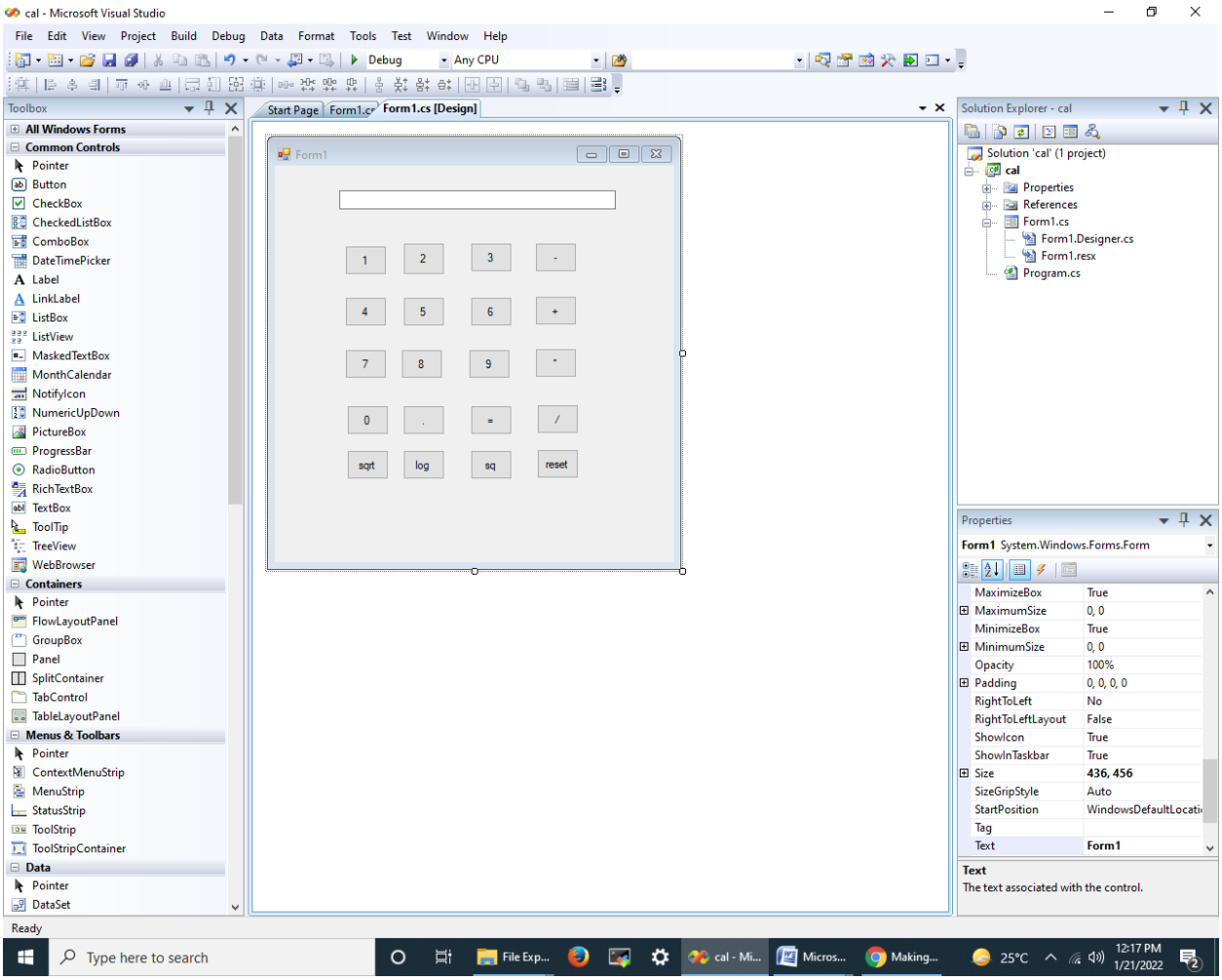
Unit-1 practical

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



Cs

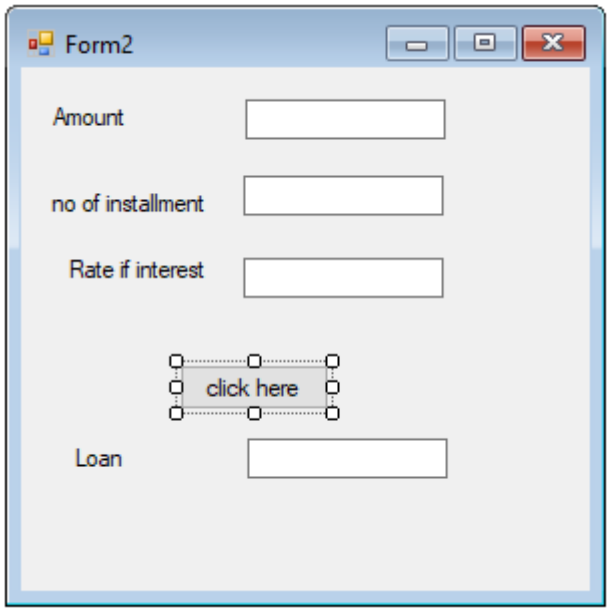
```
using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Linq;
using System.Text;
using System.Windows.Forms;

namespace cal
{
    public partial class Form1 : Form
    {
        double oldvalue=0;
```

```
    char opr;
    public Form1()
    {
        InitializeComponent();
    }
    private void Form1_Load(object sender, EventArgs e)
    {
        this.Text = "MY FORM";
        this.BackColor = Color.Gray;
        this.CenterToScreen();
    }
    // button 1 to 9 coding
    private void button2_Click(object sender, EventArgs e)
    {
       /* Button btn = sender as Button;
        textBox1.Text += btn.Text;*/
        textBox1.Text += Convert.ToString(button2.Text);
    }
   // button 1 to 9 coding
    private void button4_Click(object sender, EventArgs e)
    {
        textBox1.Text += Convert.ToString(button4.Text);
    }

  //button 1 to 9 coding

    private void button6_Click(object sender, EventArgs e)
    {
        textBox1.Text += Convert.ToString(button6.Text);
    }
   // button 1 to 9 coding
    private void button9_Click(object sender, EventArgs e)
    {
        textBox1.Text += Convert.ToString(button9.Text);
    }
    // button 1 to 9 coding
    private void button8_Click(object sender, EventArgs e)
    {
        textBox1.Text += Convert.ToString(button8.Text);

    }
    // button 1 to 9 coding
    private void button7_Click(object sender, EventArgs e)
    {
        textBox1.Text += Convert.ToString(button7.Text);
    }
    //equal button coding 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();
                }


        }
        // button 1 to 9 coding
        private void button11_Click(object sender, EventArgs e)
        {
            textBox1.Text += Convert.ToString(button11.Text);
        }
        // button 0 coding
        private void button10_Click(object sender, EventArgs e)
        {
            textBox1.Text += Convert.ToString(button10.Text);

        }
        // button 1 to 9 coding
