HOME WORK 13/10/2023

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Lập Trình C#(3)

1

Kết quả:

A computer screen with a white box and black text

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A computer screen with a black background

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CODE:

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| 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 SQL\_winform  {  public partial class Form1 : Form  {  public Form1()  {  InitializeComponent();  }  private void button1\_Click(object sender, EventArgs e)  {  try  {  Connect.Instance.Open();  MessageBox.Show("Connect database successfully!", "Success");  }  catch (Exception ex)  {  MessageBox.Show(ex.Message, "Errors");  }  }  private void btnDisconnect\_Click(object sender, EventArgs e)  {  try  {  Connect.Instance.Close();  MessageBox.Show("Disconnect database successfully!", "Success");  }  catch (Exception ex)  {  MessageBox.Show(ex.Message, "Errors");  }  }  }  } |

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| namespace SQL\_winform  {  partial class Form1  {  /// <summary>  /// Required designer variable.  /// </summary>  private System.ComponentModel.IContainer components = null;  /// <summary>  /// Clean up any resources being used.  /// </summary>  /// <param name="disposing">true if managed resources should be disposed; otherwise, false.</param>  protected override void Dispose(bool disposing)  {  if (disposing && (components != null))  {  components.Dispose();  }  base.Dispose(disposing);  }  #region Windows Form Designer generated code  /// <summary>  /// Required method for Designer support - do not modify  /// the contents of this method with the code editor.  /// </summary>  private void InitializeComponent()  {  btnConnect = new System.Windows.Forms.Button();  btnDisconnect = new System.Windows.Forms.Button();  SuspendLayout();  //  // btnConnect  //  btnConnect.Location = new System.Drawing.Point(120, 50);  btnConnect.Name = "btnConnect";  btnConnect.Size = new System.Drawing.Size(280, 50);  btnConnect.TabIndex = 0;  btnConnect.Text = "Connect database";  btnConnect.UseVisualStyleBackColor = true;  btnConnect.Click += button1\_Click;  //  // btnDisconnect  //  btnDisconnect.Location = new System.Drawing.Point(120, 135);  btnDisconnect.Name = "btnDisconnect";  btnDisconnect.Size = new System.Drawing.Size(280, 50);  btnDisconnect.TabIndex = 1;  btnDisconnect.Text = "Disconnect database";  btnDisconnect.UseVisualStyleBackColor = true;  btnDisconnect.Click += btnDisconnect\_Click;  //  // Form1  //  AutoScaleDimensions = new System.Drawing.SizeF(7F, 15F);  AutoScaleMode = System.Windows.Forms.AutoScaleMode.Font;  ClientSize = new System.Drawing.Size(534, 320);  Controls.Add(btnDisconnect);  Controls.Add(btnConnect);  Name = "Form1";  Text = "Form1";  ResumeLayout(false);  }  #endregion  private System.Windows.Forms.Button btnConnect;  private System.Windows.Forms.Button btnDisconnect;  }  } |

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| using System;  using System.Collections.Generic;  using System.Linq;  using System.Security.Policy;  using System.Threading.Tasks;  using System.Windows.Forms;  namespace SQL\_winform  {  internal static class Program  {  /// <summary>  /// The main entry point for the application.  /// </summary>  [STAThread]  static void Main()  {  Application.SetHighDpiMode(HighDpiMode.SystemAware);  Application.EnableVisualStyles();  Application.SetCompatibleTextRenderingDefault(false);  Application.Run(new Form1());  }  }  } |

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| using System;  using System.Windows.Forms;  using Microsoft.Data.SqlClient;  using Microsoft.Extensions.Configuration;  using MySqlConnector;  namespace SQL\_winform  {  static class Connect  {  static string url = "Server=localhost;User ID=root;Password='';Database=student";  private static MySqlConnection? conn;  public static MySqlConnection Instance {  get  {  if (conn == null)  {  conn = new MySqlConnection(url);  }  return conn;  }  }  }  } |

