PRACTICAL NO.2

A. AIM: Create simple application to perform following operations.

(i) Finding factorial value.

CODE:

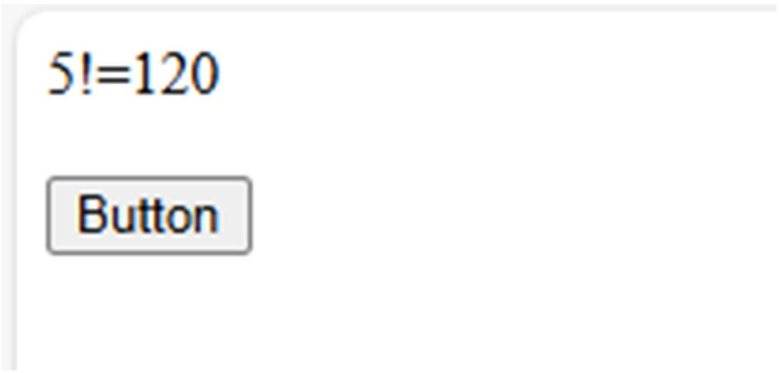
```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Web;
using System.Web.UI;

namespace practical2
{
    class fact
    {
        public int n, f;
        public fact()
        {
            f = 1;
        }
        public void cal()
        {
            int i;
            for(i=1;i<=n;i++)
            {
                f = f * i;
            }
        }
    }
    public partial class WebForm1 : System.Web.UI.Page
    {
        protected void Page_Load(object sender, EventArgs e)
        {

        }

        protected void Button1_Click(object sender, EventArgs e)
        {
            fact f1 = new fact();
            f1.n = 5;
            f1.cal();
            Response.Write(f1.n + "!=" + f1.f);
        }
    }
}
```

SOURCE CODE:

```
<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="WebForm1.aspx.cs"
Inherits="practical2.WebForm1" %>

<!DOCTYPE html>

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

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

OUTPUT:



(ii) Money conversion

CODE:

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Web;
using System.Web.UI;
using System.Web.UI.WebControls;
namespace pra2a2
{
    public class Class1
    {
        public double r, e, d;
        public Class1() {
            r = 0;
            e = 0;
            d = 0;
        }
        public void convertdtor()
        {
            double ev=60;
            r=d*ev;
        }
        public void convertetor()
        {
            double ev = 80;
            r = e * ev;
        }
        public void convertrtod()
        {
            double ev = 65;
            d = r/ ev;
        }
        public void convertrtoe()
        {
            double ev = 80;
            e = r / ev;
        }
    }
    public partial class WebForm1 : System.Web.UI.Page
    {
        Class1 f1;
        protected void Page_Load(object sender, EventArgs e)
        {
            f1 = new Class1();
        }
        protected void RadioButton1_CheckedChanged(object sender, EventArgs e)
        {
            if (RadioButton1.Checked == true)
            {
                f1.d = Convert.ToInt16(TextBox1.Text);
```

```
            f1.convertdtor();
            Response.Write(f1.d + "Dollar" + "=Rs" + f1.r);
        }
    }
    protected void RadioButton2_CheckedChanged(object sender, EventArgs e)
    {
        if (RadioButton2.Checked == true)
        {
            f1.r = Convert.ToInt16(TextBox1.Text);
            f1.convertrtod();
            Response.Write(f1.r + "Rupee" + "=$" + f1.d);
        }
    }
    protected void RadioButton3_CheckedChanged(object sender, EventArgs e)
    {
        if (RadioButton3.Checked == true)
        {
            f1.e = Convert.ToInt16(TextBox1.Text);
            f1.convertetor();
            Response.Write(f1.e + "Euro" + "=Rs" + f1.r);
        }
    }
    protected void RadioButton4_CheckedChanged(object sender, EventArgs e)
    {
        if (RadioButton4.Checked == true)
        {
            f1.r = Convert.ToInt16(TextBox1.Text);
            f1.convertrtoe();
            Response.Write(f1.r + "Rs. to Euro" + f1.e);
        }
    }
  }
}
```

