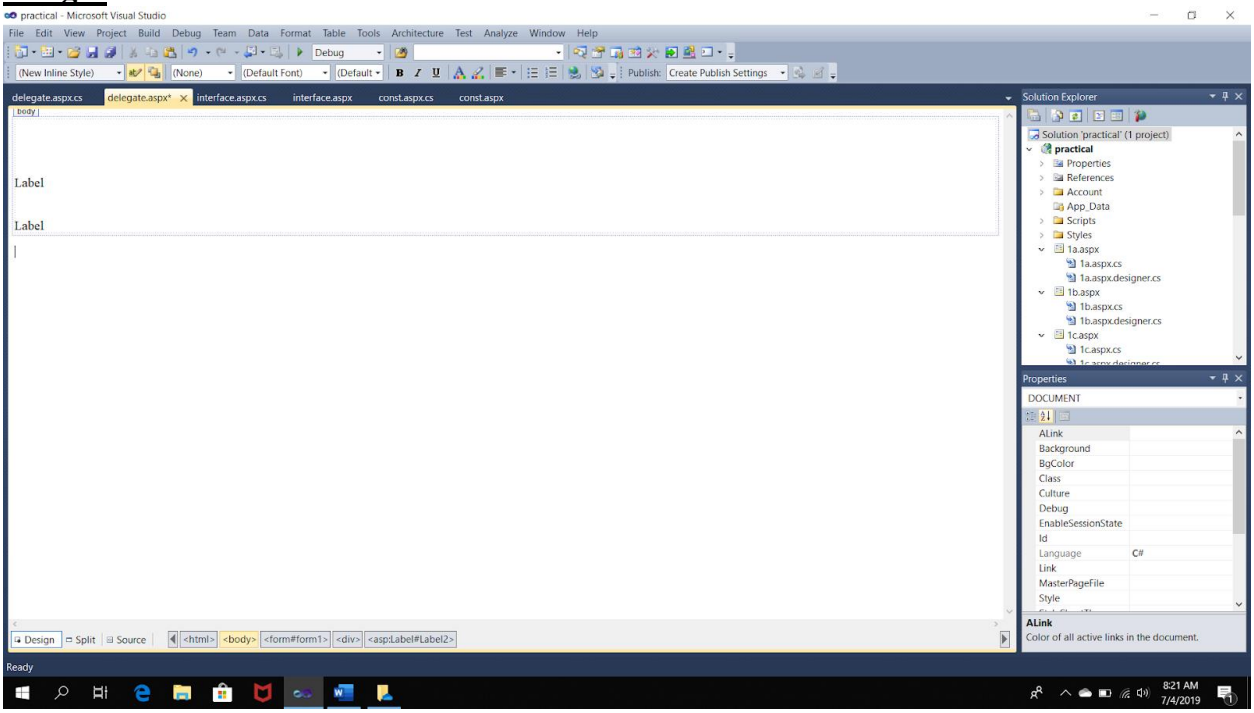
i) SourceCode (delegate):

delegate.aspx.cs

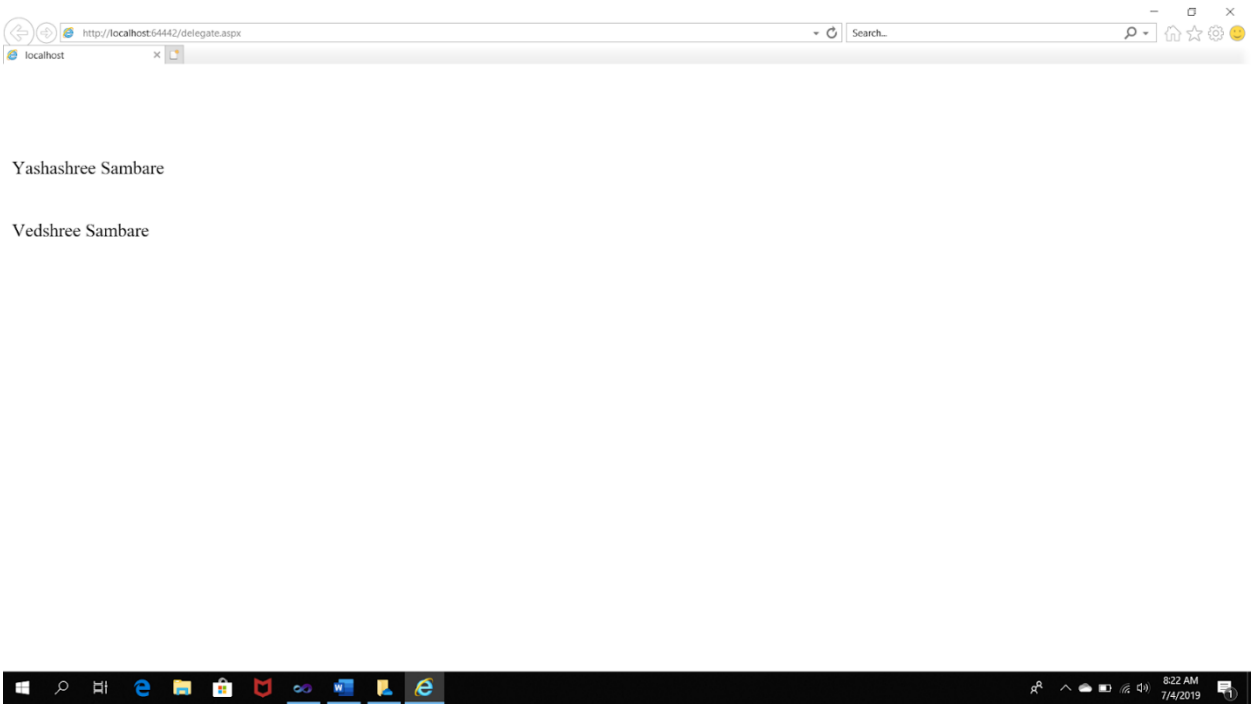
```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Web;
using System.Web.UI;
using System.Web.UI.WebControls;

namespace practical
{
  public partial class _delegate : System.Web.UI.Page
  {
    public delegate string dele();
    public static string display()
    {
      string s1 = "Yashashree Sambare";
      return s1;
    }
    public static string dis()
    {
      string s2 = "Vedshree Sambare";
      return s2;
    }


    protected void Page_Load(object sender, EventArgs e)
    {
      dele d1 = new dele(display);
      d1();
      dele d2 = new dele(dis);
      d2();
      Label1.Text = d1();
      Label2.Text = d2();
```

```
    }
  }
}
```

