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# **Lab 1**

## **Form1.cs**

using System;

using System.Collections.Generic;

using System.ComponentModel;

using System.Data;

using System.Data.SqlClient;

using System.Drawing;

using System.Linq;

using System.Text;

using System.Threading.Tasks;

using System.Windows.Forms;

namespace Lab1

{

public partial class Form1 : Form

{

SqlConnection conn = null;

string connetionString = @"Data Source=SONNE;Initial Catalog=STUDENT\_MANAGERMENT;Integrated Security=true";

public Form1()

{

InitializeComponent();

}

private void btnConnect\_Click(object sender, EventArgs e)

{

try

{

conn = new SqlConnection(connetionString);

conn.Open();

MessageBox.Show("Succesful Connection!");

/\*string query = "SELECT \* FROM STUDENT";

SqlCommand cmd = new SqlCommand(query, conn);

SqlDataReader read = cmd.ExecuteReader();

while (read.Read())

{

string output = "OUT: = " + read.GetValue(0) + "-" + read.GetValue(1) + "-" + read.GetValue(2);

MessageBox.Show(output);

}\*/

/\*string classID = "C01";

String query = $"SELECT COUNT(\*) FROM STUDENT WHERE ClassID = '{classID}'";

SqlCommand command = new SqlCommand(query, conn);

int result = Convert.ToInt32(command.ExecuteScalar());

MessageBox.Show(result.ToString());\*/

Form2 form2 = new Form2();

form2.Show();

} catch (Exception ex)

{

MessageBox.Show("Failed to Connection " + ex.Message);

}

}

private void btnDisConnect\_Click(object sender, EventArgs e)

{

if(conn != null && conn.State==ConnectionState.Open)

{

conn.Close();

MessageBox.Show("Succesful DisConnection!!!");

this.Close();

}

}

}

}

## **Form2.cs**

using System;

using System.Collections.Generic;

using System.ComponentModel;

using System.Data;

using System.Data.SqlClient;

using System.Drawing;

using System.Linq;

using System.Text;

using System.Threading.Tasks;

using System.Windows.Forms;

namespace Lab1

{

public partial class Form2 : Form

{

public Form2()

{

InitializeComponent();

}

SqlConnection conn = null;

string connetionString = @"Data Source=SONNE;Initial Catalog=STUDENT\_MANAGERMENT;Integrated Security=true";

private void btnCalculateNumberStudents\_Click(object sender, EventArgs e)

{

if (conn == null)

{

conn = new SqlConnection(connetionString);

}

if (conn.State == ConnectionState.Closed)

{

conn.Open();

}

String query = $"SELECT COUNT(\*) FROM STUDENT WHERE ClassID = '{txtEnterClassID.Text}'";

String queryGetClass = $"SELECT \* FROM CLASS WHERE ClassID = '{txtEnterClassID.Text}'";

SqlCommand command = new SqlCommand(query, conn);

SqlCommand commandGetClass = new SqlCommand(queryGetClass, conn);

int result = Convert.ToInt32(command.ExecuteScalar());

txtNumberStudents.Text = result.ToString();

SqlDataReader read = commandGetClass.ExecuteReader();

while (read.Read())

{

txtClassID.Text = read.GetString(0);

txtClassName.Text = read.GetString(1);

txtYear.Text = read.GetInt32(2).ToString();

}

conn.Close();

}

private void btnViewListStudents\_Click(object sender, EventArgs e)

{

lsvStudents.Items.Clear();

if (conn == null)

{

conn = new SqlConnection(connetionString);

}

if (conn.State == ConnectionState.Closed)

{

conn.Open();

}

String queryGetStudent = $"SELECT \* FROM STUDENT WHERE ClassID = '{txtEnterClassID.Text}'";

SqlCommand commandGetStudent = new SqlCommand(queryGetStudent, conn);

SqlDataReader read = commandGetStudent.ExecuteReader();

while (read.Read())