SOURCE CODE:

src File:

```
<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="WebForm1.aspx.cs"
Inherits="pra2a2.WebForm1" %>

<!DOCTYPE html>

<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
  <title></title>
</head>
<body>
  <form id="form1" runat="server">
    <div>
      <asp:TextBox ID="TextBox1" runat="server" ></asp:TextBox>
      <asp:RadioButton ID="RadioButton1" runat="server"
OnCheckedChanged="RadioButton1_CheckedChanged" Text="Doller To Rupee"   />
      <asp:RadioButton ID="RadioButton2" runat="server"
OnCheckedChanged="RadioButton2_CheckedChanged" Text="Rupee To Doller" />
```

```
        <asp:RadioButton ID="RadioButton3" runat="server"
OnCheckedChanged="RadioButton3_CheckedChanged" Text="Euro To Rupee" />
        <asp:RadioButton ID="RadioButton4" runat="server"
OnCheckedChanged="RadioButton4_CheckedChanged" Text="Rupee To Euro" />
      </div>
   </form>
</body>
</html>
```

OUTPUT:

(iii) Quadratic equation

CODE:

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Web;
using System.Web.UI;
using System.Web.UI.WebControls;
namespace pra2aQE
{
    class Quadraticroots
    {
        public double a,b,c,r1,r2;
        public double compute()
        {
            int m;
            double d1;
            d1 = b * b - 4 * a * c;
            if (d1 == 0)
            {
                r1 = r2 = (-b) / (2 * a);
                return d1;
            }
            else if (d1 > 0) {
                r1 = (-b + Math.Sqrt(d1)) / (2 * a);
                r2 = (-b - Math.Sqrt(d1)) / (2 * a);
                return d1;
            }
            else
            {
                r1 = (-b)/(2 * a);
                r2 = Math.Sqrt(-d1)/(2*a);
                return d1;
            }
        }
    }
    public partial class WebForm1 : System.Web.UI.Page
    {
        Quadraticroots q;
        protected void Page_Load(object sender, EventArgs e)
        {
            q = new Quadraticroots();
        }

        protected void Button1_Click(object sender, EventArgs e)
        {
            q.a = Convert.ToInt16(TextBox1.Text);
            q.b = Convert.ToInt16(TextBox2.Text);
            q.c = Convert.ToInt16(TextBox3.Text);
            double d = q.compute();
            if (d == 0)
            {
                Response.Write("\n Roots are Real and Distinct<br>");
                Response.Write("\n First Root is "+ q.r1+ "<br>");

            }
```

```
        else if (d > 0)
        {
            Response.Write("\n Roots are Real and Distinct<br>");
            Response.Write("\n First Root is " + q.r1 + "<br>");
            Response.Write("\n Second Root is " + q.r2 + "<br>");
        }
        else
        {
            Response.Write("\n Roots are Imaginary<br>");
            Response.Write("\n First Root is " + q.r1 + "<br>");
            Response.Write("\n Second Root is " + q.r2 + "<br>");
        }
    }
  }
}
```

SOURCE CODE:

src File:

```
<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="WebForm1.aspx.cs"
Inherits="pra2aQE.WebForm1" %>

<!DOCTYPE html>

<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
    <title></title>
</head>
<body>
    <form id="form1" runat="server">
        <div style="height: 67px">
            <asp:TextBox ID="TextBox1" runat="server"></asp:TextBox>
            <asp:TextBox ID="TextBox2" runat="server"></asp:TextBox>
            <asp:TextBox ID="TextBox3" runat="server"></asp:TextBox>
            <asp:Button ID="Button1" runat="server" OnClick="Button1_Click" Text="Button" />
        </div>
    </form>
</body>
</html>
```

OUTPUT:

(iv) Temperature Conversion.

CODE:

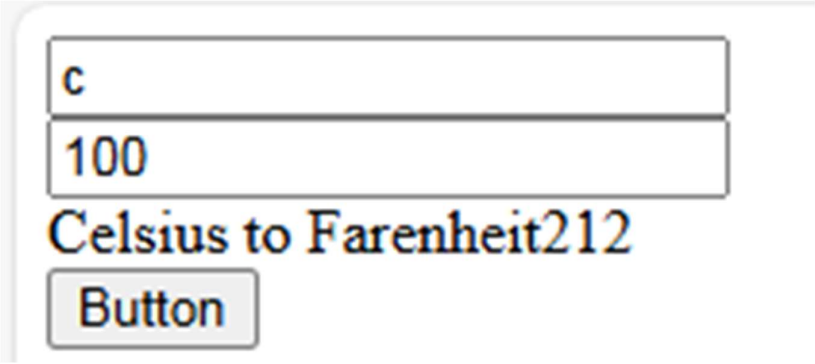
```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Runtime.ConstrainedExecution;
using System.Web;
using System.Web.UI;
using System.Web.UI.WebControls;

