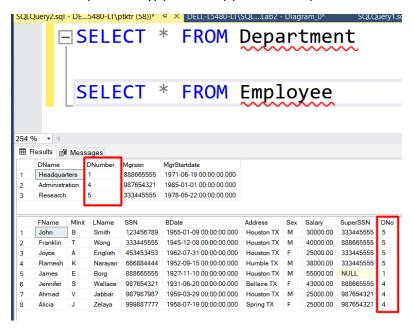
Lab 5: One-Many Relationship with WinForm

Use the following script to create a Company Database, Create your database: use the following code:

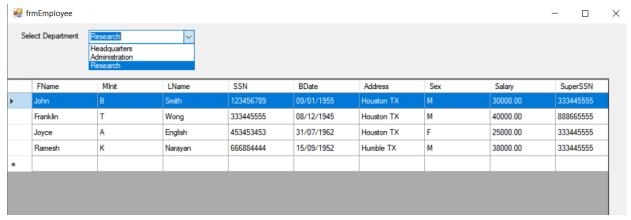
```
CREATE DATABASE Company ON PRIMARY
( NAME = 'Company',
FILENAME = 'E:\DATA\Company.mdf' ,
SIZE = 4096KB , MAXSIZE = UNLIMITED, FILEGROWTH = 1024KB )
LOG ON
( NAME = 'Company_log',
FILENAME = 'E:\DATA\Company_log.ldf' ,
SIZE = 1024KB , MAXSIZE = 2048KB , FILEGROWTH = 10%)
```

Run the Script provided to create data tables.

Exer1: Make a Form (One-Many) (Main-Sub) (Parent-Child) between table Department and Employee



Create a Form to query employee from each Department (1 combo box + DataGridView)



Combo box name: comboBoxDepartment, DataGridView name: dataGridViewEmployee

Double click on : frmEmployee

to open Code Edit

(See below for Exer1 guideline)

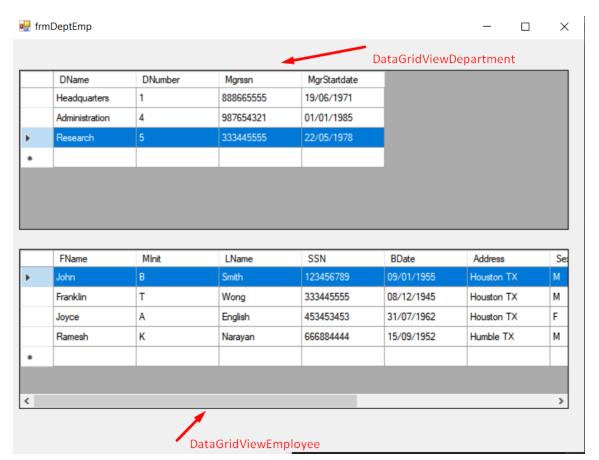
Exer2: The same with Exer1, but Form to query Dependent for each Employee.

Exer3: Allow to add new data to grid and save back to Database for both Exer1 & Exer2.

Exer1:

```
public partial class frmEmployee : Form
   //String strConn = ConfigurationManager.ConnectionStrings["MyConn"].ConnectionString;
   SqlConnection conn = new SqlConnection(ConfigurationManager.ConnectionStrings["MyConn"].ConnectionString);
   0 references | ptktrung, 104 days ago | 1 author, 1 change
   public frmEmployee()
        InitializeComponent();
   1 reference | ptktrung, 104 days ago | 1 author, 1 change
   private void frmEmployee_Load(object sender, EventArgs e)
        //SqlConnection conn = new SqlConnection(strConn);
        SqlCommand cmd = new SqlCommand("SELECT * FROM Department", conn);
        SqlDataAdapter adapter = new SqlDataAdapter(cmd);
        DataTable dt = new DataTable();
        adapter.Fill(dt);
        if (dt.Rows.Count > 0)
            //MessageBox.Show("Fill sucess Welcome");
            //dataGridViewEmployee.DataSource = dt;
            comboBoxDepartment.DataSource = dt;
            comboBoxDepartment.DisplayMember = "DName";
            comboBoxDepartment.ValueMember = "DNumber";
            LoadData();
            //gridStudents.Refresh();
            MessageBox.Show("No Data");
        adapter.Dispose();
   private void comboBoxDepartment_SelectedIndexChanged(object sender, EventArgs e)
      LoadData();
   2 references | ptktrung, 104 days ago | 1 author, 1 change
  private void LoadData()
      trv
           SqlCommand cmd = new SqlCommand("SELECT * FROM Employee where DNo=" + comboBoxDepartment.SelectedValue, conr
           SqlDataAdapter adapter = new SqlDataAdapter(cmd);
          DataTable dt = new DataTable();
          adapter.Fill(dt);
           if (dt.Rows.Count > 0)
               dataGridViewEmployee.DataSource = dt;
               MessageBox.Show("No Data");
           adapter.Dispose();
      catch (Exception)
           //MessageBox.Show("Error:" + ex.Message + "-" + ex.Source);
```

1. Form (Main-Sub / Parent-Child)



```
blic partial class frmDeptEmp : Form
 SqlConnection conn = new SqlConnection(ConfigurationManager.ConnectionStrings["MyConn"].ConnectionString);
 1 reference | ptktrung, 104 days ago | 1 author, 1 change
 public frmDeptEmp()
      InitializeComponent();
 1 reference | ptktrung, 104 days ago | 1 author, 1 change
 private void frmDeptEmp_Load(object sender, EventArgs e)
      SqlCommand cmd = new SqlCommand("SELECT * FROM Department", conn);
     SqlDataAdapter adapter = new SqlDataAdapter(cmd);
     DataTable dt = new DataTable();
     adapter.Fill(dt);
      if (dt.Rows.Count > 0)
          dataGridViewDepartment.DataSource = dt;
          //gridStudents.Refresh();
      else
          MessageBox.Show("No Data");
      adapter.Dispose();
      LoadData();
```

```
private void dataGridViewDepartment_CellContentClick(object sender, DataGridViewCellEventArgs e)
{
    //var selectOne = dataGridView1.SelectedRows[0].DataBoundItem as Person;
    //textBoxPersonID.Text = selectOne.PersonID.ToString();
    //var selectOne=dataGridViewDepartment.SelectedRows[0].DataBoundItem
    LoadData();
    dataGridViewDepartment.Refresh();
    dataGridViewEmployee.Refresh();
}
```

```
private void LoadData()
   try
       //dataGridView1.SelectedRows[0].DataBoundItem
       //int iDNo = dataGridViewDepartment.SelectedRows[0].DataBoundItem.DNo;
       int index = dataGridViewDepartment.SelectedCells[0].RowIndex;
       if (index < 0 || index >= dataGridViewDepartment.RowCount)
           MessageBox.Show("Please select a department first");
           return;
       DataGridViewRow row = dataGridViewDepartment.Rows[index];
       //Get DNumber from the dataGrid
       int iDNo = int.Parse(row.Cells[1].Value.ToString());
       //String sDNo = row.Cells[1].Value.ToString();
       SqlCommand cmd = new SqlCommand("SELECT * FROM Employee where DNo=" + iDNo, conn);
       SqlDataAdapter adapter = new SqlDataAdapter(cmd);
       DataTable dt = new DataTable();
       adapter.Fill(dt);
       if (dt.Rows.Count > 0)
          // MessageBox.Show("Fill sucess Welcome");
           dataGridViewEmployee.DataSource = dt;
           MessageBox.Show("No Data");
       adapter.Dispose();
       dataGridViewEmployee.Refresh();
   catch (Exception)
       //MessageBox.Show("Error:" + ex.Message + "-" + ex.Source);
```

Notes: Change of reading connection repeating on each form to global connection

```
static class Program
{
    public static string strConn=""; //declare global variable
    [STAThread]
    static void Main()
    {
        strConn = ConfigurationManager.ConnectionStrings["MyConn"].ConnectionString;
```

```
SqlConnection conn = new SqlConnection(Program.strConn);
conn.Open();
```

Exer3: Student is required to use Solution 1 to get credit tasks and solution 2 to get pass tasks

Solution 1: Count the new index for new rows, update new rows to the database.

Solution 2: Use OleDb to update a Binding source of datagridview back to database. Some codes FYI:

```
using System.Data.OleDb;
using System.Configuration;
        OleDbCommand cmd;
        OleDbDataAdapter da;
        private BindingSource bindingSource = null;
        private OleDbCommandBuilder oleCommandBuilder = null;
        DataTable dt = new DataTable();
        String strConn = ConfigurationManager.ConnectionStrings["MyConnOleDb"].ConnectionString;
        public Form1()
            InitializeComponent();
        private void Form1_Load(object sender, EventArgs e)
            DataBind();
        private void btnSave_Click(object sender, EventArgs e)
            dataGridView1.EndEdit(); //very important step
            try
                da.Update(dt); //Update data back to Database
                MessageBox.Show("Updated");
                DataBind();
            catch (Exception ex)
                MessageBox.Show(ex.ToString(), "Error", MessageBoxButtons.OK, MessageBoxIcon.Error);
        private void DataBind()
            dataGridView1.DataSource = null;
            dt.Clear();
            OleDbConnection conn = new OleDbConnection(strConn);
            conn.Open();
            String sSQL = "SELECT * FROM Employee";
            cmd = conn.CreateCommand();
            cmd.CommandText = sSQL;
            try
```

```
da = new OleDbDataAdapter(sSQL, conn);
    oleCommandBuilder = new OleDbCommandBuilder(da);
    da.Fill(dt);
    bindingSource = new BindingSource { DataSource = dt };
    dataGridView1.DataSource = bindingSource;
}
    catch (Exception ex)
{
        MessageBox.Show(ex.ToString(), "Error", MessageBoxButtons.OK, MessageBoxIcon.Error);
}
    conn.Close();
}
```

App.Config

```
<connectionStrings>
  <add name="MyConn"
    connectionString="Data Source=(local)\SQL2017;Initial Catalog=SE.Lab.T5C3;;Integrated Security=True "
    providerName="System.Data.SqlClient"

/>
    <add name="MyConnOleDB"
    connectionString="Provider=sqloledb;Data Source=(local)\SQL2017;Initial Catalog=SE.Lab.T5C3;Integrated Security=SSPI "
        providerName="SQLOLEDB"

/>
    </connectionStrings>
```

Enjoy ©.

Email to: tg_phamthaikytrung@tdtu.edu.vn if you have any feedback