ACTIVITIES SECTION

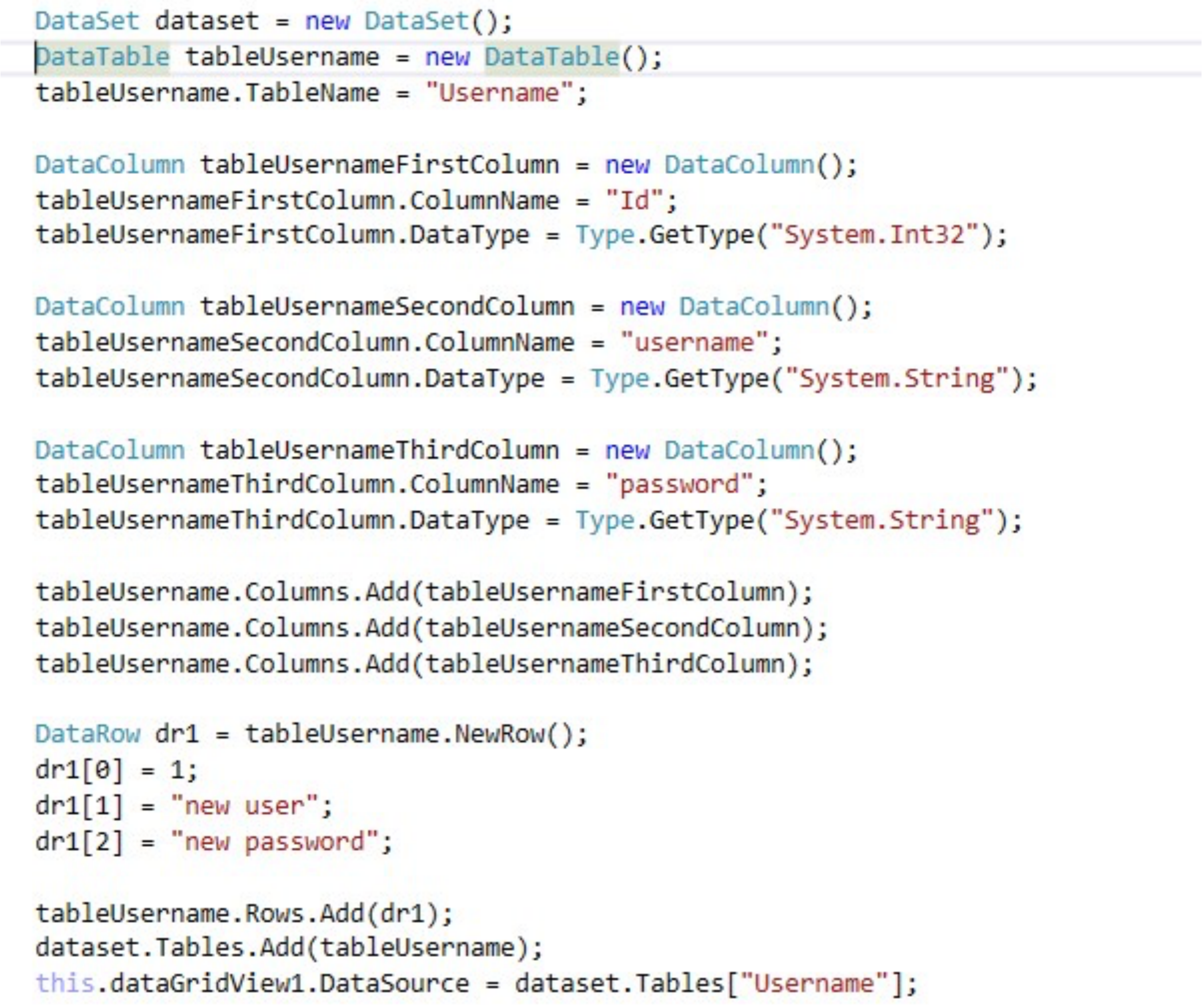
ACTIVITY 1: STEPS

⇨ Create windows forms application named dsApp.

⇨ Create a form in it.

⇨ Place DataGridView on form.

⇨ On Form_Load event write following code in the form.



```
DataSet dataset = new DataSet();
DataTable tableUsername = new DataTable();
tableUsername.TableName = "Username";

DataColumn tableUsernameFirstColumn = new DataColumn();
tableUsernameFirstColumn.ColumnName = "Id";
tableUsernameFirstColumn.DataType = Type.GetType("System.Int32");

DataColumn tableUsernameSecondColumn = new DataColumn();
tableUsernameSecondColumn.ColumnName = "username";
tableUsernameSecondColumn.DataType = Type.GetType("System.String");

DataColumn tableUsernameThirdColumn = new DataColumn();
tableUsernameThirdColumn.ColumnName = "password";
tableUsernameThirdColumn.DataType = Type.GetType("System.String");

tableUsername.Columns.Add(tableUsernameFirstColumn);
tableUsername.Columns.Add(tableUsernameSecondColumn);
tableUsername.Columns.Add(tableUsernameThirdColumn);

DataRow dr1 = tableUsername.NewRow();
dr1[0] = 1;
dr1[1] = "new user";
dr1[2] = "new password";

tableUsername.Rows.Add(dr1);
dataset.Tables.Add(tableUsername);
this.dataGridView1.DataSource = dataset.Tables["Username"];
```

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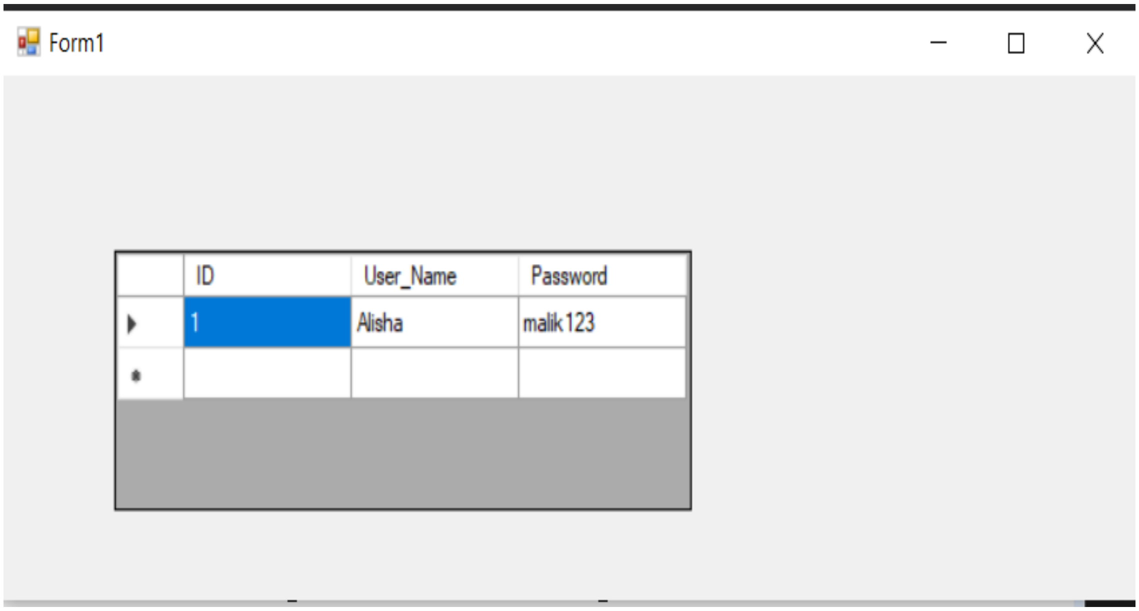
OUTPUT:



	ID	User_Name	Password
▶	1	Alisha	malik123
*			

ACTIVITY 2: STEPS

⇨ Create a windows forms application named ShortCutsApp. ⇨ Create a form in this application named frmShortCut

⇨ When form loads following interface should be displayed to user.

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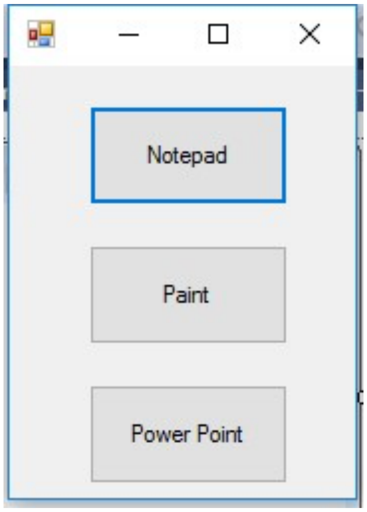
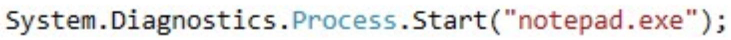


⇨ When user clicks button that has text “Notepad”, open a notepad editor for user or simply launch notepad editor.
⇨ When user clicks button with text “Paint”, open MS paint for user.
⇨ When user clicks button with text “Power Point”, open power point for user.

[Note]
⇨ All buttons should be created and displayed at runtime.
⇨ Event handling should also be done at runtime.
⇨ You can use following command for opening relevant application



```
System.Diagnostics.Process.Start("notepad.exe");
```

⇨ **System** is namespace
⇨ **Diagnostics** is also namespace
⇨ **Process** is a class: it provides way to start and stop local system processes.
⇨ **Start** is a method that requires name of exe file of application.

Here are names of exe files of applications that are required for example

1. Notepad: notepad.exe
2. Paint: mspaint.exe
3. Power Point: powerpnt.exe

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

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```
using System.Threading.Tasks;
using System.Windows.Forms;

namespace Lab08_Task01
{
    public partial class Form1 : Form
    {
        public Form1()
        {
            InitializeComponent();
        }

        private void Form1_Load(object sender, EventArgs e)
        {

        }

        private void button1_Click(object sender, EventArgs e)
        {
            System.Diagnostics.Process.Start("notepad.exe");
        }

        private void button2_Click(object sender, EventArgs e)
        {
            System.Diagnostics.Process.Start("mspaint.exe");
        }

        private void button3_Click(object sender, EventArgs e)
        {

                System.Diagnostics.Process.Start("POWERPNT.EXE");
        }
    }
}
```

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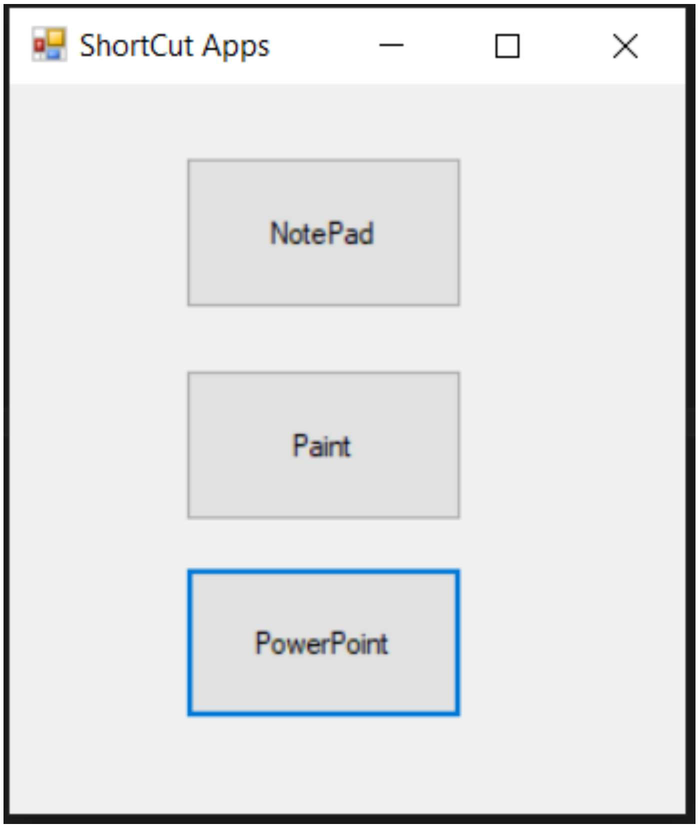

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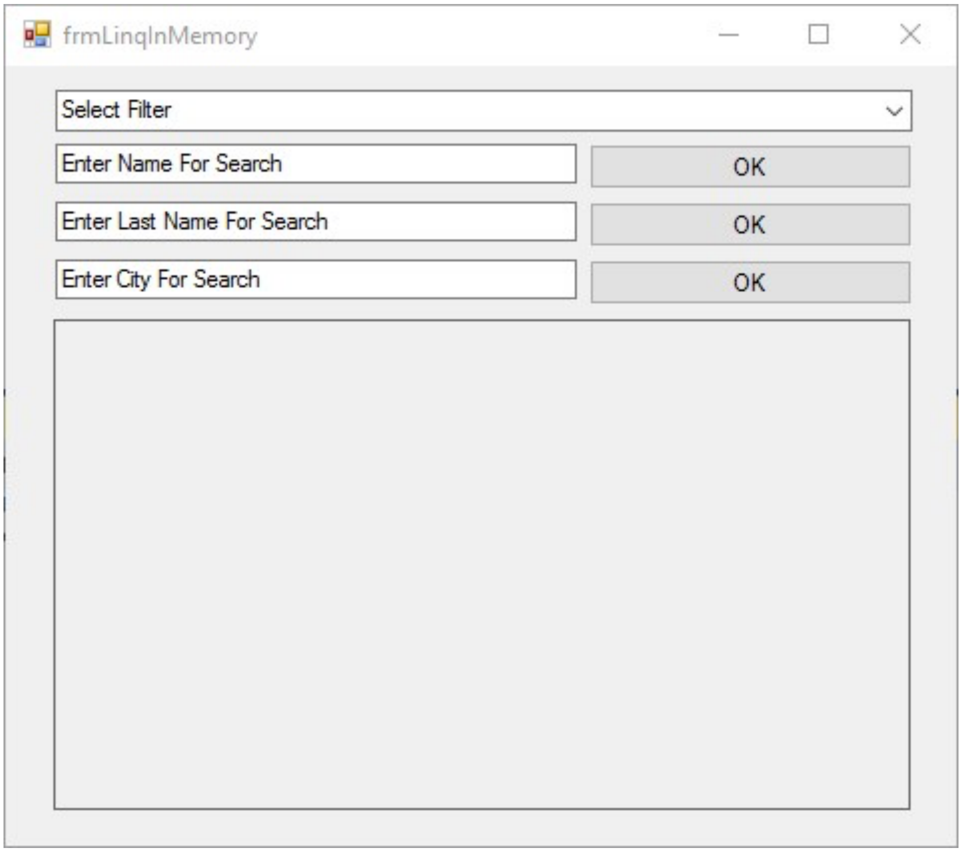
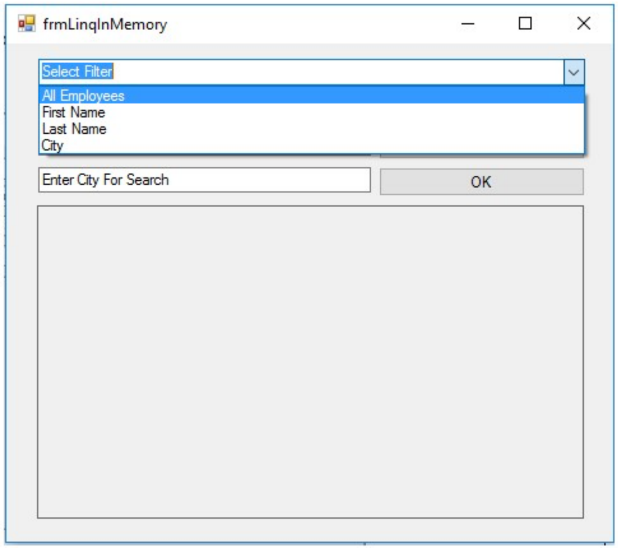
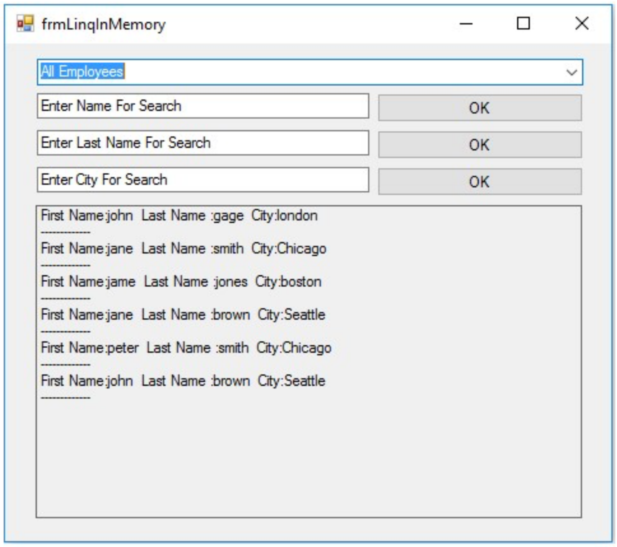
ACITVITY 3: STEPS

- ⇨ Create an application named LinqExamples.
- ⇨ Create a form named frmLinq.
- ⇨ Create interface of form as given







```
First Name:john  Last Name :gage  City:london
-------------
First Name:jane  Last Name :smith  City:Chicago
-------------
First Name:jame  Last Name :jones  City:boston
-------------
First Name:jane  Last Name :brown  City:Seattle
-------------
First Name:peter  Last Name :smith  City:Chicago
-------------
First Name:john  Last Name :brown  City:Seattle
-------------
```

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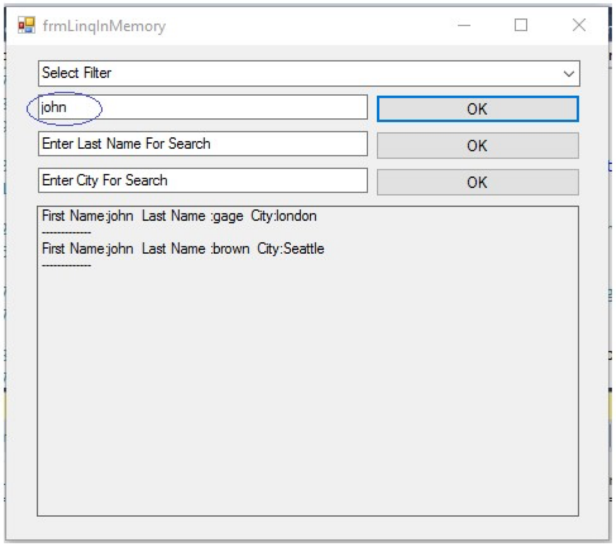
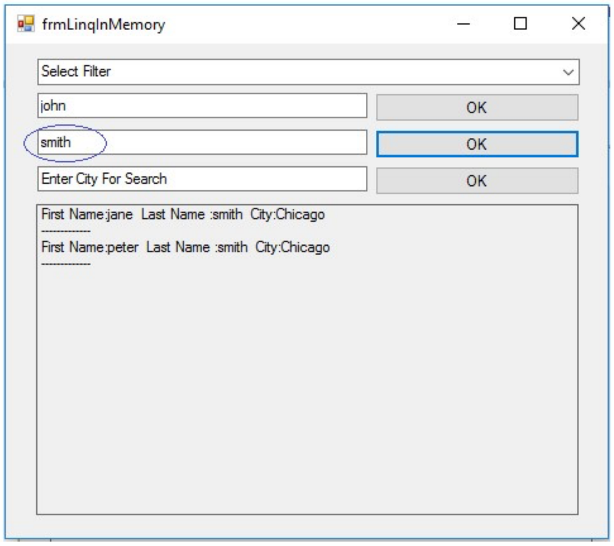


john

```
First Name:john  Last Name :gage  City:london
------------
First Name:john  Last Name :brown  City:Seattle
------------
```



john

smith

```
First Name:jane  Last Name :smith  City:Chicago
------------
First Name:peter  Last Name :smith  City:Chicago
------------
```

PROGRAM SETUP

⇨ Create a class named Employee with three fields and three properties.

- **firstName** field and **FirstName** property for it.
- **lastName** field and **LastName** property for it.
- **city** field and **City** property for it.

⇨ Create an instance of **List** class named **employees** which should be accessible in all methods of a form, this **employees** will be used as a data holder for different employee objects of **Employee** class.

⇨ Populate the **employees** object of List class using its Add method.

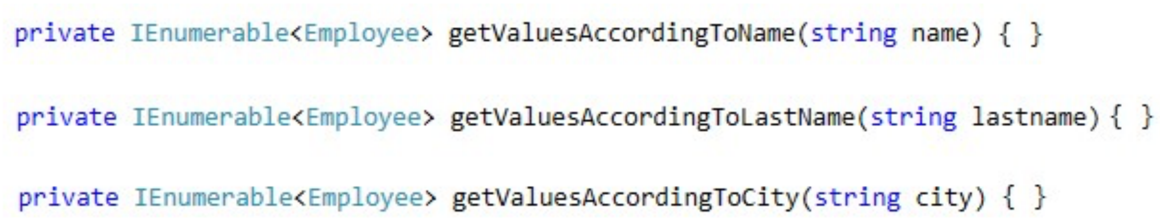
- Note: Here we are adding objects of Employee class in List.

⇨ Before adding employee objects to List setup their values as given here:

```
FirstName="john", LastName="gage", City="london"
FirstName = "jane", LastName = "smith", City = "Chicago"
FirstName = "jame", LastName = "jones", City = "boston"
FirstName = "jane", LastName = "brown", City = "Seattle"
FirstName = "peter", LastName = "smith", City = "Chicago"
FirstName = "john", LastName = "brown", City = "Seattle"
```

⇨ **Program Requirements**

1. Display records from data holder on basis of filter applied using combo box.
2. After that implement following methods for searching records relevant to values of text boxes.



```
private IEnumerable<Employee> getValuesAccordingToName(string name) { }

private IEnumerable<Employee> getValuesAccordingToLastName(string lastname) { }

private IEnumerable<Employee> getValuesAccordingToCity(string city) { }
```

3. Place combo box besides of each text box that shows two values ascending or descending and now display records according to order selected.

[Note]: ○ You can use orderby clause for this purpose.

○ For example: orderby columnName

○ After getting filtered records you can write other LINQ query which will sort the records.

Code :

```
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 Lab08_Task01
{
    public partial class Form1 : Form
    {
        public Form1()
        {
            InitializeComponent();
        }
        public class Employee
        {
            public string name{get; set;}
            public string last_name { get; set; }
            public string city { get; set; }
        }
        Employee[] arr = new Employee[6];
        string add = "";

        private void Form1_Load(object sender, EventArgs e)
        {
            arr[0] = new Employee { name = "Muhammad", last_name = "Ali", city = "Islamabad" };
            arr[1] = new Employee { name = "Malik", last_name = "Ali", city = "Chakwal" };
            arr[2] = new Employee { name = "Faizan", last_name = "Bhatti", city = "Faisalabad" };
            arr[3] = new Employee { name = "Faizan", last_name = "Ahmed", city = "Sukkur" };
            arr[4] = new Employee { name = "Dilshad", last_name = "Hussain", city = "Gambat" };
            arr[5] = new Employee { name = "Dilshad", last_name = "Baidani", city = "Karachi" };
```

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```
        }

        private void comboBox1_SelectedIndexChanged(object sender, EventArgs e)
        {


            if (comboBox1.SelectedIndex == 0)
            {

                var query = from p in arr select p;

                foreach (var r in query)
                {

                    add = "First Name : " + r.name + " Last Name : " + r.last_name + " City : " +
r.city;
                    listBox1.Items.Add(add);
                }
            }

            else if (comboBox1.SelectedIndex == 1)
            {

                var query = from p in arr select p;
                listBox1.Items.Clear();
                foreach (var r in query)
                {


                    add = "First Name : " + r.name ;
                    listBox1.Items.Add(add);
                }
            }

            else if (comboBox1.SelectedIndex == 2)
            {

                var query = from p in arr select p;
                listBox1.Items.Clear();
                foreach (var r in query)
                {


                    add = "Last Name : " + r.last_name;
                    listBox1.Items.Add(add);
                }
            }

            else if (comboBox1.SelectedIndex == 3)
            {

                var query = from p in arr select p;

                listBox1.Items.Clear();
                foreach (var r in query)
                {


                    add = "City : " + r.city;
                    listBox1.Items.Add(add);
                }
            }
        }

        private void button1_Click(object sender, EventArgs e)
        {
            var query = from p in arr where p.name == textBox1.Text select p;
            listBox1.Items.Clear();
            foreach(var r in query)
            {
                add = "First Name : " + r.name + " Last Name : " + r.last_name + " City : " + r.city;
                listBox1.Items.Add(add);
            }
        }

        private void button2_Click(object sender, EventArgs e)
        {
            var query = from p in arr where p.last_name == textBox2.Text select p;
            listBox1.Items.Clear();
            foreach (var r in query)
            {
                add = "First Name : " + r.name + " Last Name : " + r.last_name + " City : " + r.city;
                listBox1.Items.Add(add);
            }
        }

        private void button3_Click(object sender, EventArgs e)
        {
            var query = from p in arr where p.city == textBox3.Text select p;
            listBox1.Items.Clear();
            foreach (var r in query)
            {
                add = "First Name : " + r.name + " Last Name : " + r.last_name + " City : " + r.city;
                listBox1.Items.Add(add);
            }
        }
    }
}
```

Output:

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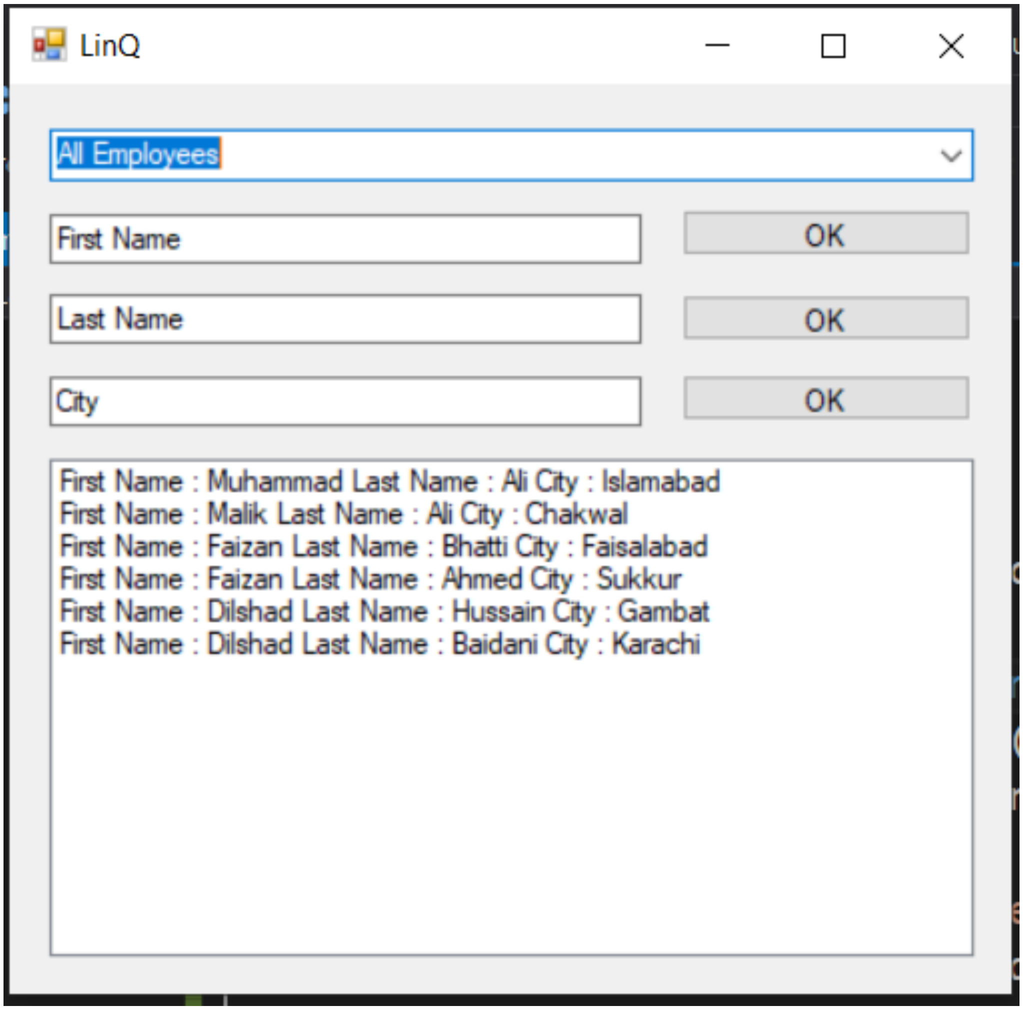


```
First Name : Muhammad Last Name : Ali City : Islamabad
First Name : Malik Last Name : Ali City : Chakwal
First Name : Faizan Last Name : Bhatti City : Faisalabad
First Name : Faizan Last Name : Ahmed City : Sukkur
First Name : Dilshad Last Name : Hussain City : Gambat
First Name : Dilshad Last Name : Baidani City : Karachi
```

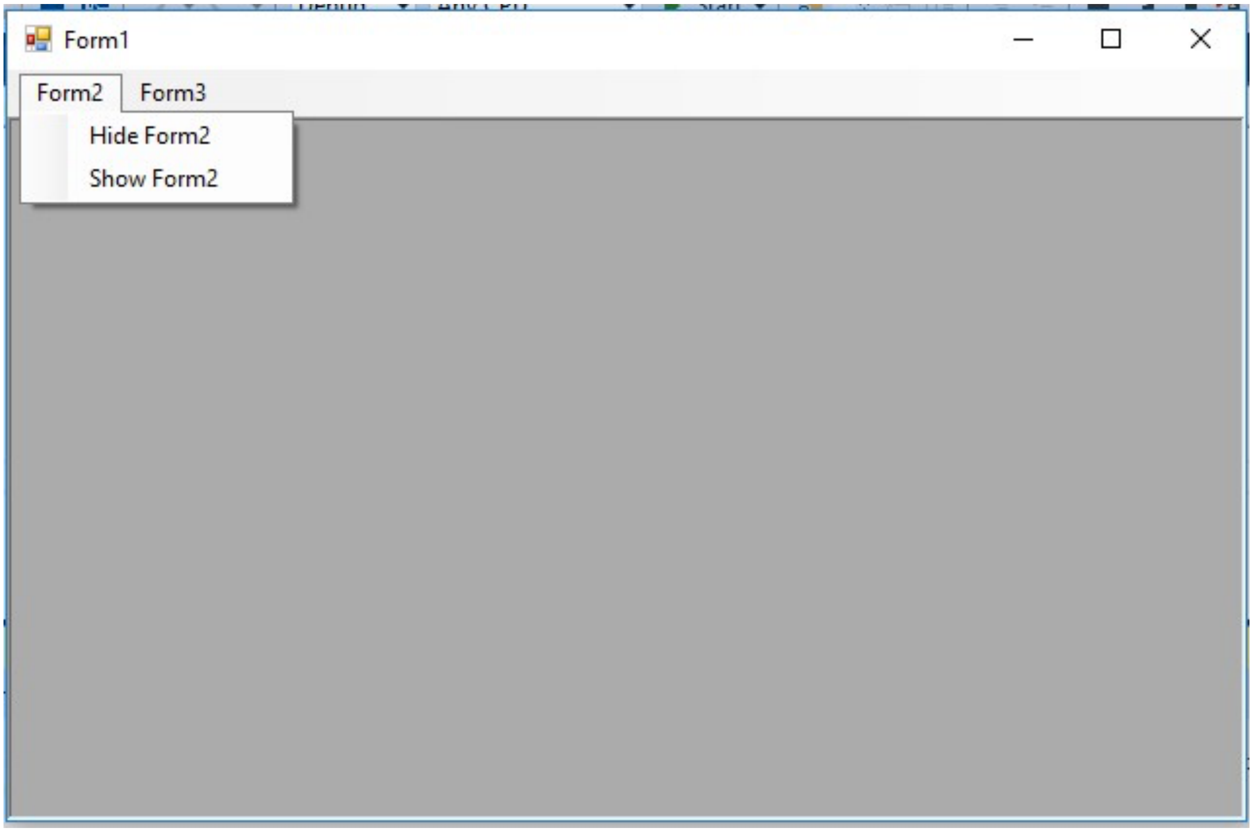
Activity 4

⇨ Create an application named MDIApp.

⇨ Create three forms in this application.

⇨ Create interface of form1 as given in image.

⇨ Set **isMdiContainer** property of form1 to **true**.



- ⇨ Show form2 using Show() method
- ⇨ Hide form2 using Hide() method

- ⇨ Implement FormClosing event of Form2 and Form3 and write following code there.
  - ○ Cancel the event by using this line of code: e.Cancel = true; ○ Now hide the form by using this line of code: this.Hide();

- ⇨ Do the same with Form3.

- ⇨ Execute the code and validate the results.

Code:

```
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 Lab08_Task01
{
    public partial class Form1 : Form
```

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```
    {
        public Form1()
        {
            InitializeComponent();
        }

        Form2 test   = new Form2();
        Form3 test1 = new Form3();
        private void Form1_Load(object sender, EventArgs e)
        {



        }

        private void hideForm2ToolStripMenuItem_Click(object sender, EventArgs e)
        {
            test.Hide();
        }

        private void showForm2ToolStripMenuItem_Click(object sender, EventArgs e)
        {
            test.Show();
        }

        private void hideForm3ToolStripMenuItem_Click(object sender, EventArgs e)
        {
            test1.Hide();
        }

        private void showForm3ToolStripMenuItem_Click(object sender, EventArgs e)
        {
            test1.Show();
        }
    }
}
```

Output:

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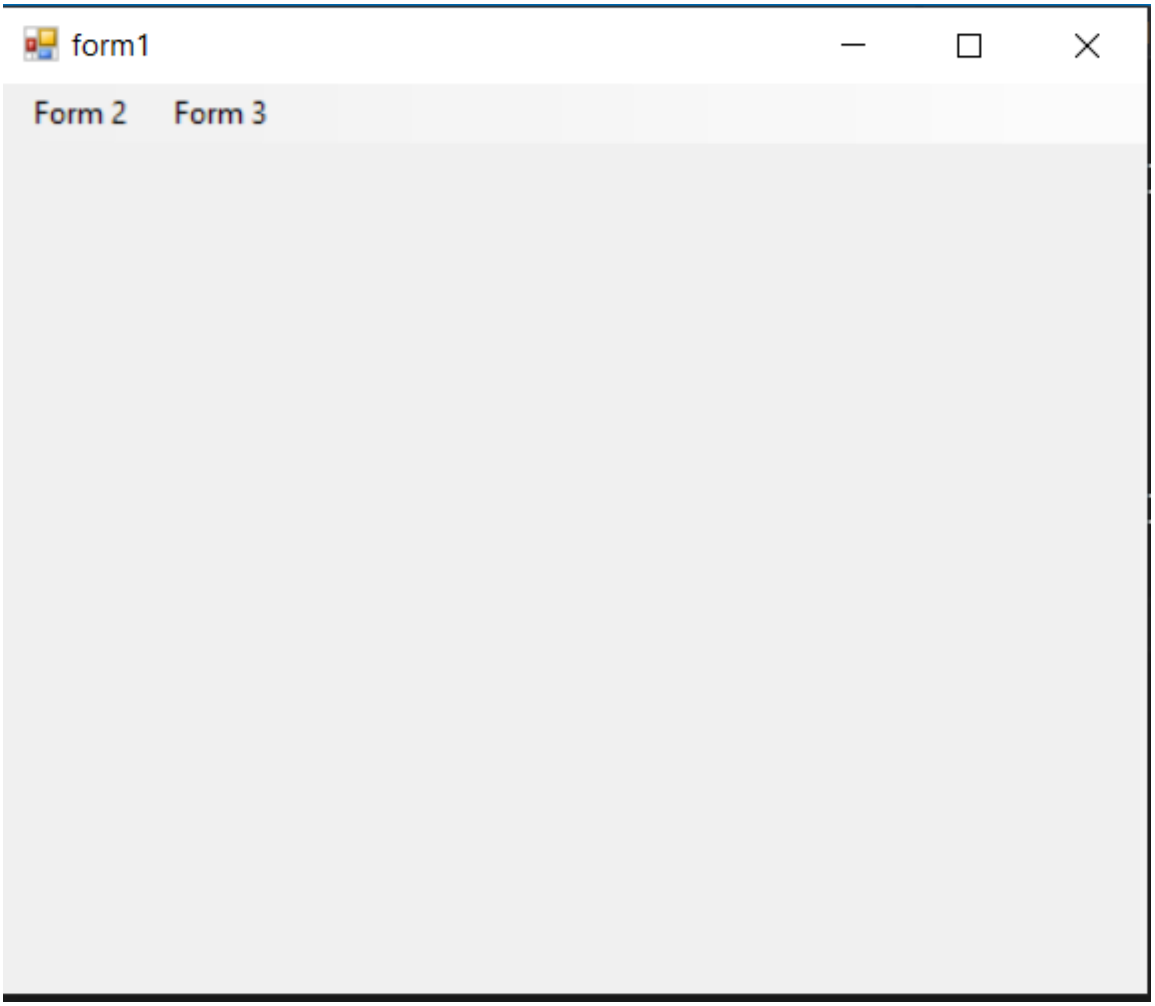


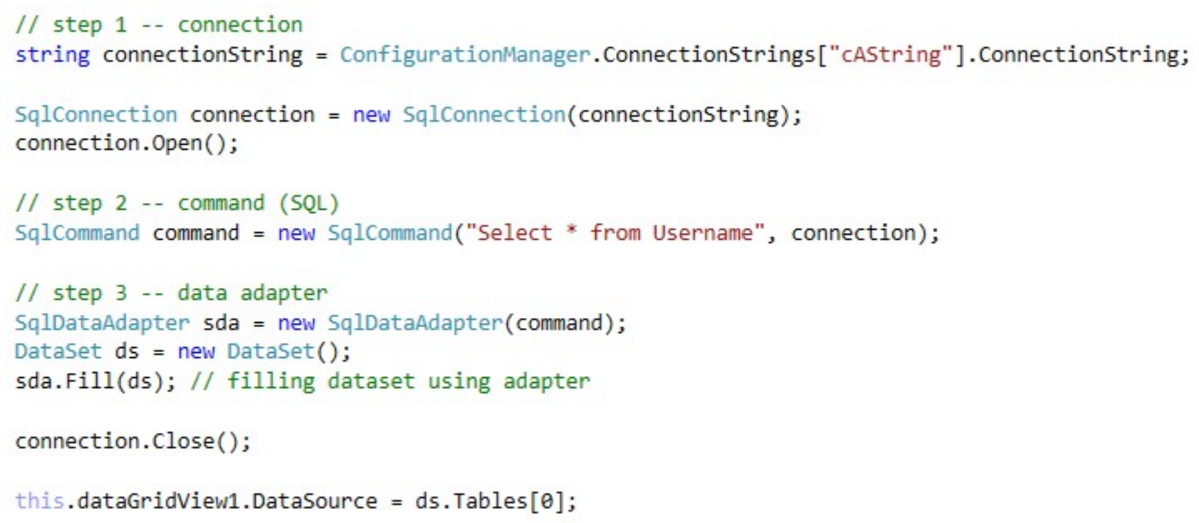
Activity 5

⇨ Create windows forms application named disconnectedAccess.

⇨ Create a form in it.

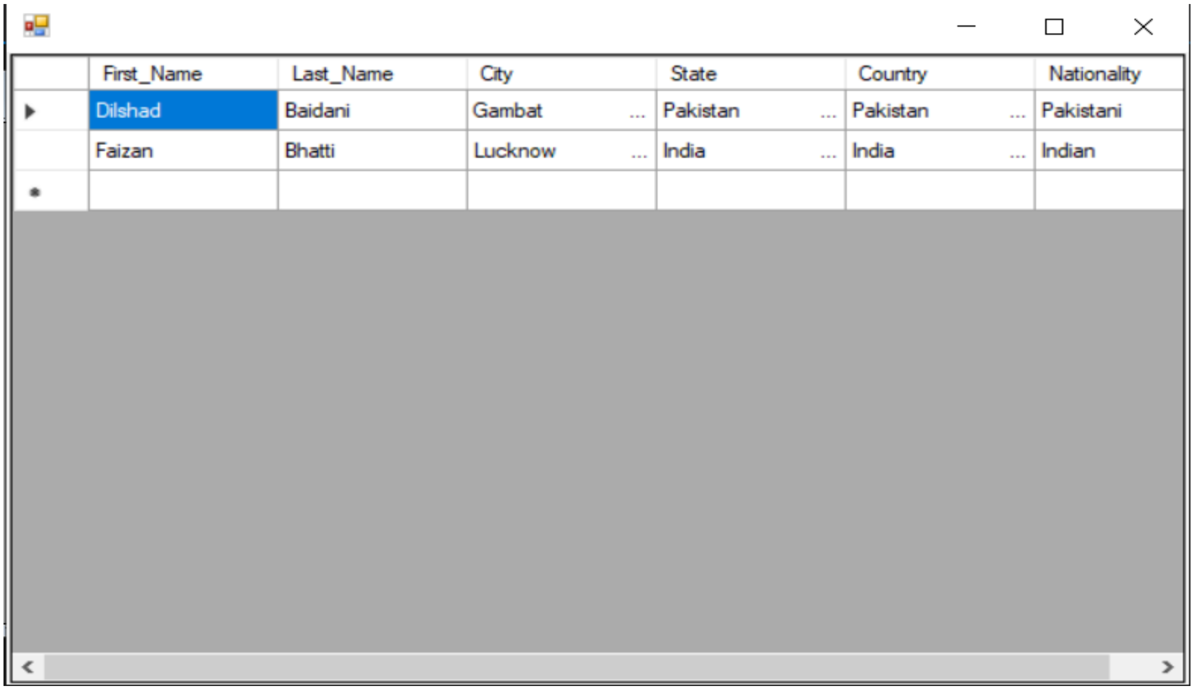
⇨ Place DataGridView on form.

⇨ In load event of form place following code.



```
// step 1 -- connection
string connectionString = ConfigurationManager.ConnectionStrings["cAString"].ConnectionString;

SqlConnection connection = new SqlConnection(connectionString);
connection.Open();

// step 2 -- command (SQL)
SqlCommand command = new SqlCommand("Select * from Username", connection);

// step 3 -- data adapter
SqlDataAdapter sda = new SqlDataAdapter(command);
DataSet ds = new DataSet();
sda.Fill(ds); // filling dataset using adapter

connection.Close();

this.dataGridView1.DataSource = ds.Tables[0];
```

Execute the program and validate the results.



	First_Name	Last_Name	City	State	Country	Nationality
▶	Dilshad	Baidani	Gambat ...	Pakistan ...	Pakistan ...	Pakistani
	Faizan	Bhatti	Lucknow ...	India ...	India ...	Indian
*						

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