namespace _2b
{
    class converttemp
    {
        public float celsius, faren;
        public converttemp()
        {
            celsius = 0;
            faren = 0;
        }
        public void converttofaren()
        {
            faren=((celsius * 9.0f/5.0f) + 32.0f);
        }
        public void converttocel()
        {
           celsius=(faren-32)*(5.0f/9.0f);
        }
    }
    public partial class WebForm1 : System.Web.UI.Page
    {
        converttemp c;
        protected void Page_Load(object sender, EventArgs e)
        {
            c=new converttemp();
        }

        protected void TextBox2_TextChanged(object sender, EventArgs e)
        {

        }

        protected void Button1_Click(object sender, EventArgs e)
        {
            char ch;
            ch = Convert.ToChar(TextBox1.Text);
            if(ch=='c')
            {
                c.celsius=float.Parse(TextBox2.Text);
                c.converttofaren();
                Label1.Text = "Celsius to Farenheit" + c.faren;
            }
            else
            {
                c.faren = float.Parse(TextBox2.Text);
                c.converttocel();
                Label1.Text = "Farenheit to Celsius" + c.celsius;
            }
```

```
        }
    }
}
```

SOURCE CODE:

```
<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="WebForm1.aspx.cs"
Inherits="_2b.WebForm1" %>

<!DOCTYPE html>

<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
    <title></title>
</head>
<body>
    <form id="form1" runat="server">
        <div>
            <asp:TextBox ID="TextBox1" runat="server"></asp:TextBox>
            <br />
            <asp:TextBox ID="TextBox2" runat="server"
OnTextChanged="TextBox2_TextChanged"></asp:TextBox>
            <br />
            <asp:Label ID="Label1" runat="server" Text="Label"></asp:Label>
            <br />
            <asp:Button ID="Button1" runat="server" OnClick="Button1_Click"
Text="Button" />
        </div>
    </form>
</body>
</html>
```

OUTPUT:



B. AIM: Creating simple application to demonstrate use of the following concepts.

(i) Function Overloading

CODE:

```
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 pra2bMO
{
   class overloading
   {
      public int sum(int a, int b) { return a + b; }
      public int sum(int a, int b, int c) { return a + b + c; }
      public float sum(float a, float b) { return a + b; }
      public float sum(float a, float b, float c) { return a + b + c; }
   }
   public partial class WebForm1 : System.Web.UI.Page
   {
      overloading o;
      protected void Page_Load(object sender, EventArgs e)
      {
         o= new overloading();
      }

      protected void Button1_Click(object sender, EventArgs e)
      {
         Label1.Text = Convert.ToString(o.sum(10,20));
         Label2.Text = Convert.ToString(o.sum(10, 20,30));
         Label3.Text = Convert.ToString(o.sum(12.0f, 23.1f,32.5f));

      }
   }
}
```

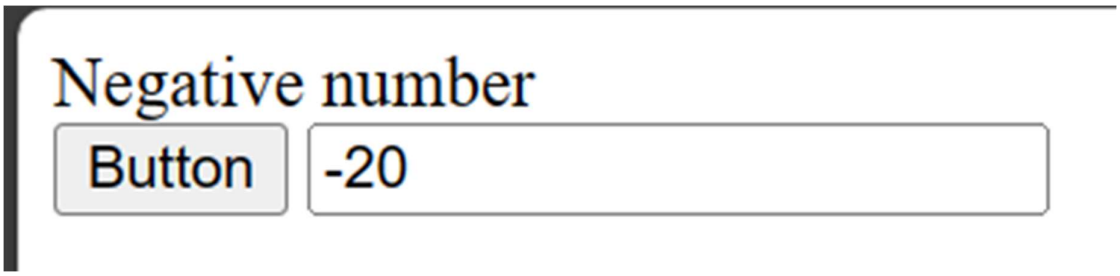
SOURCE CODE:

src File:

