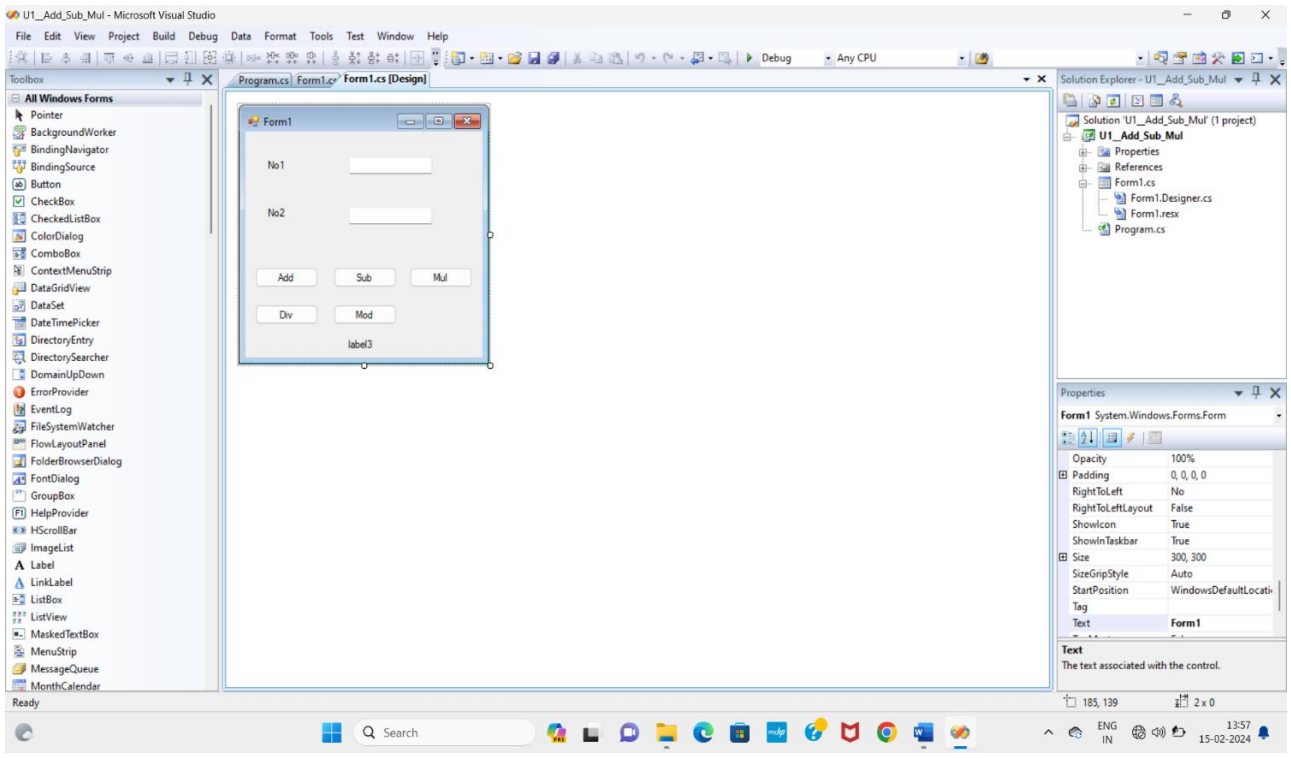
Subject: C# Practical

Unit-1

1)Addition, Subtraction, Multiplication,Modulo

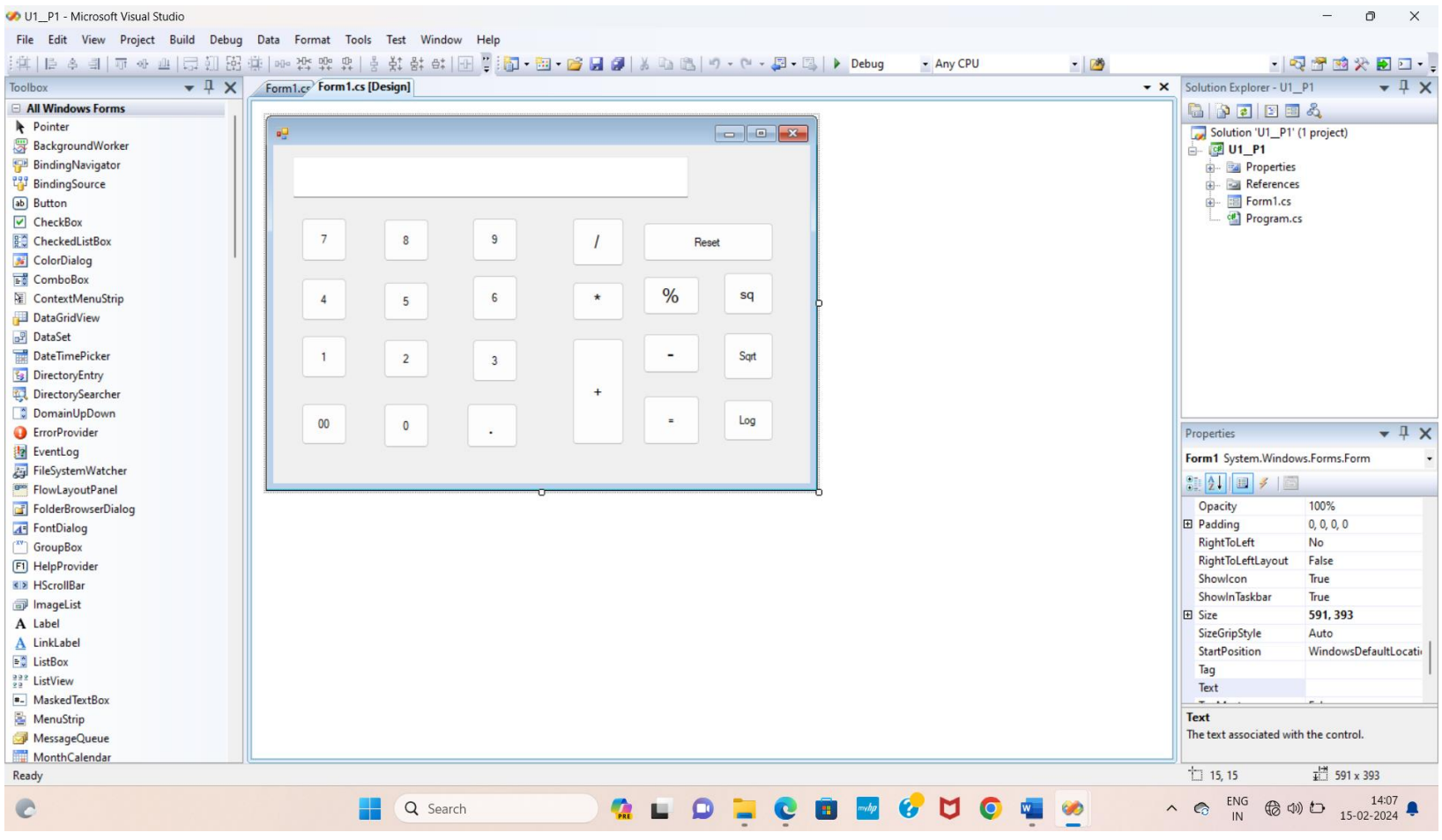


Coding:

```
using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Linq;
using System.Text;
using System.Windows.Forms;

namespace U1__Add_Sub_Mul
{
    public partial class Form1 : Form
    {
        public Form1()
        {
            InitializeComponent();
        }

        private void button1_Click(object sender,EventArgse)
        {

label3.Text=(Convert.ToString(Convert.ToInt16(textBox1.Text) +
Convert.ToInt16(textBox2.Text)));
        }

        private void button2_Click(object sender,EventArgse)
        {
```

```
label3.Text=(Convert.ToString(Convert.ToInt16(textBox1.Text-
Convert.ToInt16(textBox2.Text)));
        }

        private void button3_Click(object sender,EventArgse)
        {

label3.Text=(Convert.ToString(Convert.ToInt16(textBox1.Text) *
Convert.ToInt16(textBox2.Text)));
        }

        private void button4_Click(object sender, EventArgs e)
        {

label3.Text=(Convert.ToString(Convert.ToInt16(textBox1.Text)/
Convert.ToInt16(textBox2.Text)));
        }

        private void button5_Click(object sender, EventArgs e)
        {

label3.Text=(Convert.ToString(Convert.ToInt16(textBox1.Text) %
Convert.ToInt16(textBox2.Text)));
        }

        }
}
```

1) Design interface and implement functionalities for Arithmetic calculator with power, square, log, factorial, square root and clear functionalities.



Coding:

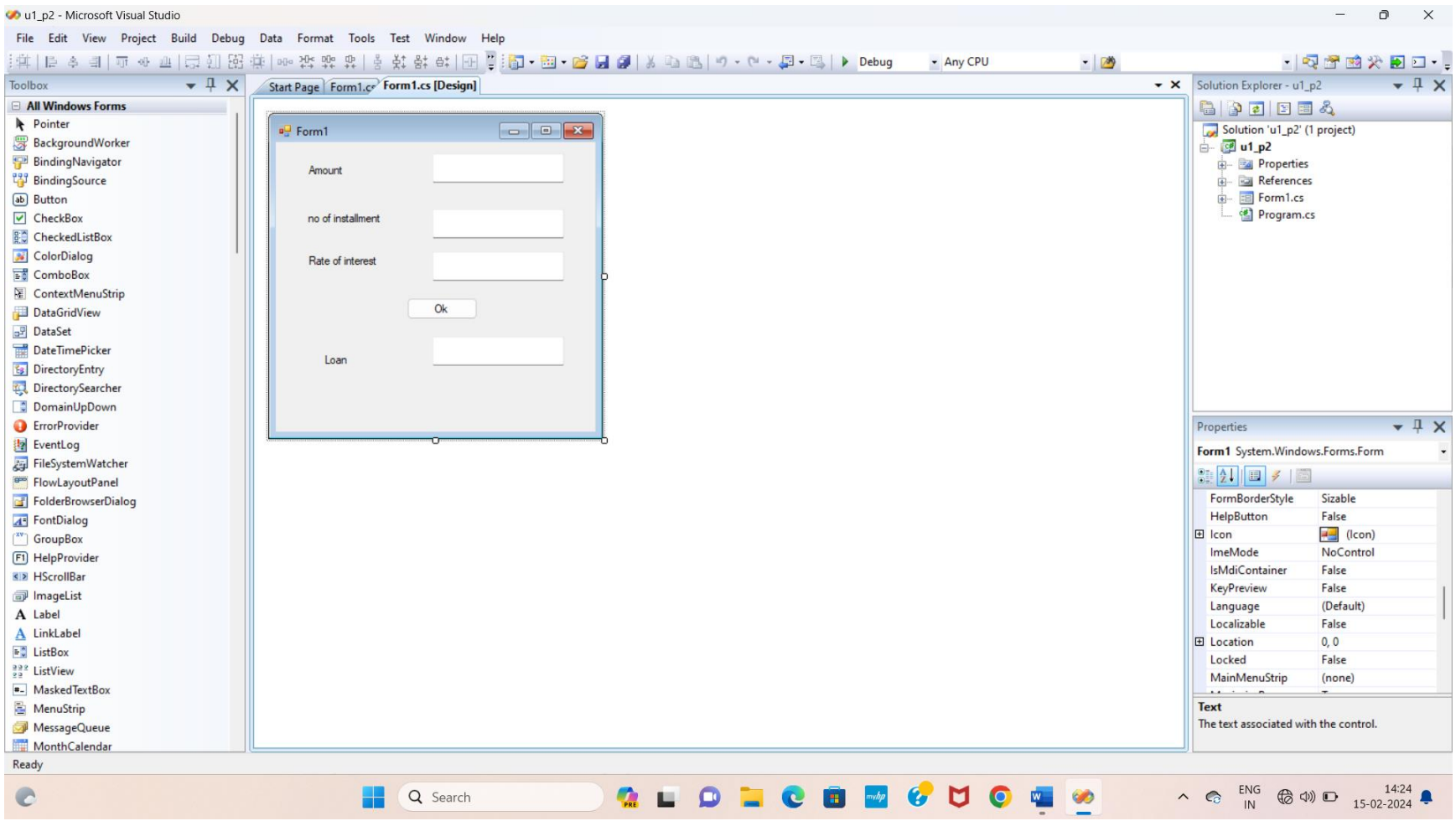
```
using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Linq;
using System.Text;
using System.Windows.Forms;

namespace U1__P1
{
    public partial class Form1 : Form
    {
        double oldvalue = 0;
        char opr;
        public Form1()
        {
            InitializeComponent();
        }

        //Button1 Coding
        private void button1_Click(object sender, EventArgs e)
        {
            textBox1.Text += Convert.ToString(button1.Text);
        }

        //Button2 Coding
        private void button2_Click(object sender, EventArgs e)
        {