{

string studentID = read.GetString(0);

string nameStudent = read.GetString(1);

string classID = read.GetString(2);

ListViewItem item = new ListViewItem(studentID);

item.SubItems.Add(nameStudent);

item.SubItems.Add(classID);

lsvStudents.Items.Add(item);

}

conn.Close();

}

private void btnViewAllTable\_Click(object sender, EventArgs e)

{

try

{

Form3 form3 = new Form3();

form3.Show();

}

catch (Exception ex)

{

MessageBox.Show("Failed to Connection " + ex.Message);

}

}

}

}

## **Form3.cs**

using System;

using System.Collections.Generic;

using System.ComponentModel;

using System.Data;

using System.Data.SqlClient;

using System.Drawing;

using System.Linq;

using System.Text;

using System.Threading.Tasks;

using System.Windows.Forms;

namespace Lab1

{

public partial class Form3 : Form

{

public Form3()

{

InitializeComponent();

}

SqlConnection conn = null;

string connetionString = @"Data Source=SONNE;Initial Catalog=STUDENT\_MANAGERMENT;Integrated Security=true";

private void Form3\_Load(object sender, EventArgs e)

{

if (conn == null) conn = new SqlConnection(connetionString);

if (conn.State == ConnectionState.Closed) conn.Open();

listBoxClass.ClearSelected();

String queryGetClass = "SELECT \* FROM CLASS";

SqlCommand cmdGetClass = new SqlCommand(queryGetClass, conn);

SqlDataReader readClass = cmdGetClass.ExecuteReader();

while (readClass.Read())

{

string classID = readClass.GetString(0);

string className = readClass.GetString(1);

int year = readClass.GetInt32(2);

string line = classID + "-" + className + "-" + year;

listBoxClass.Items.Add(line);

}

conn.Close();

lvStudents.Items.Clear();

if (conn.State == ConnectionState.Closed) conn.Open();

String queryGetStudent = "SELECT \* FROM STUDENT";

SqlCommand commandGetStudent = new SqlCommand(queryGetStudent, conn);

SqlDataReader readStudent = commandGetStudent.ExecuteReader();

while (readStudent.Read())

{

string studentID = readStudent.GetString(0);

string nameStudent = readStudent.GetString(1);

string classID1 = readStudent.GetString(2);

ListViewItem item = new ListViewItem(studentID);

item.SubItems.Add(nameStudent);

item.SubItems.Add(classID1);

lvStudents.Items.Add(item);

}

conn.Close();

}

private void listBoxClass\_SelectedIndexChanged(object sender, EventArgs e)

{

lvStudents.Items.Clear();

if (listBoxClass.SelectedIndex == -1) return;

string line = listBoxClass.SelectedItem.ToString();

string[] arr = line.Split('-');

string classID = arr[0];

if (conn == null) conn = new SqlConnection(connetionString);

if (conn.State == ConnectionState.Closed) conn.Open();

SqlCommand cmdGetListStudent = new SqlCommand($"SELECT \* FROM STUDENT WHERE ClassID='{classID}'", conn);

SqlDataReader readStudent = cmdGetListStudent.ExecuteReader();

while(readStudent.Read())

{

string studentID = readStudent.GetString(0);

string name = readStudent.GetString(1);

string classIDRow = readStudent.GetString(2);

ListViewItem item = lvStudents.Items.Add(studentID);

item.SubItems.Add(name);

item.SubItems.Add(classIDRow);

}

conn.Close();

}

private void btnEdit\_Click(object sender, EventArgs e)

{

Form4 form4 = new Form4();

form4.Show();

}

}

}

## **Form4.cs**

using System;

using System.Collections.Generic;

using System.ComponentModel;

using System.Data;

using System.Data.SqlClient;

using System.Drawing;

using System.Linq;

using System.Text;

using System.Threading.Tasks;

using System.Windows.Forms;

namespace Lab1

{

public partial class Form4 : Form

{

public Form4()

{

InitializeComponent();