        private void button1_Click(object sender, EventArgs e)
        {
            textBox1.Text += Convert.ToString(button1.Text);
        }
        // button 1 to 9 coding
        private void button3_Click(object sender, EventArgs e)
        {
            textBox1.Text += Convert.ToString(button3.Text);
        }
        // button 1 to 9 coding
        private void button5_Click(object sender, EventArgs e)
        {
            textBox1.Text += Convert.ToString(button5.Text);
        }
        //button reset coding
        private void button17_Click(object sender, EventArgs e)
        {
            textBox1.Clear();
        }
        //button sqrt coding
        private void button20_Click(object sender, EventArgs e)
        {
            textBox1.Text =
Math.Sqrt(Convert.ToDouble(textBox1.Text)).ToString();
        }
        //button log code
        private void button19_Click(object sender, EventArgs e)
        {
            textBox1.Text=
Math.Log(Convert.ToDouble(textBox1.Text)).ToString();
```

```
        }
        //airthmetic operator
        private void button16_Click(object sender, EventArgs e)
        {


            oldvalue = Convert.ToDouble(textBox1.Text);
            opr = '-';
            textBox1.Clear();

        }
        //button square coding
        private void button18_Click(object sender, EventArgs e)
        {
            textBox1.Text = Math.Pow(Convert.ToDouble(textBox1.Text),
2).ToString();
        }
        // button + coding
        private void button15_Click(object sender, EventArgs e)
        {
            oldvalue = Convert.ToDouble(textBox1.Text);
            opr = '+';
            textBox1.Clear();
        }
         // button * coding
        private void button14_Click(object sender, EventArgs e)
        {
            oldvalue = Convert.ToDouble(textBox1.Text);
            opr = '*';
            textBox1.Clear();
        }
         // button / coding
        private void button13_Click(object sender, EventArgs e)
        {
            oldvalue = Convert.ToDouble(textBox1.Text);
            opr = '/';
            textBox1.Clear();
        }


    }
}
```

