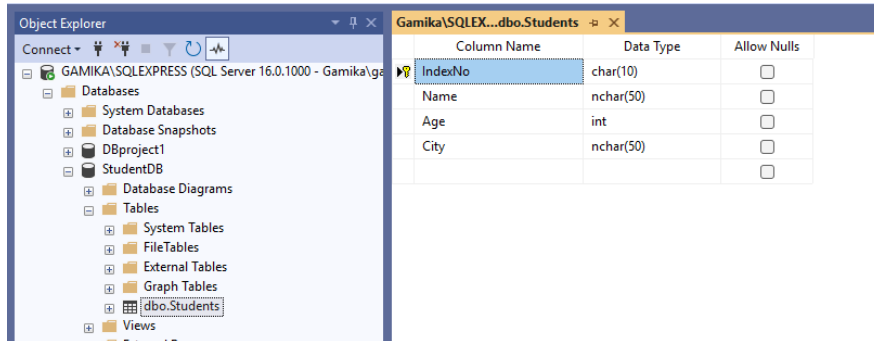


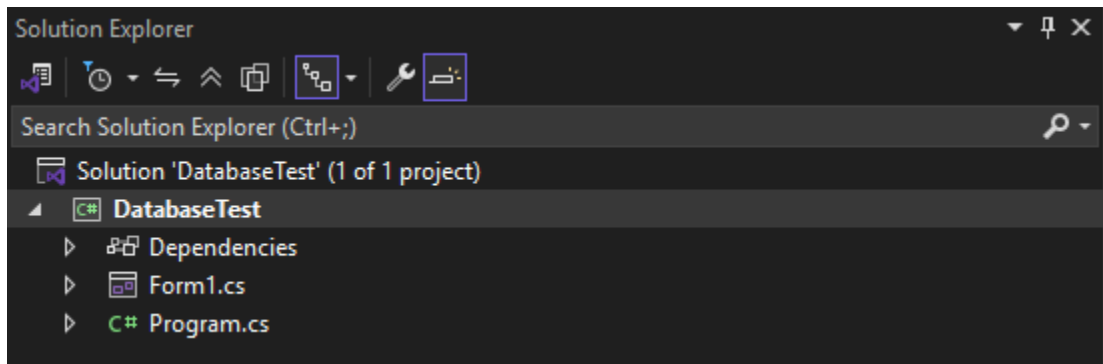
Exercise 01

Step 01: Create a new database



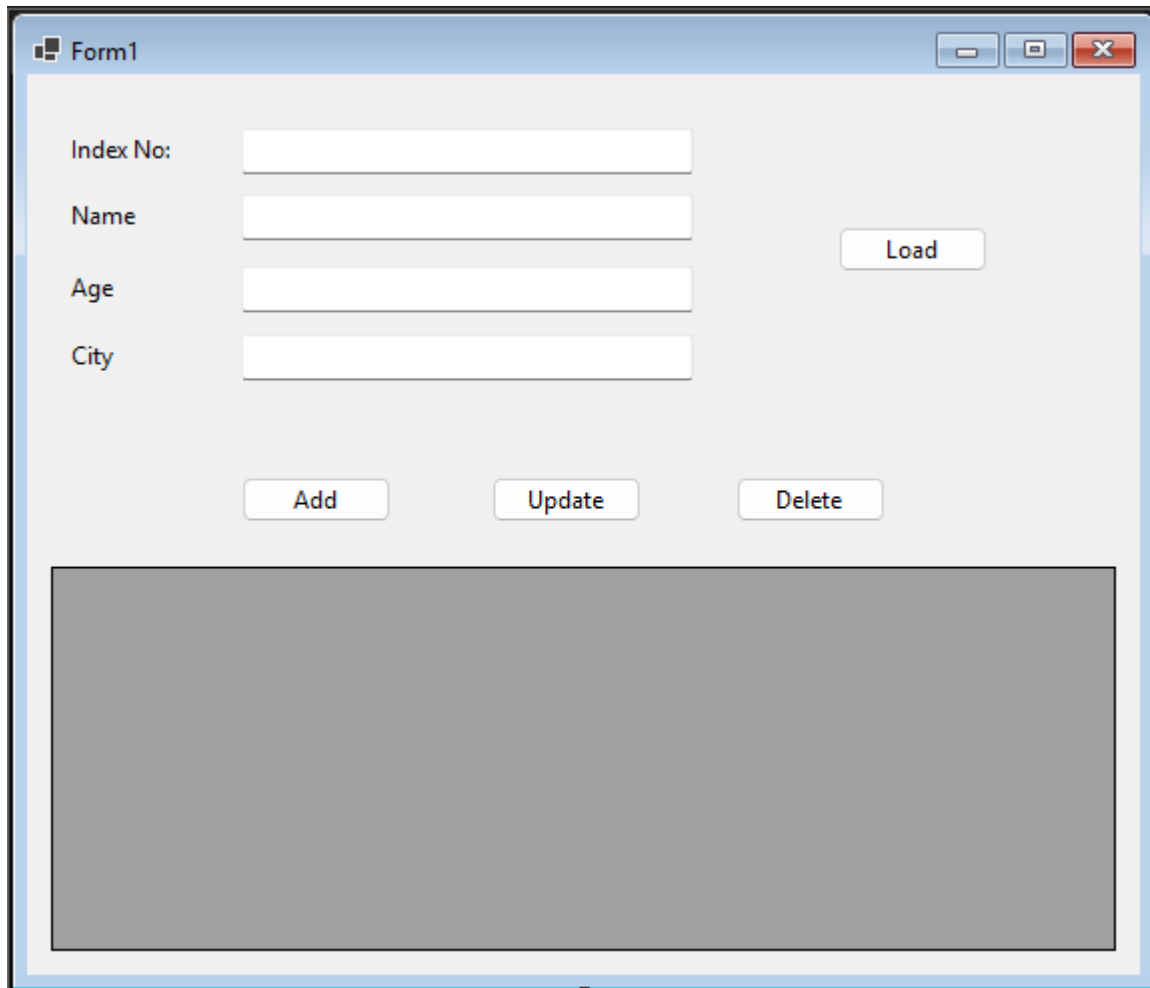
	IndexNo	Name	Age	City
	S001	PERERA N K	26	Kandy
	S002	SILVA S A	23	Maharagama
	S003	YAPA W P	45	Pannipitiya
	S004	NIRMALA G S	34	Kegalle
*	NULL	NULL	NULL	NULL

Step 02: Create the Windows Forms App



Step 03: Add These Using Directives at the Top of the Code File

```
using System.Data;
using System.Data.SqlClient;
```

Step 04: Add Controls to the Form

```
using System.Data;
using System.Data.SqlClient;

namespace DatabaseTest
{
    public partial class Form1 : Form
    {
        string connectionString = "Data Source=GAMIKA\\SQLEXPRESS;Initial
Catalog=StudentDB;Integrated Security=True";

        private void LoadData()
        {
            using SqlConnection conn = new SqlConnection(connectionString);
            SqlDataAdapter adapter = new SqlDataAdapter("SELECT * FROM Students", conn);
            DataTable dt = new DataTable();
            adapter.Fill(dt);
            dataGridView1.DataSource = dt;
        }
    }
}
```

```

private void ClearFields()
{
    txtIndexNo.Clear();
    txtName.Clear();
    txtAge.Clear();
    txtCity.Clear();
}
public Form1()
{
    InitializeComponent();
}

private void Form1_Load(object sender, EventArgs e)
{
}

private void btnLoad_Click(object sender, EventArgs e)
{
    LoadData();
}

private void btnAdd_Click(object sender, EventArgs e)
{
    using SqlConnection conn = new SqlConnection(connectionString);
    string sql = "INSERT INTO Students (IndexNo, Name, Age, City) VALUES (@IndexNo, @Name,
@Age, @City)";
    SqlCommand cmd = new SqlCommand(sql, conn);
    cmd.Parameters.AddWithValue("@IndexNo", txtIndexNo.Text);
    cmd.Parameters.AddWithValue("@Name", txtName.Text);
    cmd.Parameters.AddWithValue("@Age", int.Parse(txtAge.Text));
    cmd.Parameters.AddWithValue("@City", txtCity.Text);
    conn.Open();
    LoadData();
    ClearFields();
}

private void btnUpdate_Click(object sender, EventArgs e)
{
    using SqlConnection conn = new SqlConnection(connectionString);
    string sql = "UPDATE Students SET Name=@Name, Age=@Age City=@City WHERE
IndexNo=@IndexNo";
    SqlCommand cmd = new SqlCommand(sql, conn);
    cmd.Parameters.AddWithValue("@IndexNo", txtIndexNo.Text);
    cmd.Parameters.AddWithValue("@Name", txtName.Text);
    cmd.Parameters.AddWithValue("@Age", int.Parse(txtAge.Text));
    cmd.Parameters.AddWithValue("@City", txtCity.Text);
    conn.Open();
    cmd.ExecuteNonQuery();
    LoadData();
    ClearFields();
}

private void btnDelete_Click(object sender, EventArgs e)
{
    using SqlConnection conn = new SqlConnection(connectionString);
    string sql = "DELETE FROM Students WHERE IndexNo=@IndexNo";
    SqlCommand cmd = new SqlCommand(sql, conn);
    cmd.Parameters.AddWithValue("@IndexNo", txtIndexNo.Text);
    conn.Open();
    cmd.ExecuteNonQuery();
    LoadData();
    ClearFields();
}

private void dataGridView1_CellContentClick(object sender, DataGridViewCellEventArgs e)
{
}

```

```

        if (e.RowIndex >= 0)
        {
            txtIndexNo.Text = dataGridView1.Rows[e.RowIndex].Cells["IndexNO"].Value.ToString();
            txtName.Text = dataGridView1.Rows[e.RowIndex].Cells["Name"].Value.ToString();
            txtAge.Text = dataGridView1.Rows[e.RowIndex].Cells["Age"].Value.ToString();
            txtCity.Text = dataGridView1.Rows[e.RowIndex].Cells["City"].Value.ToString();
        }
    }
}

```

Step 05: Run the application by pressing F5

The screenshot shows a Windows application titled "Student CRUD App". It features four input fields labeled "Index No:", "Name", "Age", and "City". To the right of these fields is a "Load" button. Below the input fields are three buttons: "Add", "Update", and "Delete". At the bottom of the application is a data grid with the following columns: IndexNo, Name, Age, and City. The first four rows of the grid contain data, and the fifth row is a new record row marked with an asterisk (*).

	IndexNo	Name	Age	City
▶	S001	PERERA N K ...	26	Kandy ...
	S002	SILVA S A ...	23	Maharagama ...
	S003	YAPA W P ...	45	Pannipitiya ...
	S004	NIRMALA G S ...	34	Kegalle ...
*				

Student CRUD App

Index No:

Name

Age

City

Load

Add Update Delete

	IndexNo	Name	Age	City
▶	S001	PERERA N K ...	26	Kandy ...
	S002	SILVA S A ...	23	Maharagama ...
	S003	YAPA W P ...	45	Pannipitiya ...
	S004	NIRMALA G S ...	34	Kegalle ...
	S005	JAYA S K ...	25	Galle ...
*				

Student CRUD App

Index No:

Name

Age

City

Load

Add Update Delete

	IndexNo	Name	Age	City
▶	S001	PERERA N K ...	26	Kandy ...
	S002	SILVA S A ...	23	Maharagama ...
	S003	YAPA W P ...	45	Pannipitiya ...
	S004	NIRMALA G S ...	34	Kegalle ...
	S005	JAYA S K ...	18	Ratnapura ...
*				

Student CRUD App

Index No:

Name:

Age:

City:

Load

Add Update Delete

	IndexNo	Name	Age	City
▶	S001	PERERA N K ...	26	Kandy ...
	S002	SILVA S A ...	23	Maharagama ...
	S003	YAPA W P ...	45	Pannipitiya ...
	S004	NIRMALA G S ...	34	Kegalle ...
*				