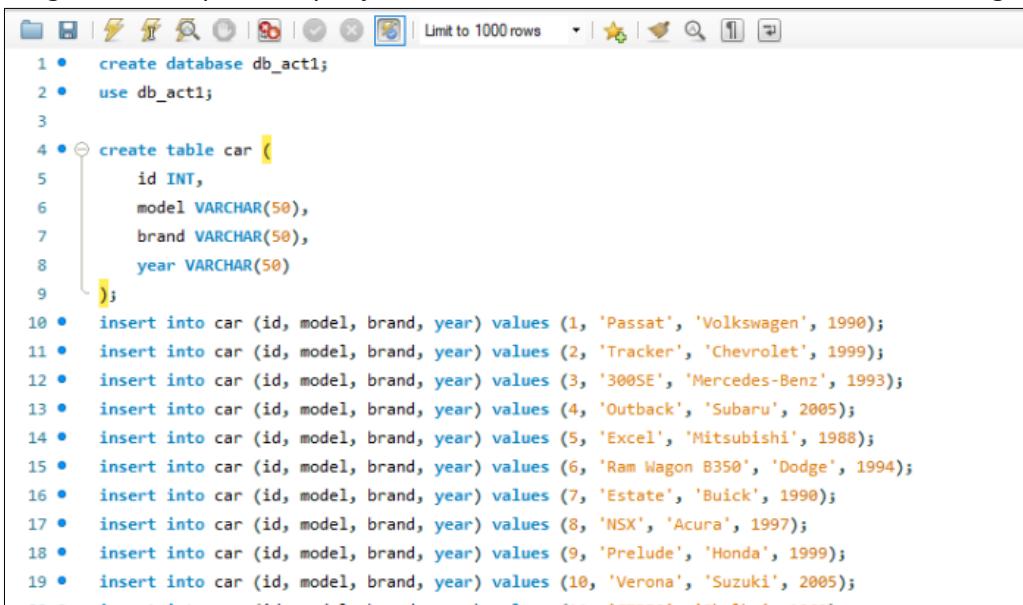


Directions: This activity requires MySQL server and Visual Studio. Follow the steps below to accomplish this task.

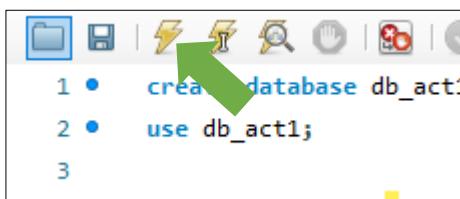
PART 1 – Database Creation

1. Open MySQL Workbench and connect to your local connection.
2. Drag db_act1.sql in the query editor. Your workbench should look like the image below.

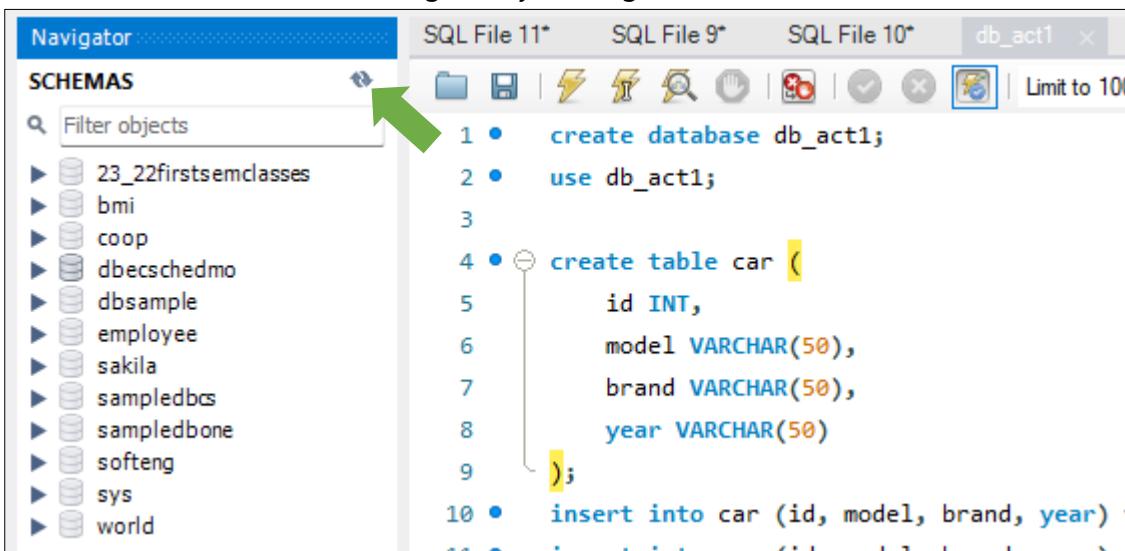


```
1 •  create database db_act1;
2 •  use db_act1;
3
4 •  create table car (
5     id INT,
6     model VARCHAR(50),
7     brand VARCHAR(50),
8     year VARCHAR(50)
9 );
10 •   insert into car (id, model, brand, year) values (1, 'Passat', 'Volkswagen', 1990);
11 •   insert into car (id, model, brand, year) values (2, 'Tracker', 'Chevrolet', 1999);
12 •   insert into car (id, model, brand, year) values (3, '300SE', 'Mercedes-Benz', 1993);
13 •   insert into car (id, model, brand, year) values (4, 'Outback', 'Subaru', 2005);
14 •   insert into car (id, model, brand, year) values (5, 'Excel', 'Mitsubishi', 1988);
15 •   insert into car (id, model, brand, year) values (6, 'Ram Wagon B350', 'Dodge', 1994);
16 •   insert into car (id, model, brand, year) values (7, 'Estate', 'Buick', 1990);
17 •   insert into car (id, model, brand, year) values (8, 'NSX', 'Acura', 1997);
18 •   insert into car (id, model, brand, year) values (9, 'Prelude', 'Honda', 1999);
19 •   insert into car (id, model, brand, year) values (10, 'Verona', 'Suzuki', 2005);
```

3. Execute the query by clicking on the lightning icon.



4. Reload the schema list in the navigator by clicking on the reload button.

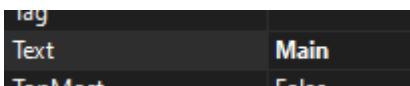


After reloading, the new database should already be in the list including the lone table that was created.

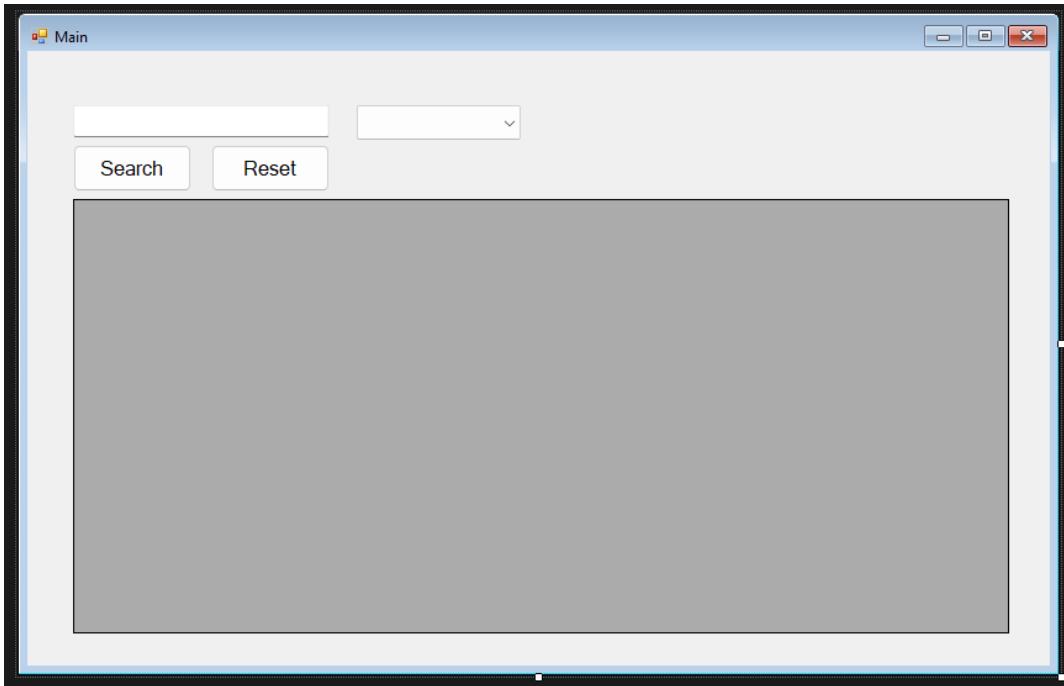


PART 2 – Project Creation

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.



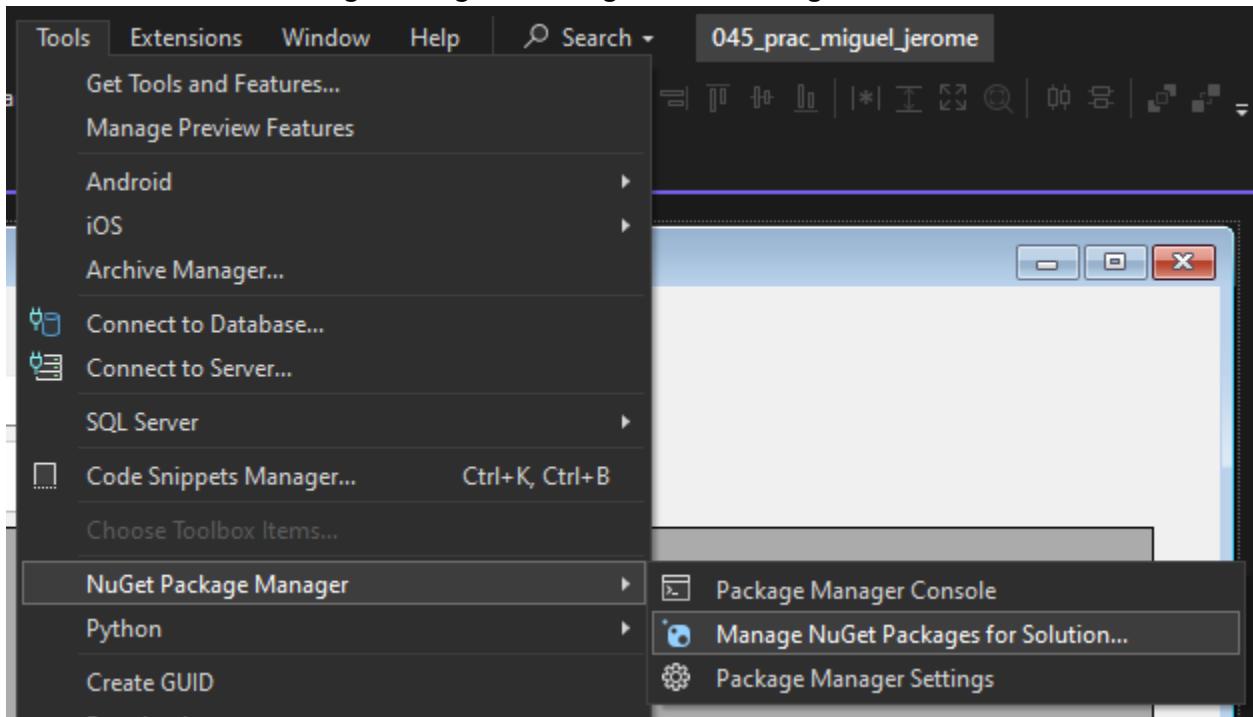
3. Add a Textbox, ComboBox, and a DataGridView control in your form. You can arrange in any way that you like.



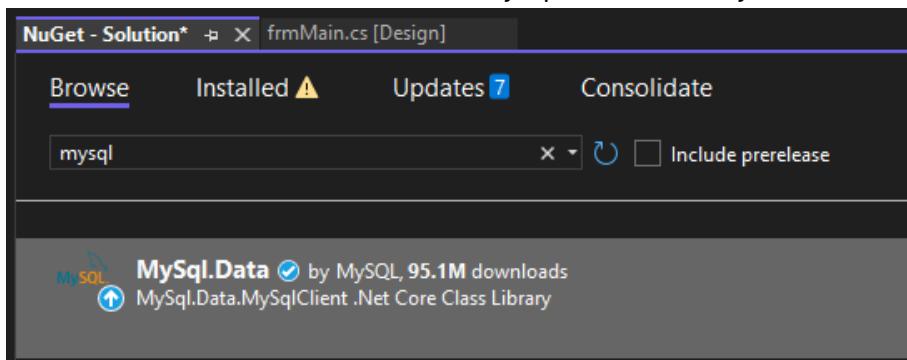
4. Set the property for each control listed below.
 - a. ComboBox
 - Name – cboBrand
 - DropDownStyle – DropDownList
 - b. TextBox
 - txtKeyword
 - c. DataGridView
 - Name – grdResults
 - ReadOnly – True
 - MultiSelect – False
 - RowHeadersVisible – False
 - SelectionMode – FullRowSelect
 - AutoSizeColumnsMode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

PART 3 – MySQL Installation

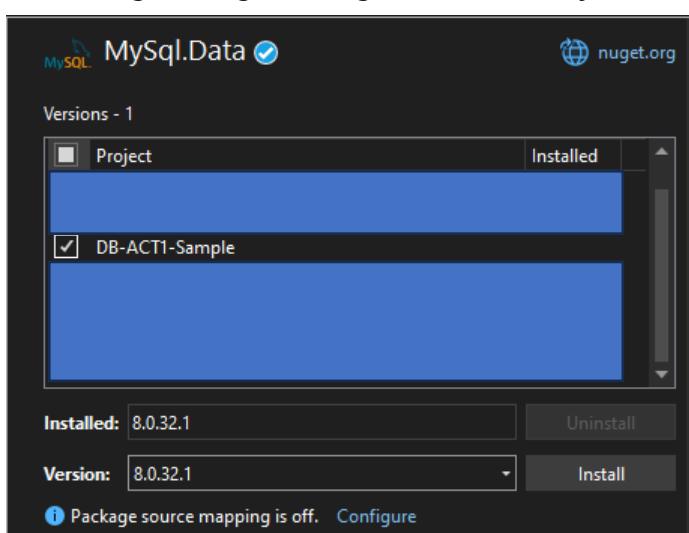
1. Click Tools > NuGet Package Manager > Manage NuGet Packages for Solution...



2. Click the Browse tab and search for "mysql" and select MySQL.Data from the results.

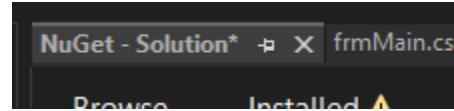


3. Select your project from the project list. In the versions, choose 8.0.32.1 and click Install. For the succeeding messages during the installation, just click Accept.



💡 In this project, 8.0.32.1 is the version used because the other versions may affect the project because of some limitations in the computer lab. However, if you are using your own computer, you choose the latest version of the assembly which is currently 9.0.0.

4. After installing the assembly, close the NuGet tab.



PART 4 – Coding

1. Select the frmMain design tab.
2. In the import assemblies, import the following:
 - a. MySql.Data
 - b. MySql.Data.MySqlClient

```
using System.Threading.Tasks;
using System.Windows.Forms;
using MySql.Data;
using MySql.Data.MySqlClient;
```

```
namespace DB_ACT1_Sample
```

```
{  
    3 references  
    public partial class frmMain : Form
```

```
    {  
        string connectionStr = "server=lo  
        MySqlConnection conn;  
  
        1 reference  
        public frmMain()  
        {  
            InitializeComponent();  
        }  
    }
```

3. Inside the form class, add the connection string variable and declare a MySqlConnection class.

Connection string values:

- server – localhost
- database – the name of the database
- uid – root
- pwd – uslt
- port – 3306

4. Go back to the form design and double click the Search button.

5. 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();  
}
```

6. Initialize the MySqlConnection 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 MySqlConnection(connectionStr);  
}
```

7. 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 MySqlConnection(connectionStr);  
    string query = "select * from car where model=' " + txtKeyword.Text + "' and brand=' " + cboBrand.Text + " '";  
}
```

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

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

9. Create a MySqlDataAdapter constructor and pass two specific parameters. These parameters will be the query string and the MySqlConnection.

```
1 reference
private void btnSearch_Click(object sender, EventArgs e)
{
    DataTable dt = new DataTable();
    conn = new MySqlConnection(connectionStr);
    string query = "select * from car where model=''" + txtKeyword.Text;
    conn.Open();
    MySqlDataAdapter adapter = new MySqlDataAdapter(query, conn);
}
```

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

```
1 reference
private void btnSearch_Click(object sender, EventArgs e)
{
    DataTable dt = new DataTable();
    conn = new MySqlConnection(connectionStr);
    string query = "select * from car where model=''" + txtKeyword.Text;
    conn.Open();
    MySqlDataAdapter adapter = new MySqlDataAdapter(query, conn);
    adapter.Fill(dt);
}
```

11. 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 MySqlConnection(connectionStr);
    string query = "select * from car where model=''" + txtKeyword.Text;
    conn.Open();
    MySqlDataAdapter adapter = new MySqlDataAdapter(query, conn);
    adapter.Fill(dt);
    conn.Close();
    grdResults.DataSource = dt;
}
```

PART 5 – 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.