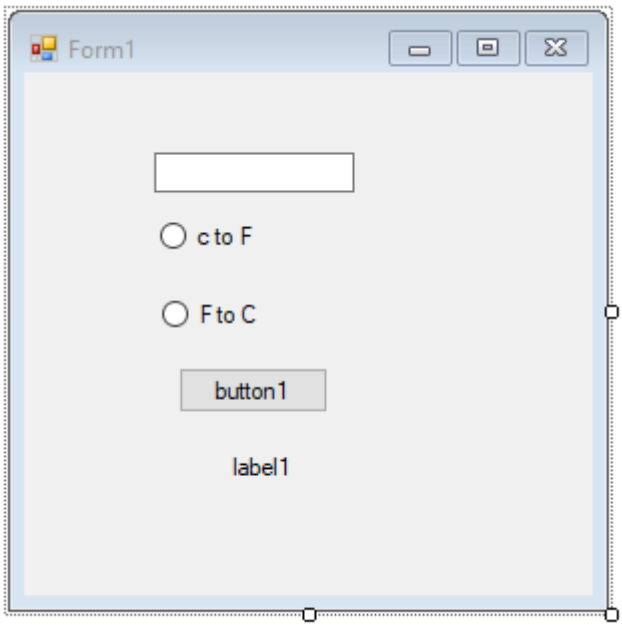
2. Design interface and implement functionalities for Loan calculator. Take Amount, No of installments and rate of interest from the user .Also user can choose early pay option through a checkbox. Calculate installment amount using pmt() function. Do proper validation for inputs taken by the user.




```
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 WindowsFormsApplication1
{
publicpartialclassForm2 : Form
    {
public Form2()
        {
            InitializeComponent();
        }



privatevoid button1_Click(object sender, EventArgs e)
        {
double amt, rate, instmonths;
```

```
            amt = Convert.ToDouble(textBox1.Text);
            rate = Convert.ToDouble(textBox2.Text) / 1200;
            instmonths = Convert.ToDouble(textBox3.text) * 12;
            textBox4.Text= Convert.ToString(amt * rate /1-Math.Pow((1 +
rate),instmonths *-1)));

        }

privatevoid textBox2_KeyPress(object sender, KeyPressEventArgs e)
        {
int i = Convert.ToInt32(e.KeyChar);
if (i >= 48 && i <= 58 || i == 8)
                e.Handled = false;
else
                e.Handled = true;
        }
    }
}
```

3. Design an application which will have 2 radio buttons. One will convert the Celsius to 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).

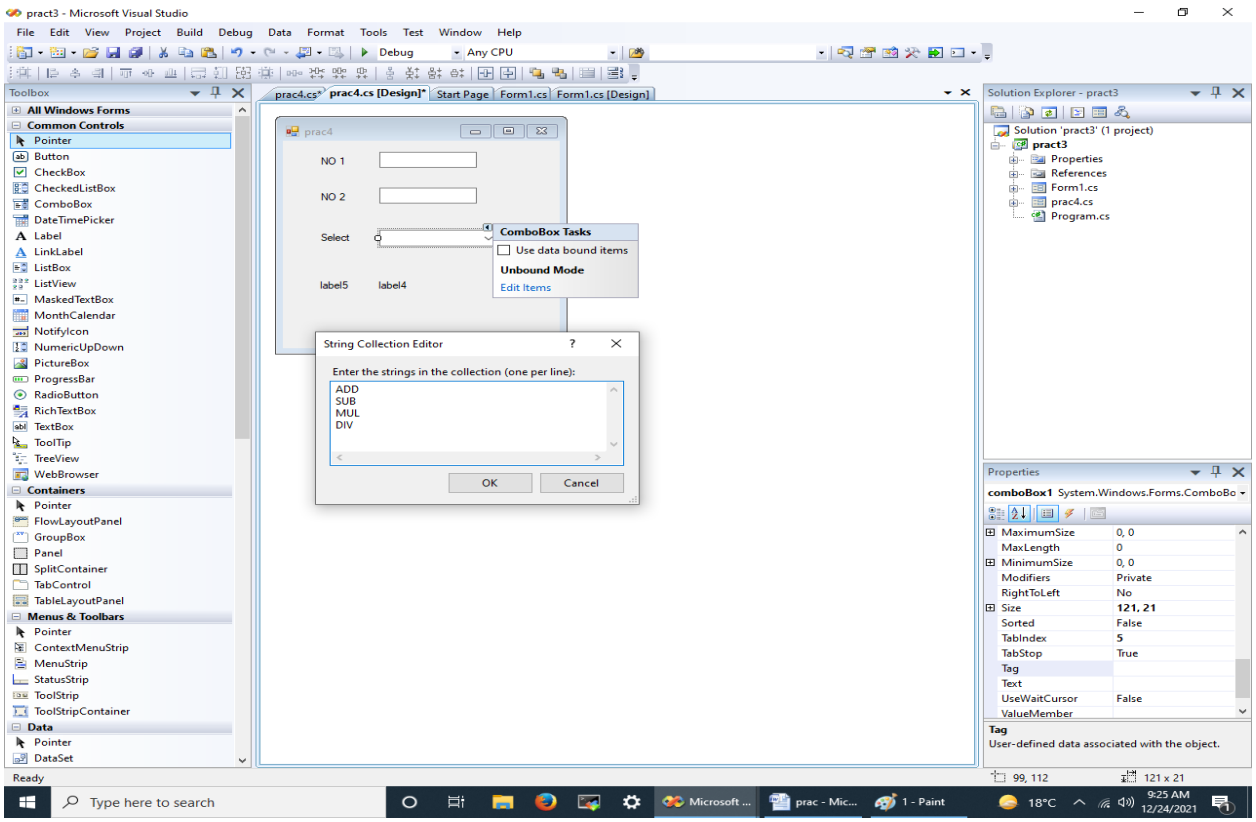


Coding on button click

```
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 pract3
{
publicpartialclassForm1 : Form
    {
public Form1()
        {
            InitializeComponent();
        }

privatevoid button1_Click(object sender, EventArgs e)
        {
if (radioButton1.Checked == true)
            {
```

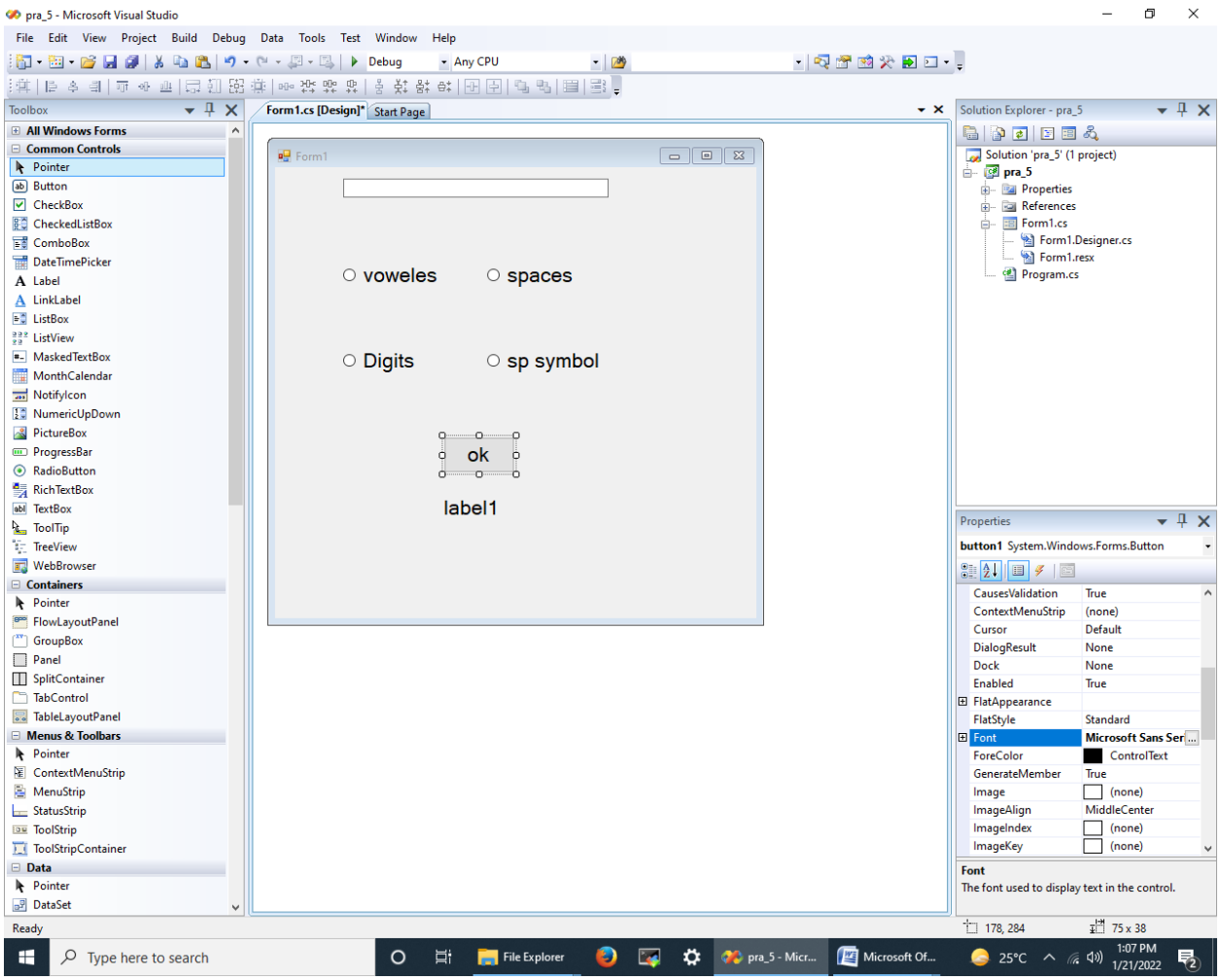
```
                    label1.Text =(Convert.ToInt16(textBox1.Text)*5/9
+32).ToString();
                }
if (radioButton2.Checked == true)
                {
                    label1.Text =(Convert.ToInt16(textBox1.Text)-
32*5/9).ToString();
                }

            }


        }
}
```

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 textboxes, if user has entered both numerical values then make the combo box visible. The combo box has option like 'ADD','SUB','MUL' and 'DIV'. According to user choice from combo, result will display label.



```
privatevoid comboBox1_SelectedIndexChanged(object sender, EventArgs e)
        {
if (comboBox1.SelectedItem == "ADD")
            {
                label4.Text = (Convert.ToInt16(textBox1.Text) +
Convert.ToInt16(textBox2.Text)).ToString();

            }

elseif (comboBox1.SelectedItem == "SUB")
            {
                label4.Text = (Convert.ToInt16(textBox1.Text) -
Convert.ToInt16(textBox2.Text)).ToString();

            }
elseif (comboBox1.SelectedItem == "MUL")
            {
                label4.Text = (Convert.ToInt16(textBox1.Text) *-
Convert.ToInt16(textBox2.Text)).ToString();

            }
elseif (comboBox1.SelectedItem == "DIV")
            {
                label4.Text = (Convert.ToInt16(textBox1.Text) /
Convert.ToInt16(textBox2.Text)).ToString();

            }
        }
```

Pra 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.

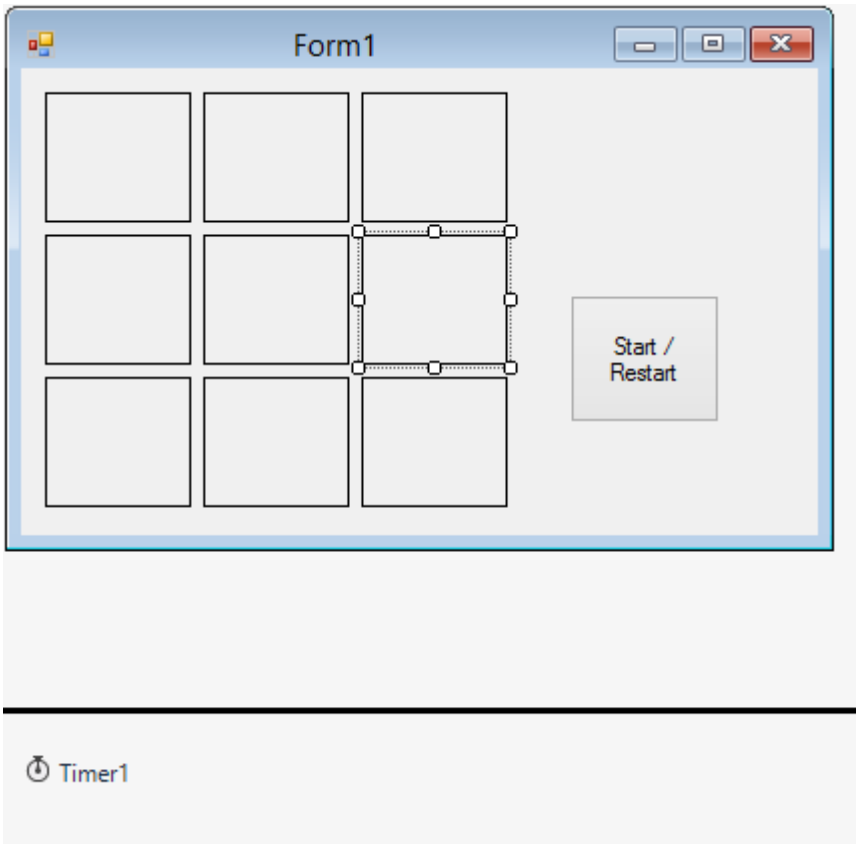


Coding

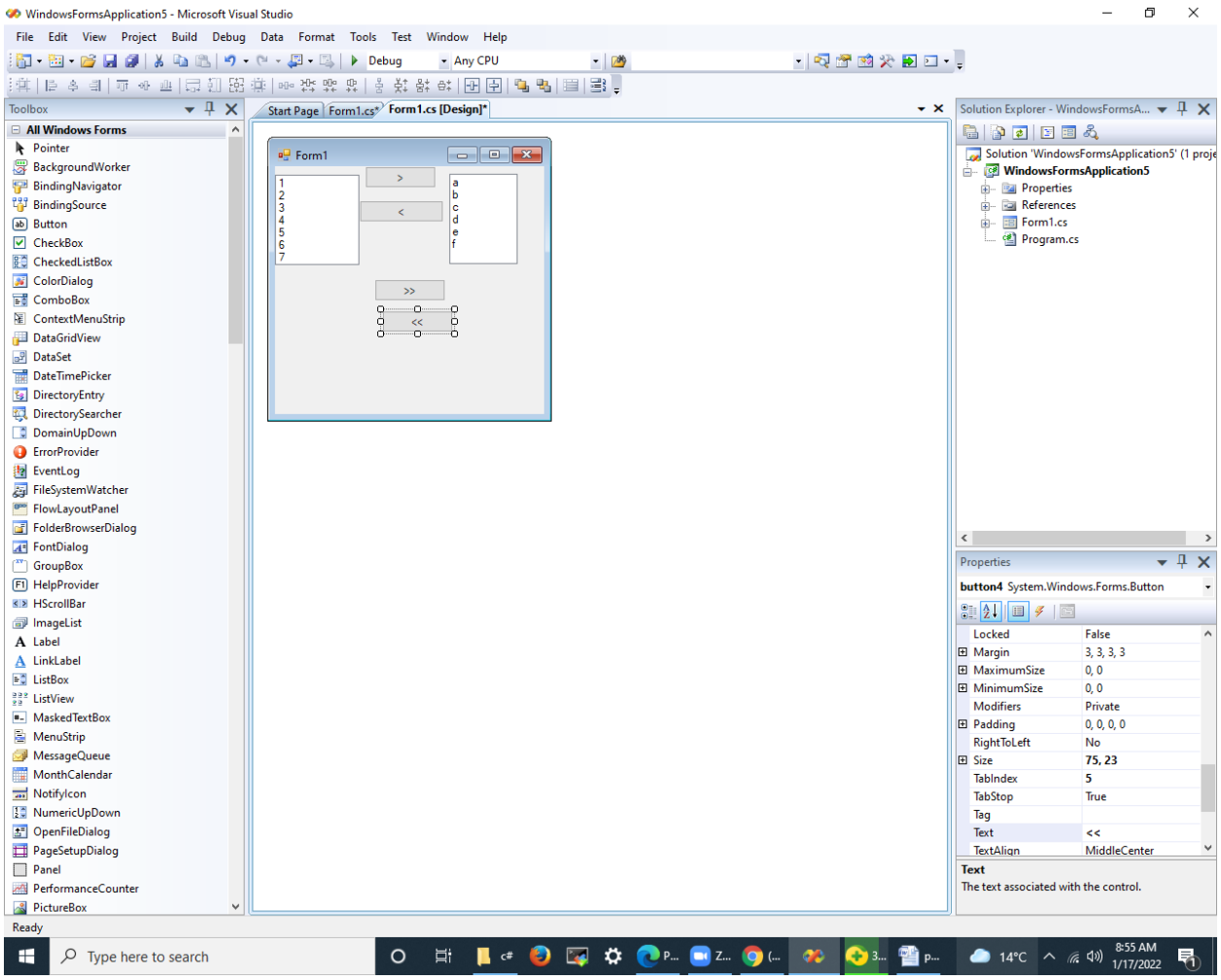
```
using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Linq;
using System.Text;
using System.Windows.Forms;

namespace WindowsFormsApplication6
{
    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 = "special :" + ns;
            }
           if (radioButton3.Checked == true)
            {
                label1.Text = "Sym :" + nss;
            }
             if (radioButton4.Checked == true)
            {
                label1.Text = "Digit :" + nd;
            }



        }
    }
}
```

Prac-6 Tic tac toe game



Prac 7.write a program to transfer an item from first listbox to second listbox and from listbox to first.

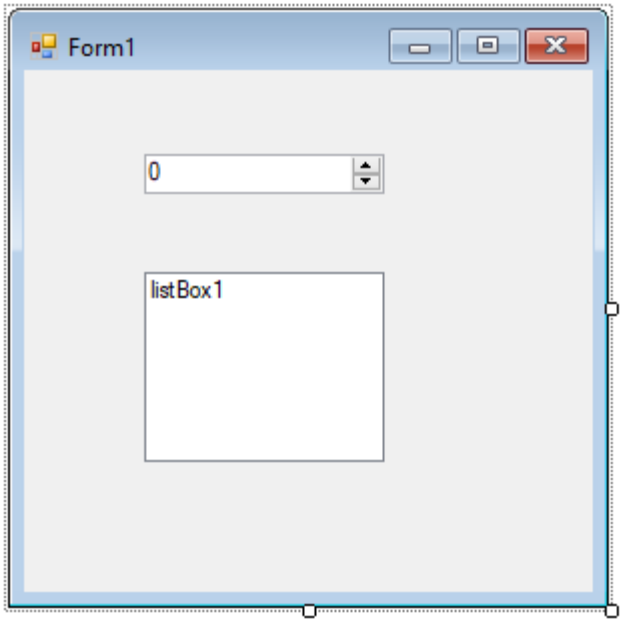


Code

```
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 WindowsFormsApplication5
{
publicpartialclassForm1 : Form
    {
public Form1()
        {
```