            textBox1.Text += Convert.ToString(button2.Text);
        }

        //Button3 Coding
        private void button3_Click(object sender, EventArgs e)
        {
            textBox1.Text += Convert.ToString(button3.Text);
        }

        //Button4 Coding
        private void button4_Click(object sender, EventArgs e)
        {
            textBox1.Text += Convert.ToString(button4.Text);
        }

        //Button5 Coding
        private void button5_Click(object sender, EventArgs e)
        {
            textBox1.Text += Convert.ToString(button5.Text);
        }

        //Button6 Coding
        private void button6_Click(object sender, EventArgs e)
        {
            textBox1.Text += Convert.ToString(button6.Text);
        }

        //Button7 Coding
        private void button7_Click(object sender, EventArgs e)
        {
```

```
        textBox1.Text += Convert.ToString(button7.Text);
    }

    //Button8 Coding
    private void button8_Click(object sender, EventArgs e)
    {
        textBox1.Text += Convert.ToString(button8.Text);
    }

    //Button9 Coding
    private void button9_Click(object sender, EventArgs e)
    {
        textBox1.Text += Convert.ToString(button9.Text);
    }

    //Zero Coding
    private void button10_Click(object sender, EventArgs e)
    {
        textBox1.Text += Convert.ToString(button10.Text);
    }

    //Dot Coding
    private void button11_Click(object sender, EventArgs e)
    {
        textBox1.Text += Convert.ToString(button11.Text);
    }

    //Reset Coding
    private void button20_Click(object sender, EventArgs e)
    {
        textBox1.Clear();
    }

    //log coding
    private void button13_Click(object sender, EventArgs e)
    {
        textBox1.Text =
Math.Log(Convert.ToDouble(textBox1.Text)).ToString();
    }

    //Sqrt Coding
    private void button14_Click(object sender, EventArgs e)
    {
        textBox1.Text =
Math.Sqrt(Convert.ToDouble(textBox1.Text)).ToString();
    }

    //Square Coding
    private void button15_Click(object sender, EventArgs e)
    {
        textBox1.Text =
Math.Pow(Convert.ToDouble(textBox1.Text), 2).ToString();
    }

    //Addition Coding
    private void button16_Click(object sender, EventArgs e)
    {
        oldvalue = Convert.ToDouble(textBox1.Text);
        opr = '+';
```

```
            textBox1.Clear();
        }

        //Substraction Coding
        private void button17_Click(object sender, EventArgs e)
        {
            oldvalue = Convert.ToDouble(textBox1.Text);
            opr = '-';
            textBox1.Clear();
        }

        //Multiplication Coding
        private void button18_Click(object sender, EventArgs e)
        {
            oldvalue = Convert.ToDouble(textBox1.Text);
            opr = '*';
            textBox1.Clear();
        }

        //Division Coding
        private void button19_Click(object sender, EventArgs e)
        {
            oldvalue = Convert.ToDouble(textBox1.Text);
            opr = '/';
            textBox1.Clear();
        }

        //EqualTo Coding
        private void button12_Click(object sender, EventArgs e)
        {
            if (opr == '+')
            {
                oldvalue = oldvalue +
Convert.ToDouble(textBox1.Text);
                textBox1.Text = oldvalue.ToString();
            }
            if (opr == '-')
            {
                oldvalue = oldvalue -
Convert.ToDouble(textBox1.Text);
                textBox1.Text = oldvalue.ToString();
            }
            if (opr == '*')
            {
                oldvalue = oldvalue *
Convert.ToDouble(textBox1.Text);
                textBox1.Text = oldvalue.ToString();
            }
            if (opr == '/')
            {
                oldvalue = oldvalue /
Convert.ToDouble(textBox1.Text);
                textBox1.Text = oldvalue.ToString();
            }
            if (opr == '%')
            {
                    oldvalue = oldvalue %
    convert.ToDouble(textBox1.Text);
                textBox1.Text = oldvalue.ToString();
```

```
            }
}
        //Remainder Coding
        private void button22_Click(object sender, EventArgs e)
        {

            oldvalue = Convert.ToDouble(textBox1.Text);
            opr = '%';
            textBox1.Clear();
        }
    }
}
```

2)Design interface and implement functionalities for Loan calculator. Take Amount, No of installments and Rate of interest from the user. Also user can choose Early Pay option through a checkbox. Calculate installment amount using pmt() function. Do proper validation for inputs taken by the user

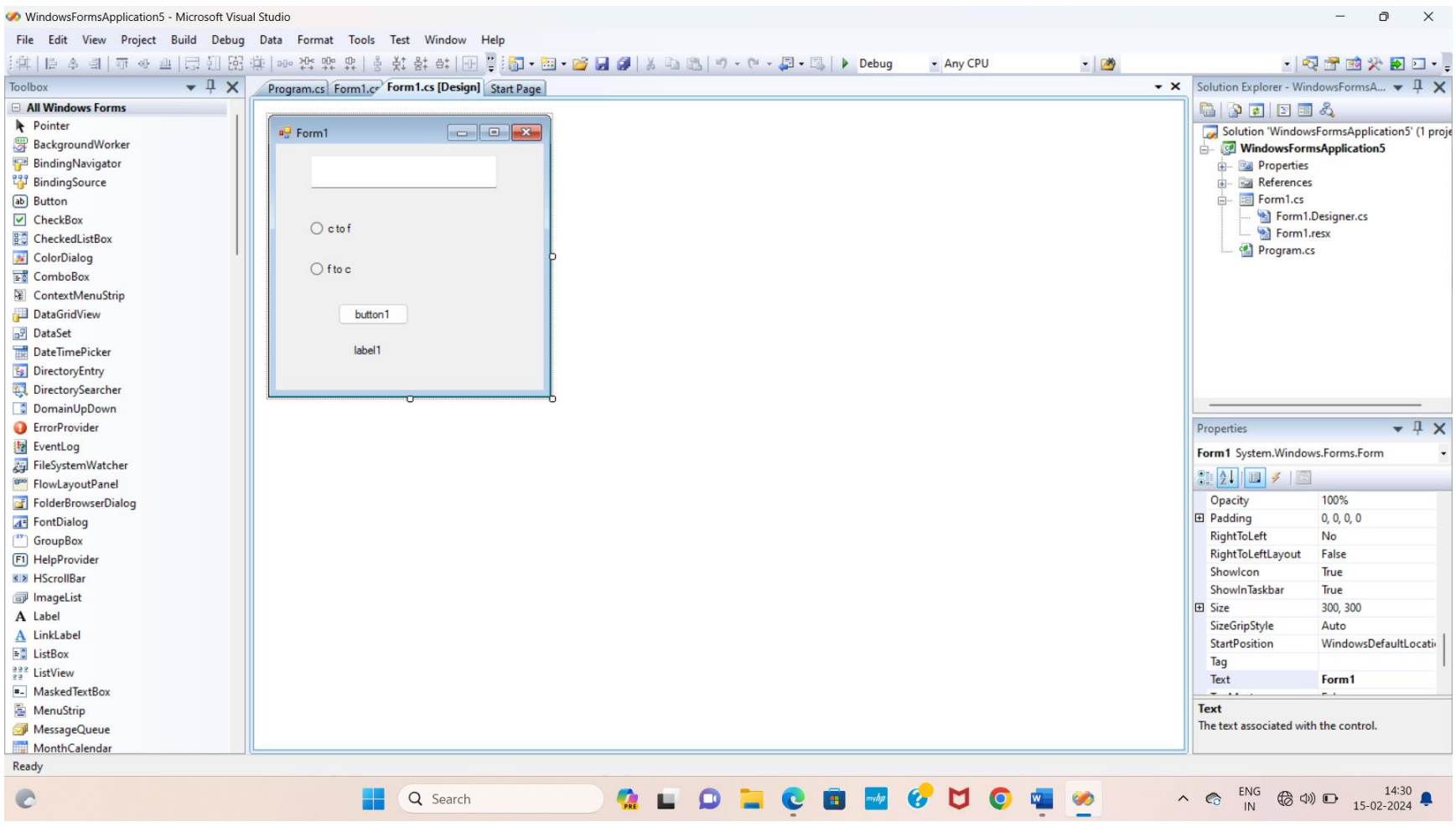


Coding:

```
using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Linq;
using System.Text;
using System.Windows.Forms;

namespace U1__p3
{
    public partial class Form1 : Form
    {
```

```
        public Form1()
        {
            InitializeComponent();
        }

        private void button1_Click(object sender, EventArgs e)
        {
            if (radioButton1.Checked == true)
            {

                label1.Text =
Convert.ToString((Convert.ToDouble(textBox1.Text) * 9 / 5) + 32);
            }
            if (radioButton2.Checked == true)
            {
                label1.Text =
Convert.ToString((Convert.ToDouble(textBox1.Text) - 32) * 5 / 9);
            }
        }
    }
}
```

3)Design an application which will have 2 radio buttons. One will convert the Celsius to Fahrenheit and another will convert Fahrenheit to Celsius. Show the appropriate output depends on the user's selection. (Use radio button to take user choice and use textbox to enter value)

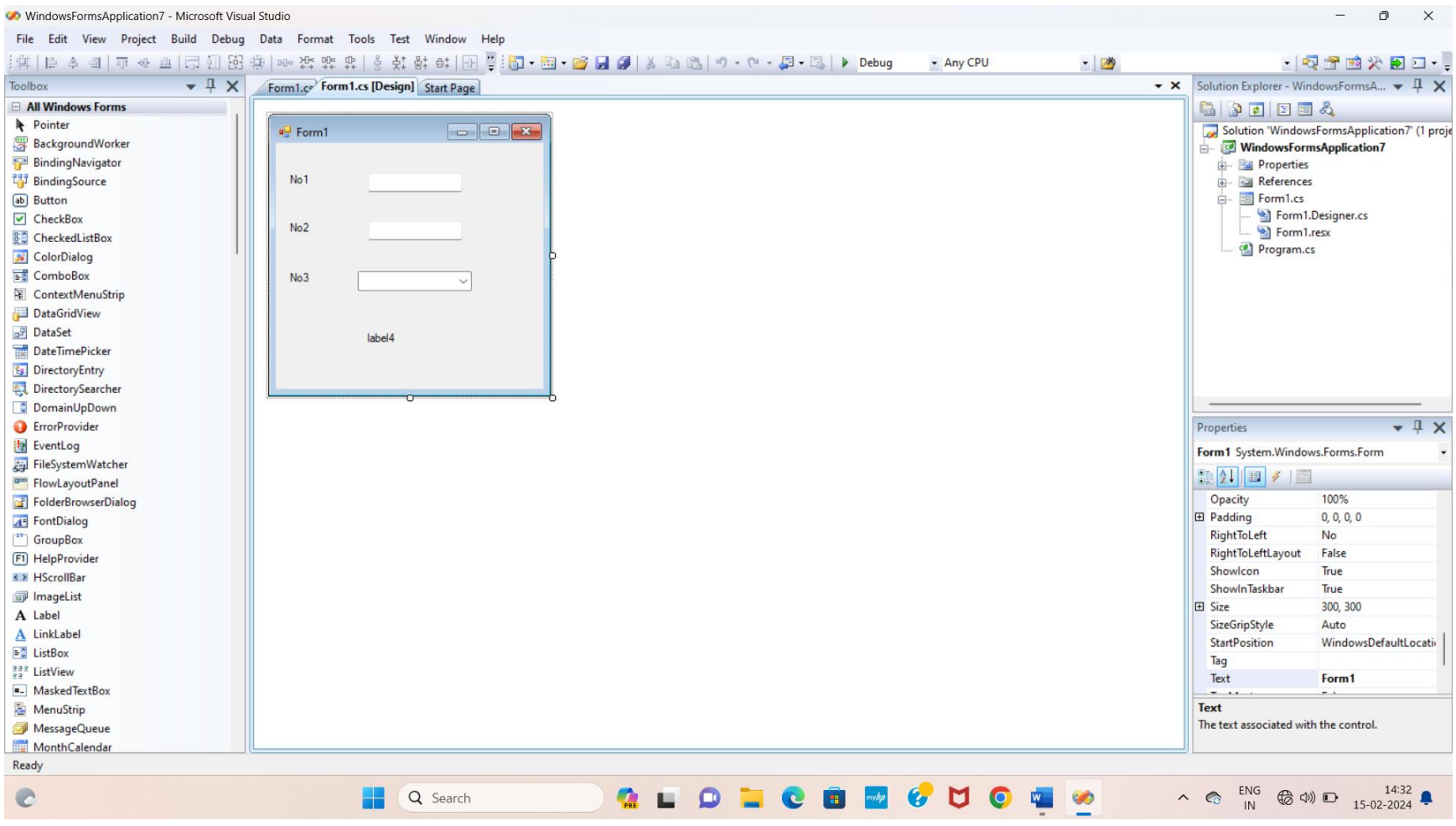


Coding:

```
using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Linq;
```

```
using System.Text;
using System.Windows.Forms;

namespace U1__p3
{
    public partial class Form1 : Form
    {
        public Form1()
        {
            InitializeComponent();
        }

        private void button1_Click(object sender, EventArgs e)
        {
            if (radioButton1.Checked == true)
            {

                label1.Text =
Convert.ToString((Convert.ToDouble(textBox1.Text) * 9 / 5) + 32);
            }
            if (radioButton2.Checked == true)
            {
                label1.Text =
Convert.ToString((Convert.ToDouble(textBox1.Text) - 32) * 5 / 9);
            }
        }
    }
}
```

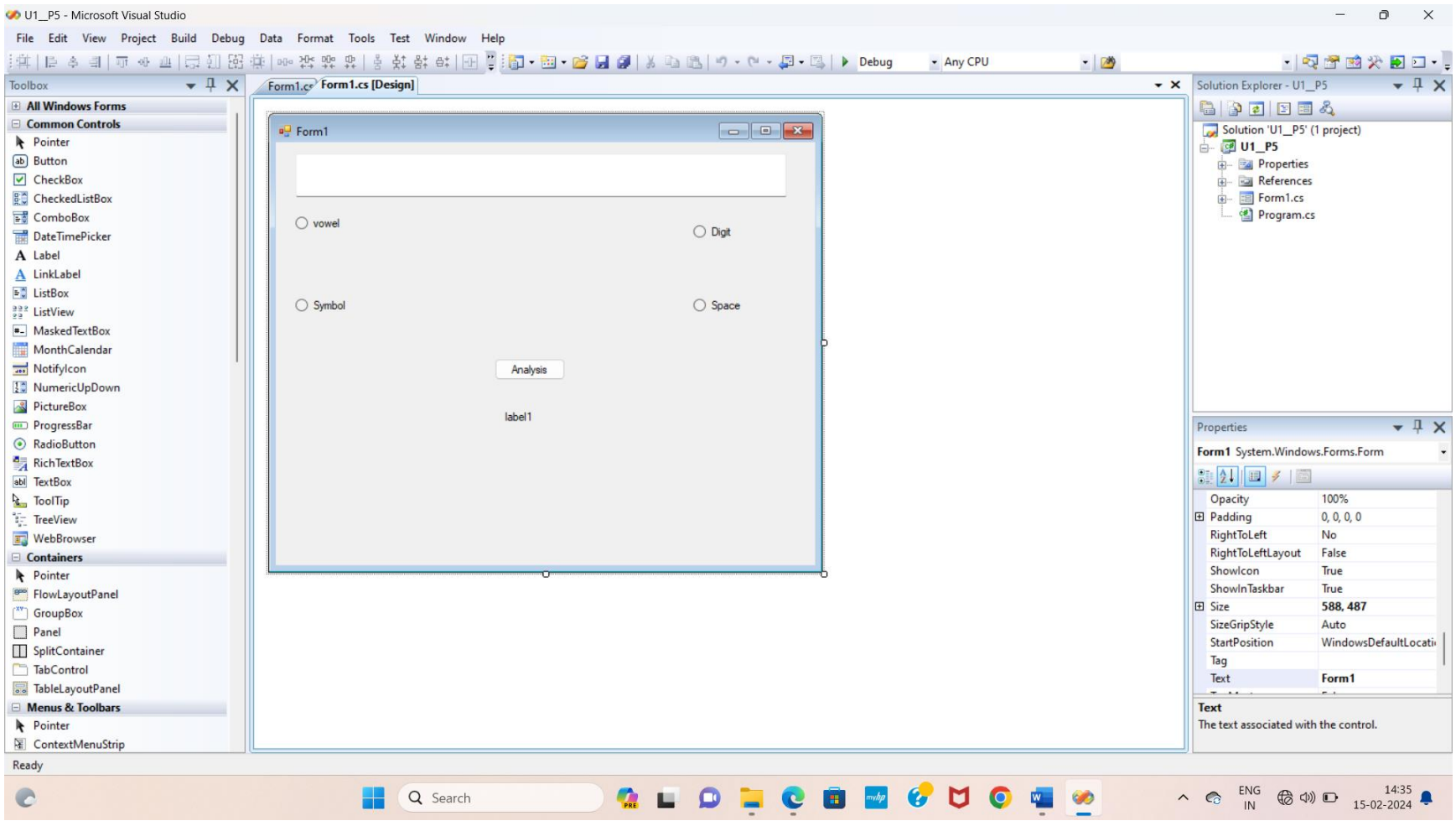
4)Design a form having two text boxes, combo box and a label. Make the validation so that user can enter only numbers in both texboxes, if user has entered both numerical values then make the combo box visible. The combo box has options like 'ADD', 'SUB', 'MUL' and 'DIV'. According to user's choice from from combo, result will display in label.



Coding:

```
using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Linq;
using System.Text;
using System.Windows.Forms;

namespace WindowsFormsApplication7
{
    public partial class Form1 : Form
    {
        public Form1()
        {
            InitializeComponent();
        }

        private void comboBox1_SelectedIndexChanged(object sender,
EventArgs e)
        {

            if (comboBox1.SelectedItem == "ADD")
            {
                label4.Text =
(Convert.ToString(Convert.ToInt16(textBox1.Text) +
Convert.ToInt16(textBox2.Text)));
            }
            else if (comboBox1.SelectedItem == "SUB")
            {
                label4.Text =
(Convert.ToString(Convert.ToInt16(textBox1.Text) -
Convert.ToInt16(textBox2.Text)));
            }
            else if (comboBox1.SelectedItem == "MUL")
            {
                label4.Text =
(Convert.ToString(Convert.ToInt16(textBox1.Text) *
Convert.ToInt16(textBox2.Text)));
            }
            else if (comboBox1.SelectedItem == "DIV")
            {
                label4.Text =
(Convert.ToString(Convert.ToInt16(textBox1.Text) /
Convert.ToInt16(textBox2.Text)));
            }
            else if (comboBox1.SelectedItem == "MOD")
            {
                label4.Text =
(Convert.ToString(Convert.ToInt16(textBox1.Text) %
Convert.ToInt16(textBox2.Text)));
            }
        }
    }
}
```

5)Create an application with a textbox in which user can enter a sentence then displays 1) Number of vowels 2) Number of spaces 3) Number of digits 4) Number of special symbols When user press “analysis” button.

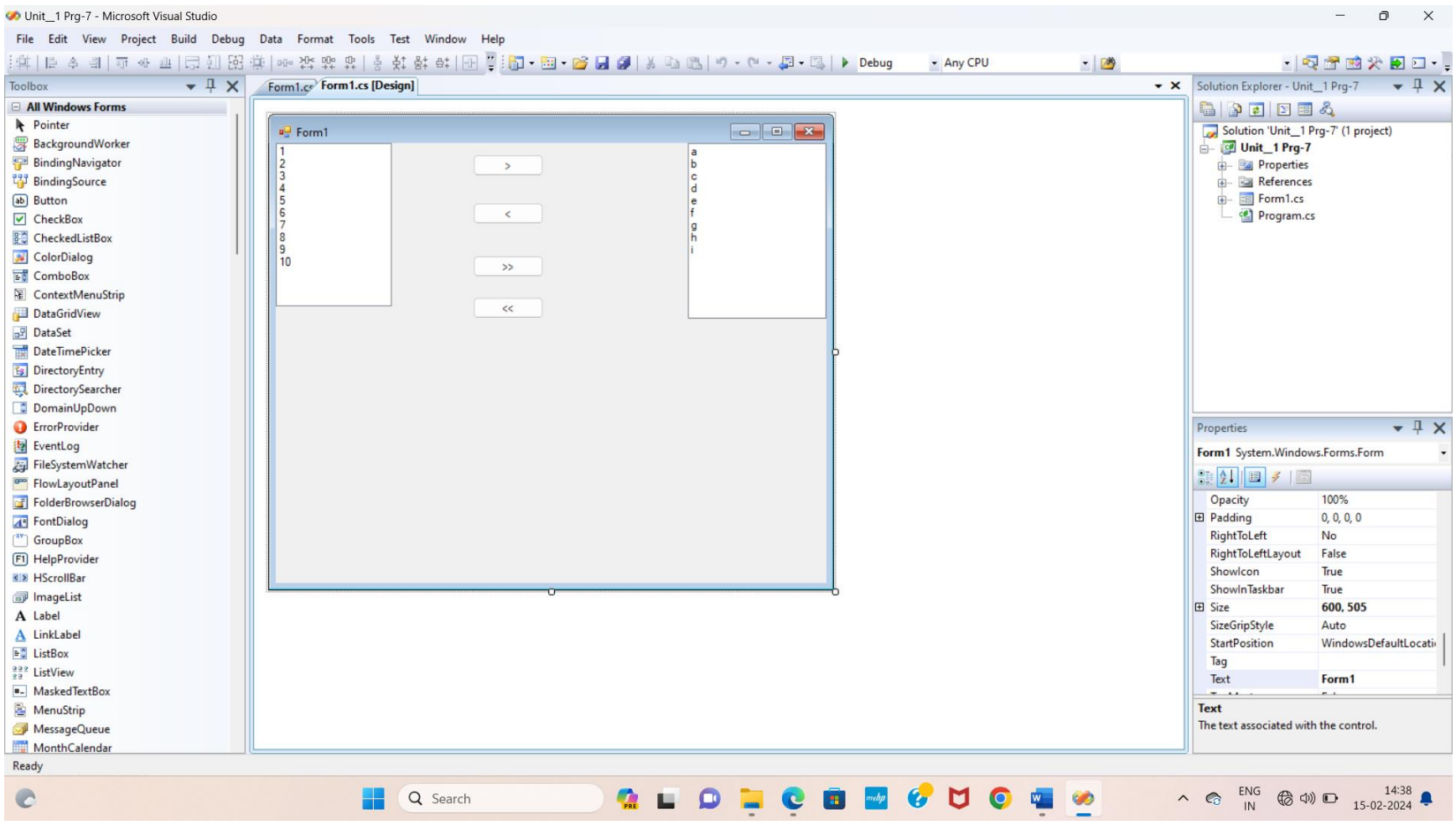


Coding:

```
using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Linq;
using System.Text;
using System.Windows.Forms;

namespace U1__P5
{
    public partial class Form1 : Form
    {
        public Form1()
        {
            InitializeComponent();
        }

        private void button1_Click(object sender, EventArgs e)
        {
            string str;
            char c;
            str = textBox1.Text;
```

```
                Int16 i, strlen, nv, ns, nss, nd;
                i = 0;
                nv = 0;
                ns = 0;
                nss = 0;
                nd = 0;
                strlen = Convert.ToInt16(str.Length);
                while(i<=strlen-1)
                {
                        c=Convert.ToChar(str.Substring(i,1));
                        if(char.IsWhiteSpace(c)==true)
                        {
                             ns+=1;
                        }
                        if(c=='a' || c=='o' ||c=='e' || c=='u' ||
c=='i')
                        {
                             nv+=1;
                        }
                        if(char.IsSymbol(c)==true)
                        {
                            nss+=1;
                        }
                        if (char.IsDigit(c) == true)
                        {
                            nd += 1;
                        }
                        i += 1;
                }
                if(radioButton1.Checked==true)
                {
                     label1.Text="vowel:"+nv;
                }
                if(radioButton2.Checked==true)
                {
                     label1.Text="Digit:"+nd;
                }
                if(radioButton3.Checked==true)
                {
                     label1.Text="Symbol:"+nss;
                }
                if (radioButton4.Checked == true)
                {
                     label1.Text = "Space:" + ns;
                }
            }
        }
    }
```

7) Write a program to transfer an item from First Listbox to Second Listbox and from Second Listbox to First.

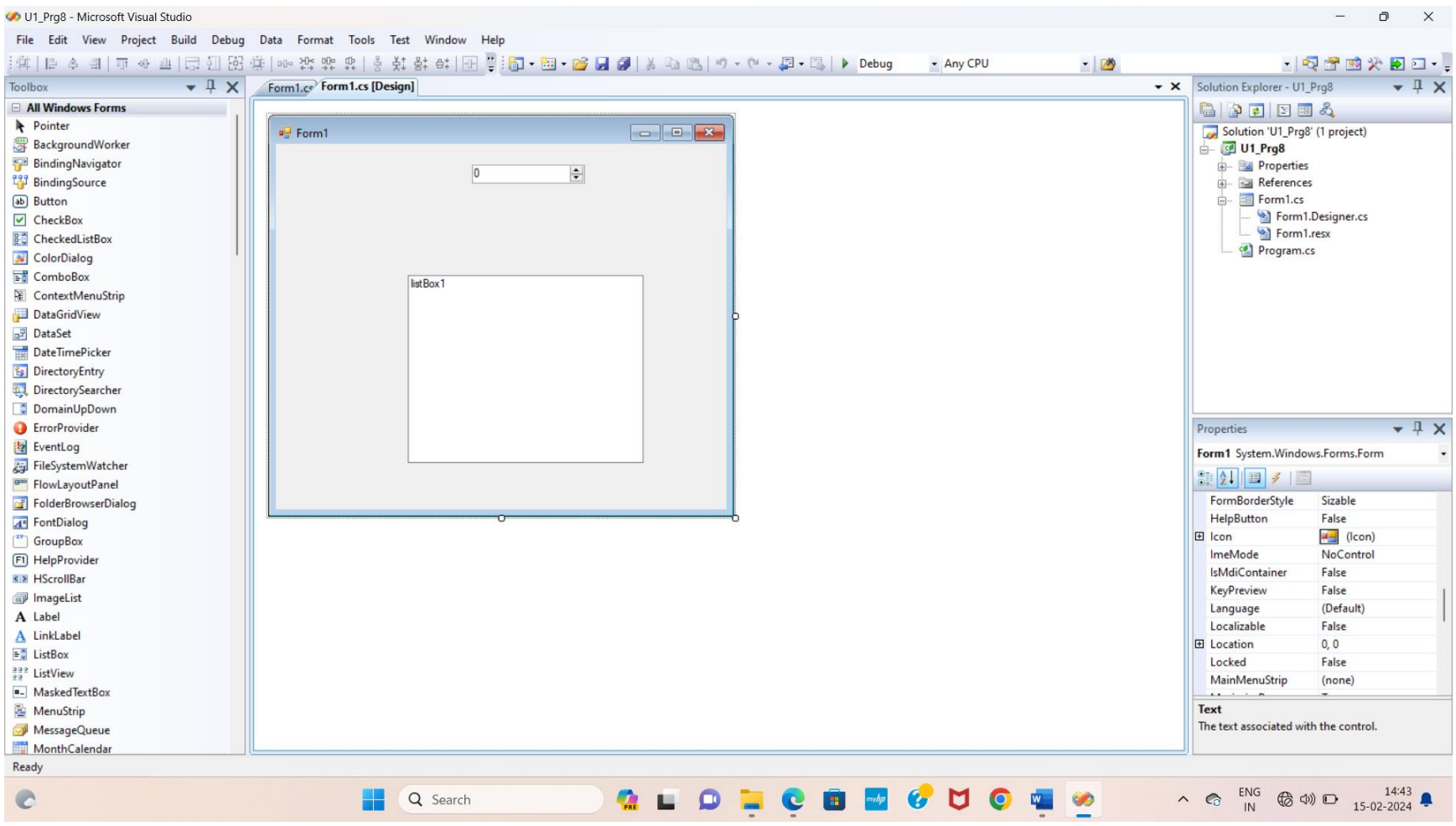


Coding:

```
using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Linq;
using System.Text;
using System.Windows.Forms;

namespace Unit__1_Prg_7
{
    public partial class Form1 : Form
    {
        public Form1()
        {
            InitializeComponent();
        }

        private void button1_Click(object sender, EventArgs e)
        {
            listBox2.Items.Add(listBox1.SelectedItem);
            listBox1.Items.Remove(listBox1.SelectedItem);
        }

        private void button2_Click(object sender, EventArgs e)
```

```
{
      listBox1.Items.Add(listBox2.SelectedItem);
      listBox2.Items.Add(listBox2.SelectedItem);
}

private void button4_Click(object sender, EventArgs e)
{
    int i;
    for (i = 0; i <= listBox2.Items.Count - 1; i++)
    {
        listBox1.Items.Add(listBox2.Items[i].ToString());
    }
}

private void button3_Click(object sender, EventArgs e)
{
    int i;
       for(i=0;i<=listBox1.Items.Count-1;i++)
       {

listBox2.Items.Add(listBox1.Items[i].ToString());
       }

         }
    }
}
```

8)Print multiplication table into Listbox. For multiplication take value using Numeric up down.

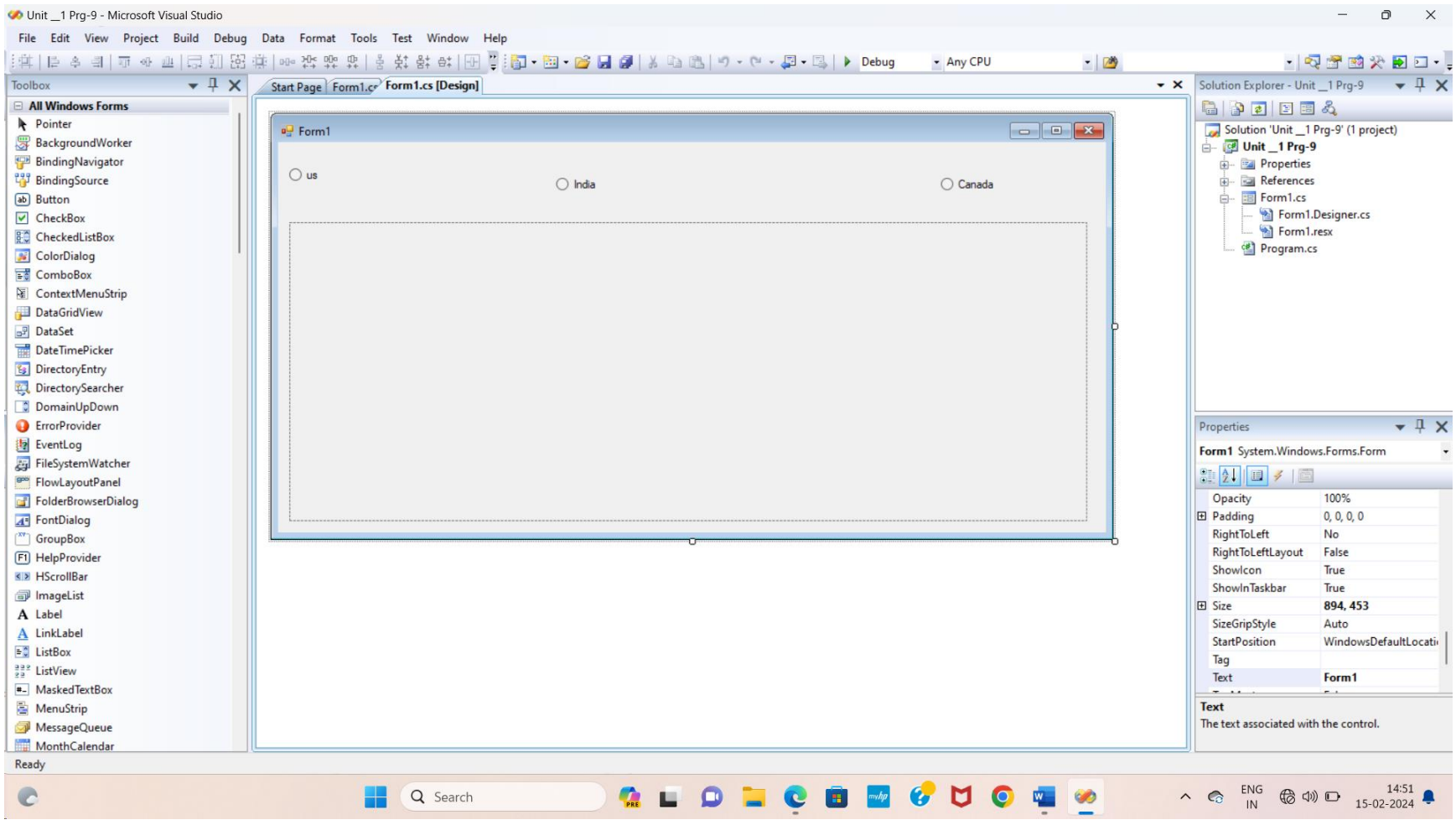


Coding:

```
using System;
using System.Collections.Generic;
```

```
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Linq;
using System.Text;
using System.Windows.Forms;

namespace U1_Prg8
{
    public partial class Form1 : Form
    {
        public Form1()
        {
            InitializeComponent();
        }

        private void numericUpDown1_ValueChanged(object sender,
EventArgs e)
        {
            listBox1.Items.Clear();
            int i,n;
            n = Convert.ToInt16(numericUpDown1.Value);
            for (i = 1; i <= 10; i++)
            {
                listBox1.Items.Add(n + "*" + i + "=" + n * i);
            }
        }

        private void Form1_Load(object sender, EventArgs e)
        {

        }
    }
}
```

9)Take 3 Radio buttons showing the name of 3 Countries. Load the image of the Flag of the country selected by the user from the given Radio buttons in the Picture box.

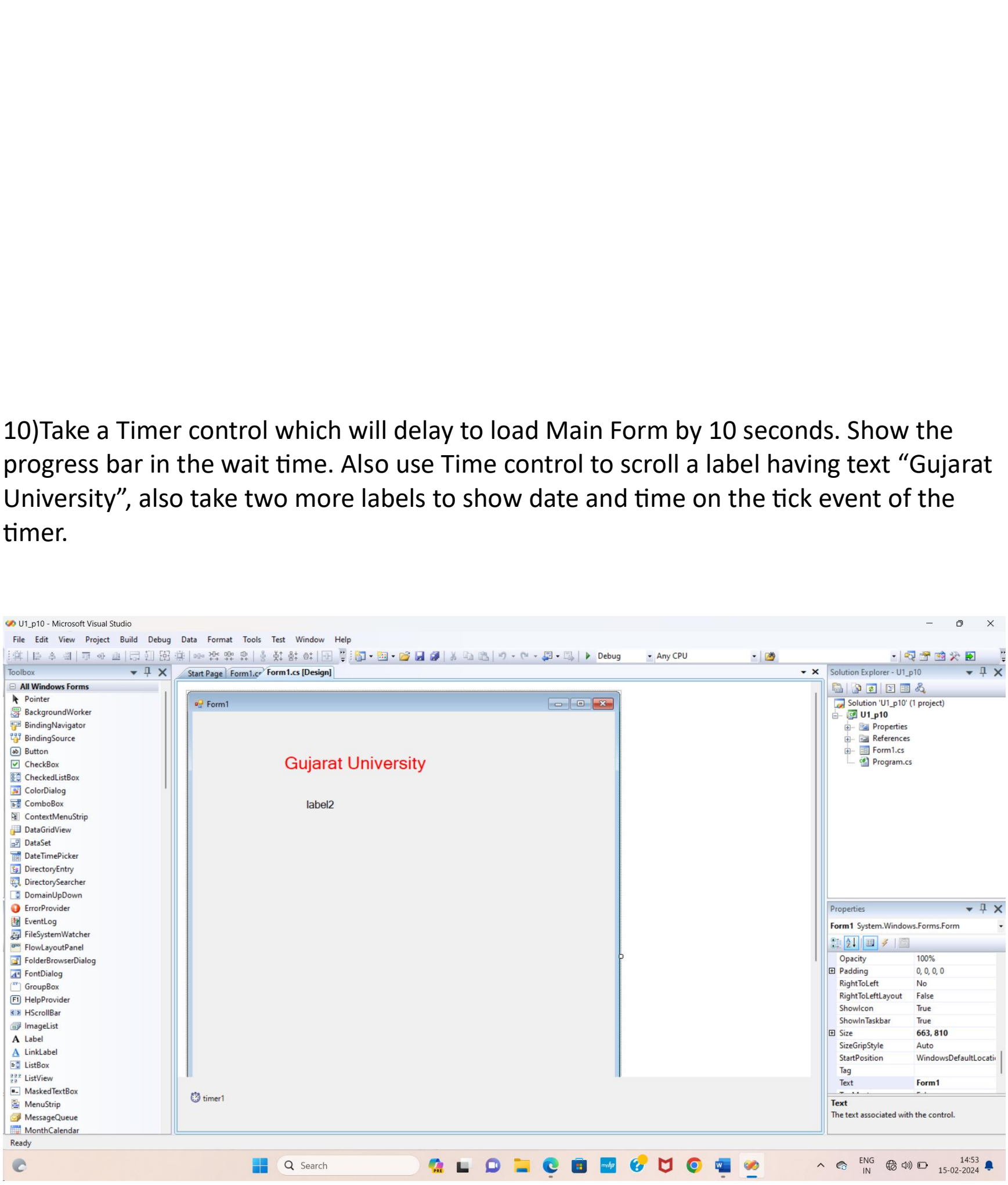


Coding:

```
using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Linq;
using System.Text;
using System.Windows.Forms;

namespace Unit___1_Prg_9
{
    public partial class Form1 : Form
    {
        public Form1()
        {
            InitializeComponent();
        }

        private void radioButton1_CheckedChanged(object sender,
EventArgs e)
        {
            pictureBox1.Image = Image.FromFile("D:\\New
folder\\1.jpg");
        }

        private void radioButton2_CheckedChanged(object sender,
EventArgs e)
        {
            pictureBox1.Image = Image.FromFile("D:\\New
folder\\2.jpeg");
        }

        private void radioButton3_CheckedChanged(object sender,
EventArgs e)
        {
            pictureBox1.Image = Image.FromFile("D:\\New
folder\\Time_Management-1.jpg");
```

```
            }
        }
    }
```

10)Take a Timer control which will delay to load Main Form by 10 seconds. Show the progress bar in the wait time. Also use Time control to scroll a label having text “Gujarat University”, also take two more labels to show date and time on the tick event of the timer.



Coding:

```
using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Linq;
using System.Text;
using System.Windows.Forms;

namespace U1_p10
```

```
{
    public partial class Form1 : Form
    {
        int i, n;
        public Form1()
        {
            InitializeComponent();
        }

        private void Form1_Load(object sender, EventArgs e)
        {
            n = Convert.ToInt16(this.Height);
            timer1.Start();
        }

        private void timer1_Tick(object sender, EventArgs e)
        {
            label2.Text = System.DateTime.Today.ToString();
            i = i + 1;
            if (i >= n)
            {
                i = 10;
            }
            label1.Location = new Point(200,i);
        }
    }
}
```