```
<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="WebForm1.aspx.cs"
Inherits="pra2bMO.WebForm1" %>

<!DOCTYPE html>

<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
   <title></title>
</head>
<body>
   <form id="form1" runat="server">
      <div style="height: 0px">
         <asp:Label ID="Label1" runat="server" Text=" "></asp:Label><br />
```

```
            <asp:Label ID="Label2" runat="server" Text=" "></asp:Label><br />
            <asp:Label ID="Label3" runat="server" Text=" "></asp:Label><br />
            <asp:Button ID="Button1" runat="server" OnClick="Button1_Click" Text="Button" />
            <br />
        </div>
        <p>
             </p>
    </form>
</body>
</html>
```

OUTPUT:



(ii) Inheritance (all types)

➞ Single Inheritance

CODE:

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

namespace pra2b2_1
{
    public class basecc
    {
        public int d;
        public string basemetod()
        {
            string p = "This is baseclass method";
            return p;
        }
    }
    public class Derived : basecc
    {
        public string derivedmethod()
        {
            string s = "This is derivedclassmethod";
            return s;
        }
    }
    public partial class WebForm1 : System.Web.UI.Page
    {
        protected void Page_Load(object sender, EventArgs e)
        {

        }
        protected void Button1_Click(object sender, EventArgs e)
        {
            basecc b = new basecc();
            Response.Write("Calling from base object:"+b.basemetod());
            Derived d = new Derived();
            Response.Write("<br>Calling from Derived object:<br>" + d.basemetod());
            Response.Write("<br>" + d.derivedmethod());
        }
    }
}
```

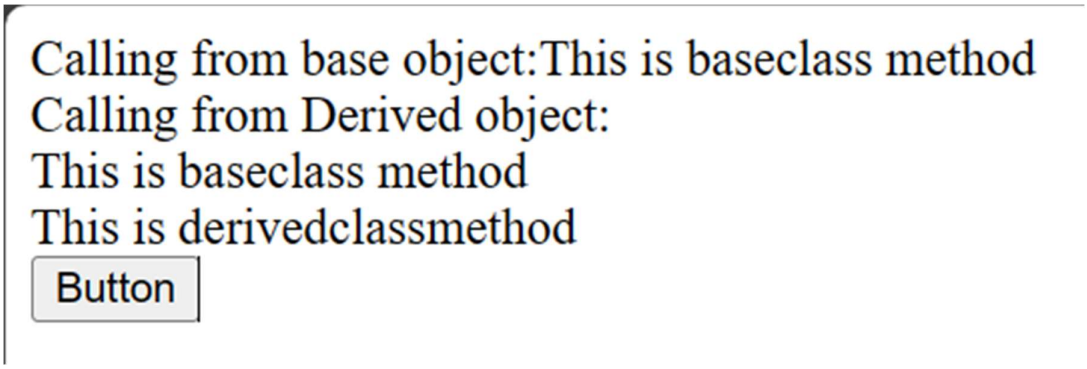
SOURCE CODE:

src File:

```
<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="WebForm1.aspx.cs"
Inherits="pra2b2_1.WebForm1" %>

<!DOCTYPE html>

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

```
    <title></title>
</head>
<body>
    <form id="form1" runat="server">
        <div>
            <asp:Button ID="Button1" runat="server" OnClick="Button1_Click" Text="Button" />
        </div>
    </form>
</body>
</html>
```

OUTPUT:



PRACTICAL NO.2

➞ Multi-level Inheritance

CODE:

```
using System;
using System.Collections.Generic; using System.Linq;
using System.Web; using System.Web.UI;
using System.Web.UI.WebControls; class A
{
public string show()
{
return ("First base class");
}
}
class B : A
{
public string display()
{
return ("Second base class");
}
}
class C : B
{
public string show1()
{
return "Child Class";
}
}


namespace WebApplication45
{
public partial class WebForm1 : System.Web.UI.flage
{
protected void flage_Load(object sender, EventArgs e)
{