}

SqlConnection conn = null;

string connetionString = @"Data Source=SONNE;Initial Catalog=STUDENT\_MANAGERMENT;Integrated Security=true";

private void Form4\_Load(object sender, EventArgs e)

{

ViewListStudent();

}

int result = -1;

private void btnInsert\_Click(object sender, EventArgs e)

{

if (conn == null) conn = new SqlConnection(connetionString);

if (conn.State == ConnectionState.Closed) conn.Open();

SqlCommand cmd = new SqlCommand();

cmd.CommandType = CommandType.Text;

cmd.Connection = conn;

cmd.CommandText = "INSERT INTO Student(StudentID,Name,ClassID)"

+ "VALUES(@StudentID,@Name,@ClassID)";

SqlParameter parameter\_StudentID = new SqlParameter("@StudentID", txtStudentID.Text);

cmd.Parameters.Add(parameter\_StudentID);

SqlParameter parameter\_Name = new SqlParameter("@Name", txtName.Text);

cmd.Parameters.Add(parameter\_Name);

SqlParameter parameter\_ClassID = new SqlParameter("@ClassID", txtClassID.Text);

cmd.Parameters.Add(parameter\_ClassID);

try {

result = cmd.ExecuteNonQuery();

} catch(Exception ex) {

MessageBox.Show(ex.Message + "\n Insert Failed!!");

}

if(result > 0)

{

ViewListStudent();

}

}

private void ViewListStudent()

{

if (conn == null) conn = new SqlConnection(connetionString);

if (conn.State == ConnectionState.Closed) conn.Open();

lsvStudents.Items.Clear();

if (conn.State == ConnectionState.Closed) conn.Open();

String queryGetStudent = "SELECT \* FROM STUDENT";

SqlCommand commandGetStudent = new SqlCommand(queryGetStudent, conn);

SqlDataReader readStudent = commandGetStudent.ExecuteReader();

while (readStudent.Read())

{

string studentID = readStudent.GetString(0);

string nameStudent = readStudent.GetString(1);

string classID1 = readStudent.GetString(2);

ListViewItem item = lsvStudents.Items.Add(studentID);

item.SubItems.Add(nameStudent);

item.SubItems.Add(classID1);

}

conn.Close();

}

private void lsvStudents\_SelectedIndexChanged(object sender, EventArgs e)

{

if(lsvStudents.SelectedItems.Count > 0)

{

txtStudentID.Text = lsvStudents.SelectedItems[0].SubItems[0].Text;

txtName.Text = lsvStudents.SelectedItems[0].SubItems[1].Text;

txtClassID.Text = lsvStudents.SelectedItems[0].SubItems[2].Text;

}

}

private void btnUpdate\_Click(object sender, EventArgs e)

{

if (conn == null) conn = new SqlConnection(connetionString);

if (conn.State == ConnectionState.Closed) conn.Open();

SqlCommand cmd = new SqlCommand($"UPDATE Student SET Name='{txtName.Text}', ClassID='{txtClassID.Text}' WHERE StudentID='{txtStudentID.Text}'", conn);

try

{

result = cmd.ExecuteNonQuery();

}

catch (Exception ex)

{

MessageBox.Show(ex.Message + "\n Update Failed!!");

}

if (result > 0)

{

ViewListStudent();

}

}

private void btnDel\_Click(object sender, EventArgs e)

{

if (conn == null) conn = new SqlConnection(connetionString);

if (conn.State == ConnectionState.Closed) conn.Open();

SqlCommand cmd = new SqlCommand($"DELETE FROM Student WHERE StudentID='{txtStudentID.Text}'", conn);

try

{

result = cmd.ExecuteNonQuery();

}

catch (Exception ex)

{

MessageBox.Show(ex.Message + "\n Delete Failed!!");

}

if (result > 0)

{

ViewListStudent();

txtStudentID.Text = "";

txtName.Text = "";

txtClassID.Text = "";

