Ex. No. 7	Windows Form Application		
Date of Exercise	12.09.2016	Date of Upload	02.11.2016

Aim

To develop **Address Book Maintenance System** using C# by integrating Database with proper authentication

Description

Web - based applications have taken off over the past several years and are fast becoming the standard. The ability to have all of your application logic reside on a centralized server is very appealing from an administrator' s viewpoint. **Windows Forms** will seem familiar if you are a Visual Basic developer. You create new forms (also known as windows or dialogs) in much the same way that you drag and drop controls from a toolbox onto the Form Designer. However, if your background is in the classic C style of Windows programming, where you create the message pump and monitor messages, or if you are an MFC programmer, you will find that you are able to get to the lower - level internals if you need to. You can override the window procedure and catch messages, but you might be surprised that you really won't need to very often.

CREATING A WINDOWS FORMS APPLICATION

```
using System;
using System.Windows.Forms;
namespace NotepadForms
{
public class MyForm: System.Windows.Forms.Form
{
public MyForm()
{
}
[STAThread]
static void Main()
```

```
{ Application.Run(new MyForm());
}}}
```

PANEL

- simply a control that contains other controls
- Panel control is derived from ScrollableControl
- AutoScroll, scroll through all of the controls
- BorderStyle, use the Panel to visually group related controls using borders.
- Panel is the base class for the FlowLayoutPanel, TableLayoutPanel, TabPage, and SplitterPanel

SOME USEFUL SYNTAX

Syntax to create a **text box**

```
private System.Windows.Forms.TextBox textBox1;
```

Syntax to create a **button**

```
private System.Windows.Forms.Button button1;
```

Syntax to create a **label**

```
private System.Windows.Forms.Label label1;
```

Syntax to create a **check box**

```
private System.Windows.Forms.CheckBox checkBox1;
```

Syntax to create a **radio button**

```
private System.Windows.Forms.RadioButton radioButton1;
```

Syntax to create a **combo box**

```
private System.Windows.Forms.ComboBox comboBox1;
```

MDI:

•Multiple-document interface (MDI) applications enable you to display multiple documents at the same time, with each document displayed in its own window.

•MDI applications often have a Window menu item with submenus for switching between windows or documents.

To create an MDI parent form at design time

- Create a Windows Application project.
- In the **Properties** window, set the **IsMDIContainer** property to **true**. This designates the form as an MDI container for child windows. Background turns a dark gray color.
- From the **Toolbox**, drag a **MenuStrip** control to the form. Create a top-level menu item with the **Text** property set to **&File** with submenu items called **&New** and **&Close**. Also create a top-level menu item called **&Window**.
- The first menu will create and hide menu items at run time, and the second menu will keep track of the open MDI child windows. At this point, you have created an MDI parent window.
- Press **F5** to run the application. For information about creating MDI child windows that operate within the MDI parent form.

To create MDI child forms

- Create an MDI parent form
- In **Solution Explorer**, right-click the project, point to **Add**, and then select **Add New Item**.
- In the **Add New Item** dialog box, select **Windows Form**
- Add the code for the menu item called **&Window**

```
protected void MDIChildNew_Click(object sender, System.EventArgs e)
{
Form2 newMDIChild = new Form2();
// Set the Parent Form of the Child window. newMDIChild.MdiParent = this;
// Display the new form.
newMDIChild.Show();
}
```

Use the **ActiveMdiChild property**, which returns the child form that has the focus or that was most recently active.

```
Form activeChild = this.ActiveMdiChild;
```

The child forms can be arranged by calling **LayoutMdi** method. It takes **MdiLayout** enumeration with values of Cascade, TileHorizontal, TileVertical

```
this.LayoutMdi(System.Windows.Forms.MdiLayout.Cascade);
```

FORM INSTANTIATION AND DESTRUCTION

The events occur in the following order in the process of form creation

- Constructor
- Load
- Activated
- Closing
- Closed
- Deactivate

CUSTOM CONTROLS

- The ability to create your own controls, components, and user controls makes it even more productive.
- By creating controls, functionality can be encapsulated into packages that can be reused over and over.
- You can create a control in a number of ways.
- You can start from scratch, deriving your class from either Control , ScrollableControl , or ContainerControl
- Creating a customized textbox inherited from System.Windows.Forms.TextBox

USER CONTROL

- User controls are one of the more powerful features of Windows Forms.
- They enable you to encapsulate user interface designs into nice reusable packages that can be plugged into project after project.
- Create a simple address user control and use it in a form

PROGRAM

AUTHENTICATION[LOGIN]

```
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 _7.Address_Book_Maintenance_System
{
    public partial class Form1 : Form
    {
        public Form1()
        {
            InitializeComponent();
        }

        private void textBox2_TextChanged(object sender, EventArgs e)
        {

        }

        private void button1_Click(object sender, EventArgs e)
        {
            //Validating the password
            String username, password;
            username = textBox1.Text;
            password = textBox2.Text;
            //NUll values
            if (username.Equals("") || password.Equals(""))
            {
                MessageBox.Show("Please fill the fields");
            }
            else {
                //Authentication
                if (username.Equals("admin") || password.Equals("admin")) {


                    Form2 f2 = new Form2();
```

```
                    this.Hide();
                    f2.ShowDialog();
                    this.Close();
                }
            }



        }

        private void textBox1_TextChanged(object sender, EventArgs e)
        {

        }

        private void label3_Click(object sender, EventArgs e)
        {

        }
    }
}
```

FORM2.CS[ADDRESS BOOK]

```
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;
using System.Data.SqlClient;
namespace _7.Address_Book_Maintenance_System
{
    public partial class Form2 : Form
    {
        public Form2()
        {
            InitializeComponent();
            textBox1.ForeColor = Color.SlateGray;
            textBox2.ForeColor = Color.SlateGray;
            textBox3.ForeColor = Color.SlateGray;
            textBox4.ForeColor = Color.SlateGray;
            textBox5.ForeColor = Color.SlateGray;
            textBox6.ForeColor = Color.SlateGray;
            textBox7.ForeColor = Color.SlateGray;
```

```
        textBox8.ForeColor = Color.SlateGray;
        button5.Visible = false;
        button6.Visible = false;
        button7.Visible = false;
        button8.Visible = false;
        Hideall();
    }

    private void textBox1_Click(object sender, EventArgs e)
    {
        textBox1.ForeColor = Color.Black;

    }

    private void textBox3_Click(object sender, EventArgs e)
    {
        textBox3.ForeColor = Color.Black;

    }

    private void textBox4_Click(object sender, EventArgs e)
    {
        textBox4.ForeColor = Color.Black;

    }

    private void textBox5_Click(object sender, EventArgs e)
    {
        textBox5.ForeColor = Color.Black;

    }

    private void textBox6_Click(object sender, EventArgs e)
    {
        textBox6.ForeColor = Color.Black;

    }

    private void textBox2_Click(object sender, EventArgs e)
    {
        textBox2.ForeColor = Color.Black;

    }

    private void textBox7_Click(object sender, EventArgs e)
    {
        textBox7.ForeColor = Color.Black;

    }
```

```
        private void textBox8_Click(object sender, EventArgs e)
        {
            textBox8.ForeColor = Color.Black;

        }

        private void Form2_Load(object sender, EventArgs e)
        {
            // TODO: This line of code loads data into the
'formsDbDataSet.citizendetails' table. You can move, or remove it, as needed.

        }
        //Insert
        private void button1_Click(object sender, EventArgs e)
        {
            Visibleall();
            bool val = true;
                val = IfNotNull();
            if (val==false)
            {
                MessageBox.Show("Please Fill out all the fields");
            }
            else
            {
                string source = @"Data Source= SUHAAS;Initial Catalog=FormsDb;Integrated
Security=True";
                SqlConnection con = new SqlConnection(source);
                con.Open();
                SqlCommand insertCommand = new SqlCommand("INSERT INTO [citizendetails]
(addressdb,pindb,citydb,statedb,countrydb,phonedb,maildb,aadharnum) VALUES
(@addr,@pin,@city,@state,@country,@phone,@mail,@aadhar)", con);
                insertCommand.Parameters.Add("@addr", SqlDbType.VarChar, 255,
"addressdb").Value = textBox2.Text;
                insertCommand.Parameters.Add("@pin", SqlDbType.VarChar, 255,
"pindb").Value = textBox6.Text;
                insertCommand.Parameters.Add("@city", SqlDbType.VarChar, 255,
"citydb").Value = textBox5.Text;
                insertCommand.Parameters.Add("@state", SqlDbType.VarChar, 255,
"statedb").Value = textBox4.Text;
                insertCommand.Parameters.Add("@country", SqlDbType.VarChar, 255,
"countrydb").Value = textBox3.Text;
                insertCommand.Parameters.Add("@phone", SqlDbType.VarChar, 255,
"phonedb").Value = textBox7.Text;
                insertCommand.Parameters.Add("@mail", SqlDbType.VarChar, 255,
"maildb").Value = textBox8.Text;
                insertCommand.Parameters.Add("@aadhar", SqlDbType.VarChar, 255,
"aadharnum").Value = textBox1.Text;
                int queryResult = insertCommand.ExecuteNonQuery();
                if (queryResult > 0)
                {
```

```
                    label1.Text = "Records Inserted Successfully";
                    label1.ForeColor = Color.Green;
                }
                else
                {
                    label1.Text = "Try Again";
                    label1.ForeColor = Color.Red;
                }
                SqlDataAdapter adp = new SqlDataAdapter("select * from citizendetails",
con);
                DataSet ds = new DataSet();
                adp.Fill(ds);
                dataGridView1.DataSource = ds.Tables[0];
                con.Close();
            }


        }

        public bool IfNotNull()
        {
            if (textBox1.Text == "" || textBox2.Text == "" || textBox3.Text == "" ||
textBox4.Text == ""
                || textBox5.Text == "" || textBox6.Text == "" ||
                textBox7.Text == "" || textBox8.Text == "" ||
textBox5.Text.Equals("City")) {
                return false;
            }
            else
            {
                return true;
            }
        }

        public void Hideall() {
            textBox1.Visible = false;
            textBox2.Visible = false;
            textBox3.Visible = false;
            textBox4.Visible = false;
            textBox5.Visible = false;
            textBox6.Visible = false;
            textBox7.Visible = false;
            textBox8.Visible = false;
            button5.Visible = false;
        }
        public void Visibleall()
        {
            textBox1.Visible = true;
            textBox2.Visible = true;
            textBox3.Visible = true;
```

```
            textBox4.Visible = true;
            textBox5.Visible = true;
            textBox6.Visible = true;
            textBox7.Visible = true;
            textBox8.Visible = true;
        }

        public void ButtonVisible() {
            button1.Visible = true;
            button2.Visible = true;
            button3.Visible = true;
            button4.Visible = true;
        }

        private void button2_Click(object sender, EventArgs e)
        {
            Hideall();
            textBox7.Visible = true;
            textBox8.Visible = true;
            button5.Visible = true;
            label1.Text = "Fill the Visible Boxes for verification";

        }

        private void panel1_Paint(object sender, PaintEventArgs e)
        {

        }

        private void button5_Click(object sender, EventArgs e)
        {
            string phonenum, mailid;
            phonenum = textBox7.Text;
            mailid = textBox8.Text;
            if (phonenum != null || mailid != null || phonenum != "Phone Number" ||
mailid != "Mail Id")
            {
                string source = @"Data Source= SUHAAS;Initial Catalog=FormsDb;Integrated
Security=True";
                SqlConnection con = new SqlConnection(source);
                con.Open();
                SqlCommand insertCommand = new SqlCommand("Select * from
[citizendetails] WHERE phonedb=@phone AND maildb=@mail", con);
                insertCommand.Parameters.Add("@phone", SqlDbType.VarChar, 255,
"phonedb").Value = phonenum;
                insertCommand.Parameters.Add("@mail", SqlDbType.VarChar, 255,
"maildb").Value = mailid;
                SqlDataReader queryResult = insertCommand.ExecuteReader();
                while (queryResult.Read())
                {
```

```
                textBox2.Text = queryResult[0].ToString();
                textBox6.Text = queryResult[1].ToString();
                textBox3.Text = queryResult[2].ToString();
                textBox4.Text = queryResult[3].ToString();
                textBox5.Text = queryResult[4].ToString();
                textBox1.Text = queryResult[7].ToString();
            }

            if (queryResult !=null)
            {
                Visibleall();
                button2.Visible = false;
                textBox7.Visible = false;
                textBox8.Visible = false;
                label1.Text = "Click below to Update";
                label1.ForeColor = Color.Green;
                textBox7.Text = phonenum;
                textBox8.Text = mailid;
                button6.Visible = true;
                button5.Visible = false;
                button6.Text = "Update Please";
            }
            else
            {
                label1.Text = "Invalid Credentials"+queryResult;
                label1.ForeColor = Color.Red;
            }
            con.Close();
        }
        else { MessageBox.Show("Enter the fields "); }
    }

    private void button6_Click(object sender, EventArgs e)
    {
        string phonenum, mailid;
        phonenum = textBox7.Text;
        mailid = textBox8.Text;

        bool val = true;
        val = IfNotNull();
        if (val == false)
        {
            MessageBox.Show("Please Fill out all the fields");
        }
        else
        {
            string source = @"Data Source= SUHAAS;Initial Catalog=FormsDb;Integrated
Security=True";
            SqlConnection con = new SqlConnection(source);
            con.Open();
```

```
                SqlCommand insertCommand = new SqlCommand("UPDATE [citizendetails] SET
addressdb=@addr,pindb=@pin,citydb=@city,statedb=@state,countrydb=@country,aadharnum=@aadh
ar WHERE phonedb=@phone AND maildb=@mail", con);
                insertCommand.Parameters.Add("@addr", SqlDbType.VarChar, 255,
"addressdb").Value = textBox2.Text;
                insertCommand.Parameters.Add("@pin", SqlDbType.VarChar, 255,
"pindb").Value = textBox6.Text;
                insertCommand.Parameters.Add("@city", SqlDbType.VarChar, 255,
"citydb").Value = textBox5.Text;
                insertCommand.Parameters.Add("@state", SqlDbType.VarChar, 255,
"statedb").Value = textBox4.Text;
                insertCommand.Parameters.Add("@country", SqlDbType.VarChar, 255,
"countrydb").Value = textBox3.Text;
                insertCommand.Parameters.Add("@aadhar", SqlDbType.VarChar, 255,
"aadharnum").Value = textBox1.Text;
                insertCommand.Parameters.Add("@phone", SqlDbType.VarChar, 255,
"phonedb").Value = textBox7.Text;
                insertCommand.Parameters.Add("@mail", SqlDbType.VarChar, 255,
"maildb").Value = textBox8.Text;
                int queryResult = insertCommand.ExecuteNonQuery();
                if (queryResult > 0)
                {
                    label1.Text = "Updated Successfully";
                    label1.ForeColor = Color.Green;
                }
                else
                {
                    label1.Text = "Try Again";
                    label1.ForeColor = Color.Red;
                }
                SqlDataAdapter adp = new SqlDataAdapter("select * from citizendetails ",
con);
                DataSet ds = new DataSet();
                adp.Fill(ds);
                dataGridView1.DataSource = ds.Tables[0];
                con.Close();
                button5.Visible = false;
                button6.Visible = false;
                button2.Visible = true;
            }
        }

        private void button3_Click(object sender, EventArgs e)
        {
            button7.Visible = true;
            Hideall();
            textBox7.Visible = true;
            textBox8.Visible = true;
            label1.Text = "Press Confirm after Entering Details";
            label1.ForeColor = Color.Red;
```

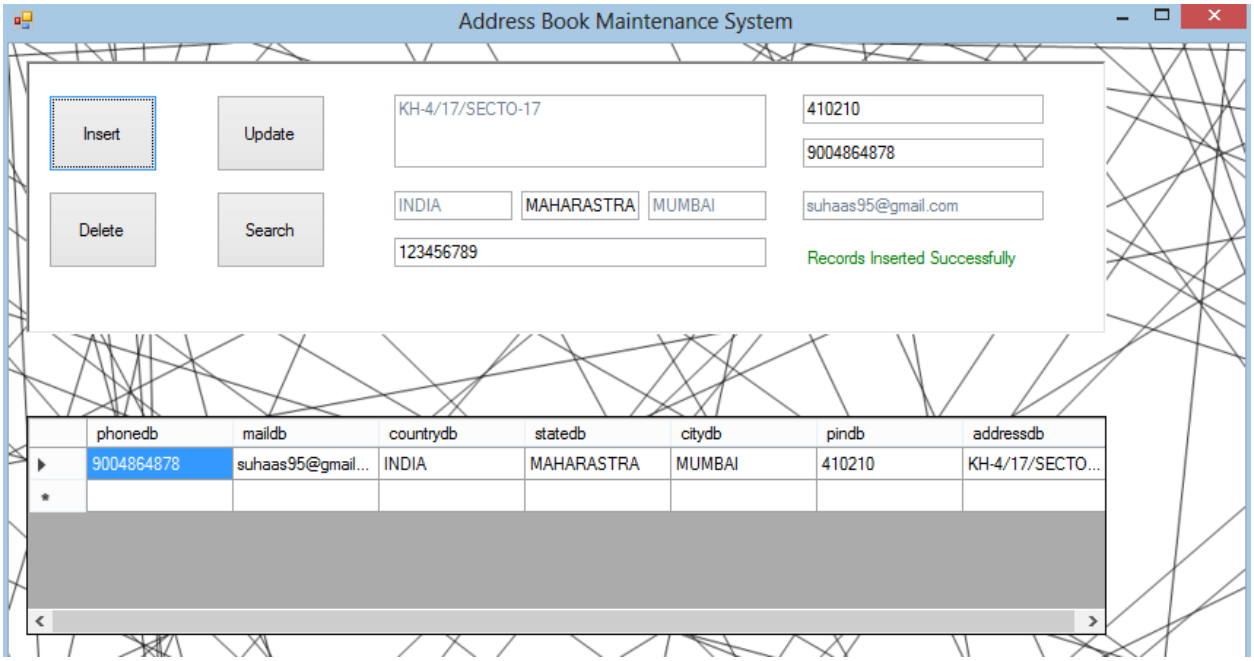
```
        }

        private void button7_Click(object sender, EventArgs e)
        {
            string source = @"Data Source= SUHAAS;Initial Catalog=FormsDb;Integrated
Security=True";
            SqlConnection con = new SqlConnection(source);
            con.Open();
            SqlCommand insertCommand = new SqlCommand("DELETE [citizendetails] FROM
[citizendetails]  WHERE phonedb=@phone AND maildb=@mail", con);
            insertCommand.Parameters.Add("@phone", SqlDbType.VarChar, 255,
"phonedb").Value = textBox7.Text;
            insertCommand.Parameters.Add("@mail", SqlDbType.VarChar, 255, "maildb").Value
= textBox8.Text;
            int queryResult = insertCommand.ExecuteNonQuery();
            if (queryResult > 0)
            {
                label1.Text = "Deleted Successfully";
                label1.ForeColor = Color.Green;
            }
            else
            {
                label1.Text = "Data Not Found";
                label1.ForeColor = Color.Red;
            }
            SqlDataAdapter adp = new SqlDataAdapter("select * from citizendetails ",
con);
            DataSet ds = new DataSet();
            adp.Fill(ds);
            dataGridView1.DataSource = ds.Tables[0];
            con.Close();
            button7.Visible = false;
        }

        private void button8_Click(object sender, EventArgs e)
        {
            string aadharnum;
            aadharnum = textBox1.Text;
            if (aadharnum != "" || aadharnum.Equals("Aadhar Card Number"))
            {
                string source = @"Data Source= SUHAAS;Initial Catalog=FormsDb;Integrated
Security=True";
                SqlConnection con = new SqlConnection(source);
                con.Open();
                SqlCommand insertCommand = new SqlCommand("Select * from
[citizendetails] WHERE aadharnum=@aadhar", con);
                insertCommand.Parameters.Add("@aadhar", SqlDbType.VarChar, 255,
"aadharnum").Value = aadharnum;
                SqlDataReader queryResult = insertCommand.ExecuteReader();
```

```
                if (!queryResult.HasRows)
                {
                    label1.Text = "Not Found";
                    label1.ForeColor = Color.Red;
                    ButtonVisible();
                    Visibleall();
                    MessageBox.Show("No Records are found", "Error",
MessageBoxButtons.OK, MessageBoxIcon.Asterisk);
                }
                else {
                    while (queryResult.Read())
                    {
                        textBox2.Text = queryResult[0].ToString();
                        textBox6.Text = queryResult[1].ToString();
                        textBox3.Text = queryResult[2].ToString();
                        textBox4.Text = queryResult[3].ToString();
                        textBox5.Text = queryResult[4].ToString();
                        textBox1.Text = queryResult[7].ToString();
                        textBox7.Text = queryResult[5].ToString();
                        textBox8.Text = queryResult[6].ToString();
                    }
                    Visibleall();
                    label1.Text = "Record Found";
                    label1.ForeColor = Color.Green;
                    Visibleall();
                    ButtonVisible();
                    button8.Visible = false;
                }

                con.Close();
            }
            else { MessageBox.Show("Enter the fields"); }
        }

        private void button4_Click(object sender, EventArgs e)
        {
            Hideall();
            textBox1.Visible = true;
            button8.Visible = true;
            button1.Visible = false;
            button2.Visible = false;
            button3.Visible = false;
            button4.Visible = false;
            button7.Visible = false;

            label1.Text = "Enter the Aadhar Card Number to Search";
            label1.ForeColor = Color.Red;
        }
    }
}
```

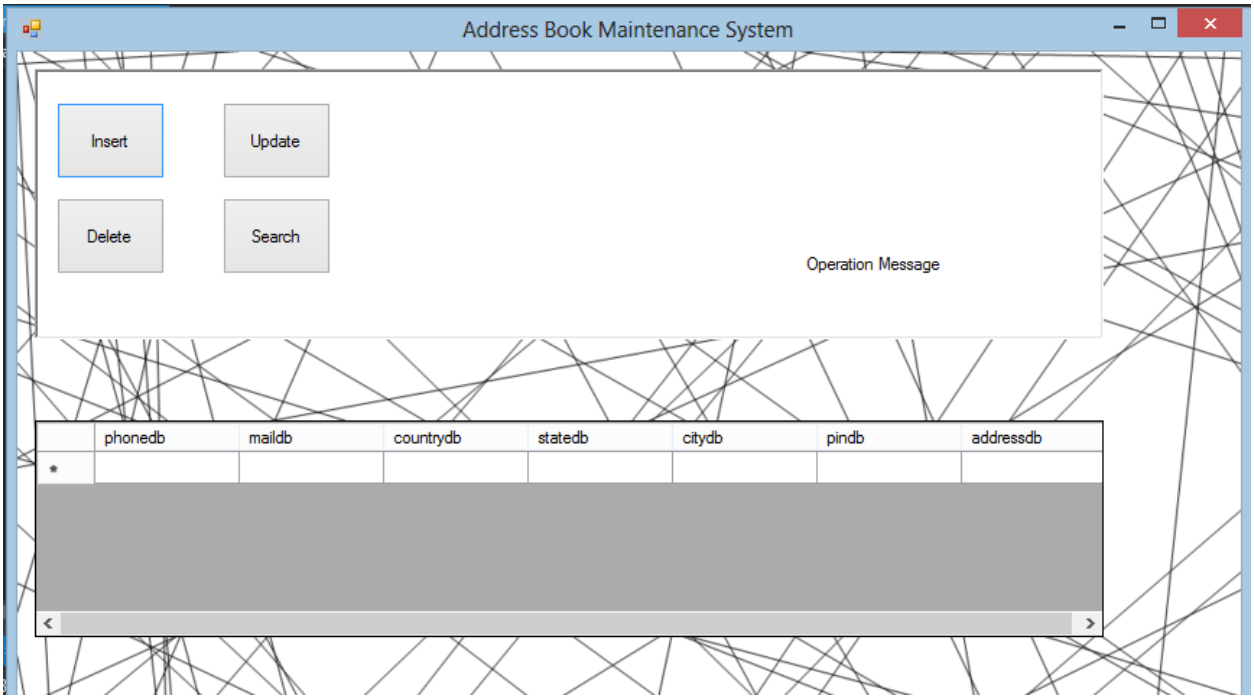
OUTPUT

AUTHENTICATION

INSERT

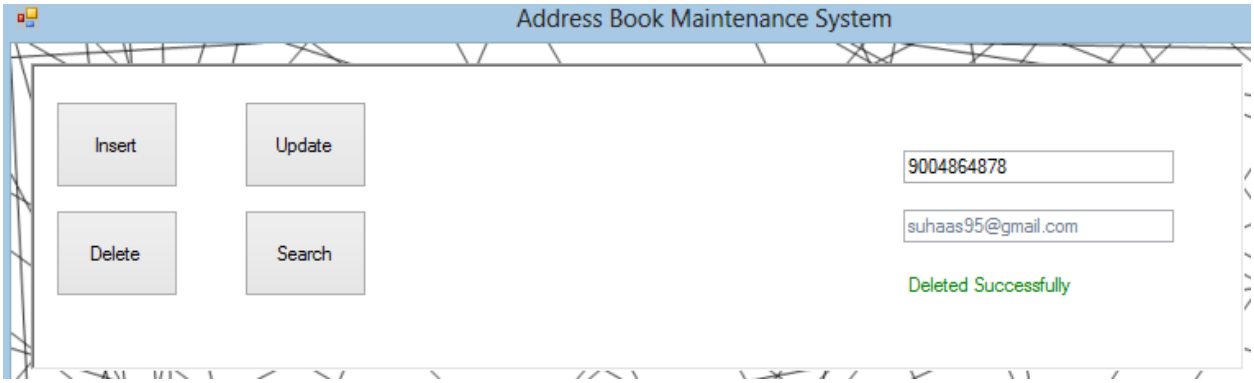

Address Book Maintenance System
Insert
Update
Delete
Search
KH-4/17/SECTO-17
410210
9004864878
INDIA
MAHARASTRA
MUMBAI
suhaas95@gmail.com
123456789
Records Inserted Successfully
phonedb
maildb
countrydb
statedb
citydb
pindb
addressdb
9004864878
suhaas95@gmail...
INDIA
MAHARASTRA
MUMBAI
410210
KH-4/17/SECTO...

MENU


Address Book Maintenance System
Insert
Update
Delete
Search
Operation Message
phonedb
maildb
countrydb
statedb
citydb
pindb
addressdb

UPDATE

DELETE



SEARCH

Result

The above programmed is compiled successfully and the screenshots are well described with successful outputs and constraints.

[Dr J Anitha/Dr. S.P. Jeno Lovesum]