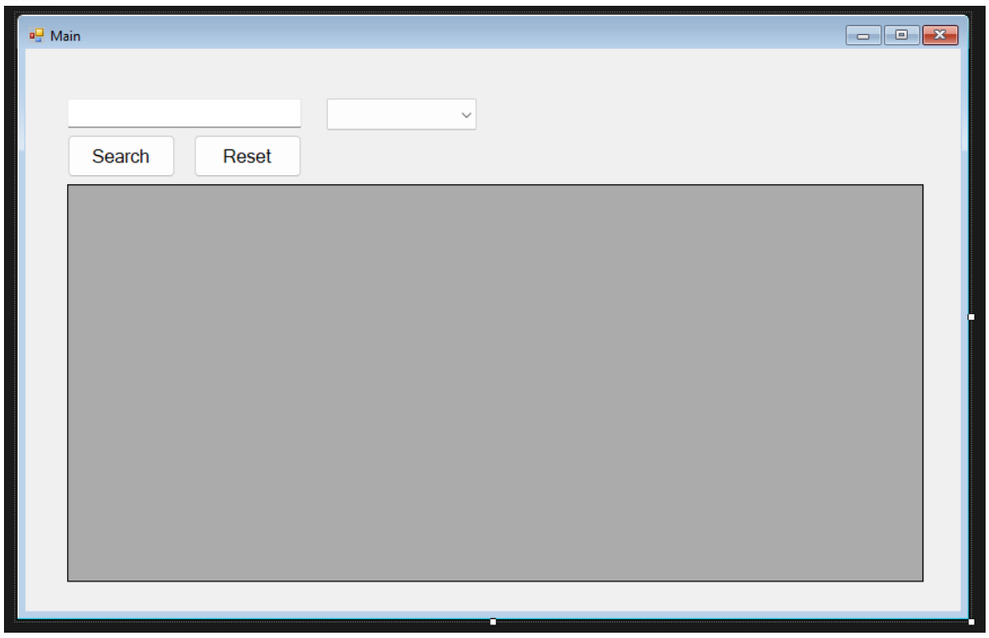
Directions: This activity requires Microsoft Access and Visual Studio. Follow the steps below to accomplish this task.

PART 1 – Project Creation

1. Create a new C# project with the following details.
    a. Solution Name: DB_ACT1_Code_LastName
    b. Target Framework: 4.8 or higher
2. Rename Form1 to frmMain and change the form's text property to Main.

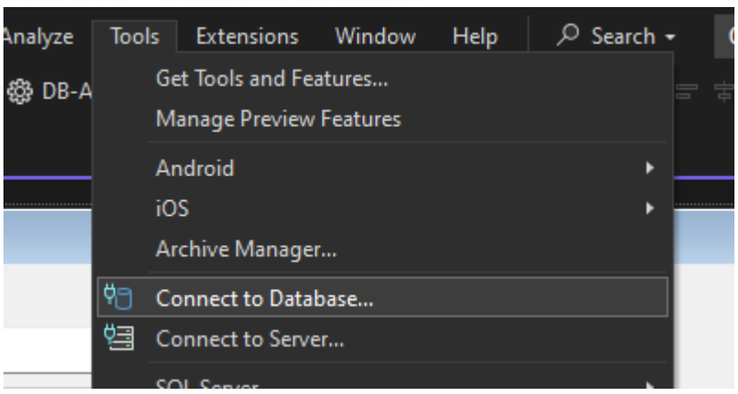
3. Add a Textbox, ComboBox, and a DataGridView control in your form. You can arrange in any way that you like.



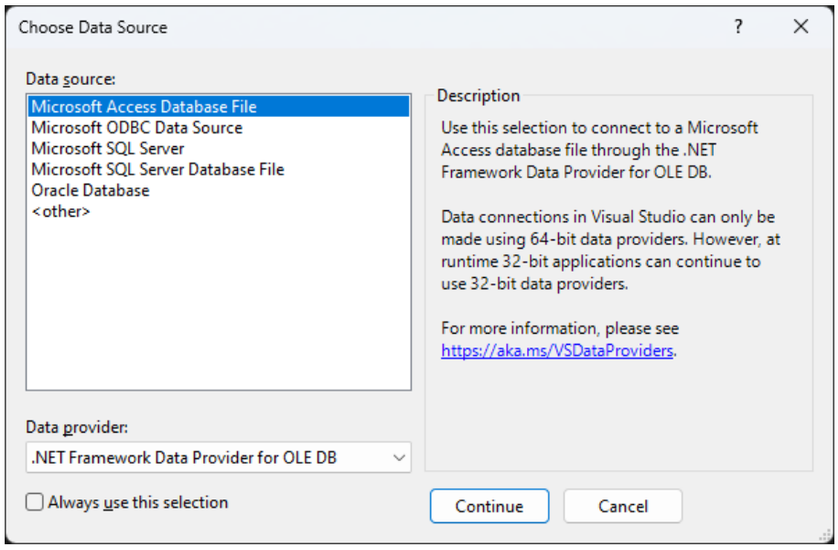
4. Set the property for each control listed below.
    a. ComboBox
        - Name – cboBrand
        - DropDownStyle – DropDownlist
    b. TextBox
        - txtKeyword
    c. DataGridView
        - Name – grdResults
        - ReadOnly – True
        - MultiSelect – False
        - RowHeadersVisible – False
        - SelectionMode – FullRowSelect
        - AutoSizeColumnsMode – Fill
    d. Button 1
        - Name – btnSearch
        - Text – Search
    e. Button 2
        - Name – btnReset
        - Text – Reset
5. Open car_brands.xlxs and add the items in the Sheet1 to the items in the comboBox. Any method can do.

PART 3 – Package Installation and Database Connection

1. Click Tools > Connect to Database...

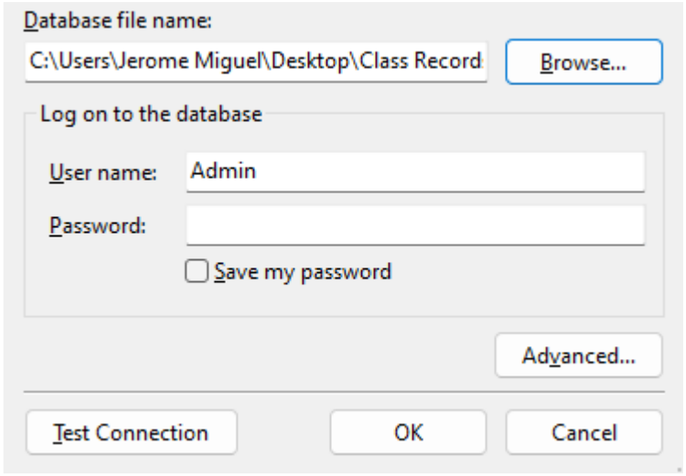


2. Select Microsoft Access Database File and click Continue.

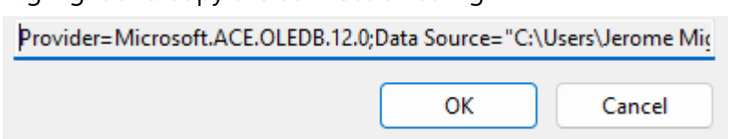


3. Browse for the db_act1.mdb.

4. Click Advanced...

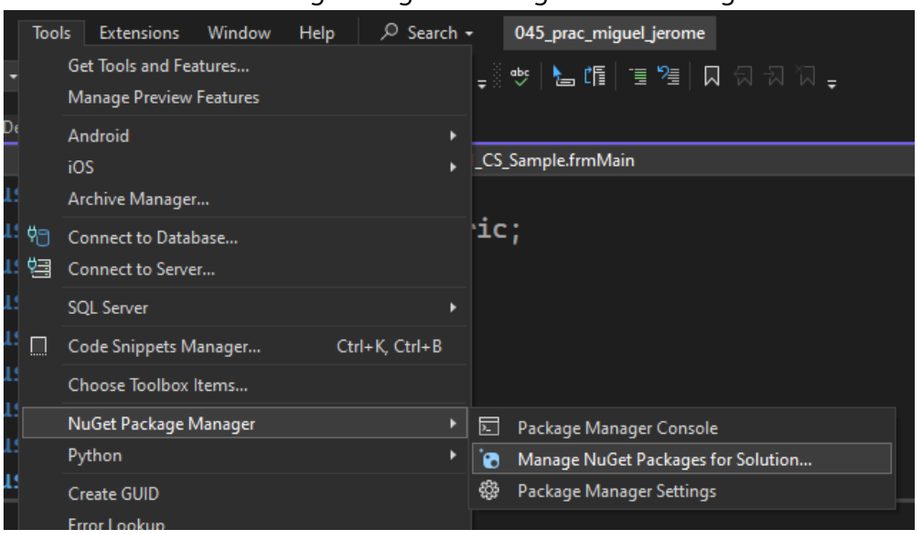


5. Highlight and copy the connection string.

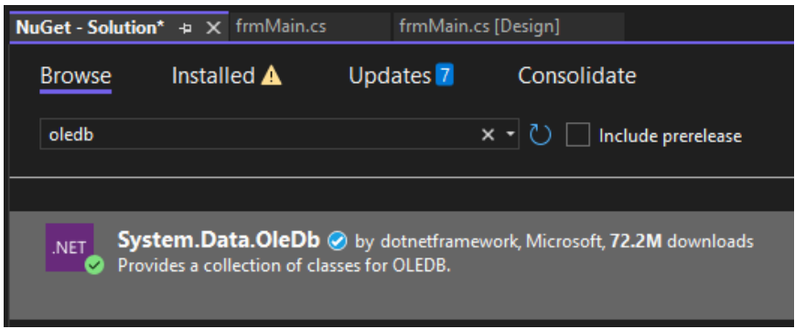


6. Click the Cancel buttons in both dialog boxes.

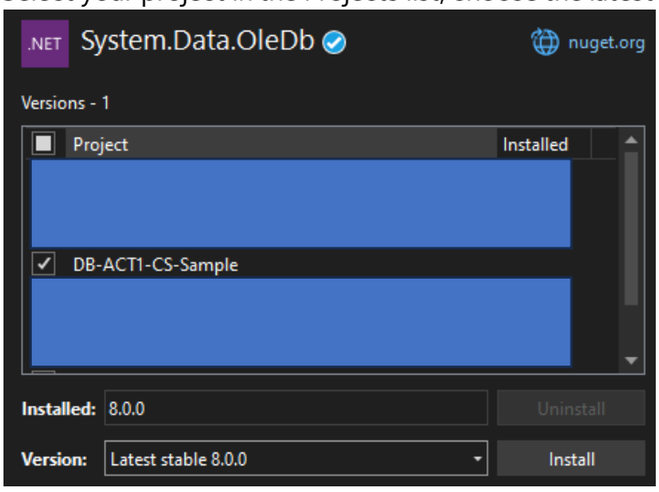
7. Click Tools > NuGet Package Manger > Manage NuGet Packages for Solution...



8. Click the Browse tab and search for OLEDB then select the first item (Select.Data.OleDb).



9. Select your project in the Projects list, choose the latest version and click install.



10. For the succeeding dialog boxes, click Apply/Accept.

PART 3 – Coding

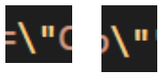
1. Select the frmMain design tab.
2. In the import assemblies, import System.Data.OleDb.

```
using System.Windows.Forms;
using System.Data.OleDb;
```

3. Inside the form class, add the connection string variable. Follow given steps:
   a. Initialize the variable first with a blank string value.

```
string connStr = "";
```

   b. Place the insertion point between the double quotation marks and paste the connection string you copied.
   c. Remove the \" symbols in the connection string.



   d. Change the \\ symbols to /.

4. Declare a OleDbConnection class.

```
3 references
public partial class frmMain : Form
{
    string connStr = "Provider=Micro
    OleDbConnection conn;

    1 reference
    public frmMain()
```

5. Go back to the form design and double click the Search button.
6. In the event method that will be created, initialize a new DataTable class. This DataTable will be used later as DataSource for the DataGridView control.

```
1 reference
private void btnSearch_Click(object sender, EventArgs e)
{
    DataTable dt = new DataTable();
}
```

7. Initialize the OleDbConnection class that you have created a while back and pass the value of the connection string into it.

```
1 reference
private void btnSearch_Click(object sender, EventArgs e)
{
    DataTable dt = new DataTable();
    conn = new OleDbConnection(connStr);
}
```

8. Initialize a string query variable that will hold our query command which will be used to retrieve records from the table in the database. In the where clause, you'll need to set a condition where the model matches the keyword from the txtKeyword and whether a brand matches the text in cboBrand.

```
1 reference
private void btnSearch_Click(object sender, EventArgs e)
{
    DataTable dt = new DataTable();
    conn = new OleDbConnection(connStr);
    string query = "select * from [car] where model = '" + txtKeyword.Text + "' and brand='" + cboBrand.Text + "';";
```

9. Open the connection by calling the OleDbConnection Open method. This method will try to connect to the database using the connection string that was passed in the OleDbConnection class.

```
1 reference
private void btnSearch_Click(object sender, EventArgs e)
{
    DataTable dt = new DataTable();
    conn = new OleDbConnection(connStr);
    string query = "select * from [car] where model = '"
    conn.Open();
```

10. Create a OledbDataAdapter constructor and pass two specific parameters. These parameters will be the query string and the OleDbConnection.

```
1 reference
private void btnSearch_Click(object sender, EventArgs e)
{
    DataTable dt = new DataTable();
    conn = new OleDbConnection(connStr);
    string query = "select * from [car] where model = '" + txtKeyw
    conn.Open();
    OleDbDataAdapter adapter = new OleDbDataAdapter(query, conn);
```

11. Populate the DataTable class you have initialized a while back with the data retrieved by the OledbDataAdapter using the Fill method.

```
1 reference
private void btnSearch_Click(object sender, EventArgs e)
{
    DataTable dt = new DataTable();
    conn = new OleDbConnection(connStr);
    string query = "select * from [car] where model = '" + txtKeyw
    conn.Open();
    OleDbDataAdapter adapter = new OleDbDataAdapter(query, conn);
    adapter.Fill(dt);
```

12. Close the connection and assigned the DataTable as data source for the DataGridView control.

```
1 reference
private void btnSearch_Click(object sender, EventArgs e)
{
    DataTable dt = new DataTable();
    conn = new OleDbConnection(connStr);
    string query = "select * from [car] where model = '" + txtKeyw
    conn.Open();
    OleDbDataAdapter adapter = new OleDbDataAdapter(query, conn);
    adapter.Fill(dt);
    conn.Close();
    grdResults.DataSource = dt;
}
```

PART 4 – Code Modification

Directions: Modify the code in your project based on the following conditions given below.

1. The reset button should remove the contents of the textbox and DataGridView. At the same time, it should also clear the selection in the comboBox.
2. Modify your code that when a user types in the textbox (assuming that there is already a brand selected) the results should automatically be displayed.
3. The ID should not be included in the results.
4. The column headers should be in uppercase format.