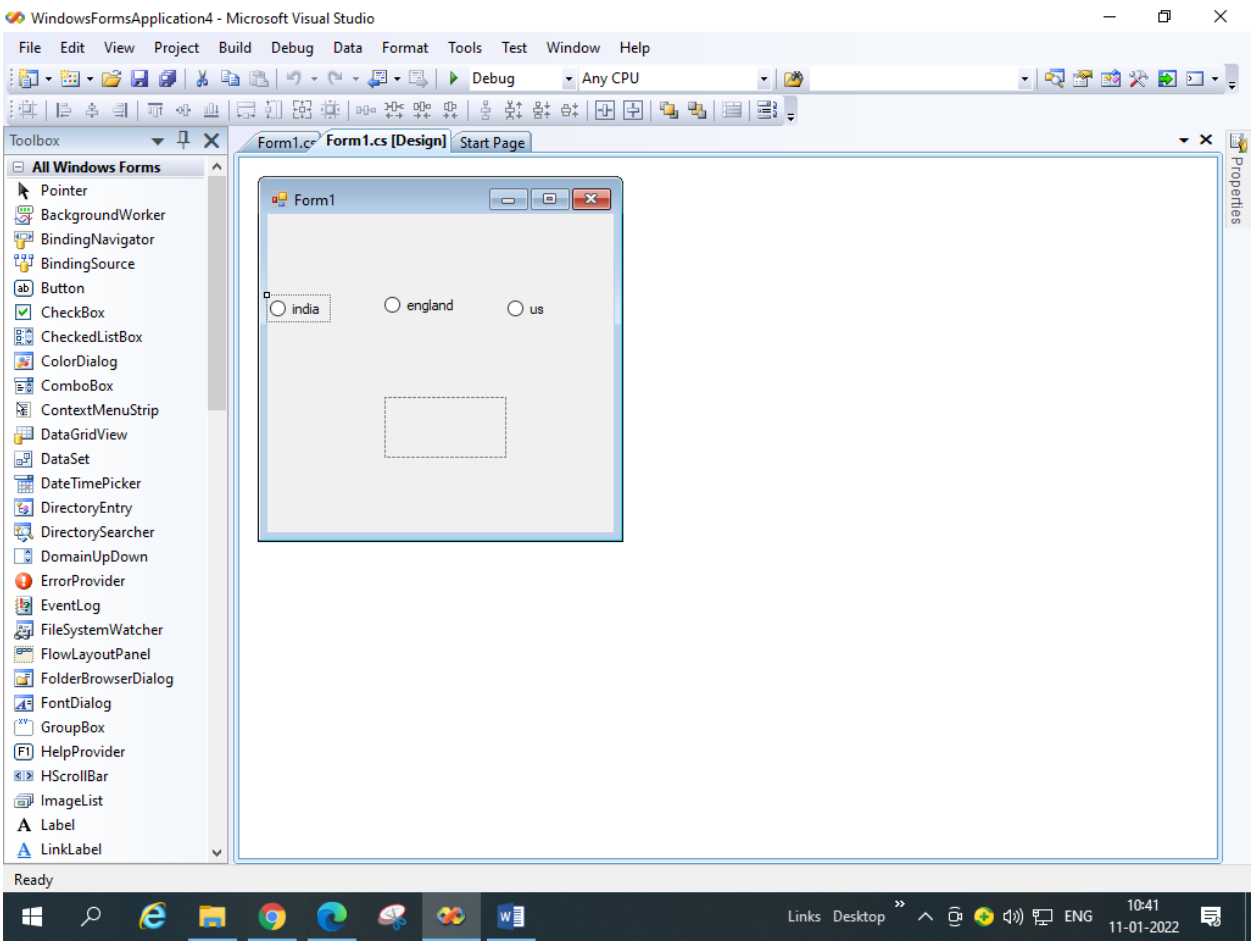
```
            InitializeComponent();
        }

privatevoid button1_Click(object sender, EventArgs e)
        {

        }

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

privatevoid button2_Click(object sender, EventArgs e)
        {
            listBox1.Items.Add(listBox2.SelectedItem);
        }

privatevoid button3_Click(object sender, EventArgs e)
        {
// listBox2.Items.Add(listBox1.SelectedItem);
int i;
for (i = 0; i <= listBox1.Items.Count - 1; i += 1)
            {
                listBox2.Items.Add(listBox1.Items[i].ToString());
            }
        }
    }
}
```

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




```
privatevoid numericUpDown1_ValueChanged(object sender, EventArgs e)
        {
            listBox1.Items.Clear();

Int16 i, n;
            n = Convert.ToInt16(numericUpDown1.Value);
            i = 1;
while (i <= 10)
            {
                listBox1.Items.Add(n + "*" + i + "=" + n * i);
                i += 1;
            }
        }
```