}

protected void Button1_Click(object sender, EventArgs e)
{
C obj = new C(); Response.Write(obj.show() + "<br>"); Response.Write(obj.display() + "<br>");
Response.Write(obj.show1() + "<br>");
}
}
}
```

SOURCE CODE:

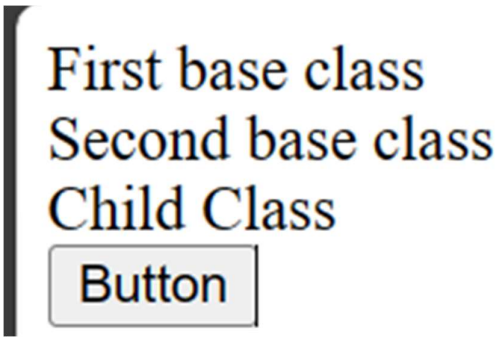
src File:

```
<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="WebForm1.aspx.cs"
Inherits="pra2b2_2.WebForm1" %>

<!DOCTYPE html>

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

PRACTICAL NO.2

```
<body>
    <form id="form1" runat="server">
        <div>
            <asp:Button ID="Button1" runat="server" OnClick="Button1_Click" Text="Button" />
        </div>
    </form>
</body>
</html>
```

OUTPUT:



PRACTICAL NO.2

➞ Multiple Inheritance

CODE:

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

namespace pra2b2_3
{
   public partial class WebForm1 : System.Web.UI.Page
   {
      class Shape
      {
         public int side;
         public void setside(int s)
         {
            side = s;
         }
      }
      public interface Cost
      {
         int getCost(int area);

      }
      class square : Shape, Cost
      {
         public int getArea()
         {
            return (side *side);
         }
         public int getCost(int area) {
            return area * 10;
         }
      }
      protected void Page_Load(object sender, EventArgs e)
      {

      }

      protected void Button1_Click(object sender, EventArgs e)
      {
         square sq = new square();
         sq.setside(15);
         int area = sq.getArea();
         Label1.Text = "Area:"+area;
         int c = sq.getCost(area);
         Label2.Text = "Cost is Rs: " + c;
      }
   }
}
```

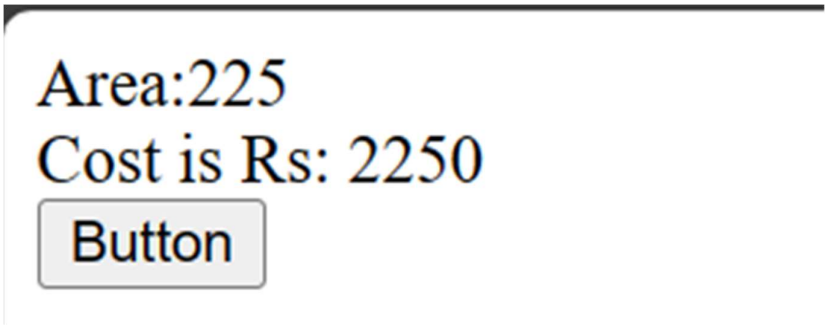
PRACTICAL NO.2

SOURCE CODE:

src File:

```
<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="WebForm1.aspx.cs"
Inherits="pra2b2_3.WebForm1" %>

<!DOCTYPE html>

<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
    <title></title>
</head>
<body>
    <form id="form1" runat="server">
        <div>
            <asp:Label ID="Label1" runat="server" Text=" "></asp:Label><br />
            <asp:Label ID="Label2" runat="server" Text=" "></asp:Label><br />
            <asp:Button ID="Button1" runat="server" OnClick="Button1_Click" Text="Button" />
        </div>
    </form>
</body>
</html>
```

OUTPUT:



PRACTICAL NO.2

➞ Hierarchical Inheritance

CODE:

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

namespace pra2b2_4
{
    class A
    {
        public string show()
        {
            return "Welcome ";
        }
    }
    class B : A {
        public string display()
        {
            return "To the World ";
        }
    }
    class C : A {
        public string show1()
        {
            return "Of Programming";
        }
    }
    public partial class WebForm1 : System.Web.UI.Page
    {
        protected void Page_Load(object sender, EventArgs e)
        {

        }

        protected void Button1_Click(object sender, EventArgs e)
        {
            C c1 = new C();
            B b1 = new B();
            string s = "";
            s += c1.show();
            s += b1.display();
            s += c1.show1();
            Label1.Text = s;
        }
    }
}
```

