Create a Contacts System in C# and Oracle 21c Express Edition using Visual Studio 2022 Community Edition

First of all install Oracle 21c Express Edition from Oracle Website or you can get the link from google

During the setup of Oracle 21c setup will prompt you for password of system, sys or pdba account, remember this password or note it down somewhere, this password will be needed for connecting c# with oracle 21c , I have have this password as abcdef.

To create table contacts I have used Dbeaver to connect to Oracle Database.

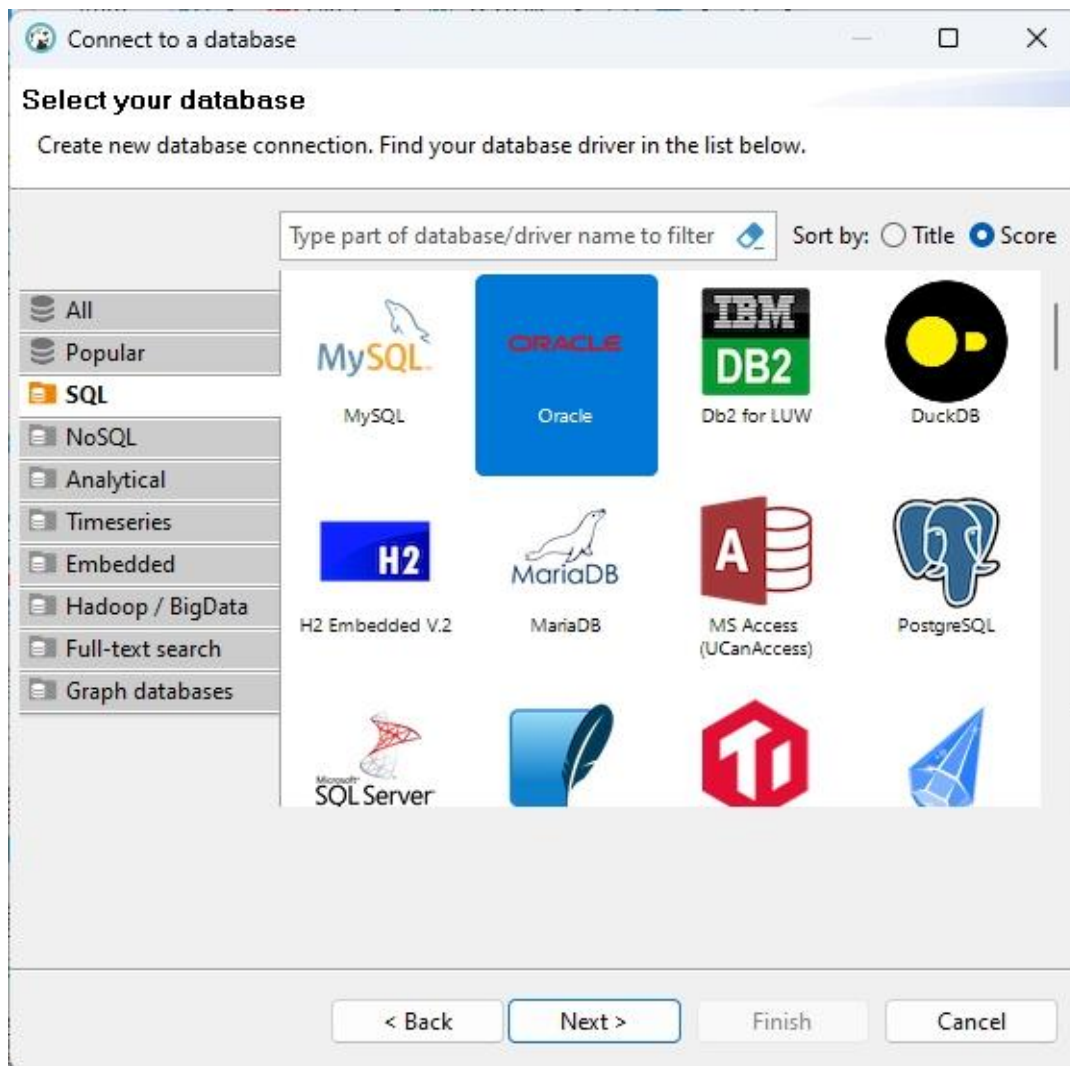Following are the steps to connect to Oracle Database using Dbeaver.

Go to File -> New

Following window will appear
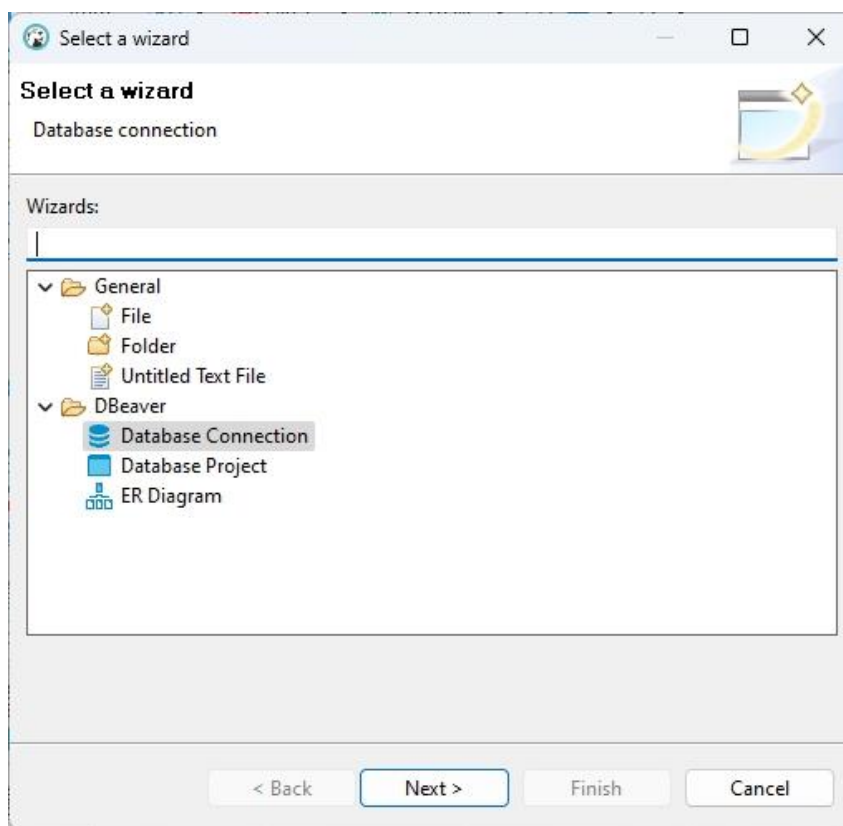
Select Database Connection and Click Next

Following window will appear

Select Oracle and click Next

Following window will appear

Click Finish and You will the following connection on the left side

Right Click on the above option and Click Connect

You will be connected to databasewith SID as xe

Now open SQL Editor and create table contacts by writing the following query

create table contacts(cname varchar2(20),caddress varchar2(20),cmobileno varchar2(20),cemail varchar2(20));

Now Start Visual Studio 2022 Community Edition and create a new Windows Form Project

If you are new to this you can take help from
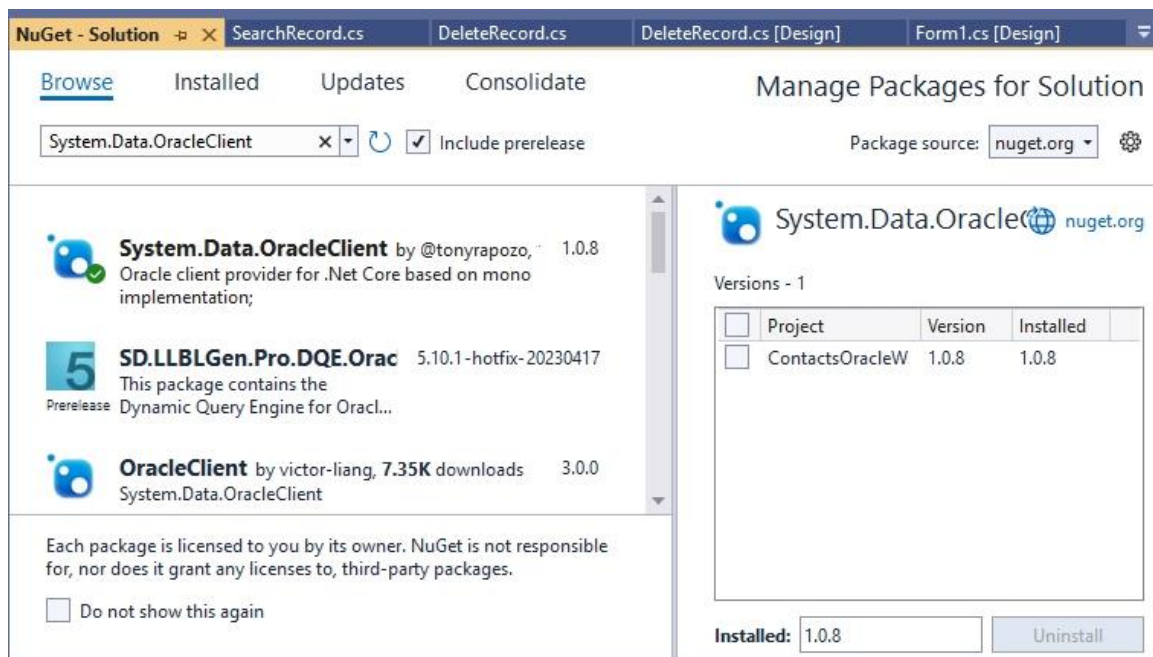
http://www.cppcourses.com/csharpmysql.pdf

After creating the project add a Dependency to this project using NuGet Package Manager

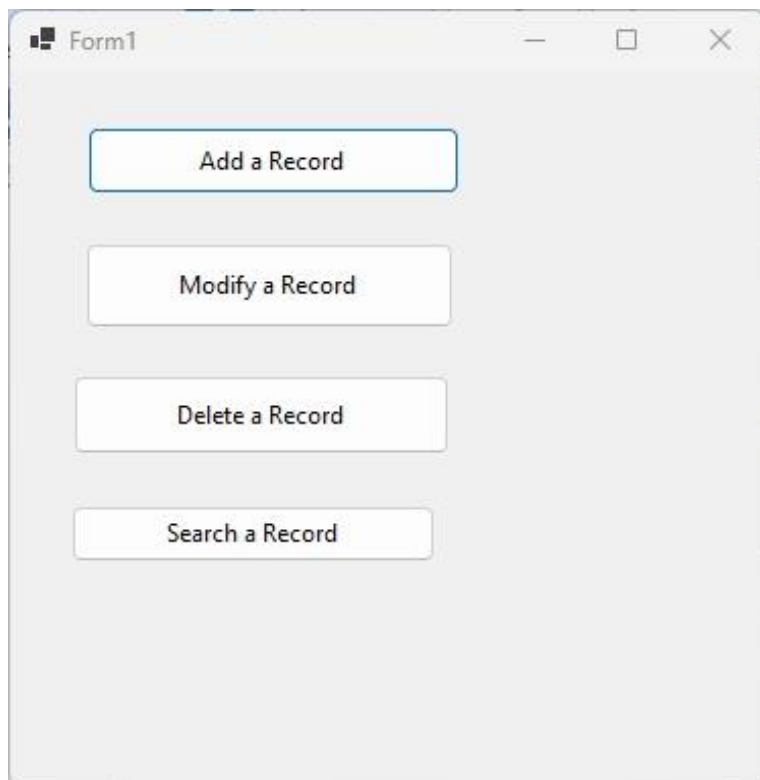Go to Tools -> NuGet Package Manager -> Manage NuGet Packages for Solution

Following window will appear
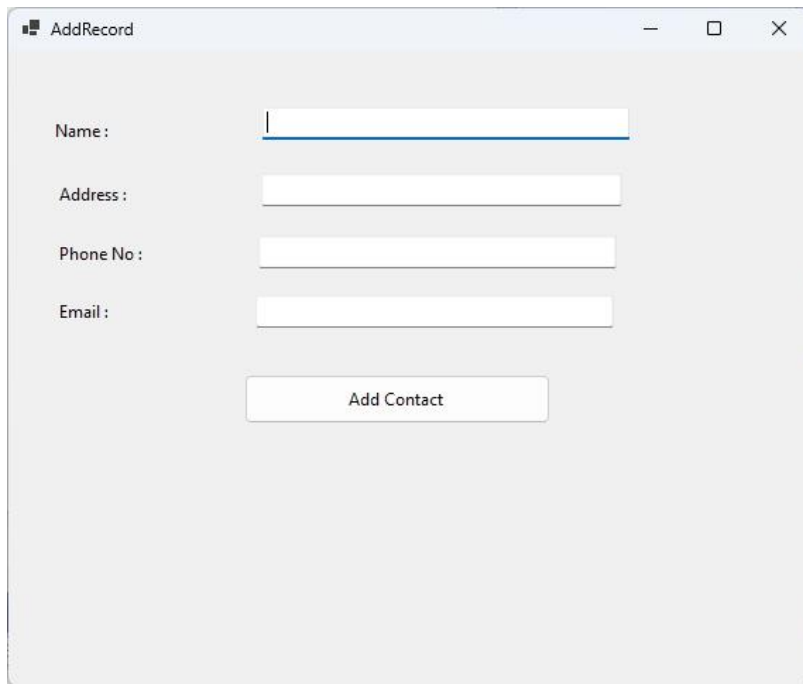
Install System.Data.OracleClient

Create Following Forms in this ContactsMSAccess Application

Form1

AddRecord Form

ModifyRecord Form

DeleteRecord Form

SearchRecord Form

Add a DataGridView to Form SearchRecord.

Following are Code for the above forms.

Code for Form1

```
private void button1_Click(object sender, EventArgs e)
        {
            AddRecord a = new AddRecord();
            a.Show();
        }

        private void button2_Click(object sender, EventArgs e)
        {
            ModifyRecord a = new ModifyRecord();
            a.Show();
        }
```

```csharp
        private void button3_Click(object sender, EventArgs e)
        {
            DeleteRecord a = new DeleteRecord();
            a.Show();
        }

        private void button4_Click(object sender, EventArgs e)
        {
            SearchRecord a = new SearchRecord();
            a.Show();
        }
```

Following is the code for AddRecord Form

Following are the using statements

```csharp
using System.Data.OracleClient;
```

Following is the code for Add Contact Button

```csharp
string oradb = "Data Source=(DESCRIPTION =" + "(ADDRESS = (PROTOCOL = TCP)(HOST
=localhost)(PORT = 1521))" + "(CONNECT_DATA =" + "(SERVER = DEDICATED)" +
"(SERVICE_NAME = XE)));" + "User Id=system;Password=abcdef;";
            string namestr = textBox1.Text;
            string addressstr = textBox2.Text;
            string mobilenostr = textBox3.Text;
            string emailstr = textBox4.Text;
            OracleConnection conn = new OracleConnection(oradb);
            conn.Open();
            OracleCommand cmd = new OracleCommand("insert into contacts values('"
+ namestr + "','" + addressstr + "','" + mobilenostr + "','" + emailstr +
"')",conn);
            int rs;
            rs = cmd.ExecuteNonQuery();
            if (rs > 0)
            {
                MessageBox.Show("Record Inserted");
            }
            else
            {
                MessageBox.Show("Record Can't be Inserted");
            }
            conn.Close();
```

Following is the code for ModifyRecord Form

Following are the using statements

```csharp
using System.Data.OracleClient;
```

Following is the code for Modify Contact Button

```csharp
string namestr = textBox1.Text;
            string addressstr = textBox2.Text;
            string mobilenostr = textBox3.Text;
            string emailstr = textBox4.Text;
            int rs = 0;
            string oradb = "Data Source=(DESCRIPTION =" + "(ADDRESS = (PROTOCOL =
TCP)(HOST =localhost)(PORT = 1521))" + "(CONNECT_DATA =" + "(SERVER = DEDICATED)"
+ "(SERVICE_NAME = XE)));" + "User Id=system;Password=abcdef;";
            OracleConnection conn = new OracleConnection(oradb);
            conn.Open();
```

```
            using var cmd = new OracleCommand("update contacts set caddress='" +
addressstr + "',cmobileno='" + mobilenostr + "',cemail='" + emailstr + "' where
cname = '" + namestr + "'", conn);

            rs = cmd.ExecuteNonQuery();
            if (rs > 0)
            {
                MessageBox.Show(rs + " Contacts Record Updated");
            }
            else
            {
                MessageBox.Show("Contact Record can't be Updated");
            }
```

Following is the code for DeleteRecord Form

Following are the using statements

```
using System.Data.OracleClient;
```

Following is the code for Delete Contact Button

```
string cname = textBox1.Text;
            string oradb = "Data Source=(DESCRIPTION =" + "(ADDRESS = (PROTOCOL =
TCP)(HOST =localhost)(PORT = 1521))" + "(CONNECT_DATA =" + "(SERVER = DEDICATED)"
+ "(SERVICE_NAME = XE)));" + "User Id=system;Password=abcdef;";
            OracleConnection conn = new OracleConnection(oradb);
            conn.Open();
            OracleCommand cmd = conn.CreateCommand();
            cmd.CommandText = "delete from contacts where cname='" + cname + "'";
            cmd.Connection = conn;
            cmd.ExecuteNonQuery();
            MessageBox.Show("Contact Record Deleted");
            conn.Close();
```

Following is the code for SearchRecord Form

Following are the using statements

```
using System.Data;
using System.Data.OracleClient;
```

Following is the code for Search Button

```
string cnamestr = textBox1.Text;
            string oradb = "Data Source=(DESCRIPTION =" + "(ADDRESS = (PROTOCOL =
TCP)(HOST =localhost)(PORT = 1521))" + "(CONNECT_DATA =" + "(SERVER = DEDICATED)"
+ "(SERVICE_NAME = XE)));" + "User Id=system;Password=abcdef;";
            OracleConnection conn = new OracleConnection(oradb);
            conn.Open();
            string q = "SELECT * FROM contacts WHERE cname LIKE '%" + cnamestr +
"%'";
            using OracleDataAdapter a = new OracleDataAdapter(q, conn);
            using DataTable t = new DataTable();
            a.Fill(t);
            dataGridView1.DataSource = t;
```