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Hyderabad Campus

Laboratory Record Book

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CERTIFICATE

Certified that this is the bonafide record of practical work done by Mr./Ms. **P.K. Kartikeya Rao** *with Reg. No.* **221710308040** *of B.Tech.* **CSE** *branch in* **IDE** *Laboratory of Department of* **CSE** *during the academic year* **2020-2021**

Faculty I/c.

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Week-1

TOPIC 1

Introduction to IDE Theory:

Integrated Development Environment

An integrated development environment is a software application that provides comprehensive facilities to computer programmers for software development.

An IDE normally consists of at least a source code editor, build automation tools and a debugger.

- **Benefits**
  - Code completion capabilities improve programming work-flow.
  - Automatically checks for errors to ensure top quality code.
  - Re-factoring capabilities allow developers to make comprehensive and mistake-free renaming changes.
  - Maintain a smooth development cycle.
  - Increase developer efficiency and satisfaction.
  - Deliver top-quality software on schedule.

- **Features**
  - **Text Editors**: Virtually every IDE will have a text editor designed to write and manipulate source code. Some tools may have visual components to drag and drop front-end components, but most have a simple interface with language-specific syntax highlighting

  - **Debugging:** Debugging tools assist users in identifying and remedying errors within source code. They often simulate real-world scenarios to test functionality and performance. Programmers and software engineers can usually test the various segments of code and identify errors before the application is released.

  - **Compiler**: Compilers are components that translate programming language into a form machines can process, such as binary code. The machine code is analyzed to ensure its accuracy. The compiler then parses and optimizes the code to optimize performance.

  - **Code Completion:** Code complete features assist programmers by intelligently identifying and inserting common code components. These features save developers time writing code and reduce the likelihood of typos and bugs.

  - **Programming Language Support:** IDEs are typically specific to a single programming language, though several also offer multi-language support. As such, the first step is to figure out which languages you will be coding in and narrow your prospective IDE list down accordingly. Examples include Ruby, Python, and Java IDE tools.

Integrations and plugins: With the name integrated development environment, it is no surprise that integrations need to be considered when looking at IDEs. Your IDE is your development portal, so being able to incorporate all your other development tools will improve development workflows and productivity. Poor integrations can cause numerous issues and lead to many headaches, so make sure you understand how well a potential IDE fits into your ecosystem of existing tools.

KEY TERMS:

- **Compiler:** Converts source code to object code.
- **Debugging**: The process of removing errors from a program. 1) compiler 2) linker 3) logic
- **Linker**: Connects or links object files into an executable file.
- **Loader:** Part of the operating system that loads executable files into memory and directs the CPU to start running the program.
- **Pre-Processor:** The first step the compiler does in converting source code to object code.
- **Text Editor:** A software program for creating and editing ASCII text files.
- **Warning:** A compiler alert that there might be a problem.

Examples

Language	IDE Names
C/C++	Code::Blocks, Bloodshed Dev-C++
Java	Eclipse, NetBeans
.NET	Visual studio
Python	PyCharm, Komodo IDE, AWS Cloud 9

- **Applications**
  - Console
  - Windows
  - Client/Server
  - Web based
  - Enterprise applications
  - Share-point servers

Q: Write a Hello World program in C#.

Program:

```
1  using System;
2  using System.Collections.Generic;
3  using System.Linq;
4
5  namespace myApp
6  {
7      class Program
8      {
9          static void Main()
10         {
11             Console.WriteLine("Hello World!");
12         }
13     }
14 }
15
```

Output:

Q. Use your name in place of world (Try modifying the code so that the console says hello to your name**).**

Program:

```
1  using System;
2  using System.Collections.Generic;
3  using System.Linq;
4
5  namespace myApp
6  {
7      class Program
8      {
9          static void Main()
10         {
11             Console.WriteLine("Hello Karthikeya!");
12         }
13     }
14 }
```

Output:

Q. Use Variables (Variables hold values that you can use elsewhere in your code).

Program:

```
1  using System;
2  using System.Collections.Generic;
3  using System.Linq;
4
5  namespace myApp
6  {
7      class Program
8      {
9          static void Main()
10         {
11             var name = "Karthikeya";
12             Console.WriteLine("Hello " + name + "!");
13         }
14     }
15 }
16
```

Output:

Q. String interpolation (String interpolation lets you piece together strings in a more concise and readable way**).**

Program:

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

namespace myApp
{
    class Program
    {
        static void Main()
        {
            var name = "Karthikeya";
            Console.WriteLine($"Hello {name}!");
        }
    }
}

```

Output:

```
CONSOLE                                                    POWERED BY TRY .NET

Hello Karthikeya!
```

Q. Methods

Program:

```
1  using System;
2  using System.Collections.Generic;
3  using System.Linq;
4
5  namespace myApp
6  {
7      class Program
8      {
9          static void Main()
10         {
11             var name = "Karthikeya";
12             Console.WriteLine($"Hello {name.ToUpper()}!");
13         }
14     }
15 }
16
```

Output:

Q. Arithmetic Operations Using C#.

Program:

.NET Editor ▷Run

```
1   int a=10,b=20;
2   Console.WriteLine(a+b);
3   Console.WriteLine(a-b);
4   Console.WriteLine(a*b);
5   Console.WriteLine(a/b);
6
```

Output:

Output ☺

```
30
-10
200
0
```

Q. Explore order of operations.

Program:

.NET Editor ▷Run

```
1   int a=10,b=20,c=3;
2   Console.WriteLine(a+b*c);
3   Console.WriteLine(a-b+c);
4   Console.WriteLine(a/b*c);
5   Console.WriteLine(a+b/c);
6
```

Output:

Output ☺

```
70
-7
0
16
```

Q. Explore integer precision and limits.

Program:

.NET Editor ▷Run

```
1   int a=10,b=20,c=3,d,e;
2   d=(a+b)/c;
3   e=(a+b)%c;
4   Console.WriteLine($"quotient:{d}");
5   Console.WriteLine($"quotient:{e}");
6
```

Output:

Output ☺

```
quotient:10
quotient:0
```

Q. Work with the double type

Program:

.NET Editor ▷Run

```
1  double a=10,b=20,c=3,d;
2  d=(a+b)/c;
3  Console.WriteLine(d);
4
```

Output:

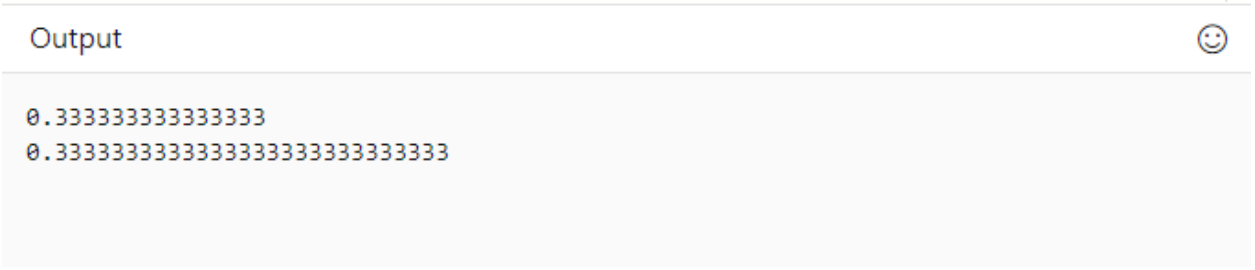
Output ☺

```
10
```

Q. Work with decimal types.

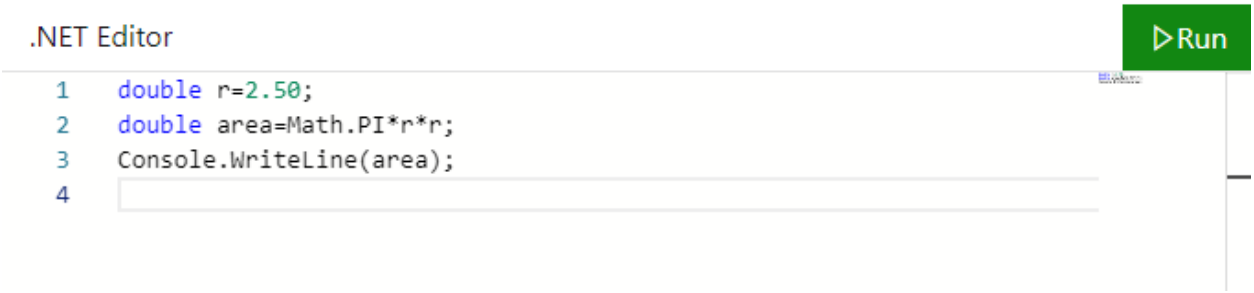
Program:

Output:

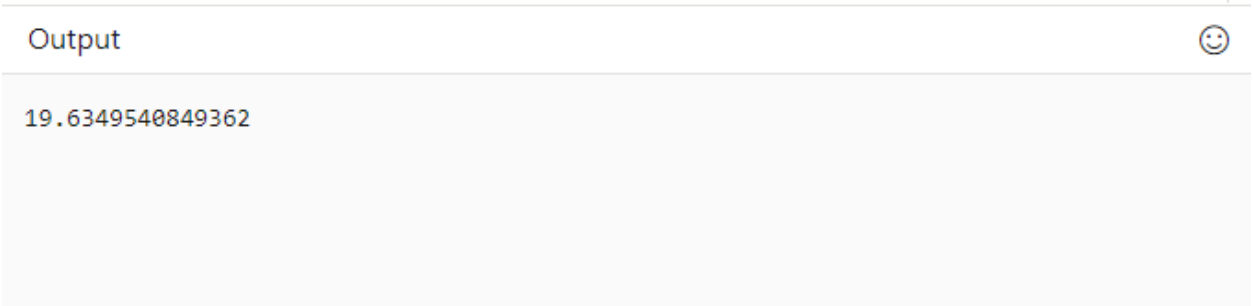


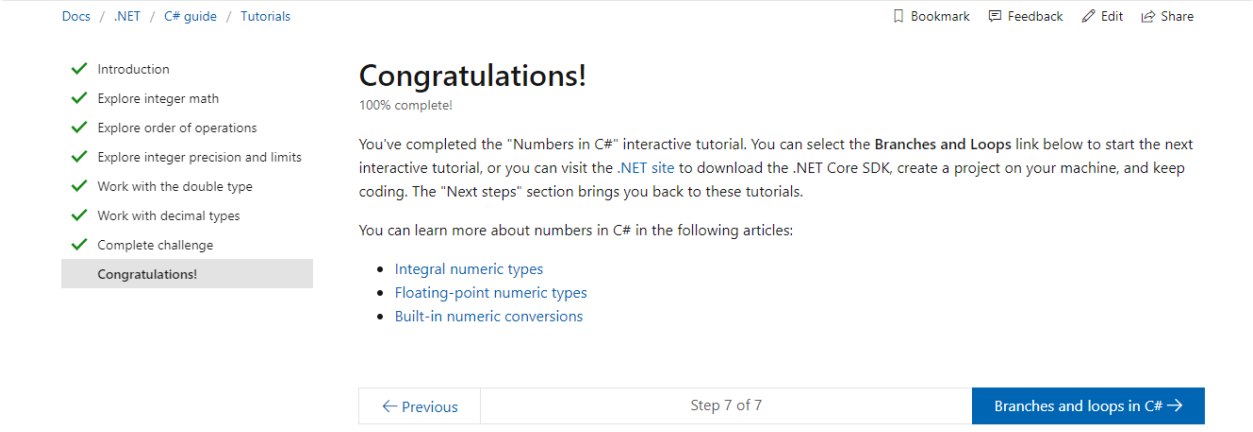
Q. Complete challenge.

Program:



Output:





Week-2

LOOPS

Q. Make decisions using the if statement.

Program:

.NET Editor ▷Run

```
1   int a=10,b=9,c;
2   c=a+b;
3   if(c>10)
4       Console.WriteLine($"{c} Greater than 10");
5   else
6   {
7       Console.WriteLine($"{c} is less than 10");
8   }
9
```

Output:

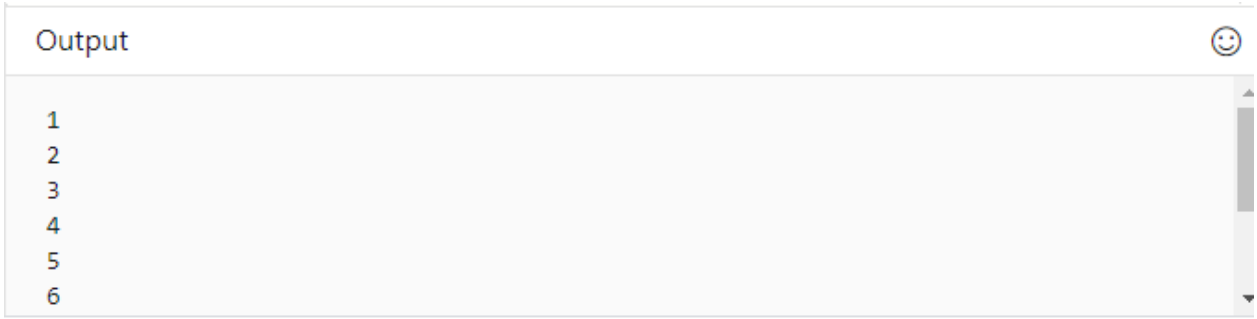
Output ☺

```
19 Greater than 10
```

Q. Use loops to repeat operations.

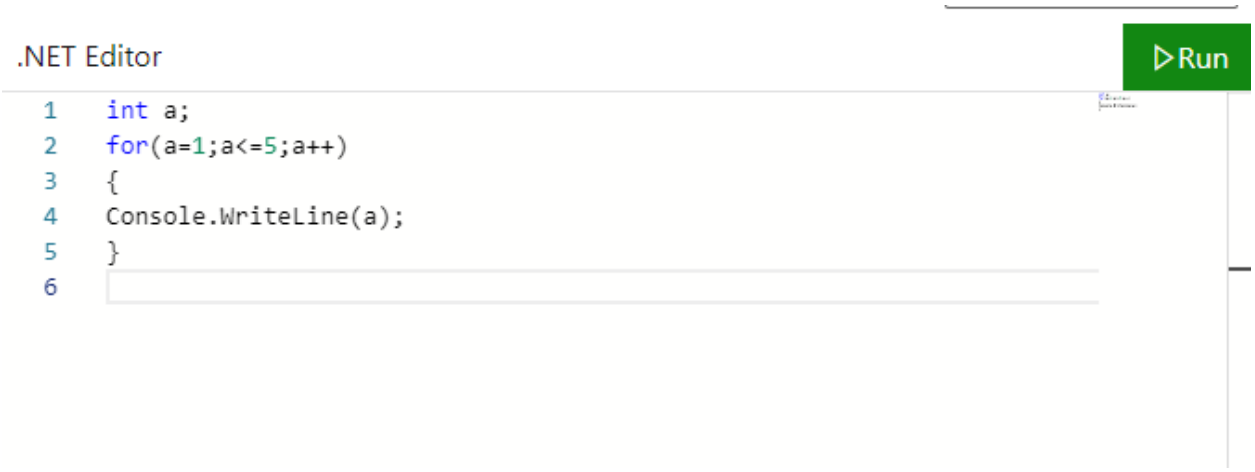
Program:

Output:

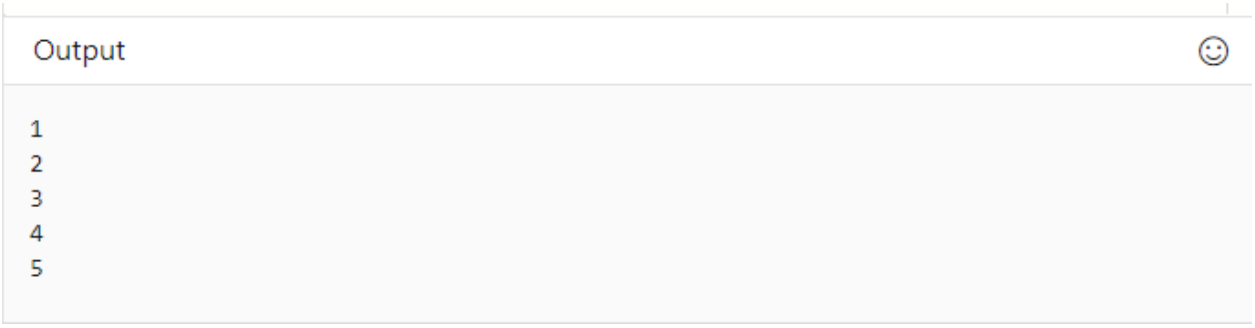


Q. Work with the for loop.

Program:



Output:



Q. Created nested loops.

Program:

.NET Editor ▷Run

```
1   int a,b;
2   for(a=1;a<=5;a++)
3   {
4       for(b=5;b>=1;b--)
5       {
6           Console.WriteLine($"{a},{b}");
7           break;
8       }
9   }
10
```

Output:

Output ☺

```
1,5
2,5
3,5
4,5
5,5
```

Q. Combine branches and loops.

Program:

.NET Editor ▷Run

```
int a;
for(a=1;a<=5;a++)
{
    if(a%2==0)
    {
        Console.WriteLine($"{a} is even");
    }
    else{
       Console.WriteLine($"{a} is odd");
    }
}
```

Output:

Output ☺

```
1 is odd
2 is even
3 is odd
4 is even
5 is odd
```

Q. Complete challenge.

Program:

.NET Editor ▷Run

```
1   int sum = 0;
2   for (int number = 1; number < 21; number++)
3   {
4     if (number % 3 == 0)
5     {
6       sum = sum + number;
7     }
8   }
9   Console.WriteLine($"The sum is {sum}");
10
```

Output:

Output ☺

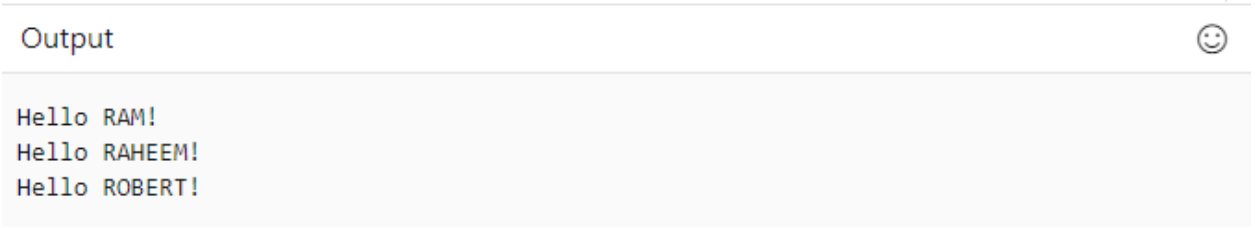
```
The sum is 63
```

Lists

Q. Create lists

Program:

Output:



Q. Modify list contents.

Program:

.NET Editor ▷Run

```
1   var names=new List<string>{"Ram","Raheem","Robert"};
2   //Console.WriteLine();
3   names.Add("Maria");
4   names.Add("Bill");
5   names.Add("al");
6   names.Remove("al");
7   foreach(var name in names)
8   {
9       Console.WriteLine($"Hello {name.ToUpper()}!");
10  }
11
```

Output:

Output ☺

```
Hello RAM!
Hello RAHEEM!
Hello ROBERT!
Hello MARIA!
Hello BILL!
```

Q. Search and sort lists.

Program:

.NET Editor

```
1   var names=new List<string>{"Ram","Raheem","Robert"};
2   var index=names.IndexOf("Robert");
3   if(index!=-1)
4       Console.WriteLine($"The name {names[index]} is at index {index}");
5   var notFound = names.IndexOf("Not Found");
6     Console.WriteLine($"When an item is not found, IndexOf returns {notF
7   //Sorting
8   Console.WriteLine();
9   Console.WriteLine("Sorting:");
10  names.Sort();
11  foreach (var name in names)
12  {
13    Console.WriteLine($"Hello {name.ToUpper()}!");
14  }
15
```

Output:

Output

```
The name Robert is at index 2
When an item is not found, IndexOf returns -1

Sorting:
Hello RAHEEM!
Hello RAM!
Hello ROBERT!
```

Q. Lists of other types.

Program:

.NET Editor ▷Run

```
1   var fibonacciNumbers = new List<int> {1, 1};
2   var previous = fibonacciNumbers[fibonacciNumbers.Count - 1];
3   var previous2 = fibonacciNumbers[fibonacciNumbers.Count - 2];
4
5   fibonacciNumbers.Add(previous + previous2);
6
7   foreach(var item in fibonacciNumbers)
8       Console.WriteLine(item);
9
10
```

Output:

Output ☺

```
1
1
2
```

Q. Challenge

Program:

.NET Editor ▷Run

```
1   var fibonacciNumbers = new List<int> {1, 1};
2
3   while (fibonacciNumbers.Count < 20)
4   {
5       var previous = fibonacciNumbers[fibonacciNumbers.Count - 1];
6       var previous2 = fibonacciNumbers[fibonacciNumbers.Count - 2];
7
8       fibonacciNumbers.Add(previous + previous2);
9   }
10  foreach(var item in fibonacciNumbers)
11      Console.WriteLine(item);
12
```

Output:

Output ☺

```
1
1
2
3
5
8
13
```

Week-3

Find Area of Circle, Rectangle and Triangle

Program:

calculator.java | Area.java | Studentdetails.java

```
import java.util.Scanner;
public class Area {
    public static void main(String args[]) {
        System.out.print("1.Circle\n2.Rectangle\n3.Triangle\n");
        System.out.println("Enter number of sides: ");
        Scanner s=new Scanner(System.in);
        float side=s.nextFloat();
        if(side==1) {
            System.out.println("Enter radius:");
            Scanner r=new Scanner(System.in);
            float radius=r.nextFloat();
            System.out.println("Area is "+2*3.14*radius*radius);
            System.exit(0);
        }
        if(side==2) {
            System.out.println("Enter Length:");
            Scanner l=new Scanner(System.in);
            float length=l.nextFloat();
            System.out.println("Enter Breath:");
            Scanner b=new Scanner(System.in);
            float breath=b.nextFloat();
            System.out.println("Area :  "+length*breath);
            System.exit(0);
        }
        else if(side==3){
            System.out.println("Enter Height:");
            Scanner h=new Scanner(System.in);
            float height=h.nextFloat();
            System.out.println("Enter Breath:");
            Scanner b=new Scanner(System.in);
            float breath=b.nextFloat();
            System.out.println("Area :  "+(0.5)*height*breath);
            System.exit(0);
        }
    }

}
```

Output:

```
1.Circle
2.Rectangle
3.Triangle
Enter number of sides:
1
Enter radius:
5
Area is 157.0
```

```
1.Circle
2.Rectangle
3.Triangle
Enter number of sides:
2
Enter Length:
5
Enter Breath:
6
Area :  30.0
```

```
1.Circle
2.Rectangle
3.Triangle
Enter number of sides:
3
Enter Height:
5
Enter Breath:
4
Area :  10.0
```

GUI Calculator using JAVA

Program:

calculator.java | Area.java

```
1  import java.awt.event.ActionEvent;
7  @SuppressWarnings("serial")
8  public class calculator extends JFrame implements ActionListener {
9      // store operator and operands
10     String s0, s1, s2;
11
12     // default constructor
13     calculator()
14     {
15         s0 = s1 = s2 = "";
16     }
17         static JFrame f;
18         static  JTextField t;
19         public static void main(String[] args) {
20         calculator c=new calculator();
21         f=new JFrame("Calculator");
22         JPanel p = new JPanel();
23         JButton a1,a2,a3,a4,a5,a6,a7,a8,a9,a0,o1,o2,o3,o4,r,del,clr,dec;
24         t = new JTextField(27);
25         a1=new JButton("1");
26         a2=new JButton("2");
27         a3=new JButton("3");
28         a4=new JButton("4");
29         a5=new JButton("5");
30         a6=new JButton("6");
31         a7=new JButton("7");
32         a8=new JButton("8");
33         a9=new JButton("9");
34         a0=new JButton("0");
35         o1=new JButton("+");
36         o2=new JButton("-");
```

```
37         o3=new JButton("*");
38         o4=new JButton("/");
39         r=new JButton("=");
40         del=new JButton("Del");
41         clr=new JButton("CLR");
42         dec=new JButton(".");
43         /*adding elements to panel*/
44         p.add(t);
45         p.add(a1);
46         p.add(a2);
47         p.add(a3);
48         p.add(a4);
49         p.add(a5);
50         p.add(a6);
51         //p.add(o2);
52         p.add(a7);
53         p.add(a8);
54         p.add(a9);
55         p.add(a0);
56         p.add(dec);
57         //p.add(o3);
58         p.add(r);
59         p.add(del);
60         p.add(clr);
61         p.add(o1);
62         p.add(o2);
63         p.add(o3);
64         p.add(o4);
65         /*ActionListener*/
66         a1.addActionListener(c);
67         a2.addActionListener(c);
```

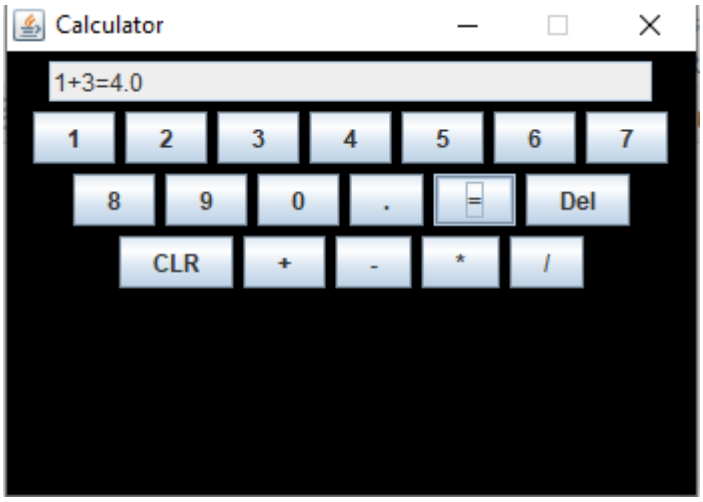
```
        a3.addActionListener(c);
        a4.addActionListener(c);
        a5.addActionListener(c);
        a6.addActionListener(c);
        a7.addActionListener(c);
        a8.addActionListener(c);
        a9.addActionListener(c);
        a0.addActionListener(c);
        o1.addActionListener(c);
        o2.addActionListener(c);
        o3.addActionListener(c);
        o4.addActionListener(c);
        r.addActionListener(c);
        del.addActionListener(c);
        clr.addActionListener(c);
        dec.addActionListener(c);
        t.setEditable(false);
        f.add(p);
        f.setVisible(true);
        p.setBackground(Color.black);
        f.setSize(350,250);
        f.setResizable(false);
        Image icon = Toolkit.getDefaultToolkit().getImage("F:\\icon.png");
        f.setIconImage(icon);
    }
    @Override
    public void actionPerformed(ActionEvent e) {
        String s=e.getActionCommand();
        if ((s.charAt(0) >= '0' && s.charAt(0) <= '9') || s.charAt(0) == '.')
        {
            if (!s1.equals(""))
```

```
                s2 = s2 + s;
            else
                s0 = s0 + s;
            t.setText(s0 + s1 + s2);
        }

        else if (s.charAt(0) == 'C') {
            // clear the one letter
            s0 = s1 = s2 = "";

            // set the value of text
            t.setText(s0 + s1 + s2);
        }
        else if (s.charAt(0) == '=') {

            double te;

            // store the value in 1st
            if (s1.equals("+"))
                te = (Double.parseDouble(s0) + Double.parseDouble(s2));
            else if (s1.equals("-"))
                te = (Double.parseDouble(s0) - Double.parseDouble(s2));
            else if (s1.equals("/"))
                te = (Double.parseDouble(s0) / Double.parseDouble(s2));
            else
                te = (Double.parseDouble(s0) * Double.parseDouble(s2));

            // set the value of text
            t.setText(s0 + s1 + s2 + "=" + te);

```

```
129             // convert it to string
130             s0 = Double.toString(te);
131 
132             s1 = s2 = "";
133         }
134         else {
135             // if there was no operand
136             if (s1.equals("") || s2.equals(""))
137                 s1 = s;
138             // else evaluate
139             else {
140                 double te;
141 
142                 // store the value in 1st
143                 if (s1.equals("+"))
144                     te = (Double.parseDouble(s0) + Double.parseDouble(s2));
145                 else if (s1.equals("-"))
146                     te = (Double.parseDouble(s0) - Double.parseDouble(s2));
147                 else if (s1.equals("/"))
148                     te = (Double.parseDouble(s0) / Double.parseDouble(s2));
149                 else
150                     te = (Double.parseDouble(s0) * Double.parseDouble(s2));
151 
152                 // convert it to string
153                 s0 = Double.toString(te);
154 
155                 // place the operator
156                 s1 = s;
157 
158                 // make the operand blank
159                 s2 = "";
```

```
160             }
161 
162             // set the value of text
163             t.setText(s0 + s1 + s2);
164 
165         }
166     }
167 }
```

Output:



Q. Print Student Details using Java

Program:

```java
//Student details roll num,name,marks(6),address,phone, op-all details with average and percentage
import java.util.*;
public class Stud
{
public static void main(String[] args) {
    System.out.println("Enter Student details:");
    // Roll Number
    System.out.println("Roll Number:");
    Scanner r = new Scanner(System.in);
    long roll = r.nextLong();
    // Name
    System.out.println("Name:");
    Scanner n = new Scanner(System.in);
    String name = n.nextLine();
    Scanner m = new Scanner(System.in);
    // marks
    float[] marks = new float[7];
    for (int i = 1; i < 7; i++) {
        System.out.println("Enter Marks in subject " + i + ": ");
        marks[i] = m.nextFloat();
    }
    // Address
    System.out.println("Email: ");
    Scanner e = new Scanner(System.in);
    String address = e.nextLine();
    // Phone
    System.out.println("Phone no:");
    Scanner p = new Scanner(System.in);
    long phone = p.nextLong();
    //Output
    System.out.println("--------------------------------------------------------------------------------");
    System.out.println("--------------------------------------------------------------------------------");
    System.out.println("Roll: "+roll +" Name: "+ name+" Email: "+address+" Phone: "+phone);
    for(int i=1;i<7;i++)
    {
        System.out.println("Subject "+i+" :"+ marks[i]);
    }
    float sum=0;
    for(int i=1;i<7;i++){
        sum+=marks[i];
    }
    System.out.println("Total: "+sum);
    System.out.println("Average: "+(sum/6));
    System.out.println("Percentage: "+((sum/180)*100));
    }
}
```

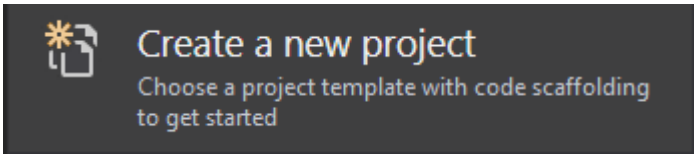
Output:

```
--------------------------------------------------------------------------------
--------------------------------------------------------------------------------
Roll: 1 Name: alex jorden Email: jordeanalex@yahoo.com Phone: 12475236875
Subject 1 :56.0
Subject 2 :42.0
Subject 3 :84.0
Subject 4 :88.0
Subject 5 :78.0
Subject 6 :66.0
Total: 414.0
Average: 69.0
```

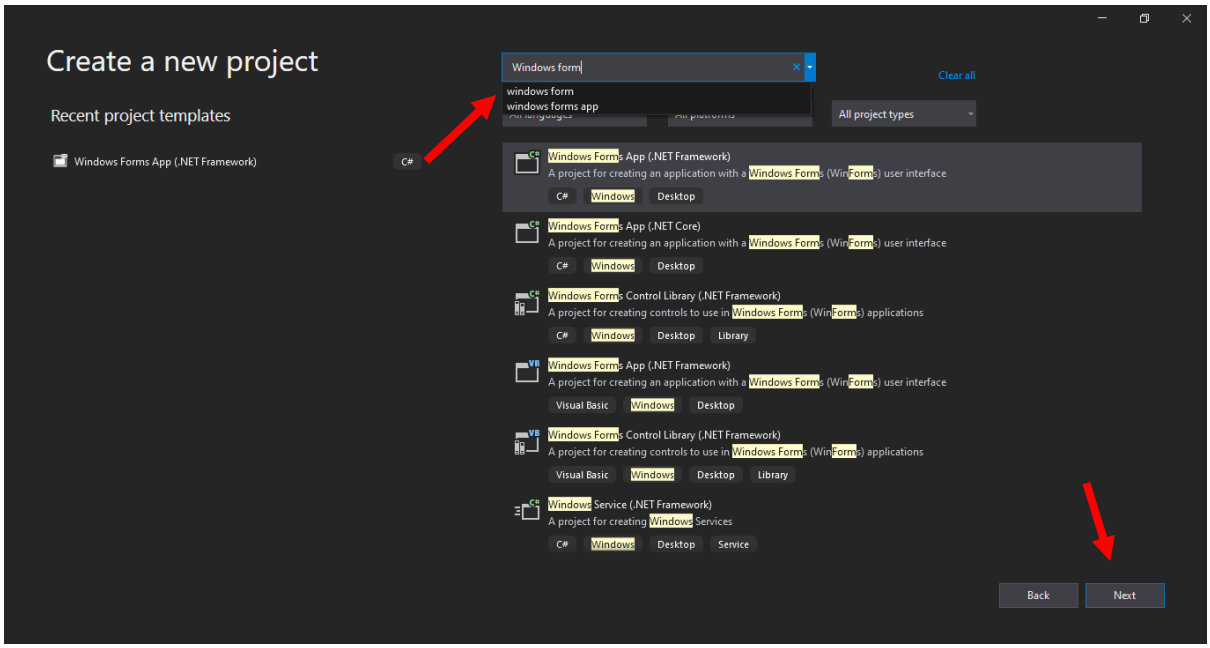
Week-4

Windows Forms

1. Install Visual Code studio from: https://visualstudio.microsoft.com/vs/community/
2. After installation select Create a New Project Option.

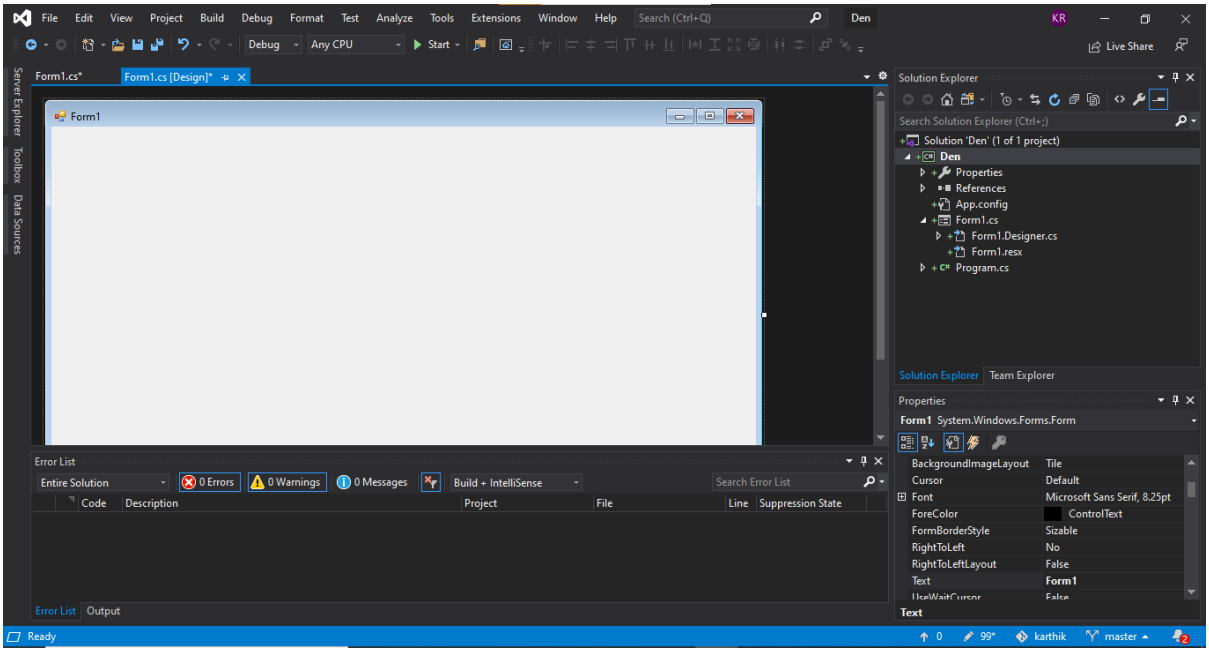


3. Now Type Windows Form App In the search box and select next option below.

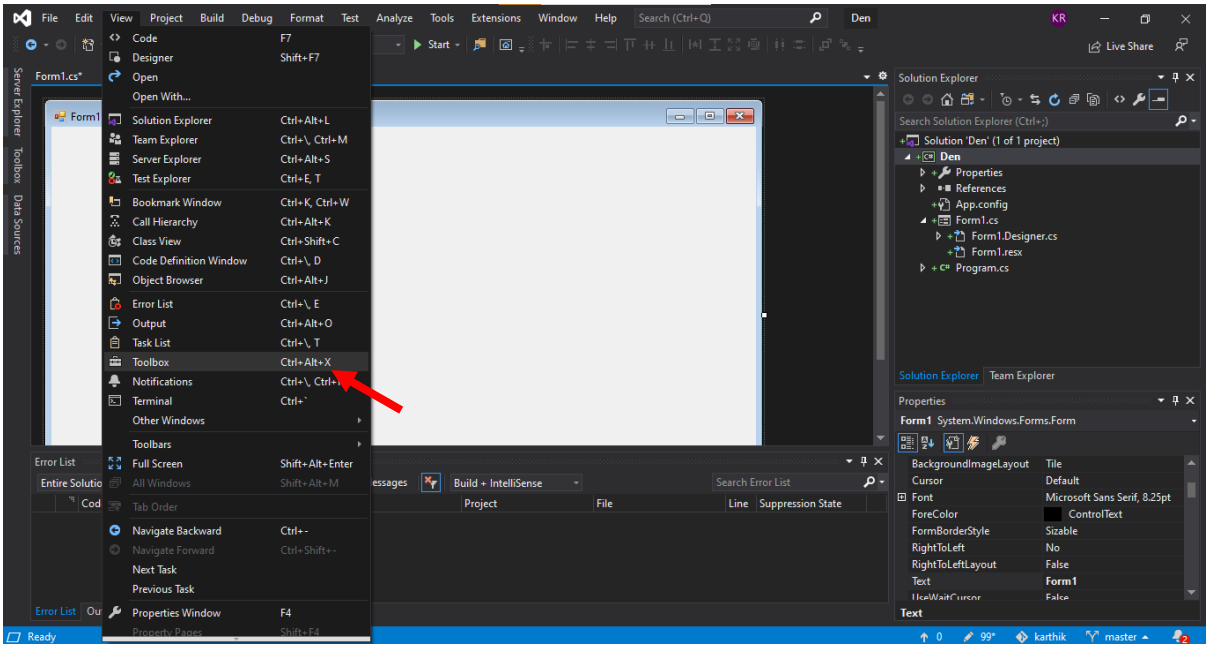


4. A Plain Form Template will be loaded where we can create the Windows Form App.

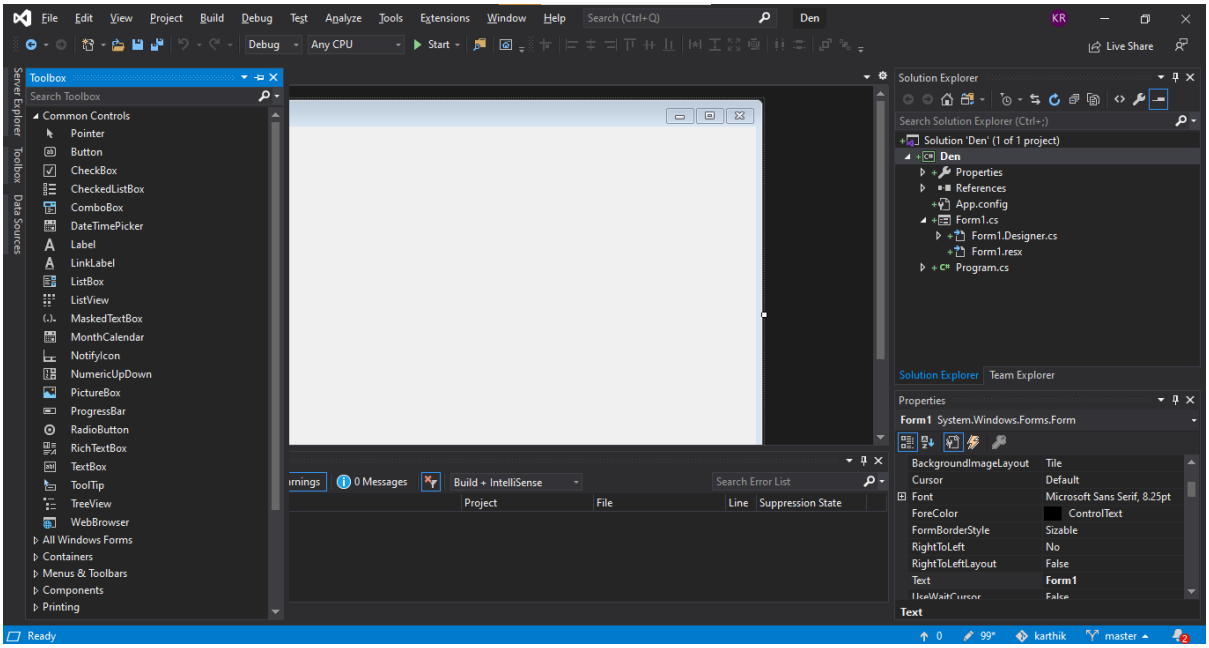
5.



6. Now Navigate to View then select Toolbox to select various options.



7.

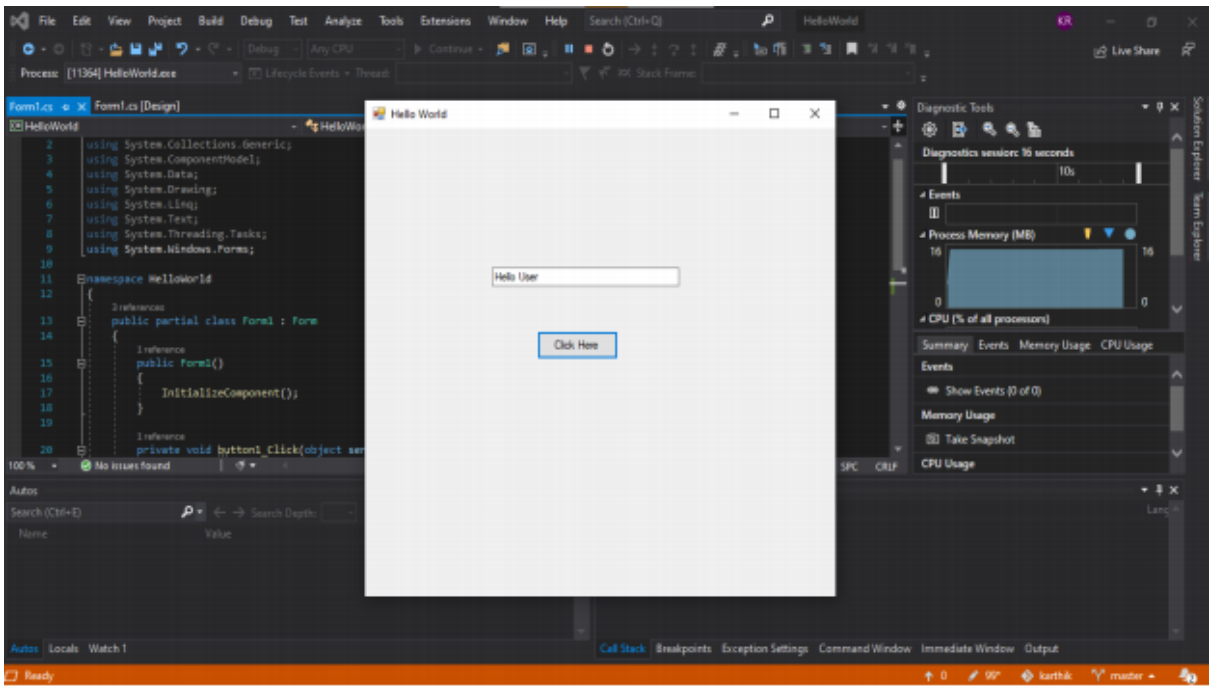

File Edit View Project Build Debug Test Analyze Tools Extensions Window Help
Debug
Any CPU
Start
Live Share
Toolbox
Search Toolbox
Common Controls
Pointer
Button
CheckBox
CheckedListBox
ComboBox
DateTimePicker
Label
LinkLabel
ListBox
ListView
MaskedTextBox
MonthCalendar
NotifyIcon
NumericUpDown
PictureBox
ProgressBar
RadioButton
RichTextBox
TextBox
ToolTip
TreeView
WebBrowser
All Windows Forms
Containers
Menus & Toolbars
Components
Printing
Solution Explorer
Search Solution Explorer (Ctrl+;)
Solution 'Den' (1 of 1 project)
Den
Properties
References
App.config
Form1.cs
Form1.Designer.cs
Form1.resx
Program.cs
Solution Explorer
Team Explorer
Properties
Form1 System.Windows.Forms.Form
BackgroundImageLayout Tile
Cursor Default
Font Microsoft Sans Serif, 8.25pt
ForeColor ControlText
FormBorderStyle Sizable
RightToLeft No
RightToLeftLayout False
Text Form1
Text
0 Messages
Build + IntelliSense
Search Error List
Project
File
Line
Suppression State
Ready
karthik
master

Q. Create a Windows Form which displays hello world on clicking a button.

Program:

```
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 HelloWorld
{
    public partial class Form1 : Form
    {
        public Form1()
        {
            InitializeComponent();
        }

        private void button1_Click(object sender, EventArgs e)
        {
            textBox1.Text = "Hello User";
                }

        private void label1_Click(object sender, EventArgs e)
        {

        }
    }
}
```

Output:

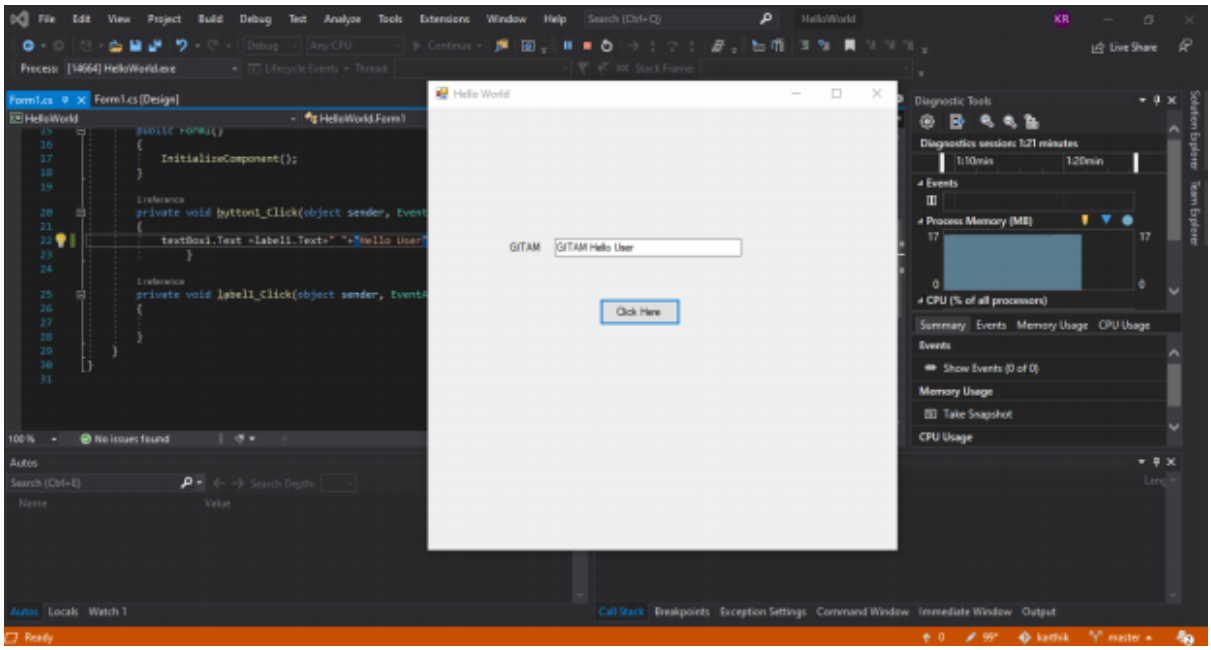


Q. Create a Windows Form which displays GITAM hello world on clicking a button.

Program:

```
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 HelloWorld
{
    public partial class Form1 : Form
    {
        public Form1()
        {
            InitializeComponent();
        }

        private void button1_Click(object sender, EventArgs e)
        {
            textBox1.Text =label1.Text+" "+"Hello User";
                }

        private void label1_Click(object sender, EventArgs e)
        {

        }
    }
}
```

Output:

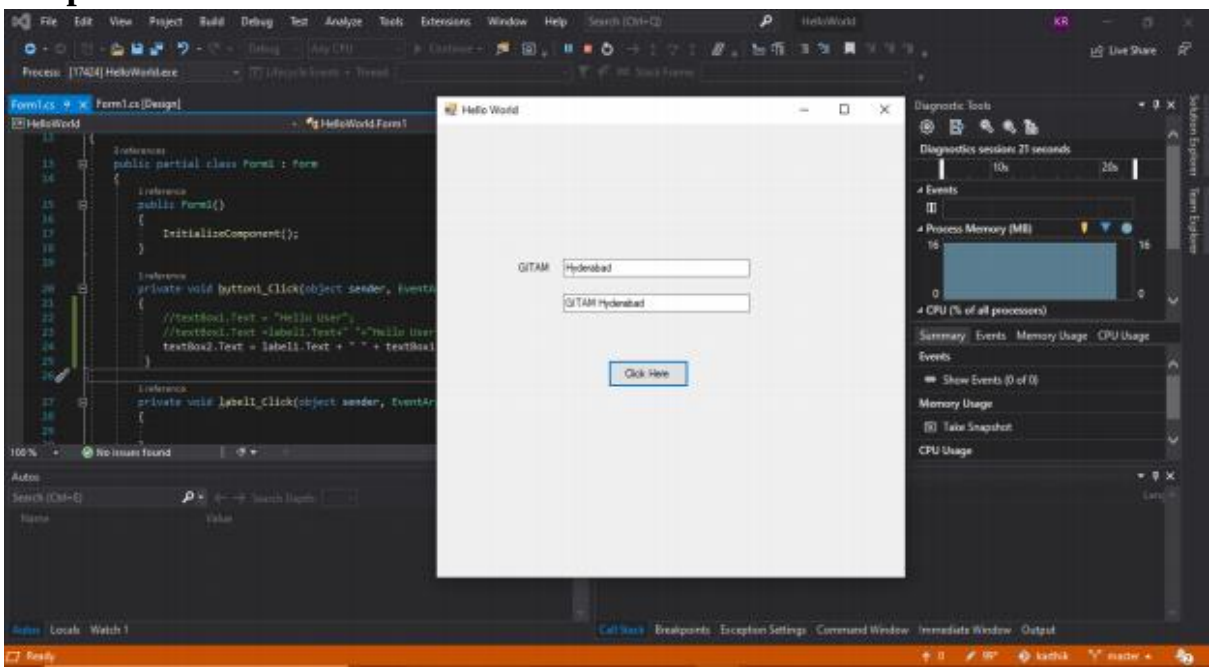


Q. Create a Windows Form which displays GITAM Followed by input given by user on clicking a button.

Program:

```
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 HelloWorld
{
    public partial class Form1 : Form
    {
        public Form1()
        {
            InitializeComponent();
        }

        private void button1_Click(object sender, EventArgs e)
        {
            //textBox1.Text = "Hello User";
            //textBox1.Text =label1.Text+" "+"Hello User";
            textBox2.Text = label1.Text + " " + textBox1.Text;
         }

        private void label1_Click(object sender, EventArgs e)
        {

        }
    }
}
```

Output:



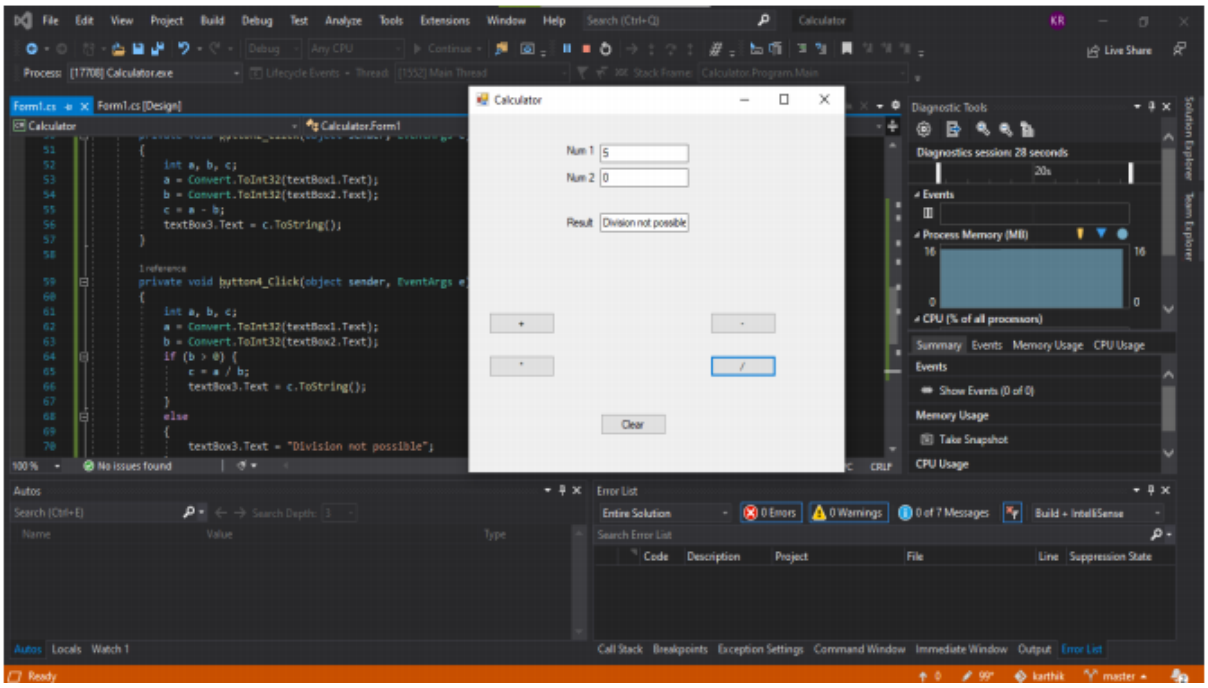
Q. Create a Windows Form for calculator.

Program:

```
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 Calculator
{
    public partial class Form1 : Form
    {
        public Form1()
        {
            InitializeComponent();
        }

        private void listBox1_SelectedIndexChanged(object sender, EventArgs e)
        {

        }

        private void button3_Click(object sender, EventArgs e)
        {
            int a, b, c;
            a = Convert.ToInt32(textBox1.Text);
            b = Convert.ToInt32(textBox2.Text);
            c = a * b;
            textBox3.Text = c.ToString();
        }


         private void button5_Click(object sender, EventArgs e)
         {
             textBox1.Text = " ";
             textBox2.Text = " ";
             textBox3.Text = " ";
         }

         private void button1_Click(object sender, EventArgs e)
         {
             int a, b, c;
             a = Convert.ToInt32(textBox1.Text);
             b = Convert.ToInt32(textBox2.Text);
             c = a + b;
             textBox3.Text = c.ToString();
         }

         private void button2_Click(object sender, EventArgs e)
         {
             int a, b, c;
             a = Convert.ToInt32(textBox1.Text);
             b = Convert.ToInt32(textBox2.Text);
             c = a - b;
```

```
            textBox3.Text = c.ToString();
        }

        private void button4_Click(object sender, EventArgs e)
        {
            int a, b, c;
            a = Convert.ToInt32(textBox1.Text);
            b = Convert.ToInt32(textBox2.Text);
            if (b > 0) {
                c = a / b;
                textBox3.Text = c.ToString();
            }
            else
            {
                textBox3.Text = "Division not possible";
            }
        }

        private void textBox1_TextChanged(object sender, EventArgs e)
        {

        }

        private void Form1_Load(object sender, EventArgs e)
        {

        }
    }
}
```

Output:



Week-5

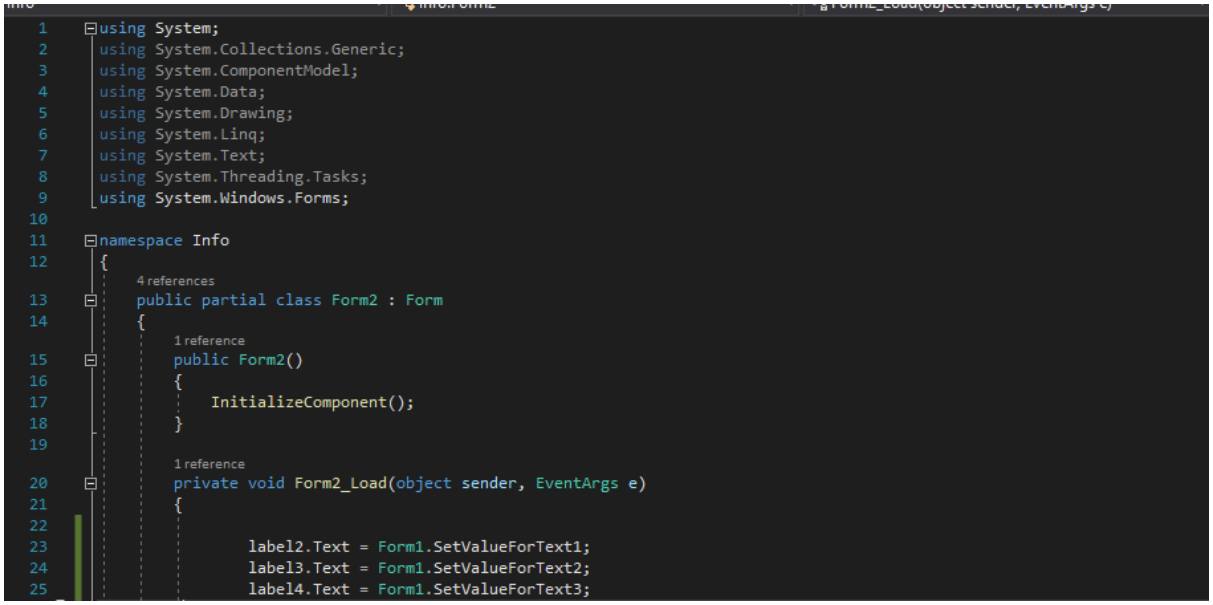
PASSING DATA FROM ONE FORM TO ANOTHER FORM

Program:

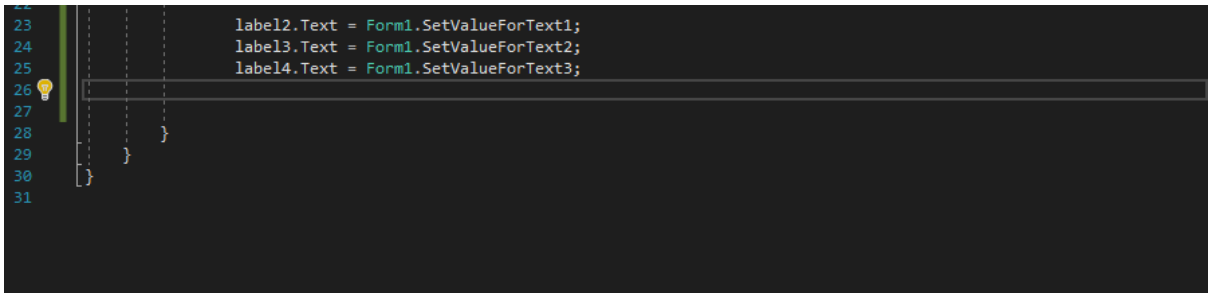
Form 1:

```
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 Info
{
    6 references
    public partial class Form1 : Form
    {
        public static string SetValueForText1 = "";
        public static string SetValueForText2 = "";
        public static string SetValueForText3 = "";
        1 reference
        public Form1()
        {
            InitializeComponent();
        }

        1 reference
        private void Form1_Load(object sender, EventArgs e)
        {

        }

        1 reference
        private void button1_Click(object sender, EventArgs e)
        {
            textBox1.Text = " ";
            textBox2.Text = " ";
            textBox3.Text = " ";
            textBox4.Text = " ";
        }

        1 reference
        private void button2_Click(object sender, EventArgs e)
        {
            SetValueForText1 = textBox1.Text;
            SetValueForText2 = textBox2.Text;
            SetValueForText3 = textBox3.Text;
            Form2 frm2 = new Form2();
            frm2.Show();
        }
    }
}
```

Form 2:

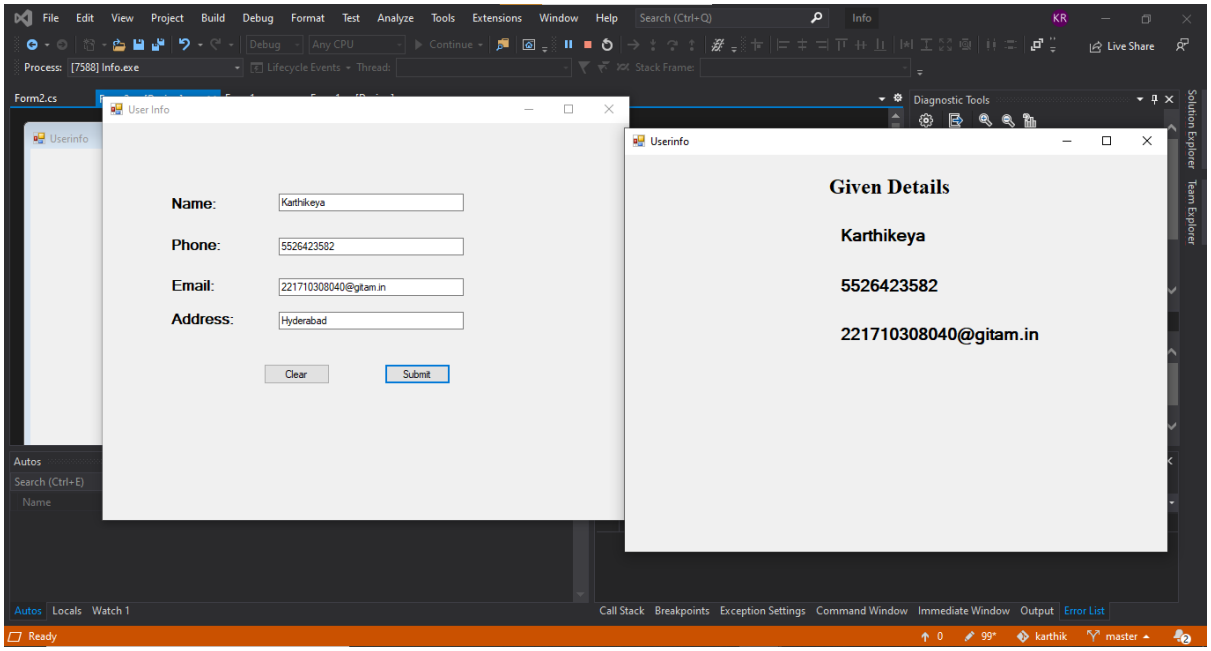


```
using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Linq;
using System.Text;
using System.Threading.Tasks;
using System.Windows.Forms;

namespace Info
{
    4 references
    public partial class Form2 : Form
    {
        1 reference
        public Form2()
        {
            InitializeComponent();
        }

        1 reference
        private void Form2_Load(object sender, EventArgs e)
        {

            label2.Text = Form1.SetValueForText1;
            label3.Text = Form1.SetValueForText2;
            label4.Text = Form1.SetValueForText3;
```



```
            label2.Text = Form1.SetValueForText1;
            label3.Text = Form1.SetValueForText2;
            label4.Text = Form1.SetValueForText3;


        }
    }
}
```

Output:


User Info
Name:
Karthikeya
Phone:
5526423582
Email:
221710308040@gitam.in
Address:
Hyderabad
Clear
Submit
Userinfo
Given Details
Karthikeya
5526423582
221710308040@gitam.in

Week-6

LOGIN PAGE - PASSING DATA USING 4 FORMS

Program:

Form1:

```
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 MForms
{
    10 references
    public partial class Form1 : Form
    {
        public static string SetValueForText1 = "";
        public static string SetValueForText2 = "";
        public static string SetValueForText3 = "";
        public static string SetValueForText4 = "";
        public static string SetValueForText5 = "";
        1 reference
        public Form1()
        {
            InitializeComponent();
        }

        1 reference
        private void button1_Click(object sender, EventArgs e)
        {
            SetValueForText1 = textBox1.Text;
            SetValueForText2 = textBox2.Text;
            SetValueForText3 = textBox4.Text;
            SetValueForText4 = textBox5.Text;
            SetValueForText5 = textBox6.Text;

                Form2 frm2 = new Form2();
                frm2.Show();



        }

        1 reference
        private void button2_Click(object sender, EventArgs e)
        {
            textBox1.Text =" ";
            textBox2.Text = " ";
            textBox3.Text = " ";
            textBox4.Text = " ";
            textBox5.Text = " ";
            textBox6.Text = " ";
        }
    }
}
```

Form 2:

```
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 MForms
{
    4 references
    public partial class Form2 : Form
    {
        1 reference
        public Form2()
        {
            InitializeComponent();
        }
```

```
        private void label2_Click(object sender, EventArgs e)
        {

        }

        1 reference
        private void Form2_Load(object sender, EventArgs e)
        {
            label2.Text = Form1.SetValueForText1;
            label3.Text = Form1.SetValueForText2;
            label4.Text = Form1.SetValueForText3;
            label5.Text = Form1.SetValueForText4;
            label6.Text = Form1.SetValueForText5;

        }

        1 reference
        private void button1_Click(object sender, EventArgs e)
        {
            Form3 frm3 = new Form3();
            frm3.Show();
```

```
        }
    }
}
```

Form 3:

```
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 MForms
{
    7 references
    public partial class Form3 : Form
    {
        public static string SetValueForText1 = "";
        public static string SetValueForText2 = "";
        1 reference
        public Form3()
        {
            InitializeComponent();
        }
```

```
        1 reference
        private void Form3_Load(object sender, EventArgs e)
        {

        }


        1 reference
        private void button1_Click(object sender, EventArgs e)
        {
            SetValueForText1 = textBox1.Text;
            SetValueForText2 = textBox2.Text;
            if(Form3.SetValueForText1== Form1.SetValueForText1 && Form3.SetValueForText2 == Form1.SetValueForText2)
            {
                Form4 frm4 = new Form4();
                frm4.Show();
            }
            else
            {
                textBox1.Text = " ";
```

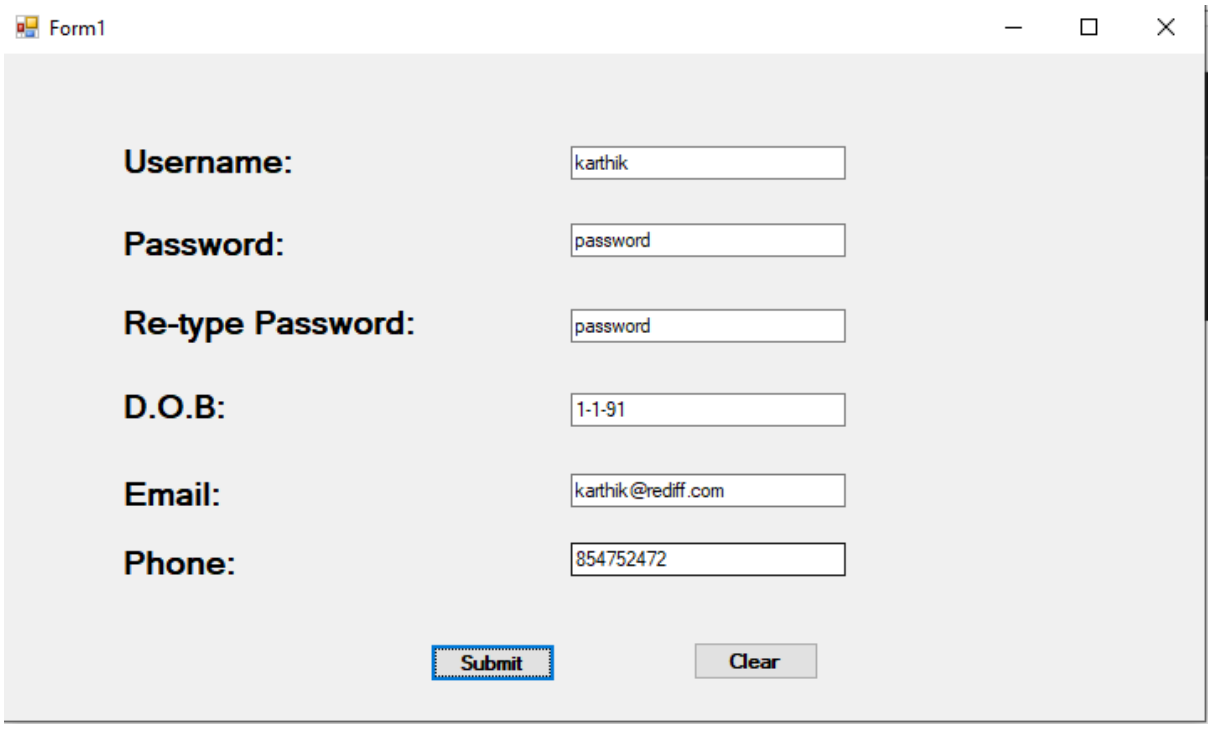
```
                textBox1.Text = " ";
                textBox2.Text = " ";
            }
        }
    }
    }

```

Form 4:

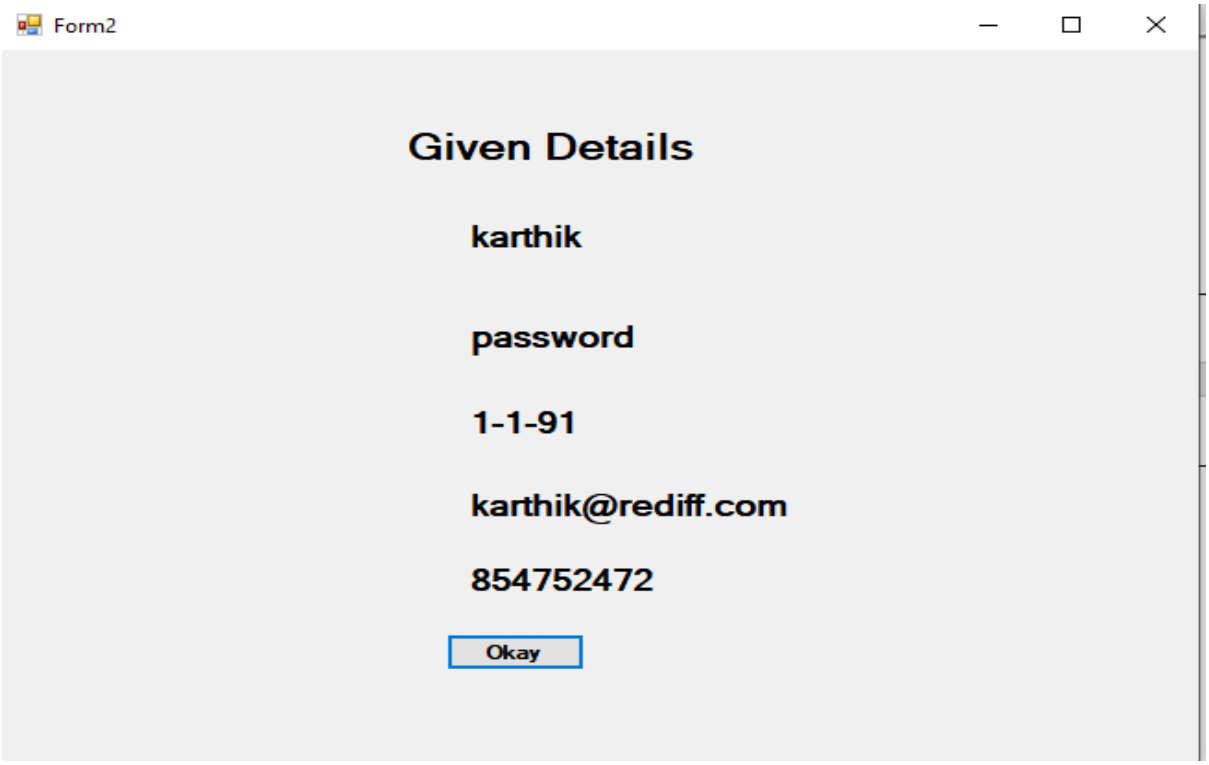
```
using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Linq;
using System.Text;
using System.Threading.Tasks;
using System.Windows.Forms;

namespace MForms
{
    4 references
    public partial class Form4 : Form
    {
        1 reference
        public Form4()
        {
            InitializeComponent();
        }
```

```
        1 reference
        private void label2_Click_1(object sender, EventArgs e)
        {

        }

        1 reference
        private void Form4_Load(object sender, EventArgs e)
        {
            label2.Text = Form3.SetValueForText1;
        }
    }
}
```

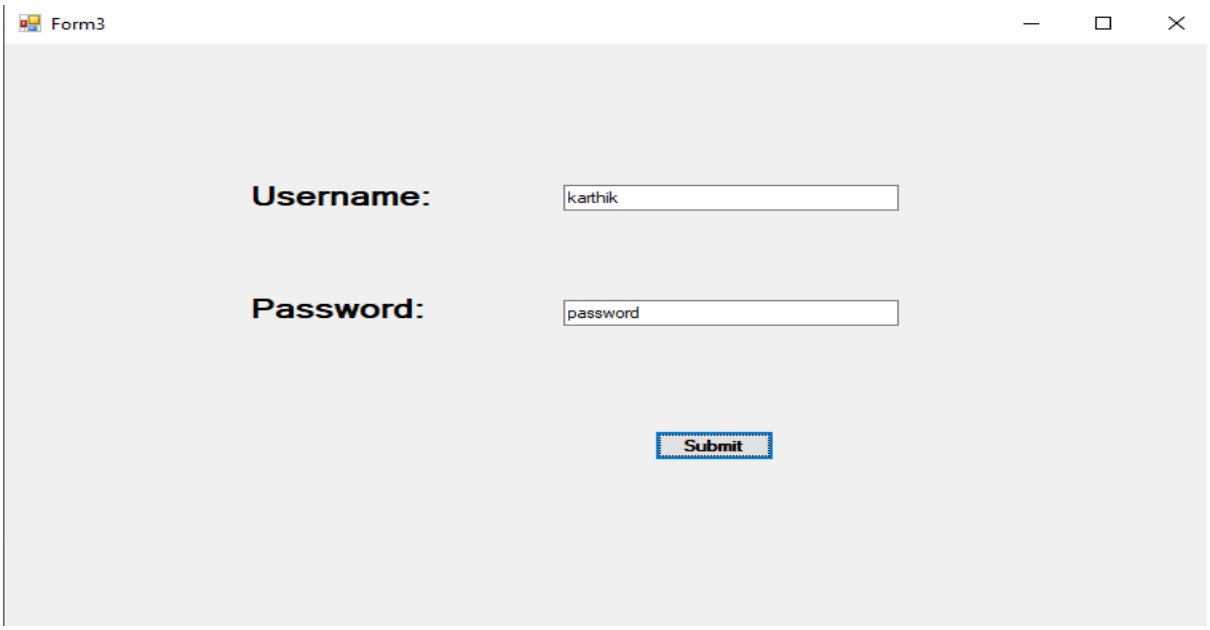
Output:



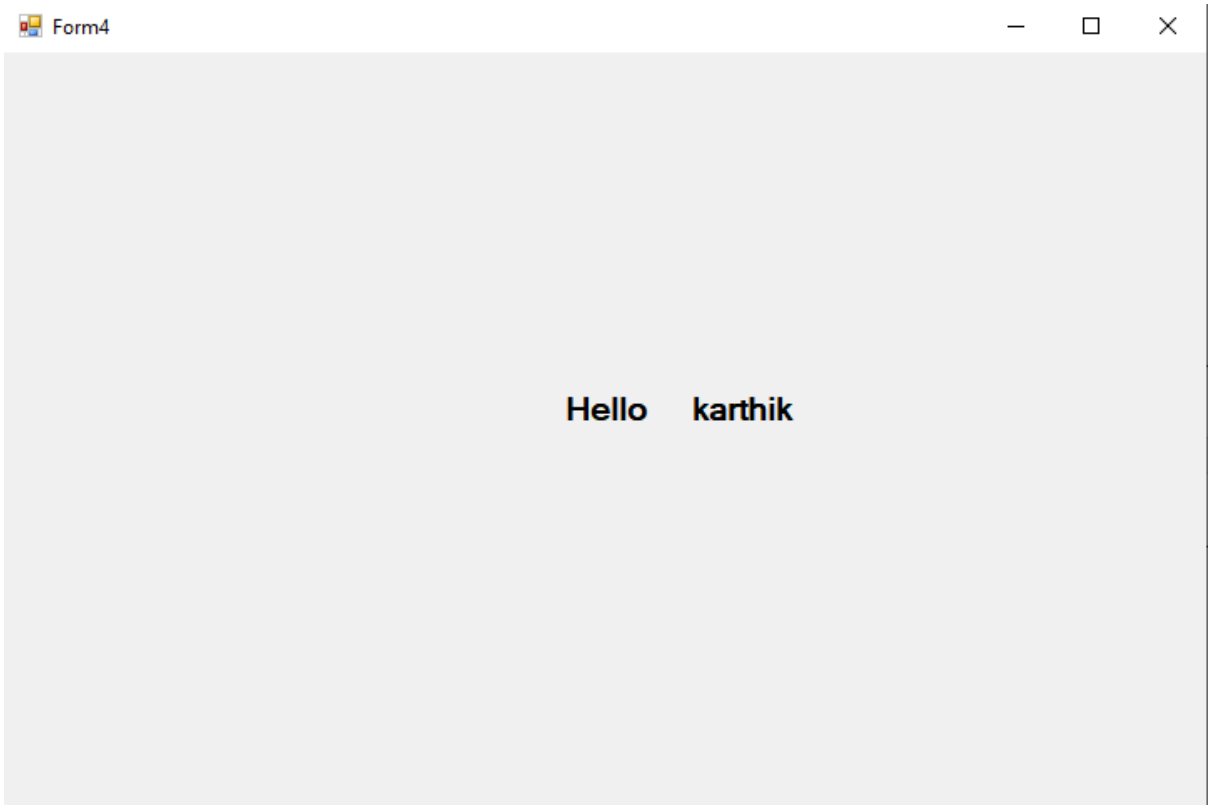
Form 2:


Form2
Given Details
karthik
password
1-1-91
karthik@rediff.com
854752472
Okay

Form 3:


Form3
Username:
karthik
Password:
password
Submit

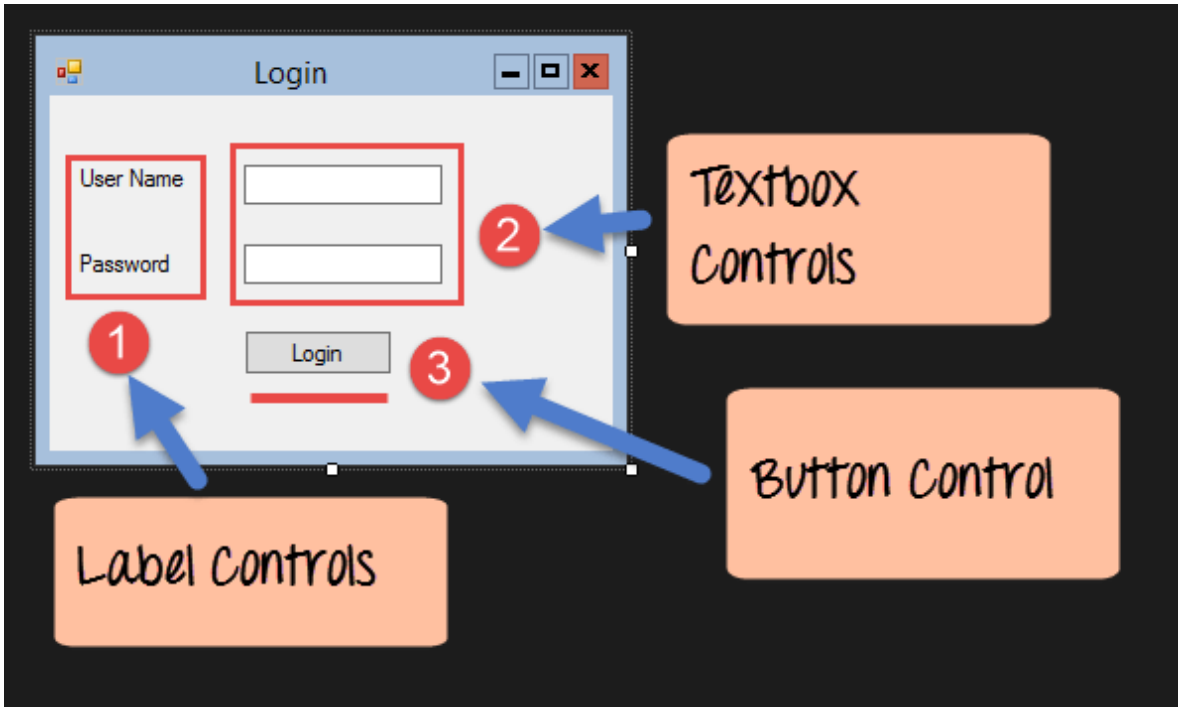
Form 4:



C# Windows Forms Application

A Windows forms application is one that runs on the desktop computer. A Windows forms application will normally have a collection of controls such as labels, textboxes, list boxes, etc.

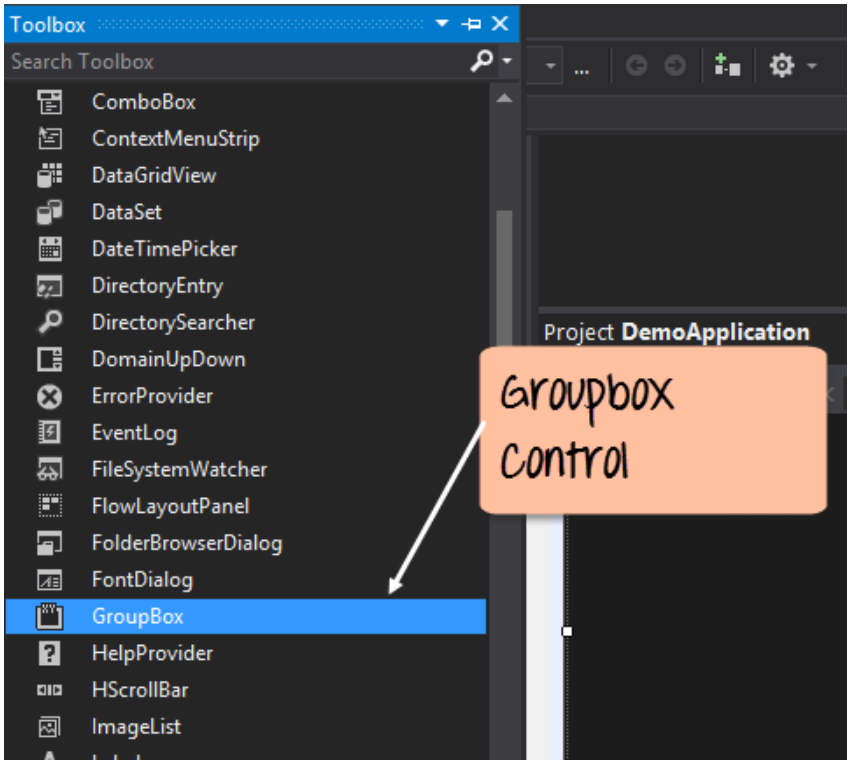
Below is an example of a simple Windows form application. It shows a simple Login screen, which is accessible by the user. The user will enter the required credentials and then will click the Login button to proceed.



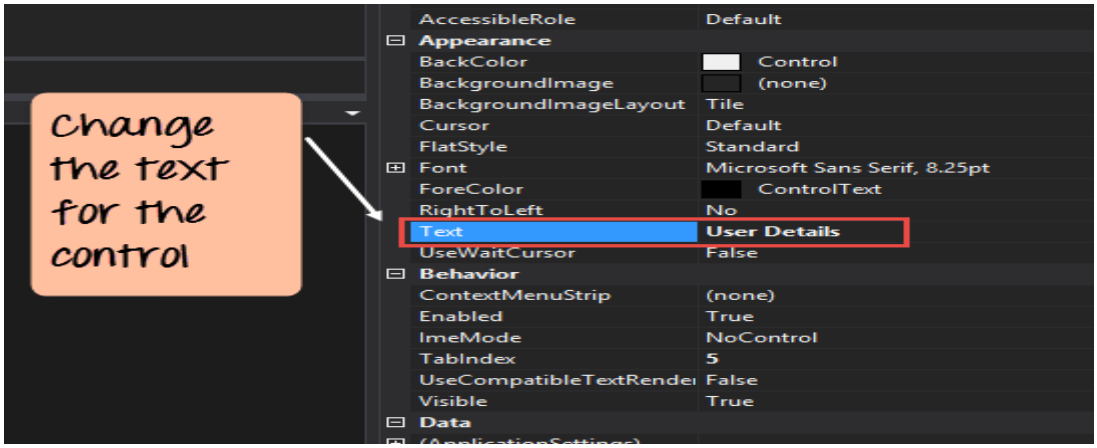
1) **Group Box**

A group box is used for logical grouping controls into a section.

Step 1) The first step is to drag the Group box control onto the Windows Form from the toolbox as shown below

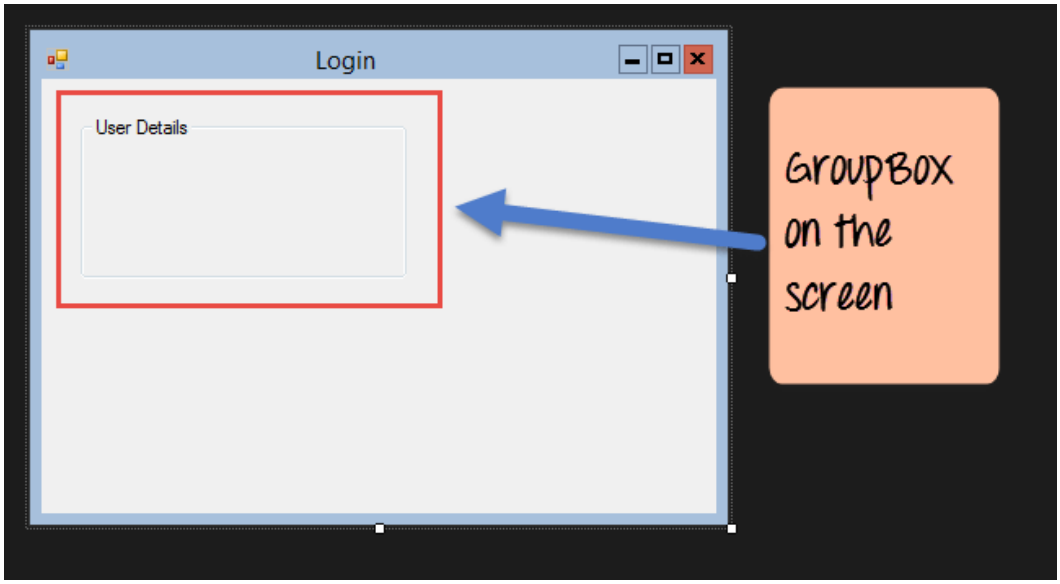


Step 2) Once the groupbox has been added, go to the properties window by clicking on the groupbox control. In the properties window, go to the Text property and change it to "User Details".



Once you make the above changes, you will see the following output

OUTPUT:

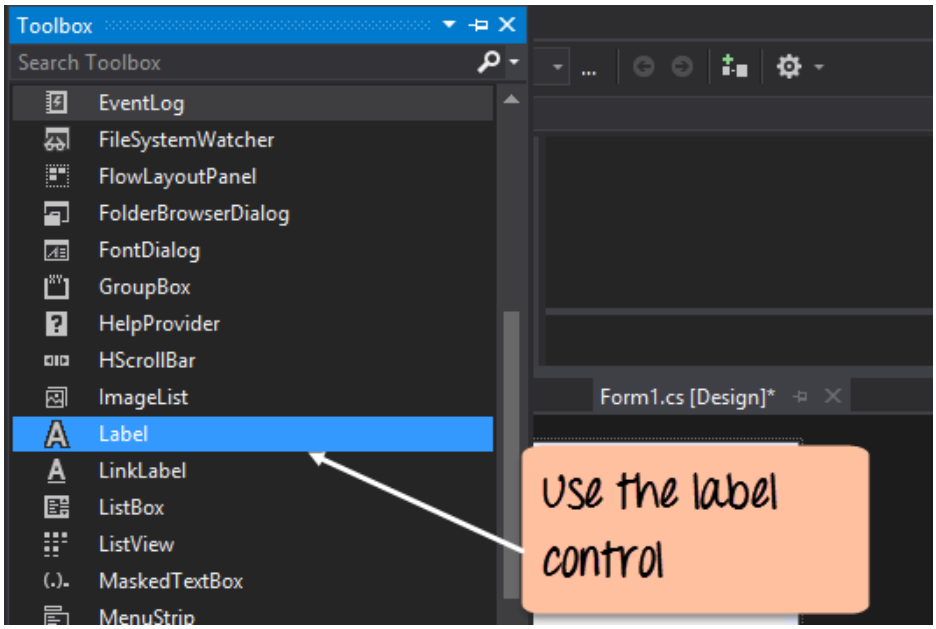


In the output, you can clearly see that the Groupbox was added to the form. You can also see that the text of the groupbox was changed to "User Details."

1) Label Control

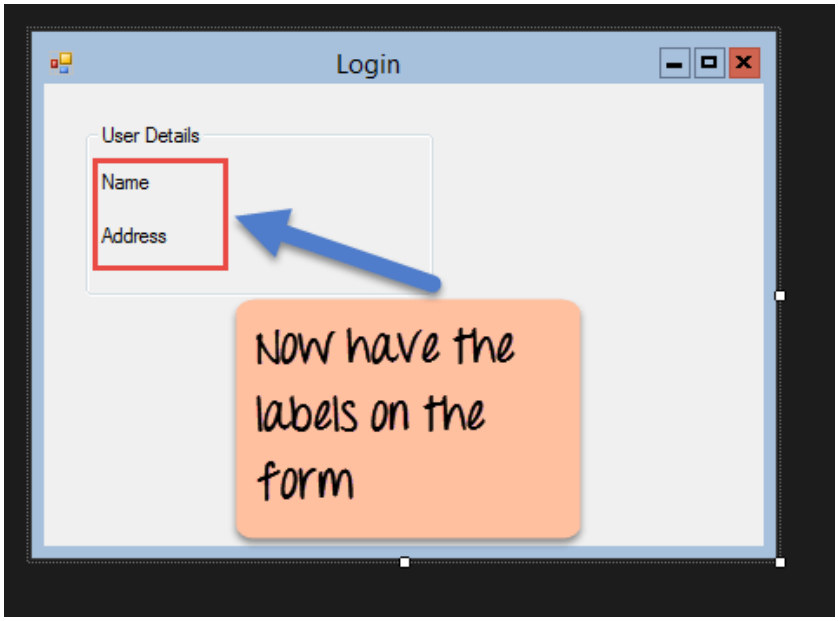
The label control is used to display a text or a message to the user on the form.

Step 1) The first step is to drag the label control on to the Windows Form from the toolbox as shown below. Make sure you drag the label control 2 times so that you can have one for the 'name' and the other for the 'address'.



Step 2) Once the label has been added, go to the properties window by clicking on the label control. In the properties window, go to the Text property of each label control.

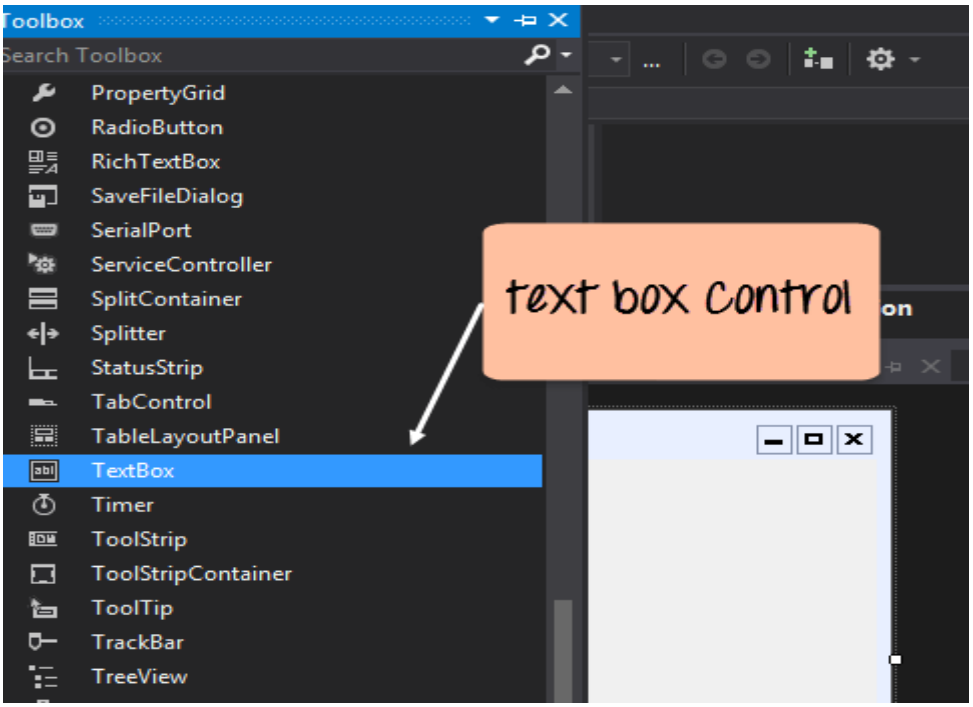
Once you make the above changes, you will see the following output
OUTPUT:



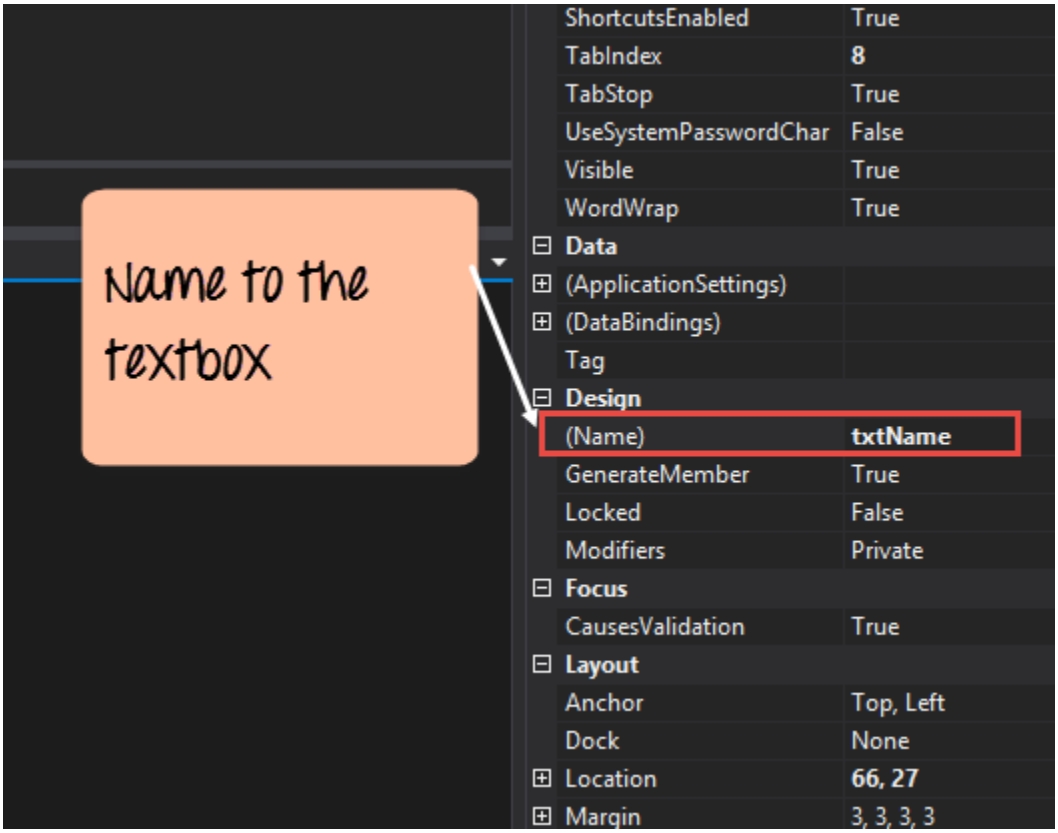
1) **TextBox:**

A textbox is used for allowing a user to enter some text on the forms application.

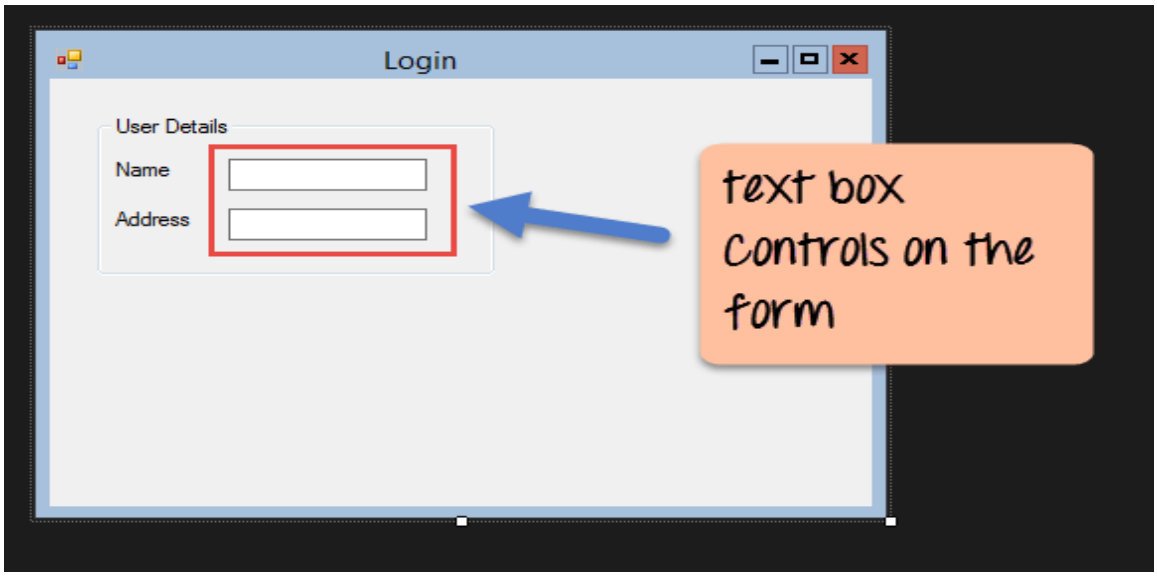
Step 1) The first step is to drag the textbox control onto the Windows Form from the toolbox as shown below.



Step 2) Once the text boxes have been added, go to the properties window by clicking on the textbox control. In the properties window, go to the Name property and add a meaningful name to each textbox. For example, name the textbox for the user as txtUser and that for the address as txtAddress. A naming convention and standard should be made for controls because it becomeseasier to add extra functionality to these controls



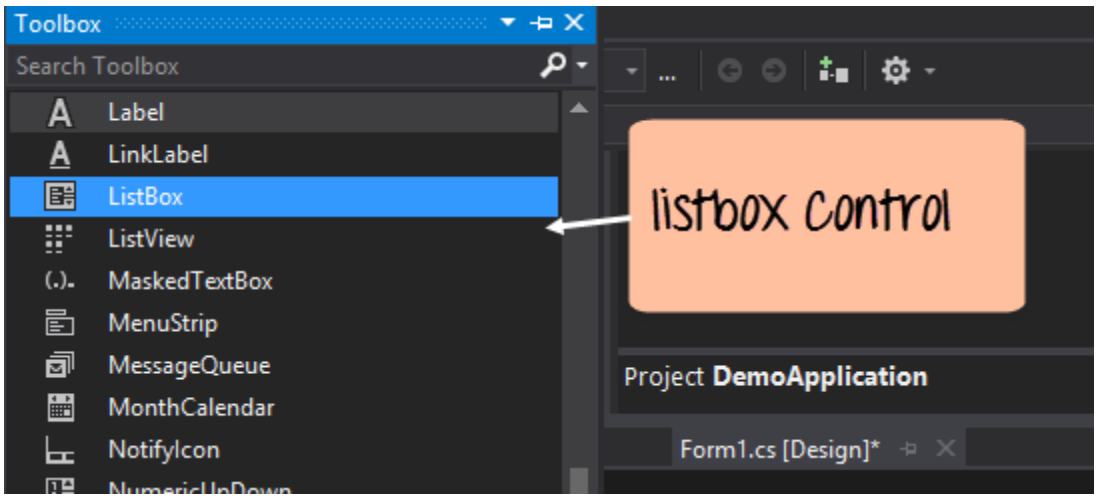
Once you make the above changes, you will see the following output



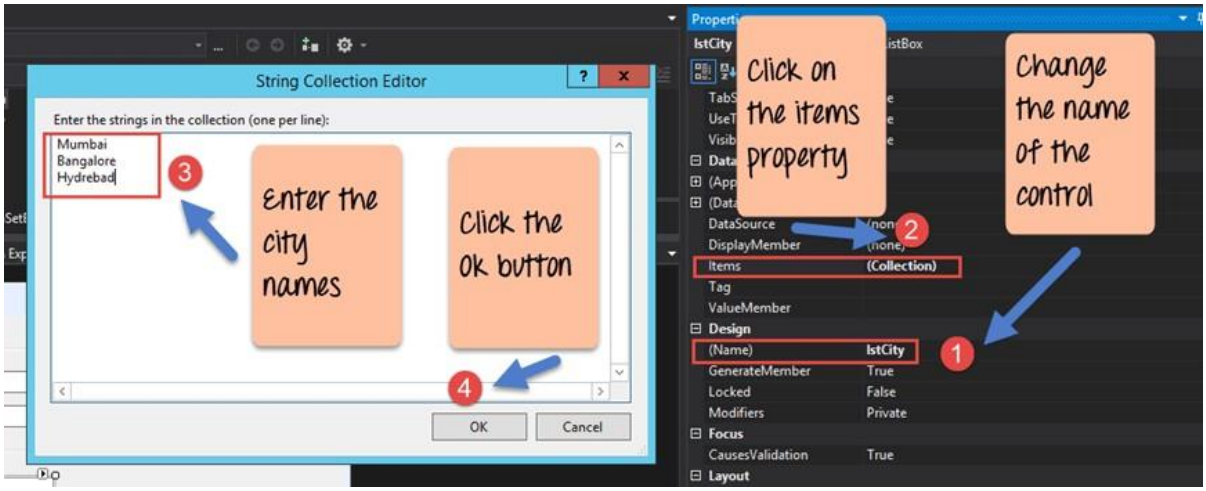
List box

A Listbox is used to showcase a list of items on the Windows form.

Step 1) The first step is to drag the list box control onto the Windows Form from the toolbox as shown below



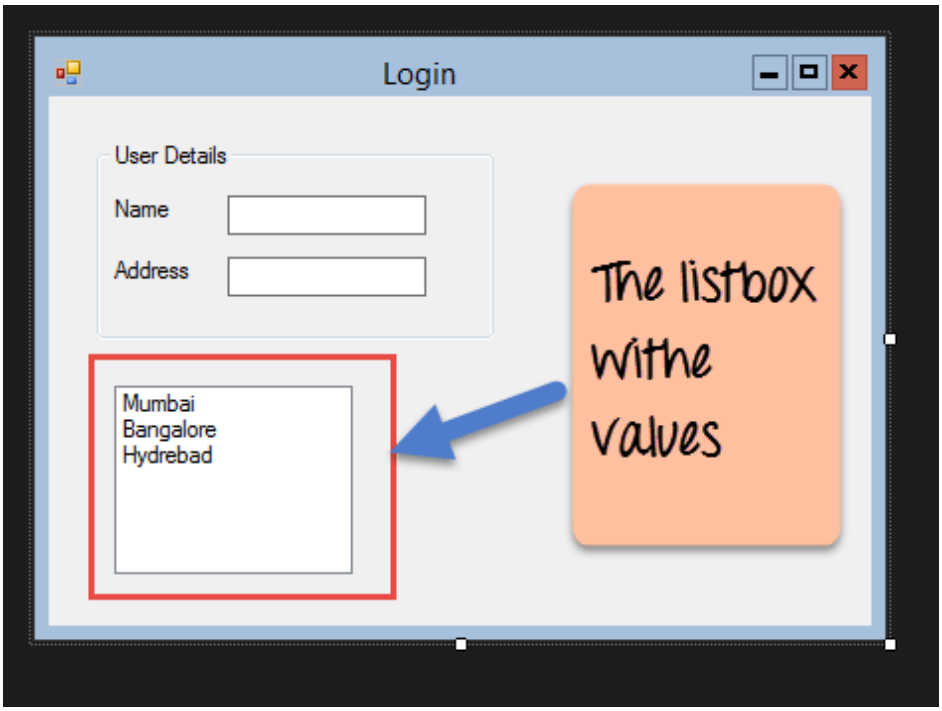
Step 2) Once the list box has been added, go to the properties window by clicking on the list box control.



1. First, change the property of the Listbox box control, in our case, we have changed this to lstCity
2. Click on the Items property. This will allow you to add different items which can show up in the list box. In our case, we have selecteditems "collection".

3. IntheStringCollectionEditor,whichpopsup,enterthecitynames.In our case,we have entered "Mumbai", "Bangalore" and "Hyderabad".
4. Finally, click on the 'OK' button.

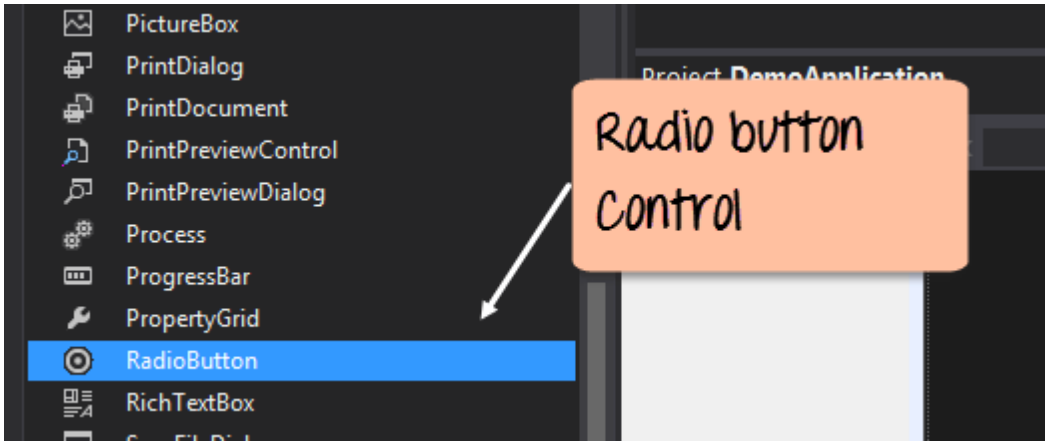
Output:



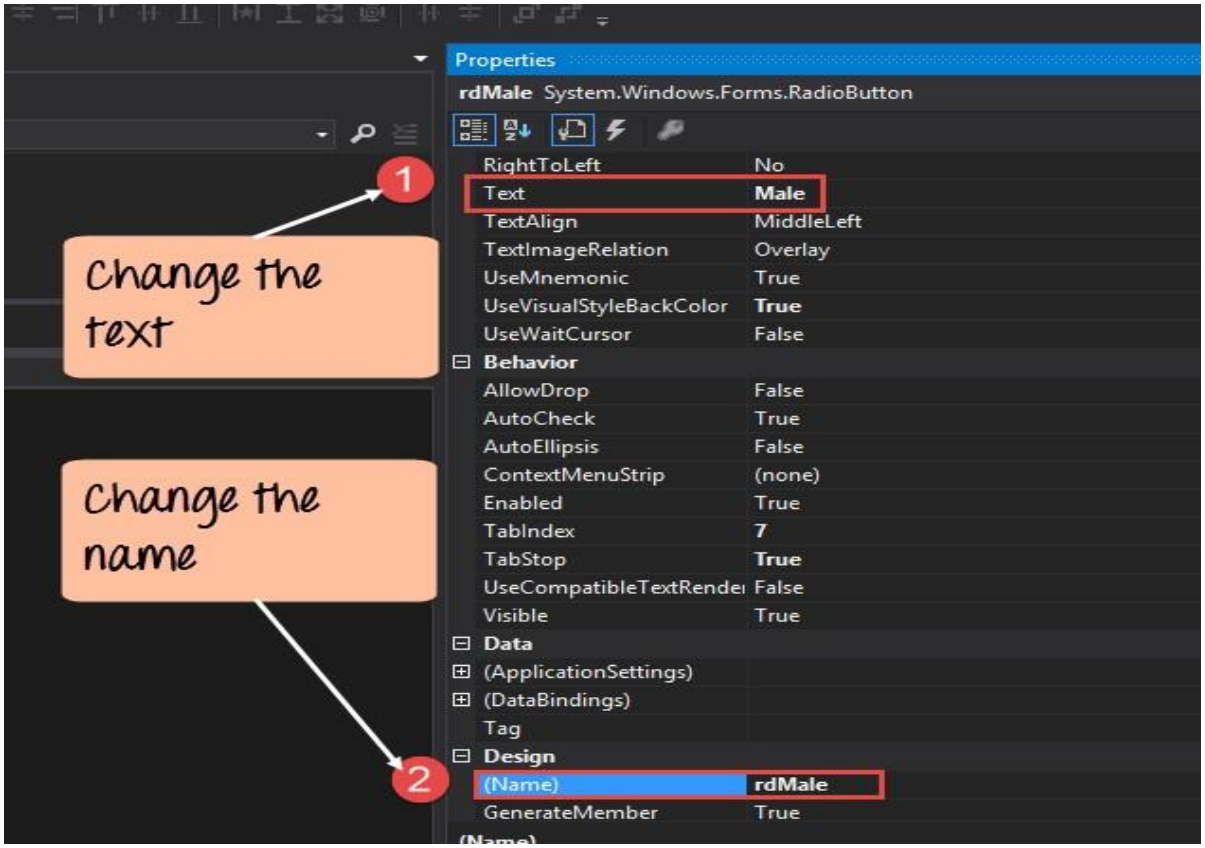
RadioButton

A Radiobutton is used to showcase a list of items out of which the user can choose one.

Step 1) The first step is to drag the 'radiobutton' control onto the Windows Form from the toolbox as shown below.

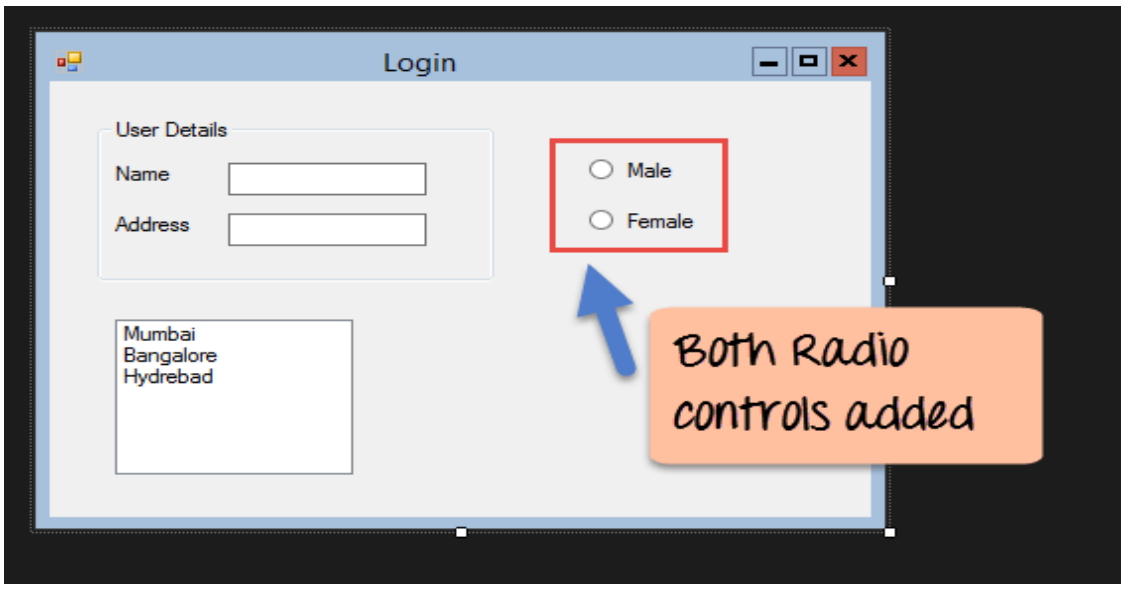


Step 2) Once the Radiobutton has been added, go to the properties window by clicking on the Radiobutton control.



1. First,youneedtochangethetextpropertyofbothRadiocontrols.Go the propertieswindowsandchangethetexttoamaleofone radiobuttonand the text of the other to female.
2. Similarly,changethenamepropertyofboth Radiocontrols.Go the propertieswindowsandchangethenameto'rdMale'ofone radiobutton and to 'rdfemale' for the other one.

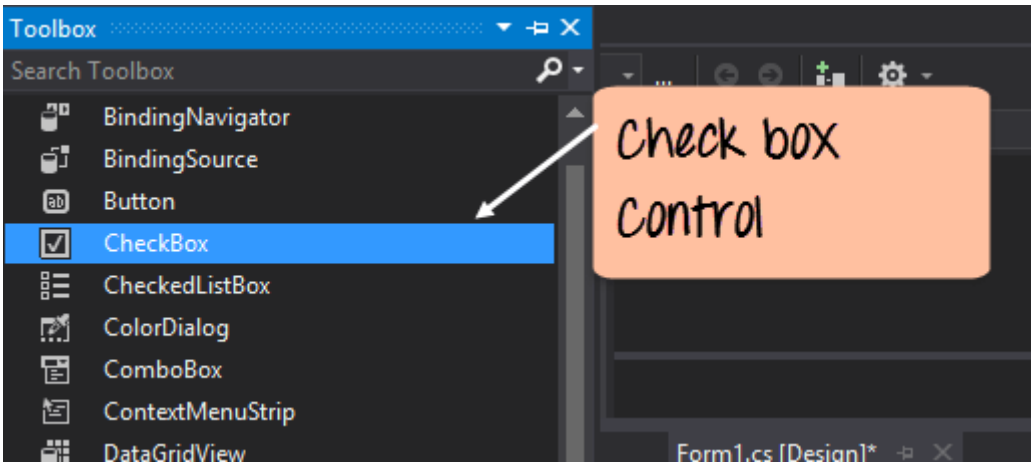
One you make the above changes, you will see the following output



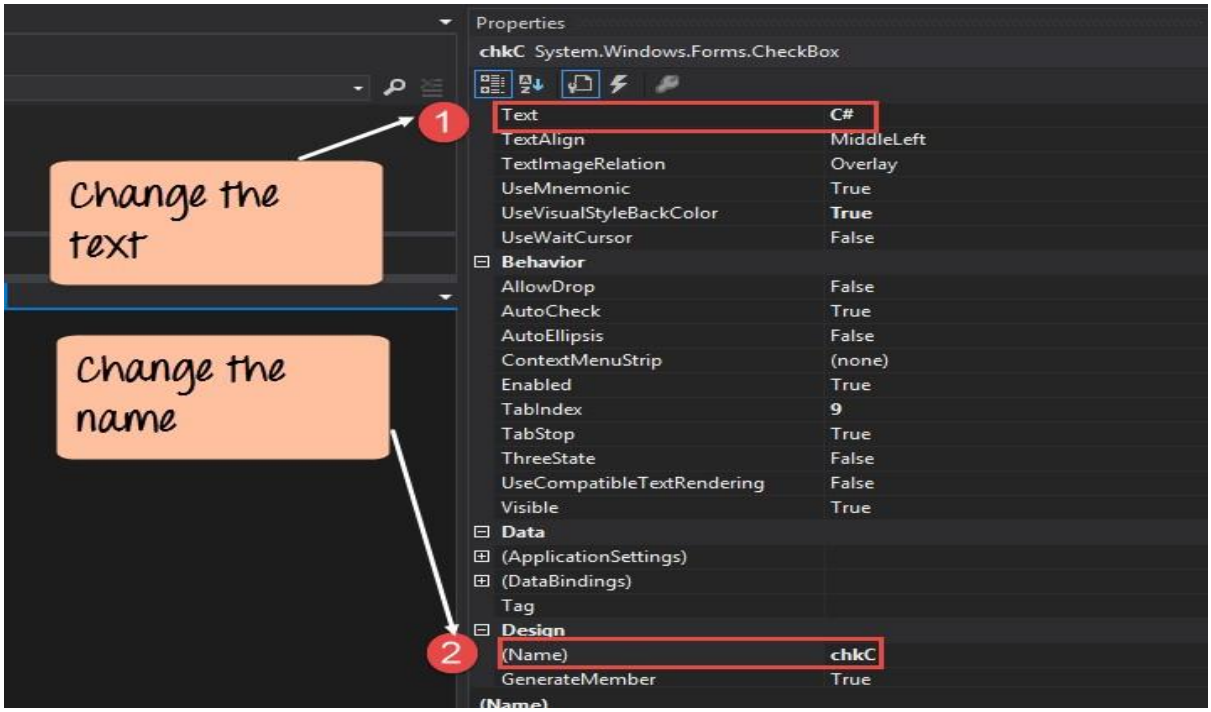
Checkbox

A checkbox is used to provide a list of options in which the user can choose multiple choices.

Step 1) The first step is to drag the checkbox control onto the Windows Form from the toolbox as shown below



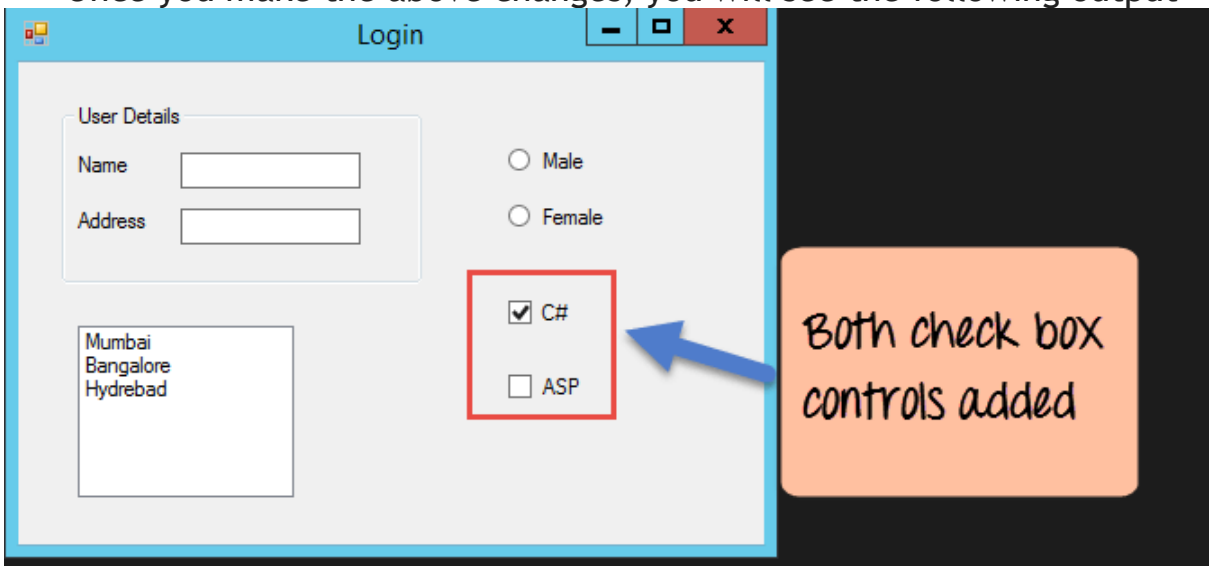
Step 2) Once the checkbox has been added, go to the properties window by clicking on the Checkbox control.



In the properties window,

1. First, you need to change the text property of both checkbox controls. Go the properties windows and change the text to C# and ASP.Net.
2. Similarly, change the name property of both Radio controls. Go the properties windows and change the name to chkCofone checkbox and to chkASP for the other one.

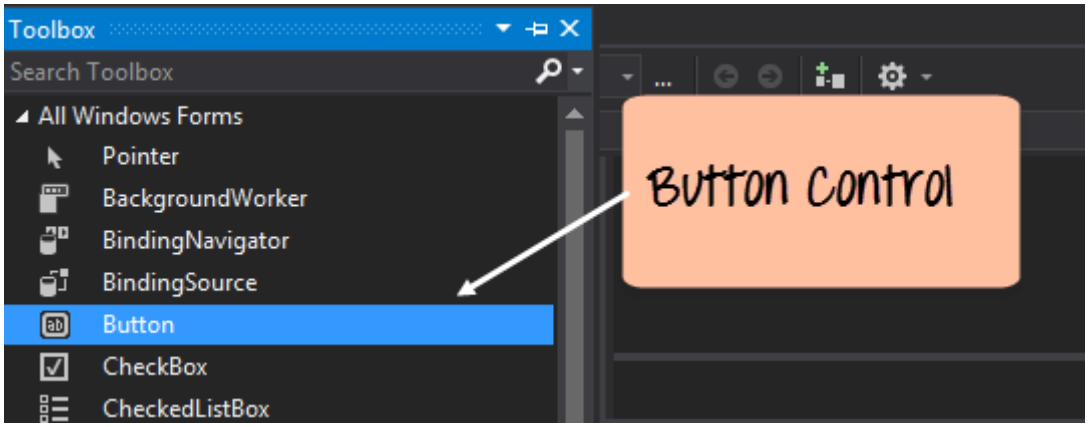
Once you make the above changes, you will see the following output



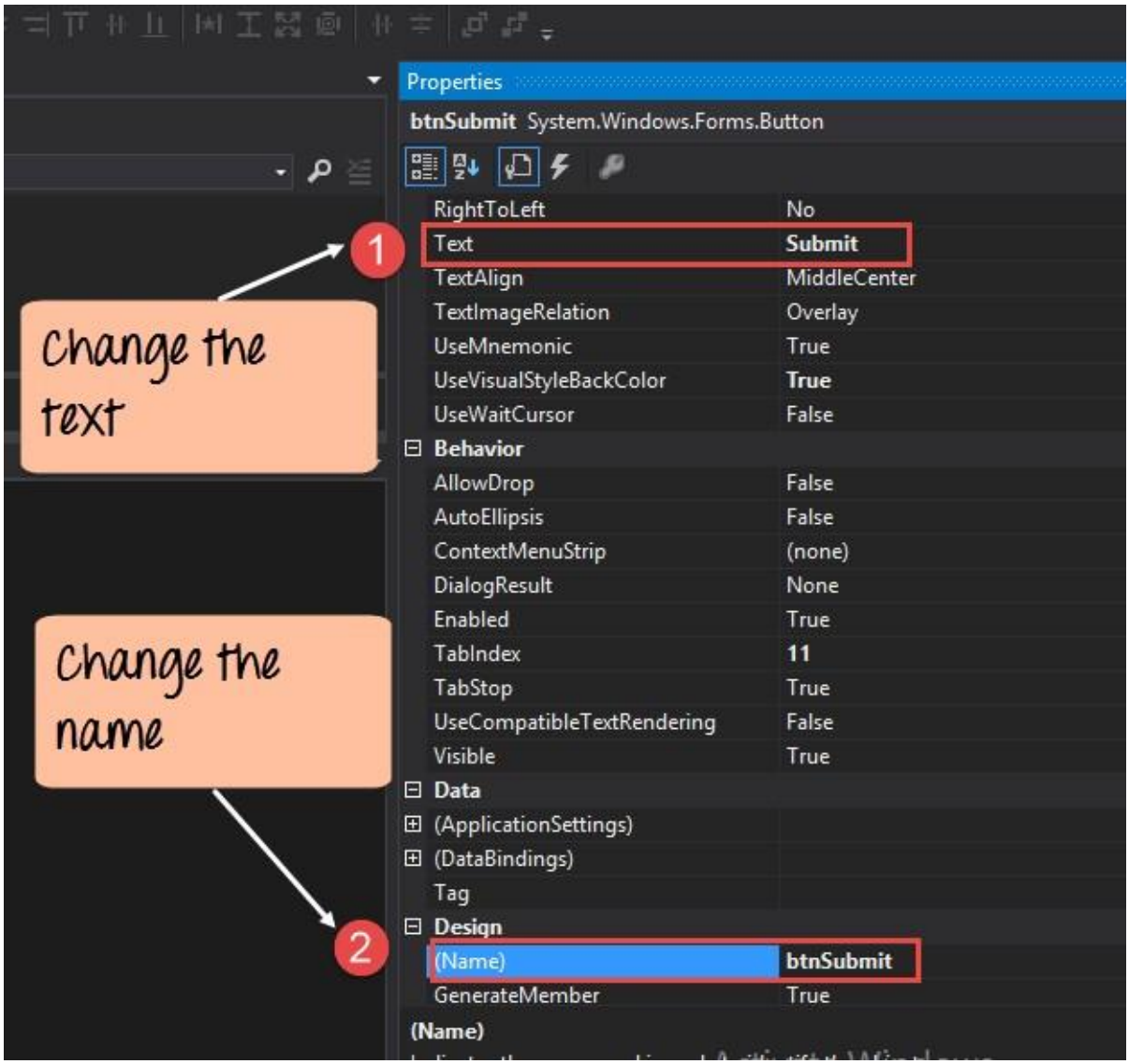
Button

A button is used to allow the user to click on a button which would then start the processing of the form

Step 1) The first step is to drag the button control onto the Windows Form from the toolbox as shown below

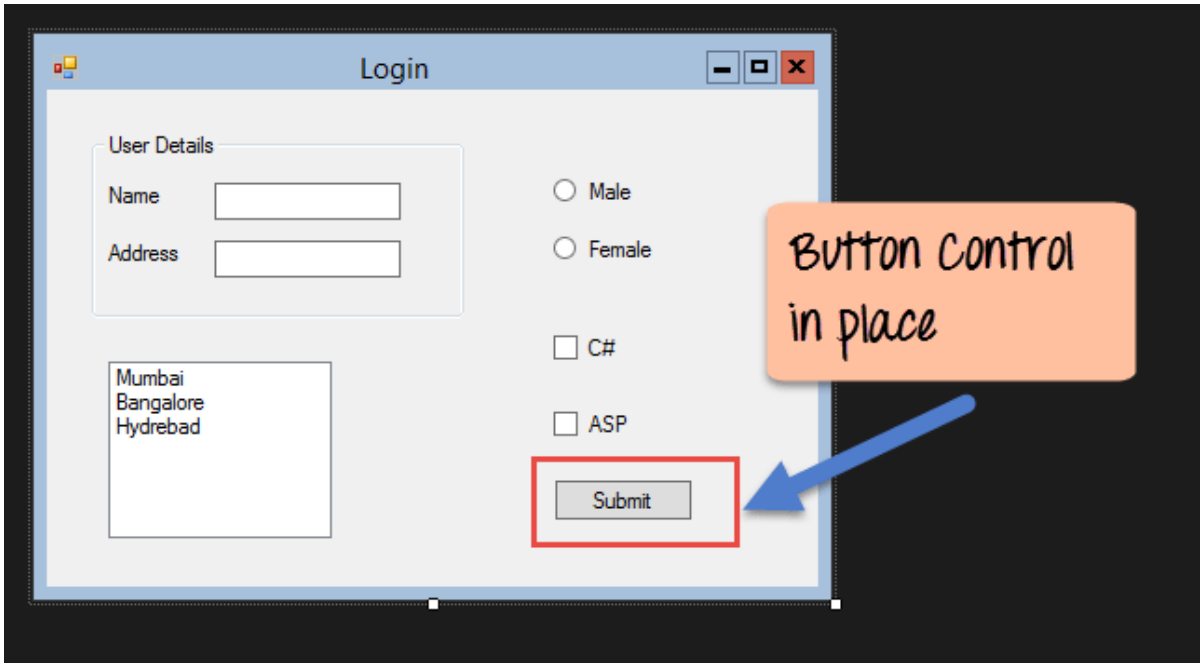


Step 2) Once the Button has been added, go to the properties window by clicking on the Button control.



1. First, you need to change the text property of the button control. Go the properties windows and change the text to 'submit'.
2. Similarly, change the name property of the control. Go the properties windows and change the name to 'btnSubmit'.

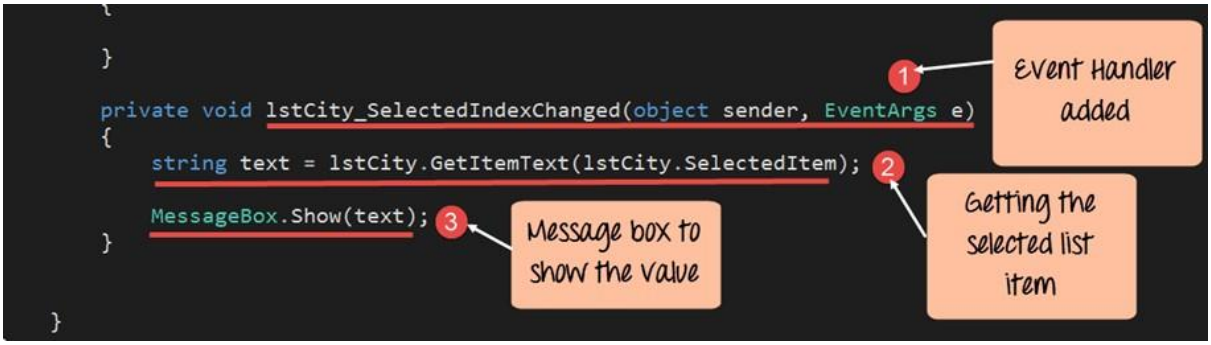
Once you make the above changes, you will see the following output



Step 1) Double click on the Listbox in the form designer. By doing this, Visual Studio will automatically open up the code file for the form. And it will automatically add an event method to the code. This event method will be triggered, whenever any item in the listbox is selected.

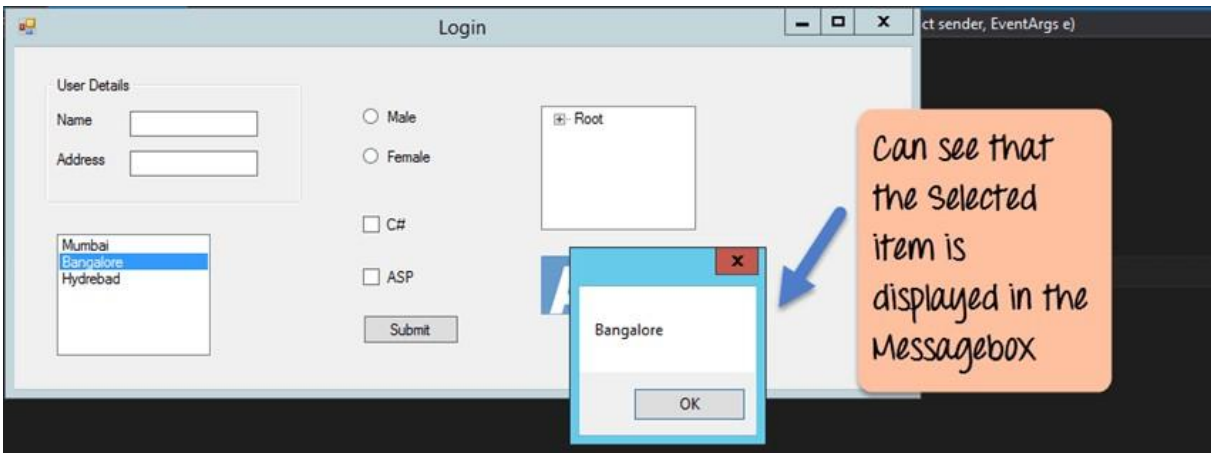
Above is the snippet of code which is automatically added by

Visual Studio, when you double-click the List box control on the form. Now let's add the below section of code to this snippet of code, to add the required functionality to the listbox event.



1. This is the event handler method which is automatically created by Visual Studio when you double-click the List box control. You don't need to worry about the complexity of the method name or the parameters passed to the method.
2. Here we are getting the SelectedItem through the lstCity.SelectedItem property. Remember that lstCity is the name of our Listbox control. We then use the GetItemText method to get the actual value of the selected item. We then assign this value to the text variable.
3. Finally, we use the MessageBox method to display the text variable value to the user.

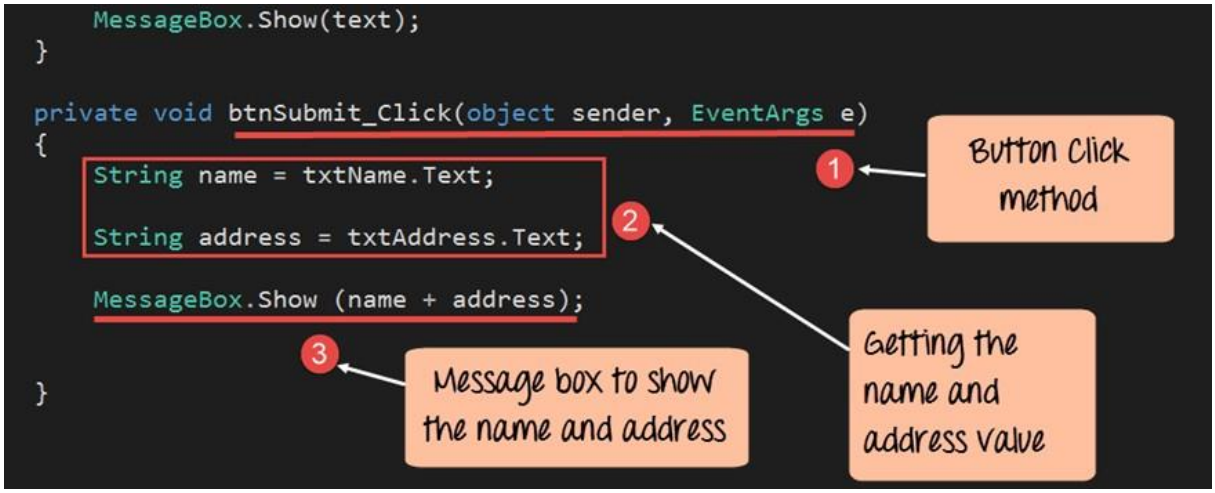
Output:



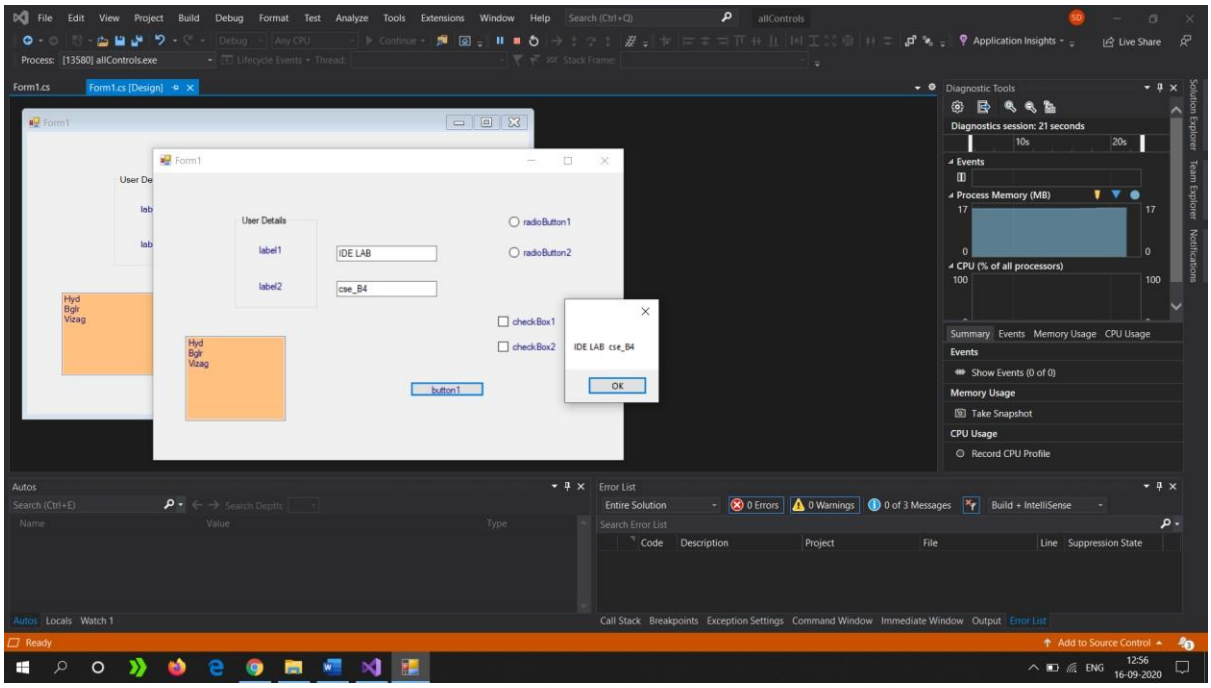
From the output, you can see that when any item from the list box is selected, a message box will pops up. This will show the selected item from the listbox.

Now let's look at the final control which is the button click Method. Again this follows the same philosophy. Just double click the button in the Forms Designer and it will automatically add the

method for the button event handler. Then you just need to add the below code.



1. This is the event handler method which is automatically created by Visual Studio when you double click the button control. You don't need to worry on the complexity of the method name or the parameters passed to the method.
2. Here we are getting values entered in the name and address textbox. The values can be taken from the text property of the textbox. We then assign the values to 2 variables, name, and address accordingly.
3. Finally, we use the MessageBox method to display the name and address values to the user.



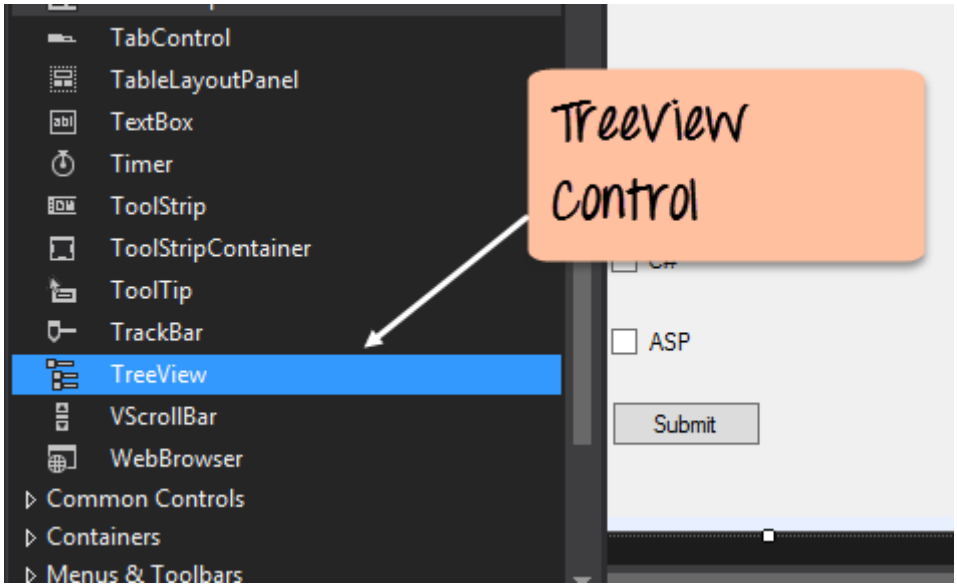
Tree and PictureBox Control

There are 2 further controls we can look at, one is the 'Tree Control' and the other is the 'Image control'. Let's look at examples of how we can implement these controls

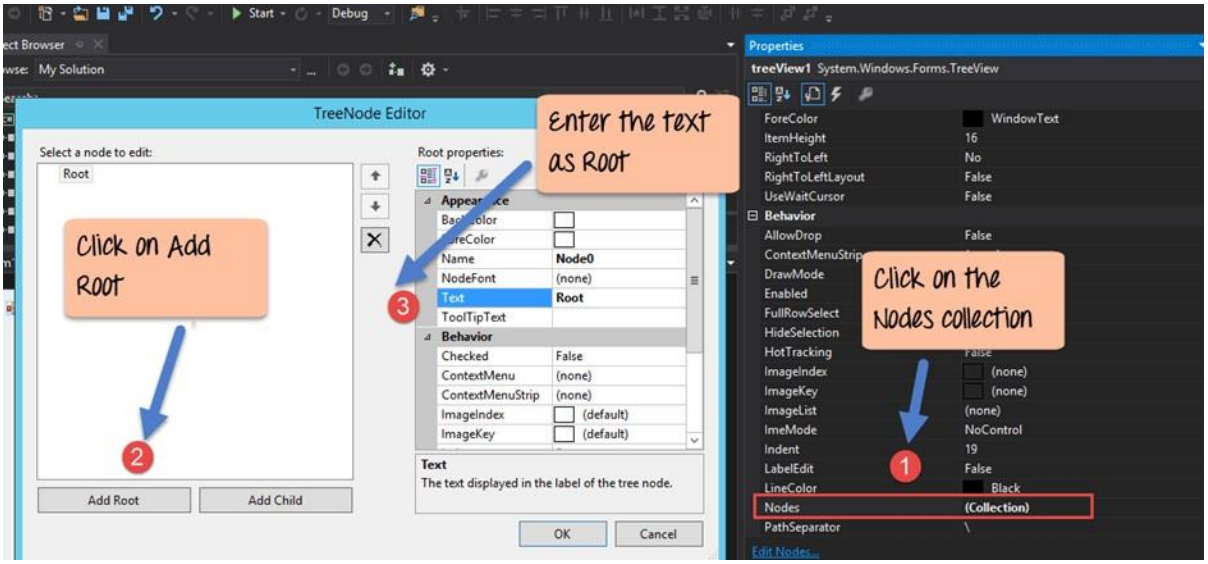
– The tree control is used to list down items in a tree like fashion. Probably the best example is when we see the Windows Explorer itself. The folder structure in Windows Explorer is like a tree-like structure.

Let's see how we can implement this with an example shown below.

Step 1) The first step is to drag the Tree control onto the Windows Form from the toolbox as shown below

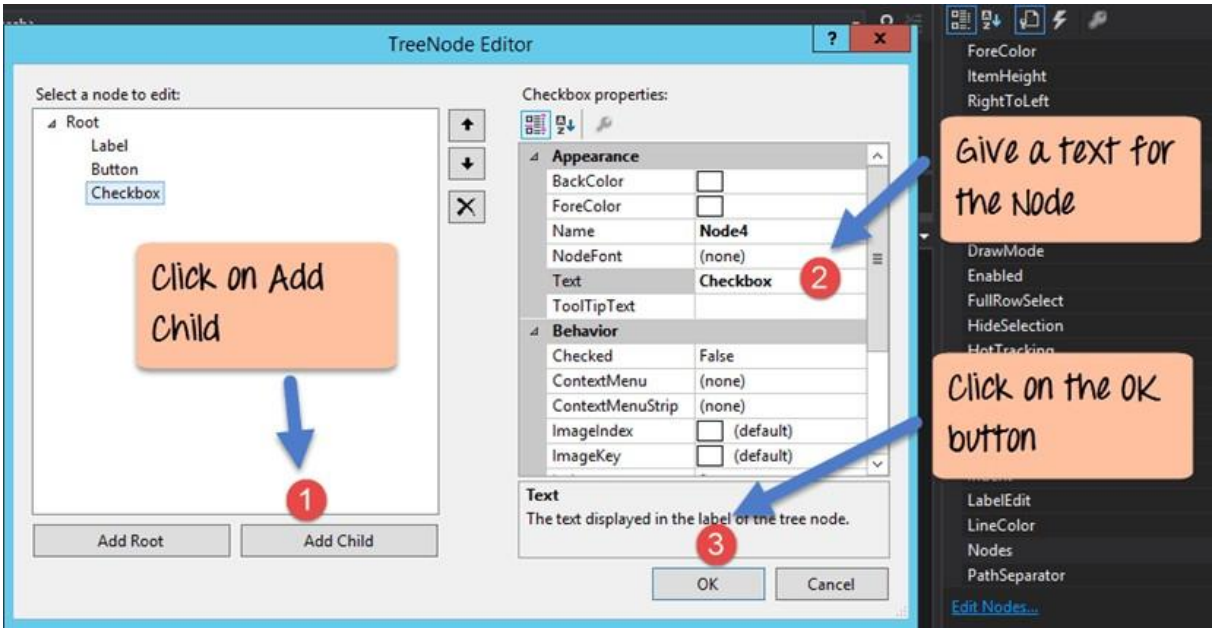


Step 2) The next step is to start adding nodes to the tree collection so that it can come up in the tree accordingly. First, let's follow the below sub-steps to add a root node to the tree collection.



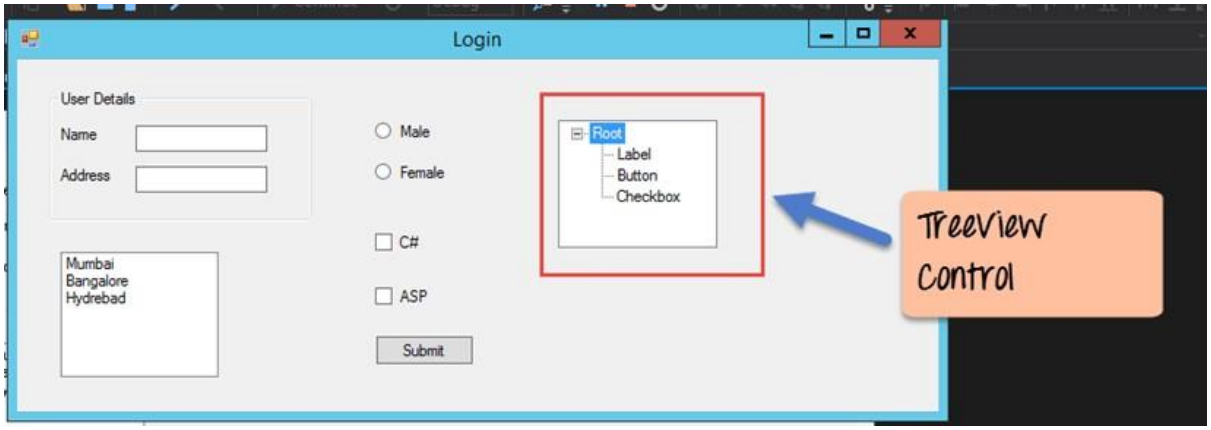
1. Gotothepropertiestoolboxforthetreeviewcontrol.Clickonthe Node's property. This will bring up the TreeNode Editor
2. IntheTreeNodeEditorclickontheAddRootbuttontoaddaroot nodeto the treecollection.
3. Next,changethetextoftheRootnodeandprovidethetextasRoot and click 'OK' button. This will add Root node.

Step 3) The next step is to start adding the child nodes to the tree collection. Let's follow the below sub-steps to add child root node to the tree collection.



1. First,clickontheAddchildbutton.Thiswillallowyoutoaddchild nodes to the Tree collection.
2. Foreachchildnode,changethetextproperty.Keeponrepeating the previousstepandthisstepandadd2additionalnodes.Inthe end,you willhave3nodesasshownabove,withthetextasLabel, Button,and Checkbox respectively.
3. Click on the OK button

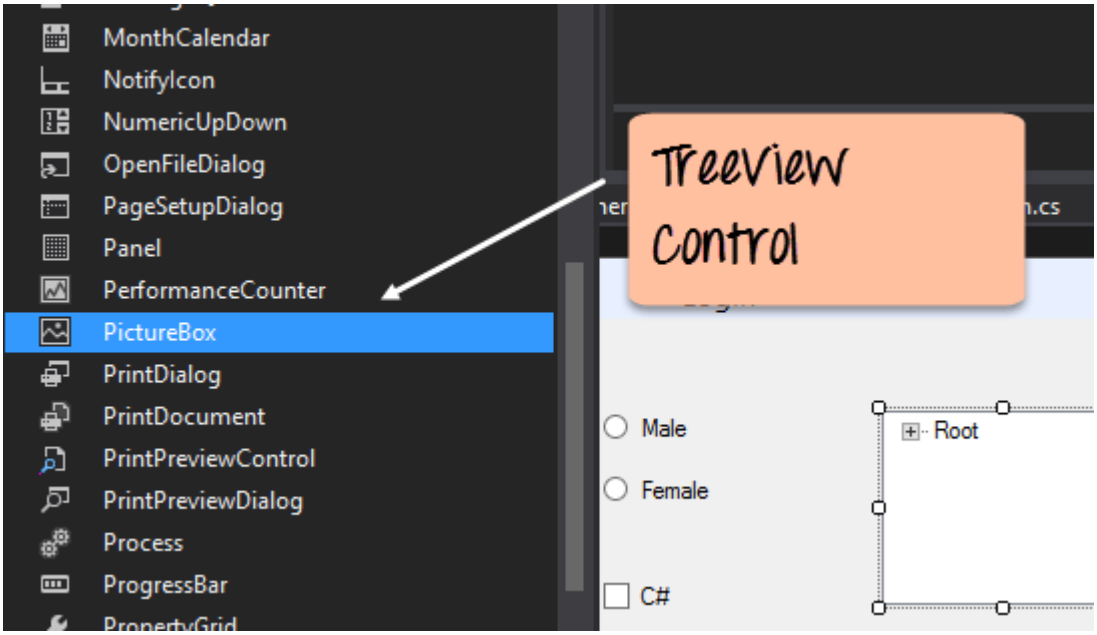
Once you have made the above changes, you will see the following output.



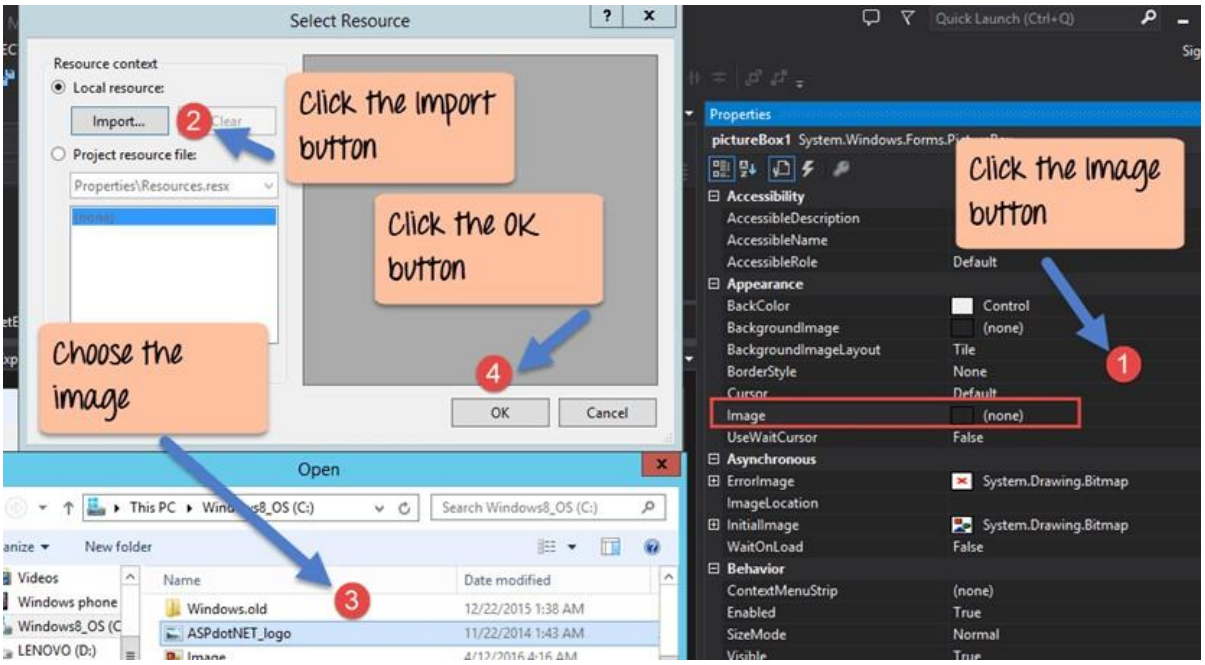
PictureBox Control

This control is used to add images to the Windows Forms. Let's see how we can implement this with an example shown below.

Step 1) The first step is to drag the PictureBox control onto the Windows Form from the toolbox as shown below



Step 2) The next step is to actually attach an image to the picture box control. This can be done by following the below steps.

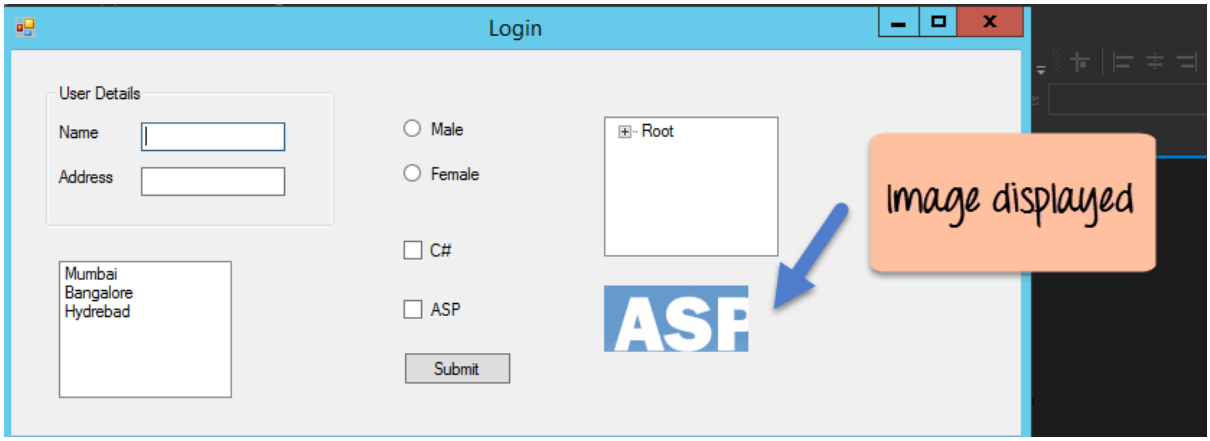


1. First, click on the Image property for the PictureBox control. A new window will pops out.
2. In this window, click on the Import button. This will be used to attach an image to the picturebox control.

3. A dialog box will pop up in which you will be able to choose the image to attach the picture box
4. Click on the OK button

One you make the above changes, you will see the following output

Output:-



Week-7

HTML and CSS

HTML: Hypertext Mark-up Language (HTML) is the standard mark-up language for documents designed to be displayed in a web browser. Web browsers receive HTML documents from a web server or from local storage and render the documents into multimedia web pages. HTML describes the structure of a web page semantically and originally included cues for the appearance of the document.HTML elements are the building blocks of HTML pages. With HTML constructs, images and other objects such as interactive forms may be embedded into the rendered page. HTML provides a means to create structured documents by denoting structural semantics for text such as headings, paragraphs, lists, links, quotes and other items. HTML elements are delineated by tags, written using angle brackets (< >).

CSS: Cascading style sheets (CSS) is a style sheet language used for describing the presentation of a document written in mark-up language like HTML. CSS is designed to enable the separation of presentation and content, including layout, colours, and fonts. This separation can improve content accessibility, provide more flexibility and control in the specification of presentation characteristics, enable multiple web pages to share formatting by specifying the relevant CSS in a separate .css file which reduces complexity and repetition in the structural content as well as enabling the .css file to be cached to improve the page load speed between the pages that share the file and its formatting.

Task: We need to create a webpage using notepad as our editor and save 2 files in html format, and then with the help of browsers look at the result of the code.

Step1: Create a HTML file named as Homepage.html and write the HTML script.

Program:

Webpage.html

```
<!DOCTYPE html>
<html>
<head>
    <title>Webpage</title>
</head>
<body>
<h1>Dingo Careers Australia</h1>
<h3>Native Dog Protection</h3>
<hr>
<h2>Menu</h2>
<ul style="list-style-type: circle;">
    <li><a href="C:\Users\karthik\Desktop\Notes\IDE Lab\stage1.html">Homepage</a></li>
    <li><a href="C:\Users\karthik\Desktop\Notes\IDE Lab\stage1.html">Careers</a></li>
    <li><a href="C:\Users\karthik\Desktop\Notes\IDE Lab\stage1.html">Donations</a></li>
    <li><a href="C:\Users\karthik\Desktop\Notes\IDE Lab\stage1.html">Contact Us</a></li>
</ul>
<hr>
<h2>Dingo</h2>
<i>Canis lupas dingo</i>
<p>The dingo Canis familiaris,Canis dingo, Canis familiaris dingo, or Canis lupus dingo is a dog found in Australia. Its taxonomic
classification is debated. It is a medium-sized canine that possesses a lean, hardy body adapted for speed, agility, and stamina. The
dingo's three main coat colourations are light ginger or tan, black and tan, or creamy white. The skull is wedge-shaped and appears large
in proportion to the body.</p>
<p>Dingo Careers <b>Help</b> to ensure that dingos can continue <i>in the wild</i>.</p>
<hr>
<ul style="list-style-type: circle;">
    <li>Author:Karthikeya</li>
    <li>ID:221710308040</li>
    <li>Email:<a href = "mailto: 221710308040@gitam.in">221710308040@gitam.in</a></li>
</ul>
</body>
</html>
```

Line 26, Column 87 Tab Size: 4 HTML

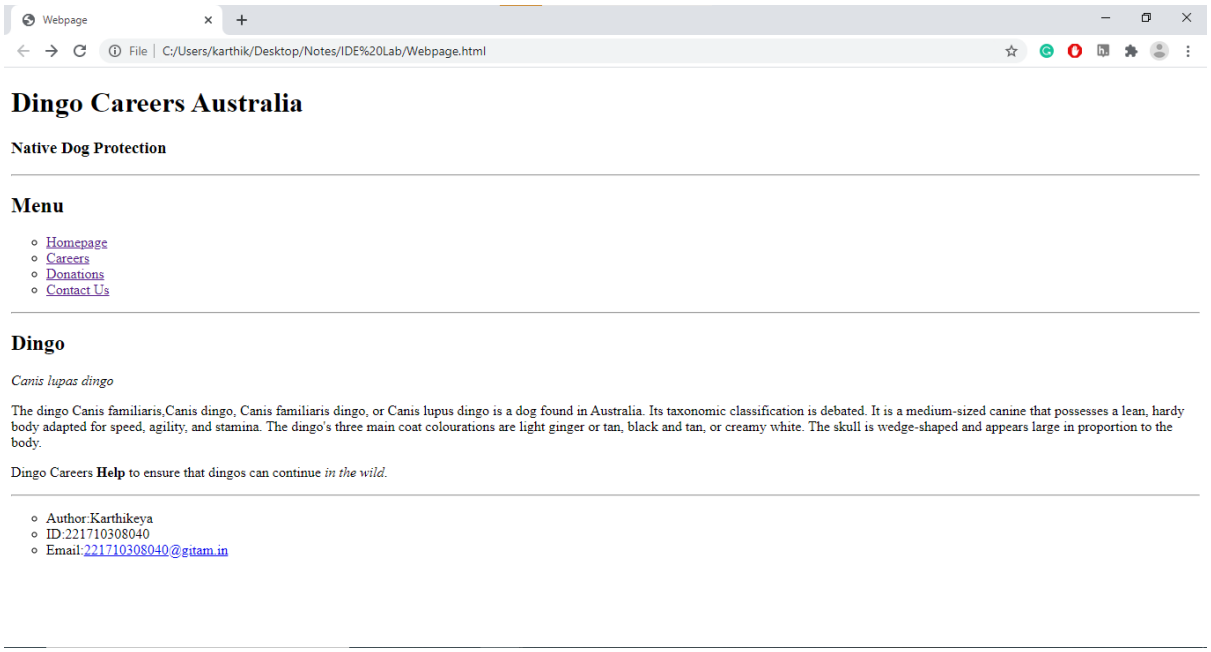
Step 2: Create a HTML file named as stage1.html and write the HTML script.

Program:

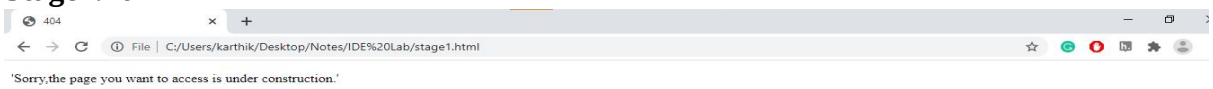
```
<!DOCTYPE html>
<html>
<head>
    <title>404</title>
</head>
<body>
<p>'Sorry,the page you want to access is under construction.'</p>
</body>
</html>
```

Output:

Webpage.html



Stage1.html



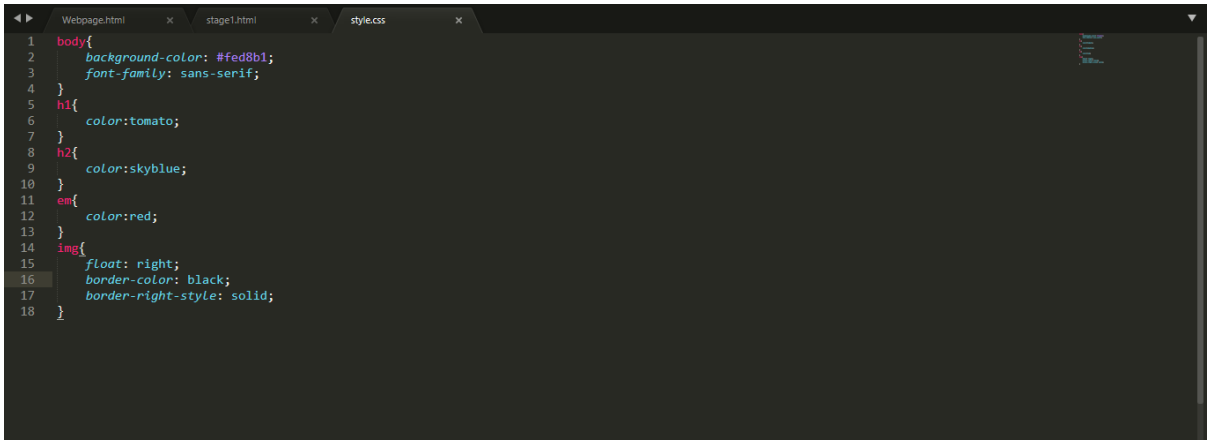
Task: Now after the creation of webpages using HTML, now using CSS add the required styles to the webpage.

Program:

HTML:

```
    <link rel="stylesheet" type="text/css" href="style.css">
</head>
<body>
<h1>Dingo Careers Australia</h1>
<h3>Native Dog Protection</h3>
<hr>
<h2>Menu</h2>
<ul style="list-style-type: circle;">
    <li><a href="C:\Users\karthik\Desktop\Notes\IDE Lab\stage1.html">Homepage</a></li>
    <li><a href="C:\Users\karthik\Desktop\Notes\IDE Lab\stage1.html">Careers</a></li>
    <li><a href="C:\Users\karthik\Desktop\Notes\IDE Lab\stage1.html">Donations</a></li>
    <li><a href="C:\Users\karthik\Desktop\Notes\IDE Lab\stage1.html">Contact Us</a></li>
</ul>
<hr>
<div>
<img src="C:\Users\karthik\Desktop\Notes\IDE Lab\dingo.jpg" width="150px" height="150px" alt="Dingo picture" title="Dingo photo">
<h2>Dingo</h2>
<i>Canis lupas dingo</i>
<p>The dingo Canis familiaris,Canis dingo, Canis familiaris dingo, or Canis lupus dingo is a dog found in Australia. Its taxonomic
classification is debated. It is a medium-sized canine that possesses a lean, hardy body adapted for speed, agility, and stamina. The
dingo's three main coat colourations are light ginger or tan, black and tan, or creamy white. The skull is wedge-shaped and appears large
in proportion to the body.</p>
<p>Dingo Careers <b>Help</b> to ensure that dingos can continue <i>in the wild</i>.</p>
<hr>
</div>
<ul style="list-style-type: circle;">
    <li>Author:Karthikeya</li>
    <li>ID:221710308040</li>
    <li>Email:<a href = "mailto: 221710308040@gitam.in">221710308040@gitam.in</a></li>
</ul>
</body>
</html>
```

CSS:



```
body{
    background-color: #fed8b1;
    font-family: sans-serif;
}
h1{
    color:tomato;
}
h2{
    color:skyblue;
}
em{
    color:red;
}
img{
    float: right;
    border-color: black;
    border-right-style: solid;
}
```

Output:


Webpage
File | C:/Users/karthik/Desktop/Notes/IDE%20Lab/Webpage.html
Dingo Careers Australia
Native Dog Protection
Menu
Homepage
Careers
Donations
Contact Us
Dingo
Canis lupas dingo
The dingo Canis familiaris,Canis dingo, Canis familiaris dingo, or Canis lupus dingo is a dog found in Australia. Its taxonomic classification is debated. It is a medium-sized canine that possesses a lean, hardy body adapted for speed, agility, and stamina. The dingo's three main coat colourations are light ginger or tan, black and tan, or creamy white. The skull is wedge-shaped and appears large in proportion to the body.
Dingo Careers Help to ensure that dingos can continue in the wild.
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