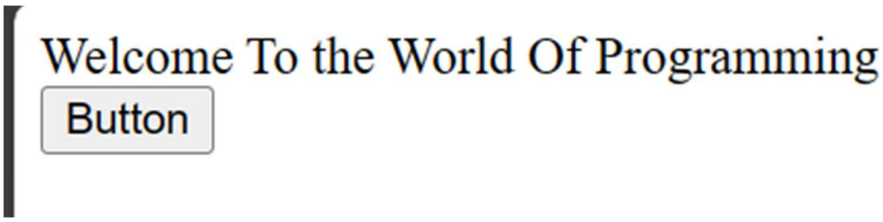
PRACTICAL NO.2

SOURCE CODE:

src File:

```
<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="WebForm1.aspx.cs"
Inherits="pra2b2_4.WebForm1" %>

<!DOCTYPE html>

<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
    <title></title>
</head>
<body style="height: 78px">
    <form id="form1" runat="server">
        <div style="height: 75px">
            <asp:Label ID="Label1" runat="server" Text=" "></asp:Label><br />
            <asp:Button ID="Button1" runat="server" Text="Button" OnClick="Button1_Click" />
        </div>
    </form>
</body>
</html>
```

OUTPUT:



(iii) Constructor Overloading

CODE:

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

namespace pra2b3
{
    class MarkSheet
    {
        private float m1, m2, m3;
        string name;
        public MarkSheet()
        {
            m1 = 20;
            m2 = 40;
            m3 = 40;
        }
        public MarkSheet(float ms)
        {
            m1 = ms;
        }
        public MarkSheet(float ms1, float ms2)
        {
            m1 = ms1;
            m2 = ms2;
        }
        public MarkSheet(float ms1, float ms2, float ms3)
        {
            m1 = ms1;
            m2 = ms2;
            m3 = ms3;
        }
        public float tot()
        {
            float t = m1 + m2 + m3;
            return t;
        }
    }
    public partial class WebForm1 : System.Web.UI.Page
    {
        protected void Page_Load(object sender, EventArgs e)
        {

        }

        protected void Button1_Click(object sender, EventArgs e)
        {
            MarkSheet a = new MarkSheet();
            MarkSheet b = new MarkSheet(87);
            MarkSheet c = new MarkSheet(88, 60);
            MarkSheet d = new MarkSheet(70, 90, 55);
            Response.Write("In marksheet 1:");
            Response.Write(a.tot() + "<br>");
```

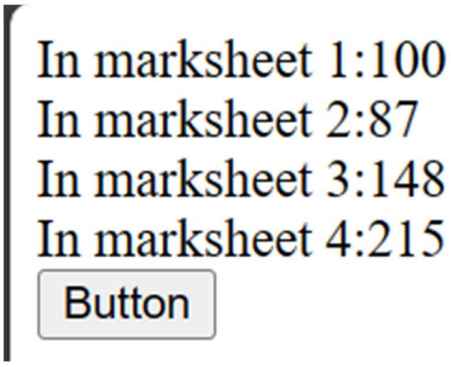
```
            Response.Write("In marksheet 2:");
            Response.Write(b.tot() + "<br>");
            Response.Write("In marksheet 3:");
            Response.Write(c.tot() + "<br>");
            Response.Write("In marksheet 4:");
            Response.Write(d.tot() + "<br>");

        }
    }
}
```

SOURCE CODE:

src File:

```
<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="WebForm1.aspx.cs"
Inherits="pra2b3.WebForm1" %>

<!DOCTYPE html>

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

OUTPUT:



(iv) Interface

CODE:

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

namespace pra2b4
{
   public interface ITransactions {
      string retcode();
      double amtfunc();
   }
   public class Transaction : ITransactions
   {
      private string tCode;
      private double amount;
      public Transaction()
      {
         tCode = " ";
         amount = 0.0;
      }
      public Transaction(string c, double a)
      {
         tCode = c;
         amount = a;
      }
      public double amtfunc()
      {
         return amount;
      }
      public string retcode()
      {
         return tCode;
      }
   }
   public partial class WebForm1 : System.Web.UI.Page
   {
      protected void Page_Load(object sender, EventArgs e)
      {

