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;
using System.Web.UI.WebControls;
class fact
    public int n,f;
    public fact()
        f = 1;
    public void cal()
        int i;
        for (i = 1; i <= n; i++)
            f = f * i;
        }
    }
}
namespace WebApplication39
    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"</pre>
Inherits="WebApplication39.WebForm1" %>
<!DOCTYPE html>
```

5!=120 Button

Practical No: 2(a)

Aim: Create simple application to perform following operations. (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;
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 = d * ev;
    public void convertrtod()
        double ev = 65;
        d = r / ev;
    public void convertrtoe()
        double ev = 80;
        e = r / ev;
    }
}
namespace WebApplication40
    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:
<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="WebForm1.aspx.cs"</pre>
Inherits="WebApplication40.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" AutoPostBack="True"</pre>
GroupName="C" OnCheckedChanged="RadioButton1_CheckedChanged" Text="Dollar to Rupee"
/>
```

Practical No: 2(a)

Aim: Create simple application to perform following operations. (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;
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;
        }
    }
}
namespace WebApplication41
    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 Equal <br>");
                Response.Write("First root and Second root is " + q.r1);
            }
            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 Imaginaray <br>");
                Response.Write("\n First root is" + q.r1 + "<br>");
                Response.Write("\n Second root is" + q.r2 + "<br>");
            }
        }
    }
}
Source code:
<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="WebForm1.aspx.cs"</pre>
Inherits="WebApplication41.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:TextBox ID="TextBox2" runat="server"></asp:TextBox>
            <asp:TextBox ID="TextBox3" runat="server"></asp:TextBox>
            <asp:Button ID="Button1" runat="server" OnClick="Button1_Click"</pre>
Text="Button" />
        </div>
    </form>
</body>
</html>
Output:
Roots are Imaginaray
First root is-1
Second root is 1.73205080756888
                               4
 2
                                                             8
```

Practical No: 2(a)

Aim: Create simple application to perform following operations.

(iv) Temperature Conversion.

```
Code:
using System;
using System.Collections.Generic;
using System.Linq;
using System.Web;
using System.Web.UI;
using System.Web.UI.WebControls;
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);
}
namespace WebApplication43
    public partial class WebForm1 : System.Web.UI.Page
        converttemp c;
        protected void Page_Load(object sender, EventArgs e)
        {
            c = new converttemp();
        }
        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"</pre>
Inherits="WebApplication43.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 />
            <br />
            <asp:TextBox ID="TextBox2" runat="server"></asp:TextBox>
            <br />
            <br />
            <asp:Label ID="Label1" runat="server" Text="Label"></asp:Label>
            <br />
            <asp:Button ID="Button1" runat="server" OnClick="Button1_Click"</pre>
Text="Button" />
        </div>
    </form>
</body>
</html>
```

Output:

f

100

Farenheit to Celsius 37.7777

Practical No: 2(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.Web;
using System.Web.UI;
using System.Web.UI.WebControls;
class overloading
    public int sum(int a, int b)
        int x;
        return x = a + b;
    public int sum(int a, int b, int c)
        int y;
        return y = a + b + c;
    public float sum(float a, float b)
        float u;
        return u = a + b;
    public float sum(float a, float b, float c)
        float v;
        return v = a + b + c;
    }
}
namespace WebApplication42
    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:

```
<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="WebForm1.aspx.cs"</pre>
Inherits="WebApplication42.WebForm1" %>
<!DOCTYPE html>
<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
    <title></title>
</head>
<body>
    <form id="form1" runat="server">
        <div>
            <br />
            <asp:Label ID="Label1" runat="server" Text="Label"></asp:Label>
            <br />
            <asp:Label ID="Label2" runat="server" Text="Label"></asp:Label>
            <asp:Label ID="Label3" runat="server" Text="Label"></asp:Label>
            <asp:Button ID="Button1" runat="server" OnClick="Button1_Click"</pre>
Text="Button" />
        </div>
    </form>
</body>
</html>
```

Output:

30 60 67.6

Practical No: 2(b)

Aim: Creating simple application to demonstrate use of the following concepts. 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;
public class basec
    public int d;
    public string basemethod()
        string p = "This is baseclass method";
        return p;
    }
}
public class Derived : basec
    public string derivedmethod()
        string s = "This is derivedclassmethod";
        return s;
    }
}
namespace WebApplication44
    public partial class WebForm1 : System.Web.UI.Page
        protected void Page_Load(object sender, EventArgs e)
        }
        protected void Button1_Click(object sender, EventArgs e)
            basec b = new basec();
            Response.Write("Calling from base class object:" +b.basemethod());
            Derived d = new Derived();
            Response.Write("<br> Calling from derived class object:<br>" +
d.basemethod());
            Response.Write("<br>" + d.derivedmethod());
        }
    }
}
```

Source code:

```
<math display="bloom of the color of t
```

Output:

Calling from base class object: This is baseclass method Calling from derived class object:

This is baseclass method
This is derived class method

→ 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.Page
        protected void Page_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:

Output:

First base class Second base class Child Class Button

→ Multiple Inheritance

```
Code:
using System;
using System.Collections.Generic;
using System.Linq;
using System.Web;
using System.Web.UI;
using System.Web.UI.WebControls;
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;
}
namespace WebApplication46
    public partial class WebForm1 : System.Web.UI.Page
        protected void Page_Load(object sender, EventArgs e)
        }
        protected void Button1_Click(object sender, EventArgs e)
            square sq = new square();
            int area;
            sq.setSide(20);
            area = sq.getArea();
            Label1.Text = "Area: " + area;
            int c = sq.getCost(area);
            Label2.Text = "Cost is Rs:" + c;
```

```
}
    }
}
Source code:
<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="WebForm1.aspx.cs"</pre>
Inherits="WebApplication46.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="Label"></asp:Label>
            <asp:Label ID="Label2" runat="server" Text="Label"></asp:Label>
            <br />
            <br />
            <asp:Button ID="Button1" runat="server" OnClick="Button1_Click"</pre>
Text="Button" />
        </div>
    </form>
</body>
</html>
```

Area: 400

Cost is Rs:4000

→ Hierarchical 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 "Welcome";
}
class B : A
    public string display()
        return " to the world";
class C : A
    public string show1()
        return " of Possiblilities";
}
namespace WebApplication47
{
    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;
        }
    }
```

```
}
Source code:
<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="WebForm1.aspx.cs"</pre>
Inherits="WebApplication47.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="Label"></asp:Label>
            <asp:Button ID="Button1" runat="server" OnClick="Button1_Click"</pre>
Text="Button" />
        </div>
    </form>
        <br />
    </body>
</html>
```

Welcome to the world of Possiblilities

Practical No: 2(b)

Aim: Creating simple application to demonstrate use of the following concepts 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;
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;
}
namespace WebApplication48
    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:
<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="WebForm1.aspx.cs"</pre>
Inherits="WebApplication48.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="Label"></asp:Label>
           <asp:Button ID="Button1" runat="server" OnClick="Button1_Click"</pre>
Text="Button" />
       </div>
   </form>
</body>
</html>
Output:
  In marksheet 1:100
  In marksheet 2:87
  In marksheet 3:148
  In marksheet 4:215
  Label
    Button
```

Practical No: 2(b)

Aim: Creating simple application to demonstrate use of the following concepts iv. Interface.

```
Code:
using System;
using System.Collections.Generic;
using System.Linq;
using System.Web;
using System.Web.UI;
using System.Web.UI.WebControls;
public interface ITransaction
    string retcode();
    double amtfunc();
public class Transaction : ITransaction
    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;
    }
}
namespace WebApplication49
    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", 2828.00);
            Transaction t2 = new Transaction("Db", 5765.00);
            Response.Write("<br>Code" + t1.retcode());
```

```
Response.Write("<br>Amount:" + t1.amtfunc());
           Response.Write("<br>Code" + t2.retcode());
           Response.Write("<br>Amount:" + t2.amtfunc());
       }
   }
}
Source code:
<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="WebForm1.aspx.cs"</pre>
Inherits="WebApplication49.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="Label"></asp:Label>
           <asp:Button ID="Button1" runat="server" OnClick="Button1_Click"</pre>
Text="Button" />
       </div>
   </form>
</body>
</html>
Output:
 CodeCr
 Amount:2828
 CodeDb
```

Label Button

Amount:5765

Practical No: 2(c)

<u>Aim: Creating simple application to demonstrate use of the following concepts.</u>
(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 WebApplication50
    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 += new SimpleDelegate(secfunction);
            sd();
        }
    }
}
```

Source code:

First function Called....
First function Called....

Second function Called....

Practical No: 2(c)

<u>Aim: Creating simple application to demonstrate use of the following concepts.</u>
(ii) Exception Handling

```
Code:
using System;
using System.Collections.Generic;
using System.Linq;
using System.Web;
using System.Web.UI;
using System.Web.UI.WebControls;
class NegativeException : Exception
    public NegativeException(string msg)
        : base(msg)
    }
}
namespace WebApplication51
    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");
                    Console.WriteLine("Positive number");
            catch (NegativeException en)
                Response.Write(en.Message);
            }
        }
    }
}
Source code:
<%@ Page Language="C#" AutoEventWireup="true" CodeBehind="WebForm1.aspx.cs"</pre>
Inherits="WebApplication51.WebForm1" %>
<!DOCTYPE html>
<html xmlns="http://www.w3.org/1999/xhtml">
<head runat="server">
```

Negative number

Button

-69