}

}

}

}

Graphical user interface

Description automatically generated

Graphical user interface

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Chart

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Table

Description automatically generated

# **Lab 2**

using System;

using System.Collections.Generic;

using System.ComponentModel;

using System.Data;

using System.Data.SqlClient;

using System.Drawing;

using System.Linq;

using System.Text;

using System.Threading.Tasks;

using System.Windows.Forms;

namespace Lab2

{

public partial class Form1 : Form

{

SqlConnection conn = null;

string connetionString = @"Data Source=SONNE;Initial Catalog=STUDENT\_MANAGERMENT;Integrated Security=true";

SqlDataAdapter adapter = null;

DataSet ds = null;

public Form1()

{

InitializeComponent();

}

private void Form1\_Load(object sender, EventArgs e)

{

adapter = new SqlDataAdapter("SELECT \* FROM Student", connetionString);

SqlCommandBuilder sqlCommandBuilder = new SqlCommandBuilder(adapter);

ds = new DataSet();

adapter.Fill(ds, "Student");

dtgViewStudents.DataSource = ds.Tables[0];

}

private void btnInsert\_Click(object sender, EventArgs e)

{

int result = 0;

DataRow dataRow = ds.Tables[0].NewRow();

dataRow[0] = txtStudentID.Text;

dataRow["Name"] = txtName.Text;

dataRow[2] = txtClassID.Text;

ds.Tables[0].Rows.Add(dataRow);

try

{

adapter.Update(ds, "Student");

} catch (Exception ex)

{

MessageBox.Show("Sai gì kìa cha \n" + ex.Message);

}

if(result > 0)

{

MessageBox.Show("Chèn được rồi đó!");

}

}

int possition = -1;

private void dtgViewStudents\_CellContentClick(object sender, DataGridViewCellEventArgs e)

{

possition = e.RowIndex;

if(possition == -1)

{

MessageBox.Show("Hông có hàng nào được chọn kìa pa!");

return;

}

DataRow dataRow = ds.Tables[0].Rows[possition];

txtStudentID.Text = dataRow[0].ToString();

txtName.Text = dataRow["Name"].ToString();

txtClassID.Text = dataRow[2].ToString();

}

private void btnUpdate\_Click(object sender, EventArgs e)

{

if (possition == -1)

{

MessageBox.Show("Hông có hàng nào được chọn kìa pa!");

return;

}

DataRow dataRow = ds.Tables[0].Rows[possition];

dataRow.BeginEdit();

dataRow[0] = txtStudentID.Text;

dataRow["Name"] = txtName.Text;

dataRow[2] = txtClassID.Text;

dataRow.EndEdit();

int result = adapter.Update(ds.Tables[0]);

if(result > 0)

{

MessageBox.Show("Update được zồi!");

} else

{

MessageBox.Show("Sai gì rồi kìa cha!!");

}

}

private void btnDel\_Click(object sender, EventArgs e)

{

if (possition == -1)

{

MessageBox.Show("Hông có hàng nào được chọn kìa pa!");

return;

}

DataRow dataRow = ds.Tables[0].Rows[possition];

dataRow.Delete();

int result = adapter.Update(ds.Tables[0]);

if (result > 0)

{

MessageBox.Show("Delete được zồi!");

}

else

{

MessageBox.Show("Sai gì rồi kìa cha!!");

}

}

}

}

Table

Description automatically generated

# **Lab3**

## **Form1.cs**

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;

namespace Lab3

{

public partial class Form1 : Form

{

public Form1()

{

InitializeComponent();

}

private void sTUDENTBindingNavigatorSaveItem\_Click(object sender, EventArgs e)

{

this.Validate();

this.sTUDENTBindingSource.EndEdit();

this.tableAdapterManager.UpdateAll(this.sTUDENT\_MANAGERMENTDataSet);

}

private void Form1\_Load(object sender, EventArgs e)

{

// TODO: This line of code loads data into the 'sTUDENT\_MANAGERMENTDataSet.STUDENT' table. You can move, or remove it, as needed.

