Lab 4

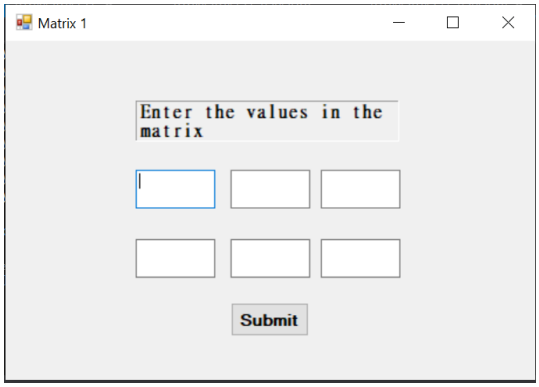
Solutions

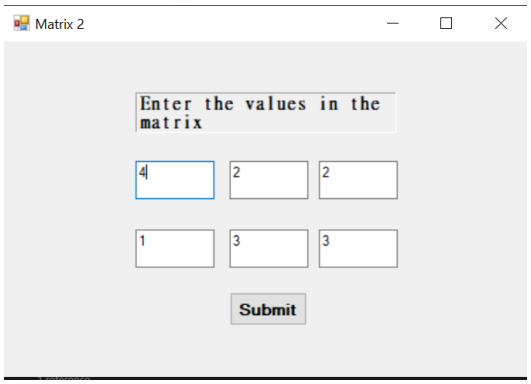
Matrix Addition

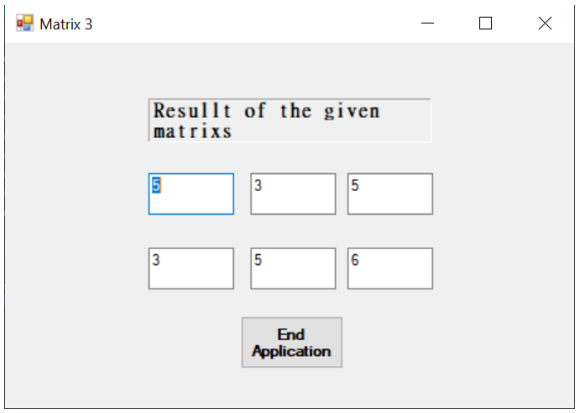
```
using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Linq;
using System.Text;
using System.Threading.Tasks;
using System.Windows.Forms;

namespace Matrix
{
    public partial class frmMatrix1 : Form
    {

        frmMatrix2 m2 = new frmMatrix2();
        int[,] tda = new int[2, 3];
        public frmMatrix1()
        {
            InitializeComponent();
        }

        private void button1_Click(object sender, EventArgs e)
        {
            matrix();
            m2.getarray(tda);
            this.Hide();
            m2.Show();
        }
        public void matrix()
        {
            tda[0, 0] = Convert.ToInt32(textBox1.Text);
            tda[0, 1] = Convert.ToInt32(textBox3.Text);
            tda[0, 2] = Convert.ToInt32(textBox5.Text);
            tda[1, 0] = Convert.ToInt32(textBox2.Text);
            tda[1, 1] = Convert.ToInt32(textBox4.Text);
            tda[1, 2] = Convert.ToInt32(textBox6.Text);
        }
    }
}


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 Matrix
{
```

```
    public partial class frmMatrix2 : Form
    {

        frmMatrix3 m3 = new frmMatrix3();
        int[,] tda = new int[2, 3];
        int[,] tda2 = new int[2, 3];
        int[,] tda3 = new int[2, 3];
        public frmMatrix2()
        {
            InitializeComponent();
        }

        private void button1_Click(object sender, EventArgs e)
        {

            matrix();
            m3.addarray(tda , tda2);
            this.Hide();
            m3.Show();
            m3.display();
        }
        public void matrix()
        {
            tda2[0, 0] = Convert.ToInt32(textBox1.Text);
            tda2[0, 1] = Convert.ToInt32(textBox3.Text);
            tda2[0, 2] = Convert.ToInt32(textBox5.Text);
            tda2[1, 0] = Convert.ToInt32(textBox2.Text);
            tda2[1, 1] = Convert.ToInt32(textBox4.Text);
            tda2[1, 2] = Convert.ToInt32(textBox6.Text);
        }
        public void getarray(int [ , ] abc)
        {
            for(int i = 0; i<2; i++)
            {
                for(int j= 0; j<3; j++)
                {
                    tda[i, j] = abc[i, j];
                }
            }
        }

    }
}


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 Matrix
{
    public partial class frmMatrix3 : Form
    {

        int[,] tda = new int[2, 3];
        public frmMatrix3()
```

```
        {
            InitializeComponent();
        }

        private void button1_Click(object sender, EventArgs e)
        {

            Application.Exit();
        }
        public void display()
        {
            textBox1.Text = Convert.ToString(tda[0,0]);
            textBox3.Text = Convert.ToString(tda[0, 1]);
            textBox5.Text = Convert.ToString(tda[0, 2]);
            textBox2.Text = Convert.ToString(tda[1, 0]);
            textBox4.Text = Convert.ToString(tda[1, 1]);
            textBox6.Text = Convert.ToString(tda[1, 2]);
        }
        public void addarray(int[,] abc, int[,] xyz)
        {
            for (int i = 0; i < 2; i++)
            {
                for (int j = 0; j < 3; j++)
                {
                    tda[i, j] = abc[i, j] + xyz[i, j];
                }
            }

        }
    }
}
```







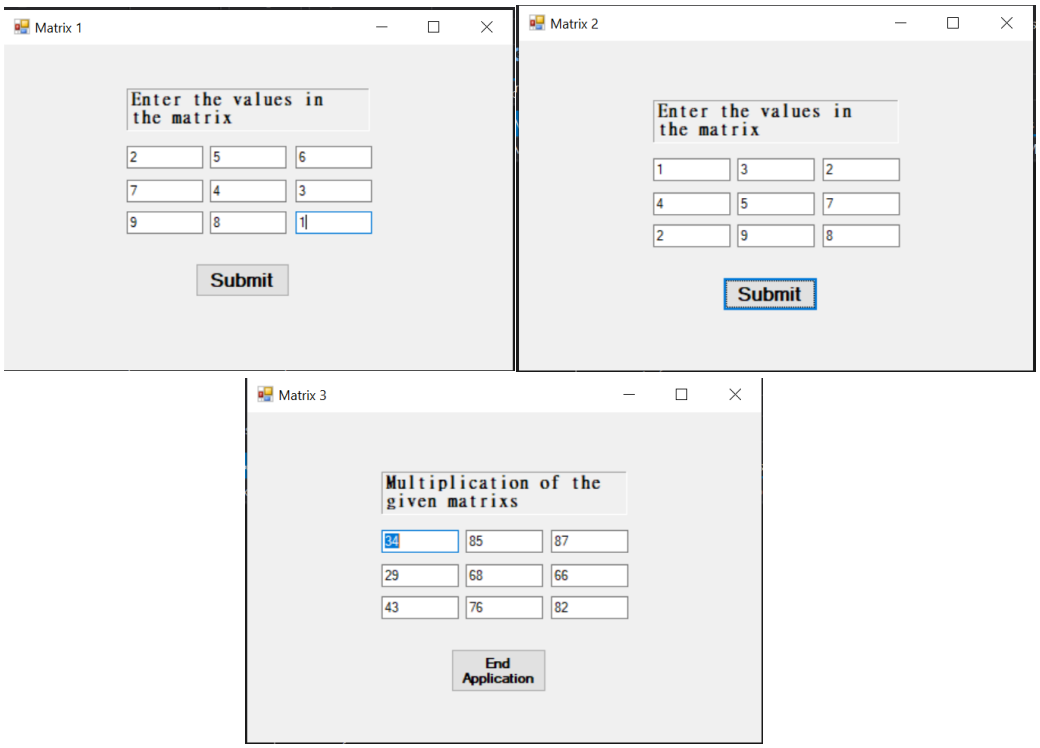
Matrix Multiplication

```
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 Matrix_Multiplication
{
    public partial class frmMatrix1 : Form
    {
        frmMatrix2 m2 = new frmMatrix2();
        int[ , ] tda = new int[3, 3];
        public frmMatrix1()
        {
            InitializeComponent();
        }

        private void label1_Click(object sender, EventArgs e)
        {

        }

        private void button1_Click(object sender, EventArgs e)
        {
            getvalue();
            m2.getarray(tda);
            this.Hide();
            m2.Show();

        }
        public void getvalue()
        {
            tda[0, 0] = Convert.ToInt32(textBox1.Text);
            tda[0, 1] = Convert.ToInt32(textBox2.Text);
            tda[0, 2] = Convert.ToInt32(textBox3.Text);
            tda[1, 0] = Convert.ToInt32(textBox4.Text);
            tda[1, 1] = Convert.ToInt32(textBox5.Text);
            tda[1, 2] = Convert.ToInt32(textBox6.Text);
            tda[2, 0] = Convert.ToInt32(textBox7.Text);
            tda[2, 1] = Convert.ToInt32(textBox8.Text);
            tda[2, 2] = Convert.ToInt32(textBox9.Text);

        }
    }
```

```
}


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 Matrix_Multiplication
{
    public partial class frmMatrix2 : Form
    {
        frmMatrix3 m3 = new frmMatrix3();
        int[ , ] tda = new int[3, 3];
        int[ , ] tda2 = new int[3, 3];
        int[ , ] tda3 = new int[3, 3];
        public frmMatrix2()
        {
            InitializeComponent();
        }

        private void button1_Click(object sender, EventArgs e)
        {
            getvalue();
            arraymulti(tda,tda2);
            this.Hide();
            m3.getarray(tda3);
            m3.Show();
            m3.display();
        }
        public void getvalue()
        {
            tda2[0, 0] = Convert.ToInt32(textBox1.Text);
            tda2[0, 1] = Convert.ToInt32(textBox2.Text);
            tda2[0, 2] = Convert.ToInt32(textBox3.Text);
            tda2[1, 0] = Convert.ToInt32(textBox4.Text);
            tda2[1, 1] = Convert.ToInt32(textBox5.Text);
            tda2[1, 2] = Convert.ToInt32(textBox6.Text);
            tda2[2, 0] = Convert.ToInt32(textBox7.Text);
            tda2[2, 1] = Convert.ToInt32(textBox8.Text);
            tda2[2, 2] = Convert.ToInt32(textBox9.Text);

        }
        public void getarray(int [,]xyz)
        {
            for(int i = 0; i < 3; i++)
            {
                for(int j= 0; j < 3; j++)
                {
                    tda[i, j] = xyz[i, j];
                }
            }
        }
        public void arraymulti(int[,]abc , int [,] xyz)
        {
            for(int i = 0; i<3; i++)
            {
```

```
                for(int j = 0; j<3; j++)
                {
                    for(int k=0; k < 3; k++)
                    {
                        tda3[i, j] += abc[i, k] * xyz[k, j];
                    }
                }
            }

        }
    }
}


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 Matrix_Multiplication
{
    public partial class frmMatrix3 : Form
    {
        int[ , ] tda = new int[3, 3];
        public frmMatrix3()
        {
            InitializeComponent();
        }

        private void button1_Click(object sender, EventArgs e)
        {
            Application.Exit();
        }
        public void display()
        {
            textBox1.Text = tda[0, 0].ToString();
            textBox2.Text = tda[0, 1].ToString();
            textBox3.Text = tda[0, 2].ToString();
            textBox4.Text = tda[1, 0].ToString();
            textBox5.Text = tda[1, 1].ToString();
            textBox6.Text = tda[1, 2].ToString();
            textBox7.Text = tda[2, 0].ToString();
            textBox8.Text = tda[2, 1].ToString();
            textBox9.Text = tda[2, 2].ToString();
        }
        public void getarray(int[,] xyz)
        {
            for (int i = 0; i < 3; i++)
            {
                for (int j = 0; j < 3; j++)
                {
                    tda[i, j] = xyz[i, j];
                }
            }
        }
    }
```

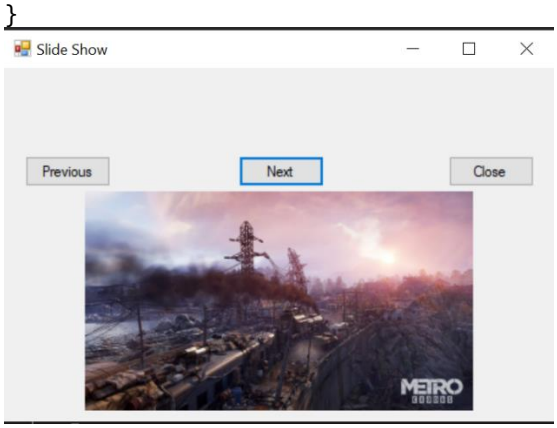
}



Picture Viewer

```
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 Picture_Viewer
{
    public partial class frmPictureviewer : Form
    {

        int count = 1;
        public frmPictureviewer()
        {
            InitializeComponent();
        }

        private void button3_Click(object sender, EventArgs e)
        {
            this.Dispose();
        }

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

```
            this.picslideshow.ImageLocation = @"D:\Faizan (BS)\Semester 5\Visual
Programming\Lab 4\Picture Viewer\Slide Show pics\"+count+".jpg";
        }

        private void picslideshow_Click(object sender, EventArgs e)
        {

        }

        private void btnnext_Click(object sender, EventArgs e)
        {
            if (count == 5)
            {
                this.picslideshow.ImageLocation = @"D:\Faizan (BS)\Semester 5\Visual
Programming\Lab 4\Picture Viewer\Slide Show pics\" + count + ".jpg";
                count = 1;

            }
            else
            {
                this.picslideshow.ImageLocation = @"D:\Faizan (BS)\Semester 5\Visual
Programming\Lab 4\Picture Viewer\Slide Show pics\" + count + ".jpg";
                count++;
            }
        }

        private void btnpervious_Click(object sender, EventArgs e)
        {
            if (count == 1)
            {
                this.picslideshow.ImageLocation = @"D:\Faizan (BS)\Semester 5\Visual
Programming\Lab 4\Picture Viewer\Slide Show pics\" + count + ".jpg";
                count = 5;

            }
            else
            {
                this.picslideshow.ImageLocation = @"D:\Faizan (BS)\Semester 5\Visual
Programming\Lab 4\Picture Viewer\Slide Show pics\" + count + ".jpg";
                count--;
            }
        }
    }
}
```



Puzzle Game

```
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 Puzzle_Game
{
    public partial class frmPuzzlegame : Form
    {
        Random random = new Random();
        int wrong = 3, right=0;

        string locationcheck , location;

        public frmPuzzlegame()
        {
            InitializeComponent();
        }

        private void btnPic_Click(object sender, EventArgs e)
        {
            btnInfo.Text= "GUESS THE PICTURE 3 TIMES FROM THE PUZZLE\n(ATTEMPTS
ALLOWED "+wrong+" )";
          int ran= random.Next(1, 5);

            this.btnPic.BackgroundImage = Image.FromFile(@"D:\Faizan (BS)\Semester
5\Visual Programming\Lab 4\Puzzle Game\Pics\"+ran+".JFIF");
            btnPic.Text = " ";
            btnPic.BackgroundImageLayout = ImageLayout.Stretch;
            location = @"D:\Faizan (BS)\Semester 5\Visual Programming\Lab 4\Puzzle
Game\Pics\" + ran + ".JFIF";
            this.btnPic.Click -= new System.EventHandler(this.btnPic_Click);
        }
        private void button1_Click(object sender, EventArgs e)
         {
            if (location == null)
            {

            }
            else
            {
                this.button1.BackgroundImage = Image.FromFile(@"D:\Faizan
(BS)\Semester 5\Visual Programming\Lab 4\Puzzle Game\Pics\1.JFIF");
                button1.Text = " ";

                button1.BackgroundImageLayout = ImageLayout.Stretch;
                locationcheck = @"D:\Faizan (BS)\Semester 5\Visual Programming\Lab
4\Puzzle Game\Pics\1.JFIF";
                check(locationcheck);
                this.button1.Click -= new System.EventHandler(this.button1_Click);
            }
        }

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

```
            if (location == null)
            {

            }
            else
            {
                this.button2.BackgroundImage = Image.FromFile(@"D:\Faizan
(BS)\Semester 5\Visual Programming\Lab 4\Puzzle Game\Pics\2.JFIF");
                button2.Text = " ";
                button2.BackgroundImageLayout = ImageLayout.Stretch;
                locationcheck = @"D:\Faizan (BS)\Semester 5\Visual Programming\Lab
4\Puzzle Game\Pics\2.JFIF";
                check(locationcheck);
                this.button2.Click -= new System.EventHandler(this.button2_Click);
            }
        }

         private void button16_Click(object sender, EventArgs e)
         {
            if (location == null)
            {

            }
            else
            {
                this.button16.BackgroundImage = Image.FromFile(@"D:\Faizan
(BS)\Semester 5\Visual Programming\Lab 4\Puzzle Game\Pics\2.JFIF");
                button16.Text = " ";
                button16.BackgroundImageLayout = ImageLayout.Stretch;
                locationcheck = @"D:\Faizan (BS)\Semester 5\Visual Programming\Lab
4\Puzzle Game\Pics\2.JFIF";
                check(locationcheck);
                this.button16.Click -= new System.EventHandler(this.button16_Click);
            }
        }

         private void button10_Click(object sender, EventArgs e)
         {
            if (location == null)
            {

            }
            else
            {
                this.button10.BackgroundImage = Image.FromFile(@"D:\Faizan
(BS)\Semester 5\Visual Programming\Lab 4\Puzzle Game\Pics\1.JFIF");
                button10.Text = " ";
                button10.BackgroundImageLayout = ImageLayout.Stretch;
                locationcheck = @"D:\Faizan (BS)\Semester 5\Visual Programming\Lab
4\Puzzle Game\Pics\1.JFIF";
                check(locationcheck);
                this.button10.Click -= new System.EventHandler(this.button10_Click);
            }
        }

         private void button13_Click(object sender, EventArgs e)
         {
            if (location == null)
            {

            }
            else
```

```
            {
                this.button13.BackgroundImage = Image.FromFile(@"D:\Faizan
(BS)\Semester 5\Visual Programming\Lab 4\Puzzle Game\Pics\2.JFIF");
                button13.Text = " ";
                button13.BackgroundImageLayout = ImageLayout.Stretch;
                locationcheck = @"D:\Faizan (BS)\Semester 5\Visual Programming\Lab
4\Puzzle Game\Pics\2.JFIF";
                check(locationcheck);
                this.button13.Click -= new System.EventHandler(this.button13_Click);
            }
        }

         private void button12_Click(object sender, EventArgs e)
         {
            if (location == null)
            {

            }
            else
            {
                this.button12.BackgroundImage = Image.FromFile(@"D:\Faizan
(BS)\Semester 5\Visual Programming\Lab 4\Puzzle Game\Pics\3.JFIF");
                button12.Text = " ";
                button12.BackgroundImageLayout = ImageLayout.Stretch;
                locationcheck = @"D:\Faizan (BS)\Semester 5\Visual Programming\Lab
4\Puzzle Game\Pics\3.JFIF";
                check(locationcheck);
                this.button12.Click -= new System.EventHandler(this.button12_Click);
            }
        }

         private void button9_Click(object sender, EventArgs e)
         {
            if (location == null)
            {

            }
            else
            {
                this.button9.BackgroundImage = Image.FromFile(@"D:\Faizan
(BS)\Semester 5\Visual Programming\Lab 4\Puzzle Game\Pics\3.JFIF");
                button9.Text = " ";
                button9.BackgroundImageLayout = ImageLayout.Stretch;
                locationcheck = @"D:\Faizan (BS)\Semester 5\Visual Programming\Lab
4\Puzzle Game\Pics\3.JFIF";
                check(locationcheck);
                this.button9.Click -= new System.EventHandler(this.button9_Click);
            }
        }

         private void button3_Click(object sender, EventArgs e)
         {
            if (location == null)
            {

            }
            else
            {
                this.button3.BackgroundImage = Image.FromFile(@"D:\Faizan
(BS)\Semester 5\Visual Programming\Lab 4\Puzzle Game\Pics\3.JFIF");
                button3.Text = " ";
                button3.BackgroundImageLayout = ImageLayout.Stretch;
```

```
                locationcheck = @"D:\Faizan (BS)\Semester 5\Visual Programming\Lab
4\Puzzle Game\Pics\3.JFIF";
                check(locationcheck);
                this.button3.Click -= new System.EventHandler(this.button3_Click);
            }
        }

         private void button11_Click(object sender, EventArgs e)
         {
            if (location == null)
            {

            }
            else
            {
                this.button11.BackgroundImage = Image.FromFile(@"D:\Faizan
(BS)\Semester 5\Visual Programming\Lab 4\Puzzle Game\Pics\4.JFIF");
                button11.Text = " ";
                button11.BackgroundImageLayout = ImageLayout.Stretch;
                locationcheck = @"D:\Faizan (BS)\Semester 5\Visual Programming\Lab
4\Puzzle Game\Pics\4.JFIF";
                check(locationcheck);
                this.button11.Click -= new System.EventHandler(this.button11_Click);
            }
        }

         private void button4_Click(object sender, EventArgs e)
         {
            if (location == null)
            {

            }
            else
            {
                this.button4.BackgroundImage = Image.FromFile(@"D:\Faizan
(BS)\Semester 5\Visual Programming\Lab 4\Puzzle Game\Pics\4.JFIF");
                button4.Text = " ";
                button4.BackgroundImageLayout = ImageLayout.Stretch;
                locationcheck = @"D:\Faizan (BS)\Semester 5\Visual Programming\Lab
4\Puzzle Game\Pics\4.JFIF";
                check(locationcheck);
                this.button4.Click -= new System.EventHandler(this.button4_Click);
            }
        }

         private void button8_Click(object sender, EventArgs e)
        {
            if (location == null)
            {

            }
            else
            {
                this.button8.BackgroundImage = Image.FromFile(@"D:\Faizan
(BS)\Semester 5\Visual Programming\Lab 4\Puzzle Game\Pics\4.JFIF");
                button8.Text = " ";
                button8.BackgroundImageLayout = ImageLayout.Stretch;
                locationcheck = @"D:\Faizan (BS)\Semester 5\Visual Programming\Lab
4\Puzzle Game\Pics\4.JFIF";
                check(locationcheck);
                this.button8.Click -= new System.EventHandler(this.button8_Click);
            }
```

```
        }

         private void button6_Click(object sender, EventArgs e)
         {
            if (location == null)
            {

            }
            else
            {
                this.button6.BackgroundImage = Image.FromFile(@"D:\Faizan
(BS)\Semester 5\Visual Programming\Lab 4\Puzzle Game\Pics\1.JFIF");
                button6.Text = " ";
                button6.BackgroundImageLayout = ImageLayout.Stretch;
                locationcheck = @"D:\Faizan (BS)\Semester 5\Visual Programming\Lab
4\Puzzle Game\Pics\1.JFIF";
                check(locationcheck);
                this.button6.Click -= new System.EventHandler(this.button6_Click);
            }
        }

         private void button5_Click(object sender, EventArgs e)
         {
            if (location == null)
            {

            }
            else
            {
                this.button5.BackgroundImage = Image.FromFile(@"D:\Faizan
(BS)\Semester 5\Visual Programming\Lab 4\Puzzle Game\Pics\5.JFIF");
                button5.Text = " ";
                button5.BackgroundImageLayout = ImageLayout.Stretch;
                locationcheck = @"D:\Faizan (BS)\Semester 5\Visual Programming\Lab
4\Puzzle Game\Pics\5.JFIF";
                check(locationcheck);
                this.button5.Click -= new System.EventHandler(this.button5_Click);
            }
        }

         private void button14_Click(object sender, EventArgs e)
         {
            if (location == null)
            {

            }
            else
            {
                this.button14.BackgroundImage = Image.FromFile(@"D:\Faizan
(BS)\Semester 5\Visual Programming\Lab 4\Puzzle Game\Pics\5.JFIF");
                button14.Text = " ";
                button14.BackgroundImageLayout = ImageLayout.Stretch;
                locationcheck = @"D:\Faizan (BS)\Semester 5\Visual Programming\Lab
4\Puzzle Game\Pics\5.JFIF";
                check(locationcheck);
                this.button14.Click -= new System.EventHandler(this.button14_Click);
            }
        }

         private void button7_Click(object sender, EventArgs e)
        {
            if (location == null)
```

```
            {

            }
            else
            {
                this.button7.BackgroundImage = Image.FromFile(@"D:\Faizan
(BS)\Semester 5\Visual Programming\Lab 4\Puzzle Game\Pics\5.JFIF");
                button7.Text = " ";
                button7.BackgroundImageLayout = ImageLayout.Stretch;
                locationcheck = @"D:\Faizan (BS)\Semester 5\Visual Programming\Lab
4\Puzzle Game\Pics\5.JFIF";
                check(locationcheck);
                this.button7.Click -= new System.EventHandler(this.button7_Click);
            }
        }

         private void button15_Click(object sender, EventArgs e)
         {
            if (location == null)
            {

            }
            else
            {
                this.button15.BackgroundImage = Image.FromFile(@"D:\Faizan
(BS)\Semester 5\Visual Programming\Lab 4\Puzzle Game\Pics\4.JFIF");
                button15.Text = " ";
                button15.BackgroundImageLayout = ImageLayout.Stretch;
                locationcheck = @"D:\Faizan (BS)\Semester 5\Visual Programming\Lab
4\Puzzle Game\Pics\4.JFIF";
                check(locationcheck);
                this.button15.Click -= new System.EventHandler(this.button15_Click);
            }
        }
        public void check(String check)
        {
            if(locationcheck == location)
            {
                right++;
                if (right == 3)
                {

                        DialogResult result = MessageBox.Show("You Win.", "Exit",
MessageBoxButtons.RetryCancel, MessageBoxIcon.Warning);
                        if (result == DialogResult.Cancel)
                        {
                            Application.Exit();
                        }
                        else if (result == DialogResult.Retry)
                        {
                            Application.Restart();
                        }

                    }
            }
            else
            {
                wrong--;
                btnInfo.Text = "GUESS THE PICTURE 3 TIMES FROM THE PUZZLE\n(ATTEMPTS
ALLOWED " + wrong + " )";

                if (wrong == 0) {
```

```
                    DialogResult result = MessageBox.Show("You Lose.", "Exit",
MessageBoxButtons.RetryCancel, MessageBoxIcon.Warning);
                    if(result == DialogResult.Cancel)
                    {
                        Application.Exit();
                    }
                    else if (result == DialogResult.Retry)
                    {
                        Application.Restart();
                    }
                }
            }
        }
    }
}
```