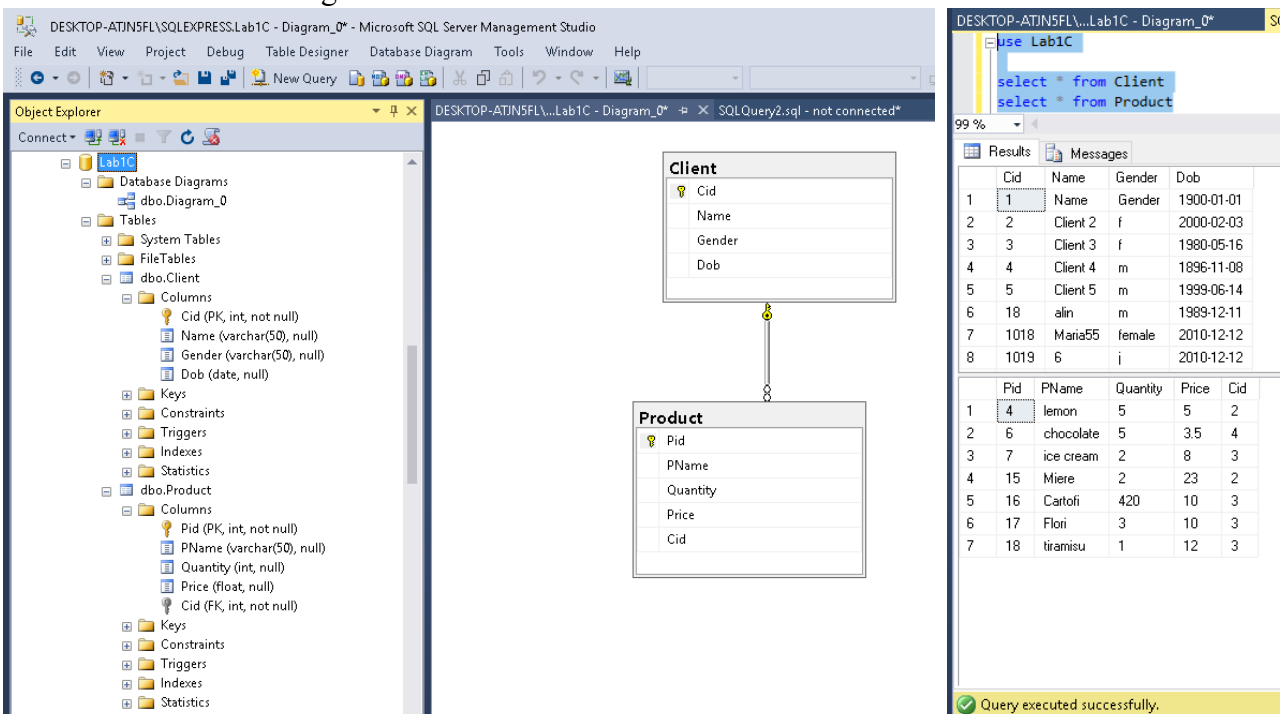
Laboratory 1

4 labs to present
L1: receive: Lab 1 (S1/S2)
Present: Lab 3 (S5/S6)
L2: receive: Lab 3 (S5/S6)
Present: Lab 4 (S7/S8)
L3: receive: Lab 4 (S7/S8)
Present: Lab 5 (S9/S10)
L4: receive: Lab 5 (S9/S10)
Present: Lab 6 (S11/S12)
Practical Exam: Lab 7 (S13/S14)

Connection between SQL SERVER – VISUAL STUDIO (C#) – through a WINDOWS FORMS APPLICATION / WINDOWS FORMS APP (.NET FRAMEWORK)

We consider the following database



Client- parent table
Product – child table

1. Display all parent records
   SELECT * FROM Client

2. Selecting a parent record, it must display its child records
   SELECT * FROM Product WHERE Cid=… (the one that is selected from the list of the clients)

3. Selecting a child record, it must allow to remove or update the data of the child
   DELETE FROM Product WHERE Pid=… (the one that is selected)

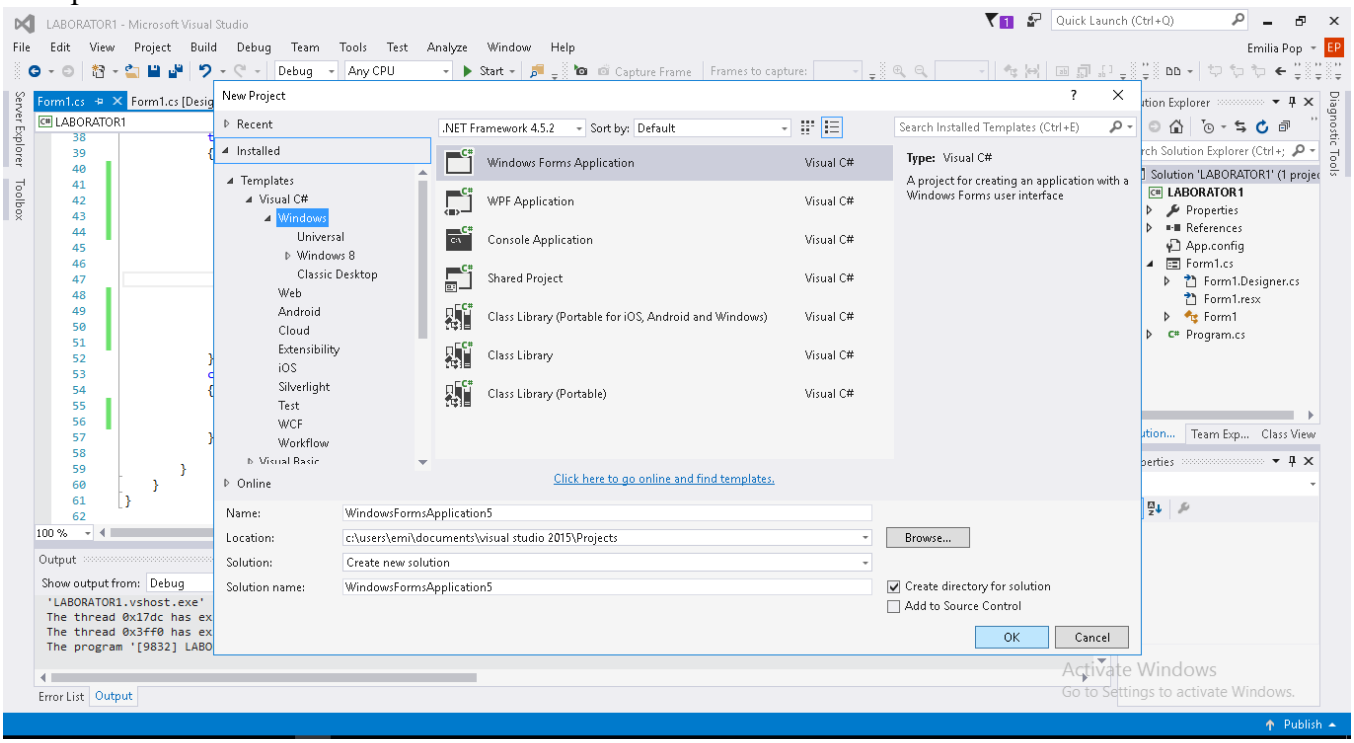
UPDATE Product SET PName=@p, Quantity=@q, Price=@pr, Cid=…(preferable a list of of clients from where to choose) WHERE Pid = … (the one that is selected)

4. Selecting a parent record, it must allow to add a new child record
INSERT INTO Product(PName, Quantity, Price, Cid) VALUES (@pname, @q, @p, …)

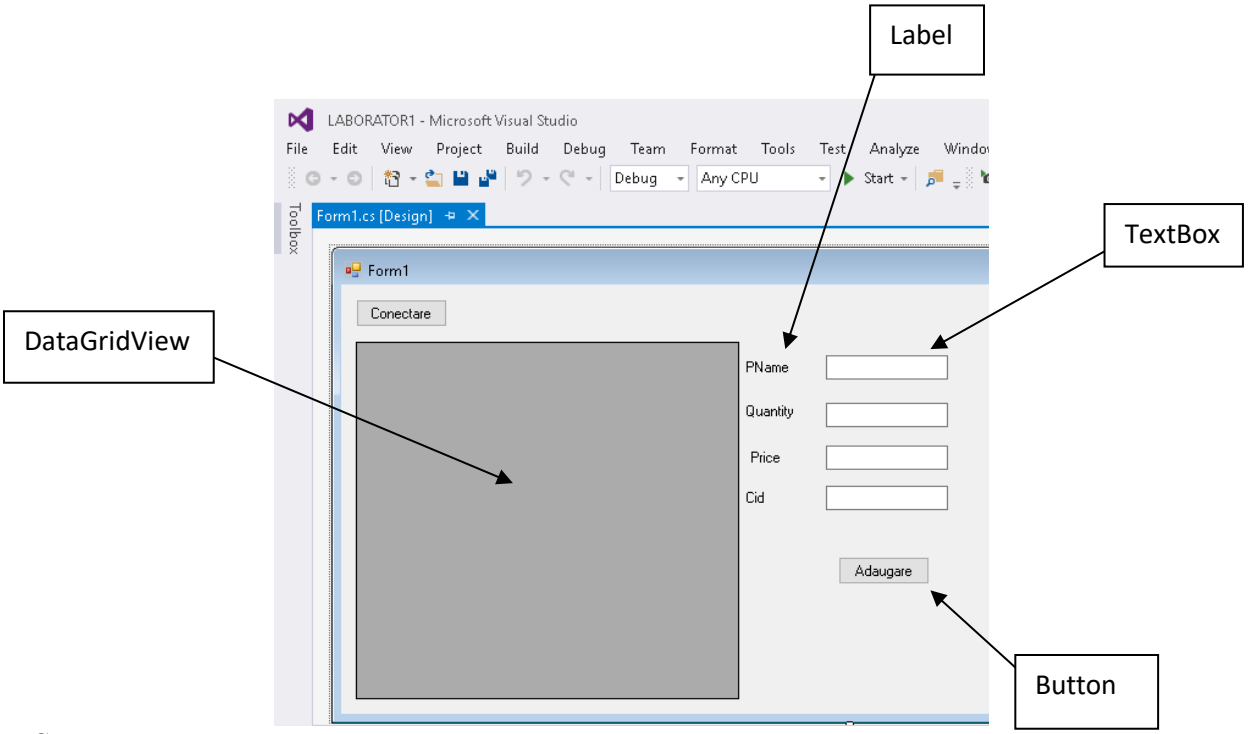
The values that have to be introduced can be taken from TextBox-es.

SQL SERVER ---------- VISUAL STUDIO (C#)
(tables, …) (DataAdapter) (DataSet)

Example:

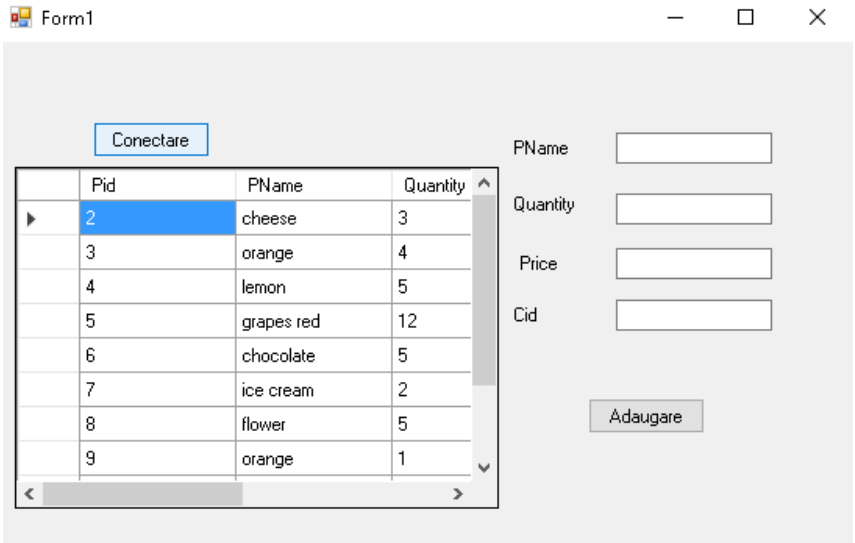


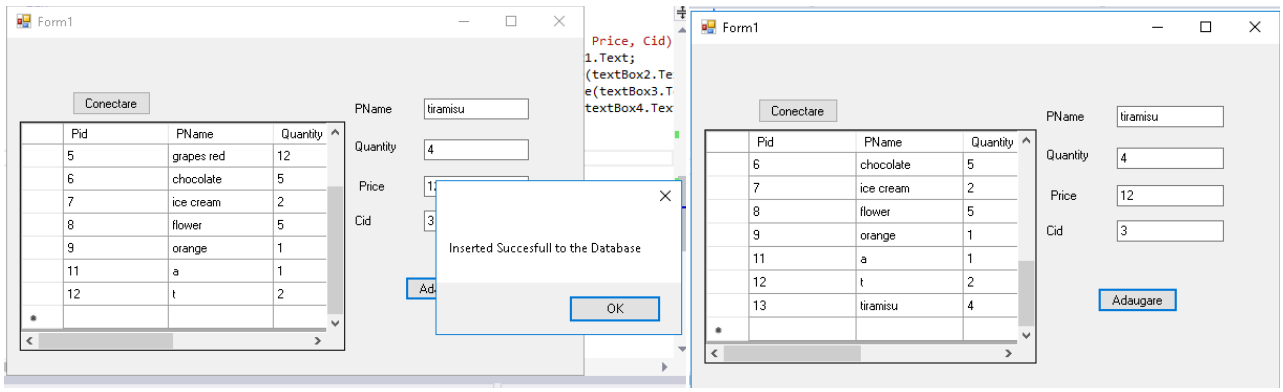
SELECT - use the method Fill()
INSERT, UPDATE, DELETE – use the method ExecuteNonQuery()




```
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;
using System.Data.SqlClient;

namespace LABORATOR1
{
   public partial class Form1 : Form
   {
      SqlConnection cs = new SqlConnection("Data Source=DESKTOP-
ATJN5FL\\SQLEXPRESS;Initial Catalog=Lab1C;Integrated Security=True");
      SqlDataAdapter da = new SqlDataAdapter();
      DataSet ds = new DataSet();

      public Form1()
      {
         InitializeComponent();
      }

      private void button1_Click(object sender, EventArgs e)
      {
         da.SelectCommand = new SqlCommand("SELECT * FROM Product", cs);
         ds.Clear();
         da.Fill(ds);
         dataGridView1.DataSource = ds.Tables[0];
```

```
        }

        private void button2_Click(object sender, EventArgs e)
        {
            try
            {
                da.InsertCommand = new SqlCommand("INSERT INTO Product (PName, Quantity, Price,
Cid) VALUES(@p,@q, @pr, @c)", cs);
                da.InsertCommand.Parameters.Add("@p", SqlDbType.VarChar).Value = textBox1.Text;
                da.InsertCommand.Parameters.Add("@q",                SqlDbType.Int).Value                =
Int32.Parse(textBox2.Text);
                da.InsertCommand.Parameters.Add("@pr",               SqlDbType.Int).Value                =
Int32.Parse(textBox3.Text);
                da.InsertCommand.Parameters.Add("c", SqlDbType.Int).Value = Int32.Parse(textBox4.Text);
                cs.Open();
                da.InsertCommand.ExecuteNonQuery();
                MessageBox.Show("Inserted Succesfull to the Database");
                cs.Close();
                // already inserted - apear in the list
                da.Fill(ds);
                dataGridView1.DataSource = ds.Tables[0];
            }
            catch (Exception ex)
            {
                MessageBox.Show(ex.Message);
                cs.Close();
            }
        }
    }
}
```




Form1
Conectare
Pid
PName
Quantity
5
grapes red
12
6
chocolate
5
7
ice cream
2
8
flower
5
9
orange
1
11
a
1
12
t
2
PName
tiramisu
Quantity
4
Price
Cid
Price, Cid)
1.Text;
(textBox2.Te
e(textBox3.T
textBox4.Tex
Inserted Succesfull to the Database
OK
Form1
Conectare
6
chocolate
5
7
ice cream
2
8
flower
5
9
orange
1
11
a
1
12
t
2
13
tiramisu
4
PName
tiramisu
Quantity
4
Price
12
Cid
3
Adaugare