      }

      protected void Button1_Click(object sender, EventArgs e)
      {
         Transaction t1 = new Transaction("Cr",780.00);
         Transaction t2 = new Transaction("Db", 400.00);
         Response.Write("<br>Code" + t1.retcode());
         Response.Write("<br>Amount" + t1.amtfunc());
         Response.Write("<br>Code" + t2.retcode());
         Response.Write("<br>Amount" + t2.amtfunc());
      }
   }
}
```

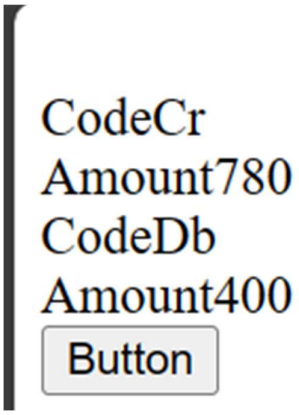
PRACTICAL NO.2

SOURCE CODE:

src File:

```
<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="WebForm1.aspx.cs"
Inherits="pra2b4.WebForm1" %>

<!DOCTYPE html>

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

OUTPUT:



PRACTICAL NO.2

B. AIM: Creating simple application to demonstrate use of the following concepts.

(i) Using Delegates and events

CODE:

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

namespace pra2c1
{
   public partial class WebForm1 : System.Web.UI.Page
   {
      public delegate void SimpleDelegate();
      public void callingFunction()
      {
         Response.Write("First Function Called....<br>");
      }
      public void secfunction()
      {
         Response.Write("Second Function Called....<br>");
      }
      protected void Page_Load(object sender, EventArgs e)
      {

      }

      protected void Button1_Click(object sender, EventArgs e)
      {
         SimpleDelegate sd = new SimpleDelegate(callingFunction);
         sd();
         sd += new SimpleDelegate(secfunction);
         sd();
      }
   }
}
```

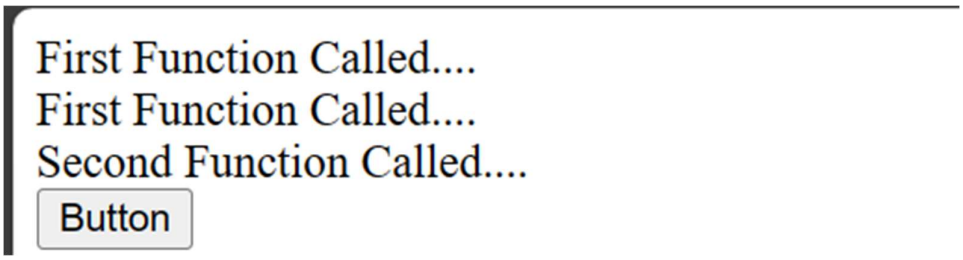
SOURCE CODE:

src File:

```
<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="WebForm1.aspx.cs"
Inherits="pra2c1.WebForm1" %>

<!DOCTYPE html>

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

```
</body>
</html>
```

OUTPUT:



PRACTICAL NO.2

(i) Exception Handling

CODE:

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

namespace pra2c2
{
   class NegativeException : Exception
   {
      public NegativeException(string msg)
         : base(msg)
      {
      }
   }
   public partial class WebForm1 : System.Web.UI.Page
   {
      protected void Page_Load(object sender, EventArgs e)
      {

      }

      protected void Button1_Click(object sender, EventArgs e)
      {
         int num;
         try
         {
            num = int.Parse(TextBox1.Text);
            if (num < 0)
               throw new NegativeException("Negative number");
            else
               Console.WriteLine("Positive number");
         }
         catch (NegativeException en)
         {
            Response.Write(en.Message);
         }

      }
   }
}
```

SOURCE CODE:

src File:

```
<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="WebForm1.aspx.cs"
Inherits="pra2c2.WebForm1" %>

<!DOCTYPE html>

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

PRACTICAL NO.2

```
<body>
    <form id="form1" runat="server">
        <div>
            <asp:Button ID="Button1" runat="server" OnClick="Button1_Click" Text="Button" />
            <asp:TextBox ID="TextBox1" runat="server"></asp:TextBox>
        </div>
    </form>
</body>
</html>
```

OUTPUT: