FINOLEX ACADEMY OF MANAGEMENT AND TECHNOLOGY, RATNAGIRI

DEPARTMENT OF MCA

PRACTICAL NO. 01

Basic of C#

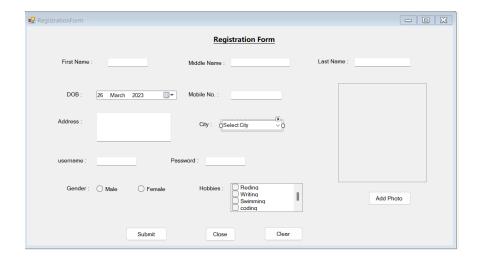
Que.1.Design a window application to demonstrate basic and advanced controls. Create Registration form with following fields first name, middle name, surname, photo, dob, address, mobile no, username, password, gender, hobbies, city. Use appropriate controls to take inputs. And show the entered data on another form.

Ans:

• Code –

1)

RegistrationForm.cs[Design]



RegistrationForm.cs

using System;

using System.Collections.Generic;

using System.ComponentModel;

using System.Data;

using System.Drawing;

using System.Linq;

using System.Text;

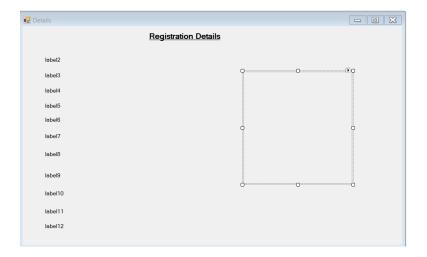
using System. Threading. Tasks;

using System. Windows. Forms;

```
namespace PracticalNo01
  public partial class RegistrationFrom: Form
    public RegistrationFrom()
       InitializeComponent();
    string imageLocation;
    private void btnsubmit Click(object sender, EventArgs e)
       Details d = new Details();
       d.firstName = txtfirst.Text;
       d.middleName = txtmiddle.Text;
       d.lastName = txtlast.Text;
       DateTime dt = this.dobpicker.Value.Date;
       dobpicker.Format = DateTimePickerFormat.Custom;
       dobpicker.CustomFormat = "dd/MM/yyyy";
       dobpicker.ShowUpDown = true;
       d.dob = dobpicker.Value.ToString("dd/MM/yyyy");
       d.mob = txtmobile.Text;
       d.address = txtaddress.Text;
       d.username = txtuser.Text;
       d.passowrd = txtpass.Text;
       if (radiomale.Checked == true)
         d.gender = radiomale.Text;
       else
         d.gender = radiofemale.Text;
       d.path = imageLocation;
       int i;
       string s;
       s = "Hobbies: ";
       for (i = 0; i \le (checkhobby.Items.Count - 1); i++)
         if (checkhobby.GetItemChecked(i))
            s = s + checkhobby.Items[i].ToString() + ",";
       d.hobbies = s;
       d.city = citylist.SelectedItem.ToString();
       d.ShowDialog();
    public void setPhoto()
```

```
imageLocation = "";
       try
         OpenFileDialog dialog = new OpenFileDialog();
         dialog.Filter = "jpg files(*.jpg)|*.jpg| PNG files(.*.png)|*.png| All files(*.*)|*.*";
         if (dialog.ShowDialog() == System.Windows.Forms.DialogResult.OK)
            imageLocation = dialog.FileName;
            image1.ImageLocation = imageLocation;
       catch (Exception)
         MessageBox.Show("An Error Occured", "Error", MessageBoxButtons.OK,
MessageBoxIcon.Error);
    private void btnaddimg Click(object sender, EventArgs e)
       setPhoto();
    private void btnclose_Click(object sender, EventArgs e)
       this.Close();
    private void btnclear_Click(object sender, EventArgs e)
       txtfirst.Clear();
       txtmiddle.Clear();
       txtlast.Clear();
       txtaddress.Clear();
       txtmobile.Clear();
       txtuser.Clear();
       txtpass.Clear();
  }
```

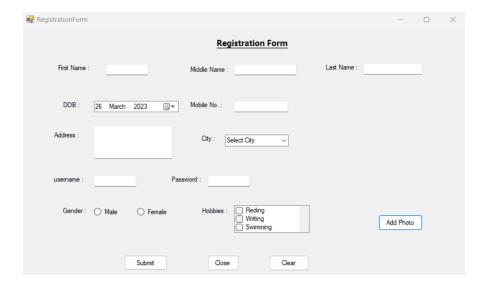
2) Details.cs[Design]