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

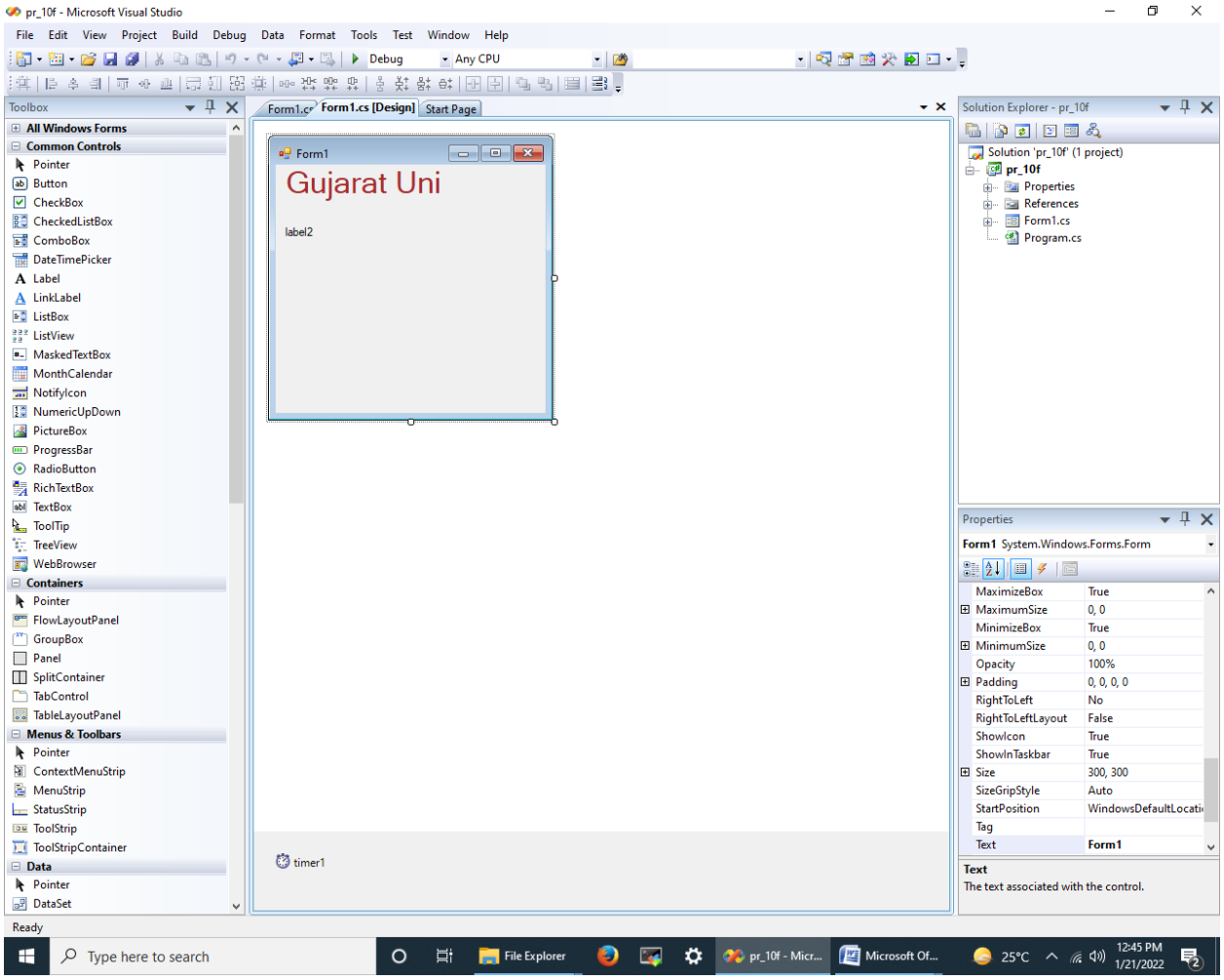


Codig

```
using System.Windows.Forms;

namespace WindowsFormsApplication4
{
publicpartialclassForm1 : Form
    {
public Form1()
        {
            InitializeComponent();
        }
```

```
privatevoid radioButton1_CheckedChanged(object sender, EventArgs
e)
        {
            pictureBox1.Image = Image.FromFile("F:\\2.jpg");
        }

privatevoid radioButton2_CheckedChanged(object sender, EventArgs
e)
        {
            pictureBox1.Image = Image.FromFile("F:\\3.jpg");
        }

privatevoid radioButton3_CheckedChanged(object sender, EventArgs
e)
        {
            pictureBox1.Image =
Image.FromFile("C:\\xampp\\phpMyAdmin\\themes\\pmahomme\\img\\de
signer\\2leftarrow.png");
        }
    }
}
```

10.Take a Timer control which wil delay to load mainform by 10 seconds. Shown 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.



Cs.

```
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 pr_10f
{
    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(100, i);
        }
    }
}
```