Design:



Output:

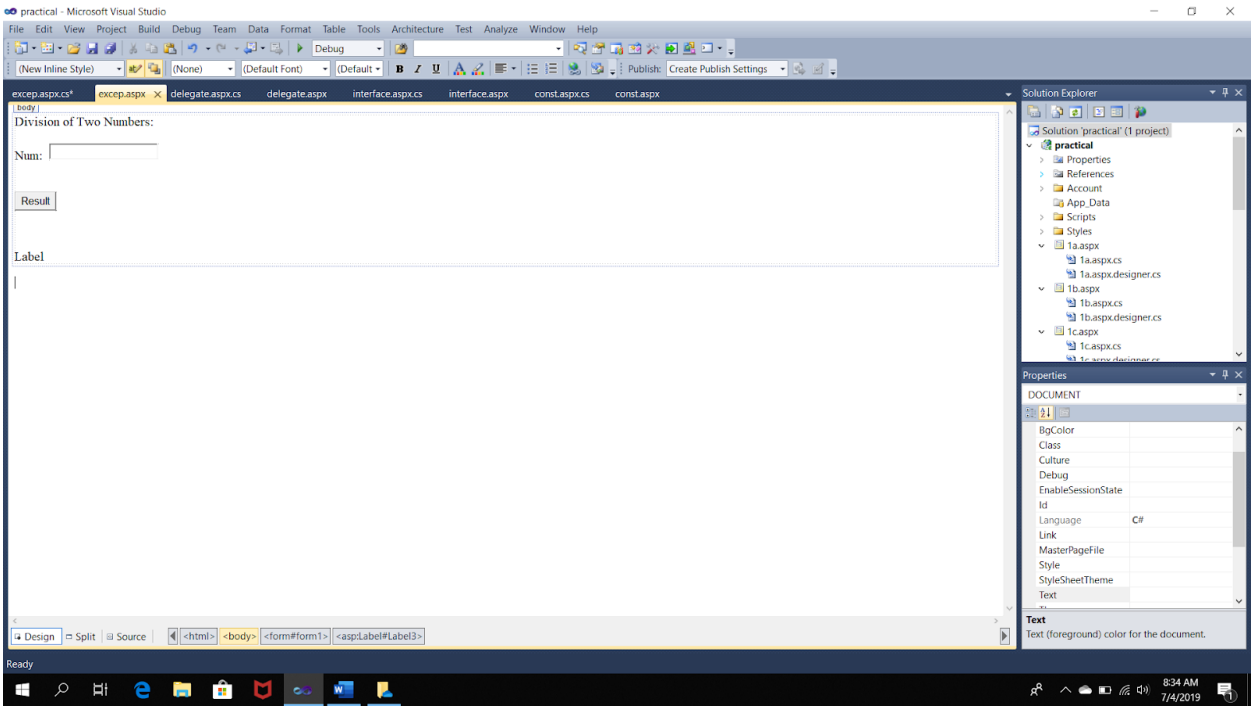


ii) SourceCode (Exception Handling):

excep.aspx.cs

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

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

      }

      protected void Button1_Click(object sender, EventArgs e)
      {
         try
         {
            int a = Convert.ToInt32(TextBox1.Text);
            int[] b = { 12, 23, 33 };
            int resultVal;
            resultVal = (b[3] / a);
            Label3.Text = "The result is:" + resultVal.ToString();
         }
         catch (System.DivideByZeroException ex)
         {
            Label3.Text = ex.ToString();
         }
         catch (System.IndexOutOfRangeException ex)
         {
            Label3.Text = ex.ToString();
         }
      }
   }
}
```

Design:



Output: