Laboratory 1

3 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 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#)
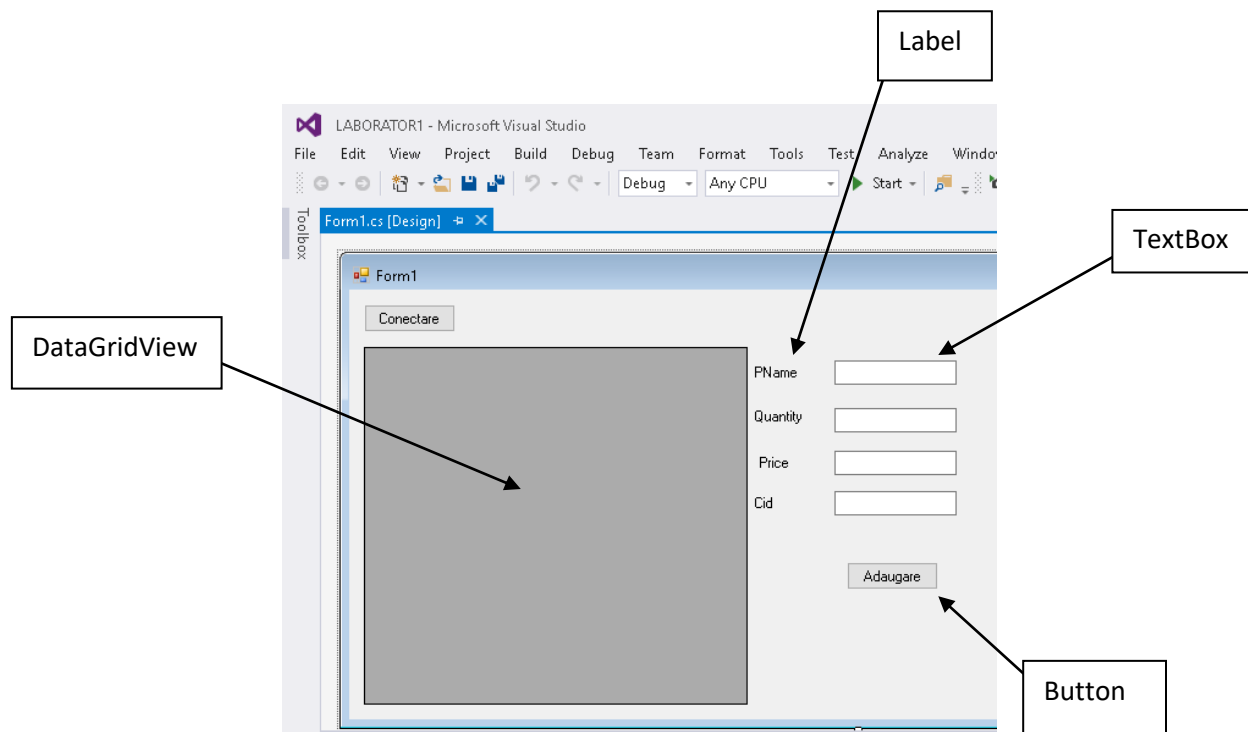(tables, …)   (DataAdapter)   (DataSet)

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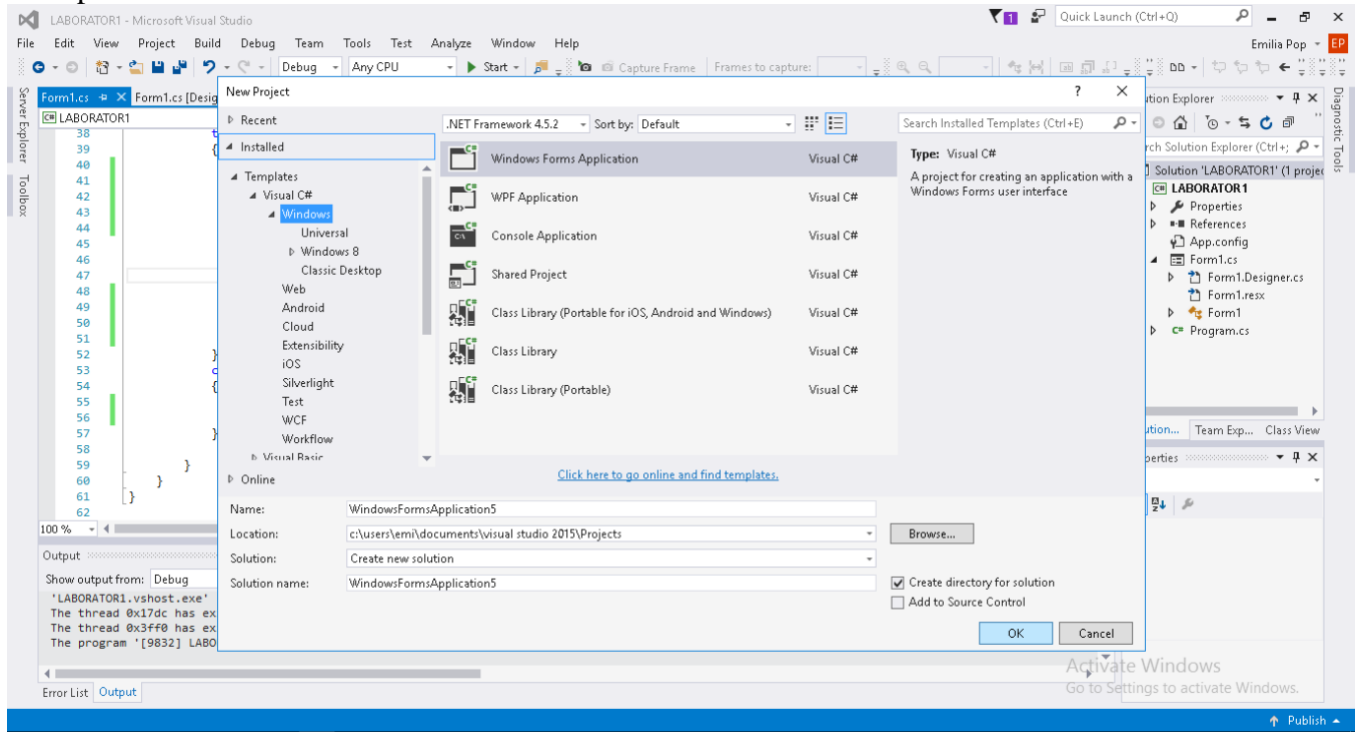
SELECT - use the method Fill()
INSERT, UPDATE, DELETE – use the method ExecuteNonQuery()

Label

TextBox

DataGridView

Button

```csharp
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];
```

3

```csharp
        }

    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 3

×

Inserted Succesfull to the Database

OK

Ada...

```
Price, Cid)
1.Text;
(textBox2.Te
e(textBox3.T
textBox4.Tex
```

Form1

Conectare

Pid	PName	Quantity
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