this.sTUDENTTableAdapter.Fill(this.sTUDENT\_MANAGERMENTDataSet.STUDENT);

}

}

}

Table

Description automatically generated

## **ListStudentByClass.cs**

using System;

using System.Collections.Generic;

using System.ComponentModel;

using System.Data;

using System.Data.SqlClient;

using System.Drawing;

using System.Linq;

using System.Text;

using System.Threading.Tasks;

using System.Windows.Forms;

namespace Lab3

{

public partial class ListStudentByClass : Form

{

String conn = global::Lab3.Properties.Settings.Default.STUDENT\_MANAGERMENTConnectionString;

DataSet ds = null;

SqlDataAdapter adapter;

string strQuery;

public ListStudentByClass()

{

InitializeComponent();

}

private void cLASSBindingNavigatorSaveItem\_Click(object sender, EventArgs e)

{

this.Validate();

this.cLASSBindingSource.EndEdit();

this.tableAdapterManager.UpdateAll(this.sTUDENT\_MANAGERMENTDataSet);

}

private void ListStudentByClass\_Load(object sender, EventArgs e)

{

// TODO: This line of code loads data into the 'sTUDENT\_MANAGERMENTDataSet.STUDENT' table. You can move, or remove it, as needed.

this.sTUDENTTableAdapter.Fill(this.sTUDENT\_MANAGERMENTDataSet.STUDENT);

// TODO: This line of code loads data into the 'sTUDENT\_MANAGERMENTDataSet.CLASS' table. You can move, or remove it, as needed.

this.cLASSTableAdapter.Fill(this.sTUDENT\_MANAGERMENTDataSet.CLASS);

}

private void btnView\_Click(object sender, EventArgs e)

{

strQuery = $"SELECT \* FROM Student WHERE ClassID='{classIDComboBox.Text}'";

adapter = new SqlDataAdapter(strQuery, conn);

ds = new DataSet();

adapter.Fill(ds);

sTUDENTDataGridView.DataSource = ds.Tables[0];

}

}

}

Graphical user interface

Description automatically generated

## **SearchForm.cs**

using System;

using System.Collections.Generic;

using System.ComponentModel;

using System.Data;

using System.Data.SqlClient;

using System.Drawing;

using System.Linq;

using System.Text;

using System.Threading.Tasks;

using System.Windows.Forms;

namespace Lab3

{

public partial class SearchForm : Form

{

String conn = global::Lab3.Properties.Settings.Default.STUDENT\_MANAGERMENTConnectionString;

DataSet ds = null;

SqlDataAdapter adapter;

string strQuery;

public SearchForm()

{

InitializeComponent();

}

private void sTUDENTBindingNavigatorSaveItem\_Click(object sender, EventArgs e)

{

this.Validate();

this.sTUDENTBindingSource.EndEdit();

this.tableAdapterManager.UpdateAll(this.sTUDENT\_MANAGERMENTDataSet);

}

private void sTUDENTBindingNavigatorSaveItem\_Click\_1(object sender, EventArgs e)

{

this.Validate();

this.sTUDENTBindingSource.EndEdit();

this.tableAdapterManager.UpdateAll(this.sTUDENT\_MANAGERMENTDataSet);

}

private void SearchForm\_Load(object sender, EventArgs e)

{

// TODO: This line of code loads data into the 'sTUDENT\_MANAGERMENTDataSet.STUDENT' table. You can move, or remove it, as needed.

this.sTUDENTTableAdapter.Fill(this.sTUDENT\_MANAGERMENTDataSet.STUDENT);

}

private void txtStudentName\_TextChanged(object sender, EventArgs e)

{

strQuery = $"SELECT \* FROM Student WHERE Name like'%{txtStudentName.Text}%'";

adapter = new SqlDataAdapter(strQuery, conn);

ds = new DataSet();

adapter.Fill(ds);

sTUDENTDataGridView.DataSource = ds.Tables[0];

}

}

}

Graphical user interface, application, PowerPoint

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