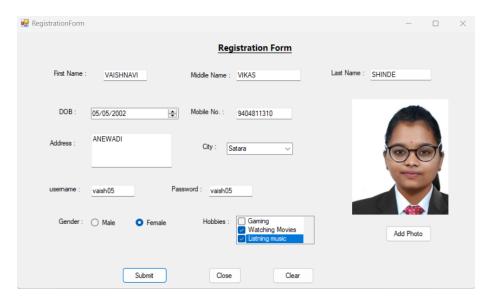


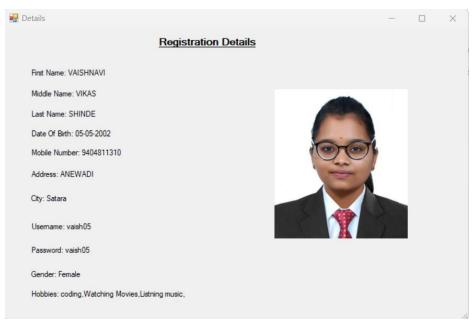
Details.cs

```
using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Linq;
using System.Text;
using System. Threading. Tasks;
using System. Windows. Forms;
namespace PracticalNo01
  public partial class Details: Form
    public string firstName { get; set; }
    public string middleName { get; set; }
    public string lastName { get; set; }
    public string dob { get; set; }
    public string mob { get; set; }
    public string address { get; set; }
    public string username { get; set; }
     public string passowrd { get; set; }
     public string gender { get; set; }
     public bool Checked { get; set; }
     public string path { get; set; }
     public string hobbies { get; set; }
    public string city { get; set; }
    public Details()
       InitializeComponent();
     private void Details Load(object sender, EventArgs e)
       lblfirst.Text = "First Name: " + firstName;
       lblmiddle.Text = "Middle Name: " + middleName;
       lbllast.Text = "Last Name: " + lastName;
```

```
lbldob.Text = "Date Of Birth: " + dob;
      lblmob.Text = "Mobile Number: " + mob;
      lbladdress.Text = "Address: " + address;
      lblusername.Text = "Username: " + username;
      lblpass.Text = "Password: " + passowrd;
      lblgender.Text = "Gender: " + gender;
      picbox.ImageLocation = path;
      lblhobby.Text = hobbies;
      lblcity.Text = "City: " + city;
  }
}
        Program.cs
using System;
using System.Collections.Generic;
using System.Linq;
using System. Threading. Tasks;
using System. Windows. Forms;
namespace PracticalNo01
  static class Program
  {
     /// <summary>
     /// The main entry point for the application.
     /// </summary>
     [STAThread]
     static void Main()
       Application.EnableVisualStyles();
       Application.SetCompatibleTextRenderingDefault(false);
       Application.Run(new RegistrationFrom());
  }
}
        OUTPUT:
```





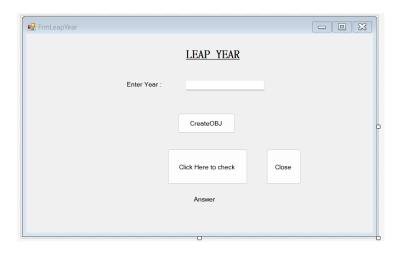


Que.2.Design a window application in c# using objects and classes to find whether an entered year is leap year or not.

Ans:

• Code:

FrmLeapYear.cs[Design]



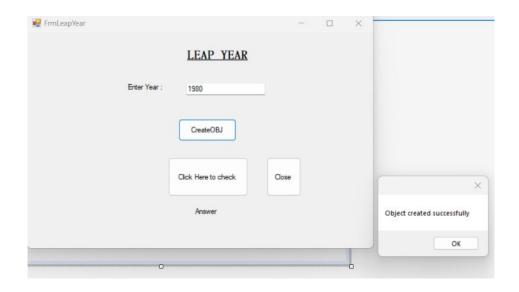
FrmLeapYear.cs

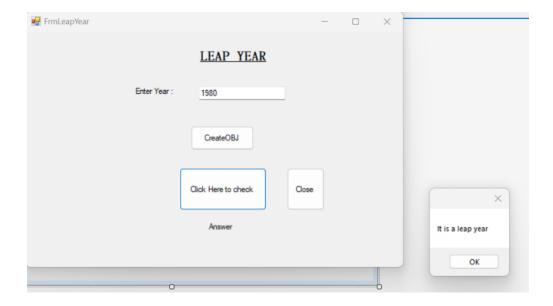
```
using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Ling;
using System.Text;
using System. Threading. Tasks;
using System. Windows. Forms;
namespace PracticalNo01
  public partial class FrmLeapYear: Form
    Leapyear 11 = null;
    public FrmLeapYear()
       InitializeComponent();
    private void FrmLeapYear Load(object sender, EventArgs e)
    private void btnCreateObj Click(object sender, EventArgs e)
```

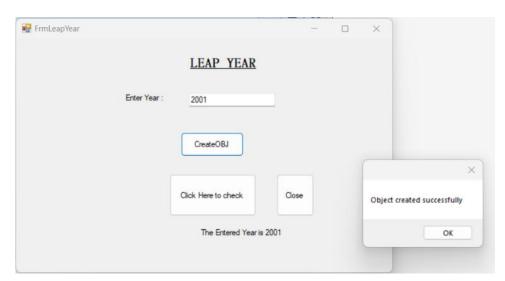
```
int year = Convert.ToInt32(txtYear.Text);
  11 = new Leapyear(year);
  MessageBox.Show("Object created successfully");
private void btnCheck_Click(object sender, EventArgs e)
 lblAnswer.Text = " The Entered Year is " + 11.Year().ToString();
class Leapyear
  int year;
  public Leapyear()
  public Leapyear(int y)
    year = y;
  ~Leapyear()
  public int Year()
    int lyear = year;
    if (((year % 4 == 0) && (year % 100 != 0)) \parallel (year % 400 == 0))
       MessageBox.Show("It is a leap year");
    else
       MessageBox.Show("It is not a leap year");
    return lyear;
private void btnClose_Click(object sender, EventArgs e)
  this.Close();
```

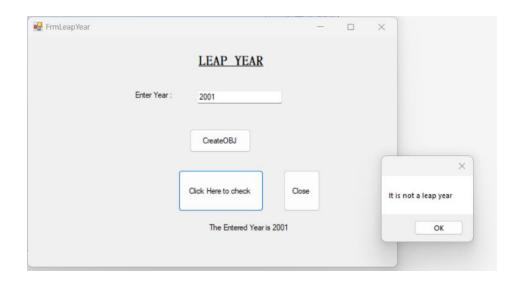
• Program.cs

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Threading.Tasks;
using System. Windows. Forms;
namespace PracticalNo01
  static class Program
    /// <summary>
    /// The main entry point for the application.
    /// </summary>
    [STAThread]
    static void Main()
       Application.EnableVisualStyles();
       Application.SetCompatibleTextRenderingDefault(false);
       Application.Run(new FrmLeapYear());
  }
```





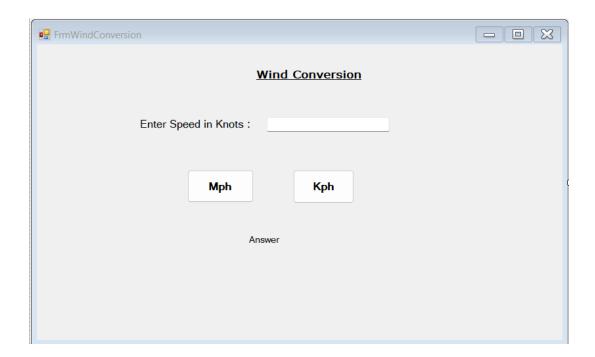




Que.3.Design a Window application in c# using objects and classes for wind conversion from knots to mph, kph.

Ans:

• Code-FrmWindConversion.cs[Design]

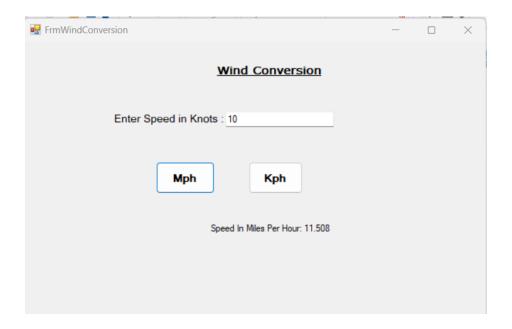


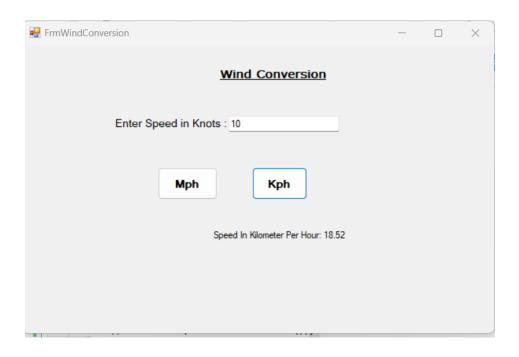
FrmWindConversion.cs

```
using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Ling;
using System.Text;
using System.Threading.Tasks;
using System. Windows. Forms;
namespace PracticalNo01
  public partial class FrmWindConversion : Form
    public int knots;
    public FrmWindConversion()
       InitializeComponent();
    SpeedConvert convert = new SpeedConvert();
    private void btnMph Click(object sender, EventArgs e)
```

```
int knots = Convert.ToInt32(txtKnots.Text);
      lblMsg.Text = "Speed In Miles Per Hour: " + Convert.ToString(convert.convertMph(knots));
    private void btnKph Click(object sender, EventArgs e)
       int knots = Convert.ToInt32(txtKnots.Text);
       lblMsg.Text = "Speed In Kilometer Per Hour: " +
Convert.ToString(convert.convertKph(knots));
    private void FrmWindConversion Load(object sender, EventArgs e)
  class SpeedConvert
    private double knots;
    public SpeedConvert()
       knots = 0;
    public SpeedConvert(double k)
      knots = k;
    public double convertMph(double k)
      return k* 1.1508;
    public double convertKph(double k)
       return k * 1.852;
}
       Program.cs
using System;
using System.Collections.Generic;
using System.Ling;
using System.Threading.Tasks;
using System. Windows. Forms;
namespace PracticalNo01
  static class Program
    /// <summary>
    /// The main entry point for the application.
```

```
/// </summary>
[STAThread]
static void Main()
{
    Application.EnableVisualStyles();
    Application.SetCompatibleTextRenderingDefault(false);
    Application.Run(new FrmWindConversion());
}
}
```

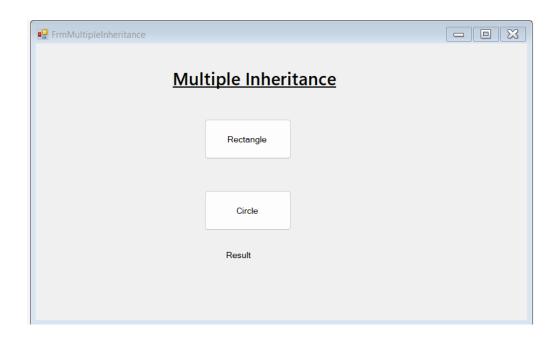




Que.4.Design a Window application to demonstrate multiple inheritance.

Ans:

• Code: FrmMultipleInheritance.cs[Design]



${\bf Frm Multiple Inheritance.cs}$

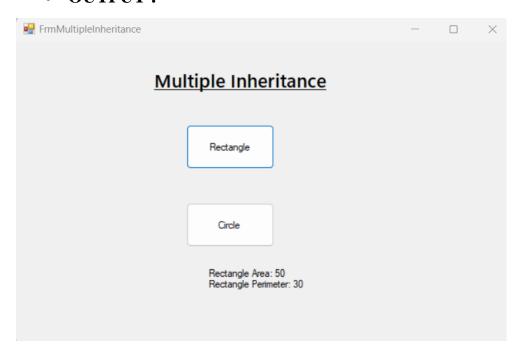
```
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Linq;
using System.Linq;
using System.Text;
using System.Threading.Tasks;
using System.Windows.Forms;

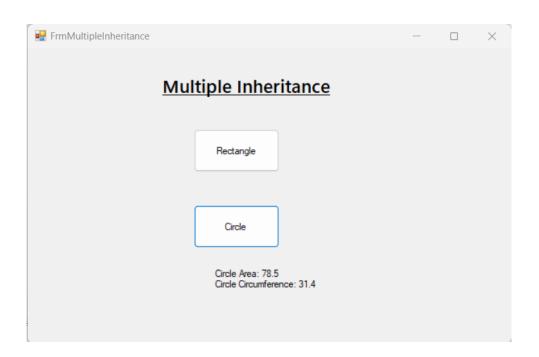
namespace PracticalNo01
{
   public partial class FrmMultipleInheritance : Form
   {
      public FrmMultipleInheritance()
      {
            InitializeComponent();
      }
      private void FrmMultipleInheritance Load(object sender, EventArgs e)
```

```
private void btnRectangle1 Click(object sender, EventArgs e)
       double length = 10;
       double width = 5;
       Rectangle1 rectangle = new Rectangle1(length, width);
       lblResult.Text = $"Rectangle Area: {rectangle.GetArea()}\nRectangle Perimeter:
{rectangle.GetPerimeter()}";
    private void btnCircle1 Click(object sender, EventArgs e)
       double radius = 5;
       Circle circle = new Circle(radius);
      lblResult.Text = $"Circle Area: {circle.GetArea()}\nCircle Circumference:
{circle.GetPerimeter()}";
    private void lblResult Click(object sender, EventArgs e)
  public interface IShape
    double GetArea();
    double GetPerimeter();
  public class Rectangle1: Form, IShape
    private double length;
    private double width;
    public Rectangle1(double length, double width)
       this.length = length;
       this.width = width;
    public double GetArea()
       return length * width;
    public double GetPerimeter()
       return 2 * (length + width);
```

```
}
public class Circle: Button, IShape
  private double radius;
  public Circle(double radius)
     this.radius = radius;
  public double GetArea()
     return 3.14 * radius * radius;
  public double GetPerimeter()
     return 2 * 3.14 * radius;
  public class Rectangle1: Form, IShape
     private double length;
     private double width;
     public Rectangle1(double length, double width)
       this.length = length;
       this.width = width;
     public double GetArea()
       return length * width;
     public double GetPerimeter()
       return 2 * (length + width);
  public class Circle1: Button, IShape
     private double radius;
     public Circle1(double radius)
       this.radius = radius;
     public double GetArea()
       return 3.14* radius*radius;
```

```
}
       public double GetPerimeter()
         return 2 * 3.14 * radius;
       Program.cs
using System;
using System.Collections.Generic;
using System.Linq;
using System. Threading. Tasks;
using System. Windows. Forms;
namespace PracticalNo01
  static class Program
    /// <summary>
    /// The main entry point for the application.
    /// </summary>
    [STAThread]
    static void Main()
       Application.EnableVisualStyles();
       Application.SetCompatibleTextRenderingDefault(false);
       Application.Run(new FrmMultipleInheritance());
    } }}
```

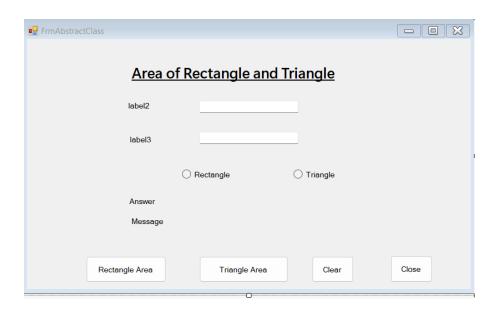




Que.5.Design a Window application to demonstrate abstract class.

Ans:

Code: FrmAbstractClass.cs[Design]



FrmAbstractClass.cs

```
using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Linq;
using System.Text;
using System. Threading. Tasks;
using System. Windows. Forms;
namespace PracticalNo01
  public partial class FrmAbstractClass: Form
    Rectangle r1 = null;
    Triangle t1 = null;
    public FrmAbstractClass()
       InitializeComponent();
    private void FrmAbstractClass Load(object sender, EventArgs e)
       label2.Text = "";
       label3.Text = "";
       lblAnswer.Text = "";
       lblMessage.Text = "";
```

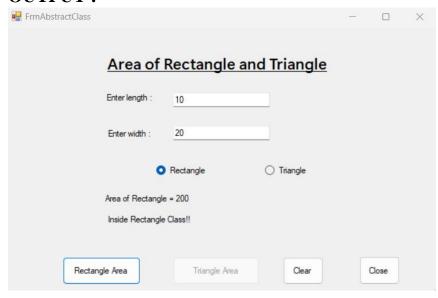
```
btnAreaRectangle.Enabled = false;
    btnAreaTriangle.Enabled = false;
  private void rbRectangle CheckedChanged(object sender, EventArgs e)
    label2.Text = " Enter length : ";
    label3.Text = " Enter width : ";
    btnAreaRectangle.Enabled = true;
    btnAreaTriangle.Enabled = false;
  private void rbTriangle CheckedChanged(object sender, EventArgs e)
    label2.Text = " Enter base: ";
    label3.Text = " Enter height : ";
    btnAreaRectangle.Enabled = false;
    btnAreaTriangle.Enabled = true;
  private void btnClear Click(object sender, EventArgs e)
    textBox1.Text = " ";
    textBox2.Text = " ";
  private void btnClose Click(object sender, EventArgs e)
    this.Close();
  private void btnAreaRectangle Click(object sender, EventArgs e)
    int 1 = Convert.ToInt32(textBox1.Text);
    int w = Convert.ToInt32(textBox2.Text);
    r1 = new Rectangle(1, w);
    lblAnswer.Text = "Area of Rectangle = " + r1.area().ToString();
    lblMessage.Text = r1.show();
  private void btnAreaTriangle Click(object sender, EventArgs e)
    int b = Convert.ToInt32(textBox1.Text);
    int h = Convert.ToInt32(textBox2.Text);
    t1 = new Triangle(b, h);
    lblAnswer.Text = "Area of Triangle = " + t1.area().ToString();
    lblMessage.Text = t1.show();
abstract class Shape
  public virtual double area()
    return 0;
```

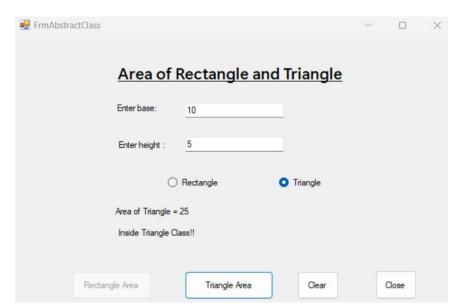
```
public abstract string show();
class Rectangle: Shape
  private int length;
  private int width;
  public Rectangle(int l =0,int w=0)
     length = 1;
     width = w;
  public override double area() //return area of rectangle
     return (width*length);
  public override string show()
     return("Inside Rectangle Class!!");
class Triangle: Shape
  private int Base;
  private int height;
  public Triangle(int b=0,int h=0)
     Base = b;
    height = h;
  public override double area()
     return (0.5*Base*height);
  public override string show()
     return("Inside Triangle Class!!");
```

• Program.cs

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Threading.Tasks;
using System.Windows.Forms;
namespace PracticalNo01
{
    static class Program
    {
```

```
/// <summary>
/// The main entry point for the application.
/// </summary>
[STAThread]
static void Main()
{
    Application.EnableVisualStyles();
    Application.SetCompatibleTextRenderingDefault(false);
    Application.Run(new FrmAbstractClass());
}
}
```

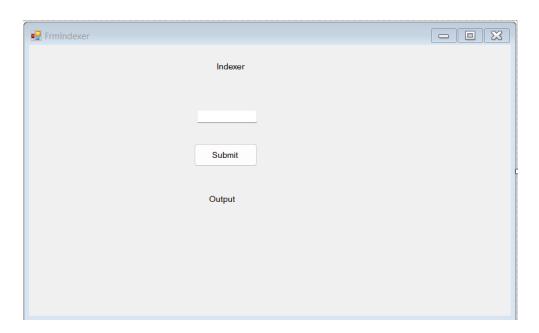




Que.6.Design a Window application to demonstrate Indexer.

Ans:

• Code – FrmIndexer.cs[Design]



FrmIndexer.cs

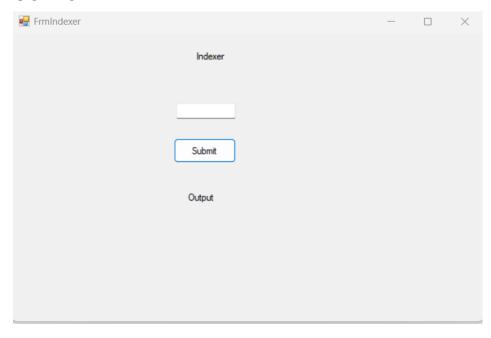
```
private void btnSubmit Click(object sender, EventArgs e)
     StringCollection stringCollection = new StringCollection();
     stringCollection[0] = "Banana";
     stringCollection[1] = "Papaya";
     stringCollection[2] = "Dates";
     stringCollection[3] = "Orange";
     stringCollection[4] = "Apple";
     string output = " ";
     for(int i=0;i<stringCollection.Count;i++){</pre>
       output += stringCollection[i] + "\n";
     lblOutput.Text = output;
  }
public class StringCollection
  private string[] strings = new string[10];
  public string this[int index]
     get
       return strings[index];
     set
       strings[index] = value;
     public int Count
     get
       return strings.Length;
```

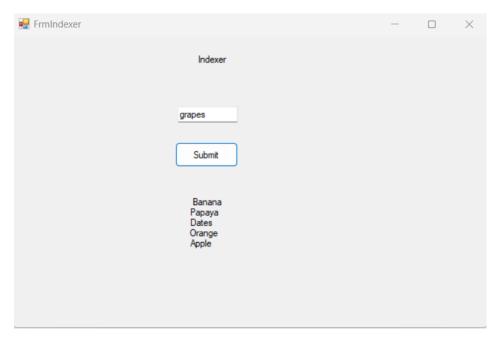
• Program.cs

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Threading.Tasks;
using System.Windows.Forms;
namespace PracticalNo01
```

```
static class Program
{
    /// <summary>
    /// The main entry point for the application.
    /// </summary>
    [STAThread]
    static void Main()
    {
        Application.EnableVisualStyles();
        Application.SetCompatibleTextRenderingDefault(false);
        Application.Run(new FrmIndexer());
    }
}
```

• OUTPUT -

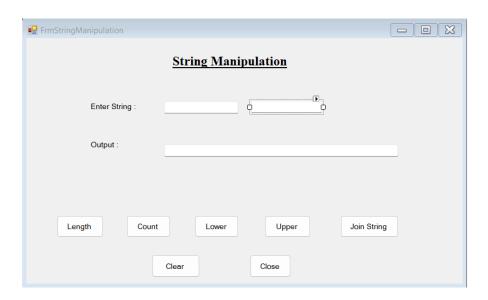




Que.7.Design a Window application to demonstrate string manipulations.

Ans:

• Code – FrmStringManipulation.cs[Design]



FrmString Manipulation.cs

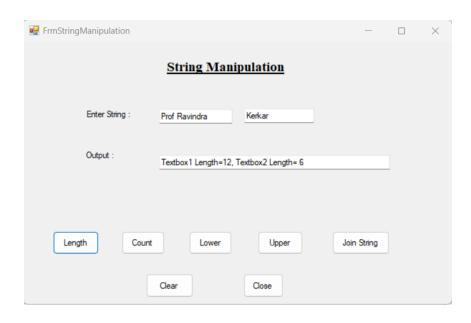
```
using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Linq;
using System.Text;
using System. Threading. Tasks;
using System. Windows. Forms;
namespace PracticalNo01
  public partial class FrmStringManipulation : Form
    public FrmStringManipulation()
       InitializeComponent();
    private void btnLength Click(object sender, EventArgs e)
       string txt1 = txtString1.Text;
       string txt2 = txtString2.Text;
```

```
int 1,12;
       1 = txt1.Length;
       12 = txt2.Length;
       1 = txt1.Replace(" ", "").Length;
       12 = txt2.Replace(" ", "").Length;
       txtOutput.Text = "Textbox1 Length="+1.ToString() +", Textbox2 Length= "+12.ToString();
    private void btnCount Click(object sender, EventArgs e)
       string words = txtString1.Text.Trim();
       string words1 = txtString2.Text.Trim();
       MessageBox.Show("Number of words: " + CountWords(words)+","+
CountWords1(words1));
    private int CountWords(string words)
       String[] allwords = words.Split(' ');
       return allwords.Length;
    private int CountWords1(string words1)
       String[] allwords1 = words1.Split(' ');
       return allwords1.Length;
    private void btnLower Click(object sender, EventArgs e)
       string txt1 = txtString1.Text;
       string txt2 = txtString2.Text;
       txtOutput.Text = txt1.ToLower()+ " "+txt2.ToLower();
    private void btnUpper Click(object sender, EventArgs e)
       string txt1 = txtString1.Text;
       string txt2= txtString2.Text;
       txtOutput.Text = txt1.ToUpper()+" "+txt2.ToUpper();
    private void btnJoinString Click(object sender, EventArgs e)
       string msg = "Heyy!!";
       string txt1 = txtString1.Text;
       string txt2 = txtString2.Text;
       txtOutput.Text = msg + "" + txt1 + "" + txt2;
    private void btnClear Click(object sender, EventArgs e)
       txtString1.Clear();
```

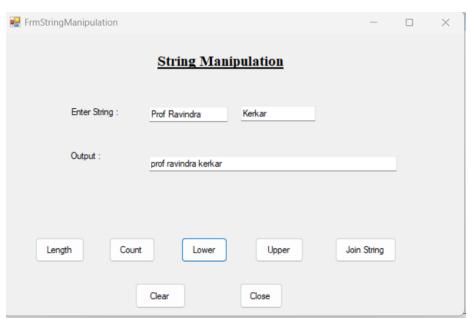
```
txtString2.Clear();
       txtOutput.Clear();
    private void btnClose_Click(object sender, EventArgs e)
       this.Close();
  }
}
       Program.cs
using System;
using System.Collections.Generic;
using System.Ling;
using System. Threading. Tasks;
using System. Windows. Forms;
namespace PracticalNo01
  static class Program
    /// <summary>
    /// The main entry point for the application.
    /// </summary>
    [STAThread]
    static void Main()
       Application.EnableVisualStyles();
       Application.SetCompatibleTextRenderingDefault(false);
       Application.Run(new FrmStringManipulation());
```

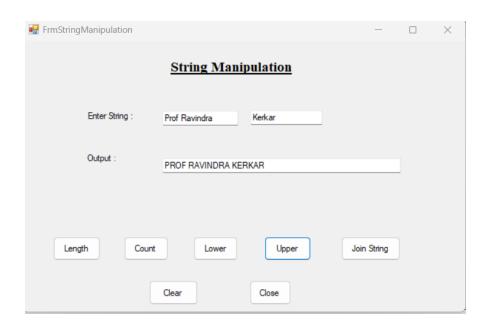
• OUTPUT -

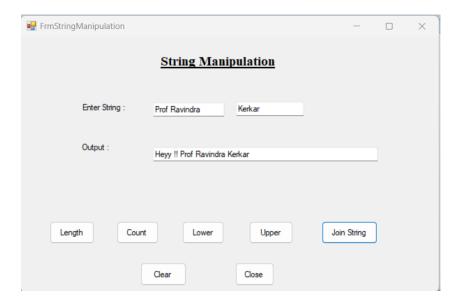
} } }





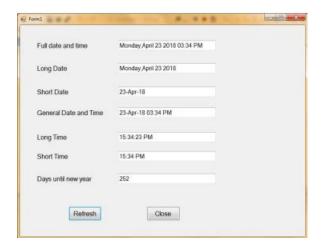








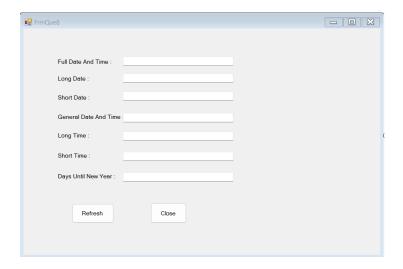
Que.8.Design a window application to show following:



Ans:

• Code -

FrmQue8.cs[Design]



FrmQue8.cs

```
using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Linq;
using System.Text;
using System.Threading.Tasks;
using System.Windows.Forms;
namespace PracticalNo01
{
```

```
public partial class FrmQue8: Form
  DateTime d = new DateTime();
  public FrmQue8()
     InitializeComponent();
  private void FrmQue8 Load(object sender, EventArgs e)
  private void btnrefresh Click(object sender, EventArgs e)
    d = DateTime.Now;
    txtfullname.Text = d.ToString("dddd, MMMM dd yyyy HH:mm:ss tt");
    txtlongdate.Text = d.ToLongDateString();
    txtshortdate.Text = d.ToString("dd-MMM-yy");
    txtgeneral.Text = d.ToString(" dd-MMM-yy HH:mm tt");
    txtlongtime.Text = d.ToLongTimeString();
    txtshorttime.Text = d.ToShortTimeString();
    int noOfDays = DateTime.IsLeapYear(DateTime.Now.Year) ? 366 : 365;
    txtdays.Text = (noOfDays - DateTime.Now.DayOfYear).ToString();
    txtfullname.Enabled = true;
    txtlongdate.Enabled = false;
    txtshortdate.Enabled = false;
    txtgeneral.Enabled = false;
    txtlongtime.Enabled = false;
    txtshorttime.Enabled = false;
    txtdays.Enabled = false;
  private void btnclose Click(object sender, EventArgs e)
    this.Close();
```

Program.cs

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Threading.Tasks;
using System.Windows.Forms;
namespace PracticalNo01
{
    static class Program
    }
```

```
/// <summary>
/// The main entry point for the application.
/// </summary>
[STAThread]
static void Main()
{
    Application.EnableVisualStyles();
    Application.SetCompatibleTextRenderingDefault(false);
    Application.Run(new FrmQue8());
}
}
```

• OUTPUT -