Form 2

Kết quả

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| namespace SQL\_winform  {  partial class Form2  {  /// <summary>  /// Required designer variable.  /// </summary>  private System.ComponentModel.IContainer components = null;  /// <summary>  /// Clean up any resources being used.  /// </summary>  /// <param name="disposing">true if managed resources should be disposed; otherwise, false.</param>  protected override void Dispose(bool disposing)  {  if (disposing && (components != null))  {  components.Dispose();  }  base.Dispose(disposing);  }  #region Windows Form Designer generated code  /// <summary>  /// Required method for Designer support - do not modify  /// the contents of this method with the code editor.  /// </summary>  private void InitializeComponent()  {  lbClassID = new System.Windows.Forms.Label();  lbNumberOfStudent = new System.Windows.Forms.Label();  txtClassID = new System.Windows.Forms.TextBox();  txtNumberOfStudent = new System.Windows.Forms.TextBox();  btnCaculate = new System.Windows.Forms.Button();  SuspendLayout();  //  // lbClassID  //  lbClassID.AutoSize = true;  lbClassID.Location = new System.Drawing.Point(160, 89);  lbClassID.Name = "lbClassID";  lbClassID.Size = new System.Drawing.Size(75, 15);  lbClassID.TabIndex = 0;  lbClassID.Text = "Enter ClassID";  //  // lbNumberOfStudent  //  lbNumberOfStudent.AutoSize = true;  lbNumberOfStudent.Location = new System.Drawing.Point(160, 151);  lbNumberOfStudent.Name = "lbNumberOfStudent";  lbNumberOfStudent.Size = new System.Drawing.Size(109, 15);  lbNumberOfStudent.TabIndex = 1;  lbNumberOfStudent.Text = "Number of Student";  //  // txtClassID  //  txtClassID.Location = new System.Drawing.Point(305, 85);  txtClassID.Name = "txtClassID";  txtClassID.Size = new System.Drawing.Size(215, 23);  txtClassID.TabIndex = 2;  //  // txtNumberOfStudent  //  txtNumberOfStudent.Location = new System.Drawing.Point(305, 147);  txtNumberOfStudent.Name = "txtNumberOfStudent";  txtNumberOfStudent.ReadOnly = true;  txtNumberOfStudent.Size = new System.Drawing.Size(215, 23);  txtNumberOfStudent.TabIndex = 3;  //  // btnCaculate  //  btnCaculate.Font = new System.Drawing.Font("Segoe UI Semibold", 12F, System.Drawing.FontStyle.Bold, System.Drawing.GraphicsUnit.Point);  btnCaculate.Location = new System.Drawing.Point(225, 224);  btnCaculate.Name = "btnCaculate";  btnCaculate.Size = new System.Drawing.Size(316, 45);  btnCaculate.TabIndex = 4;  btnCaculate.Text = "Caculate Number Of Student";  btnCaculate.UseVisualStyleBackColor = true;  btnCaculate.Click += btnCaculate\_Click;  //  // Form2  //  AutoScaleDimensions = new System.Drawing.SizeF(7F, 15F);  AutoScaleMode = System.Windows.Forms.AutoScaleMode.Font;  ClientSize = new System.Drawing.Size(800, 450);  Controls.Add(btnCaculate);  Controls.Add(txtNumberOfStudent);  Controls.Add(txtClassID);  Controls.Add(lbNumberOfStudent);  Controls.Add(lbClassID);  Name = "Form2";  Text = "Form2";  ResumeLayout(false);  PerformLayout();  }  #endregion  private System.Windows.Forms.Label lbClassID;  private System.Windows.Forms.Label lbNumberOfStudent;  private System.Windows.Forms.TextBox txtClassID;  private System.Windows.Forms.TextBox txtNumberOfStudent;  private System.Windows.Forms.Button btnCaculate;  }  } |

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| using Microsoft.Data.SqlClient;  using MySqlConnector;  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 SQL\_winform  {  public partial class Form2 : Form  {  public Form2()  {  InitializeComponent();  }  private void btnCaculate\_Click(object sender, EventArgs e)  {  if(Connect.Instance.State==ConnectionState.Closed)  Connect.Instance.Open();  MySqlCommand cmd = new MySqlCommand($"SELECT count(\*) from student where ClassID='{txtClassID.Text}'", Connect.Instance);  var result = cmd.ExecuteScalar();  txtNumberOfStudent.Text = result.ToString();  Connect.Instance.Close();  }  }  } |

FORM 3

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Code

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| using System.Windows.Forms;  namespace SQL\_winform  {  partial class Form3  {  /// <summary>  /// Required designer variable.  /// </summary>  private System.ComponentModel.IContainer components = null;  /// <summary>  /// Clean up any resources being used.  /// </summary>  /// <param name="disposing">true if managed resources should be disposed; otherwise, false.</param>  protected override void Dispose(bool disposing)  {  if (disposing && (components != null))  {  components.Dispose();  }  base.Dispose(disposing);  }  #region Windows Form Designer generated code  /// <summary>  /// Required method for Designer support - do not modify  /// the contents of this method with the code editor.  /// </summary>  private void InitializeComponent()  {  lbClassID = new System.Windows.Forms.Label();  txtClassID = new System.Windows.Forms.TextBox();  btnViewDetail = new System.Windows.Forms.Button();  txtClassIDRes = new System.Windows.Forms.TextBox();  lblClassIdRes = new System.Windows.Forms.Label();  txtClassName = new System.Windows.Forms.TextBox();  lbClassName = new System.Windows.Forms.Label();  txtYear = new System.Windows.Forms.TextBox();  lbYear = new System.Windows.Forms.Label();  lvStudent = new System.Windows.Forms.ListView();  btnViewListStudent = new System.Windows.Forms.Button();  SuspendLayout();  //  // lbClassID  //  lbClassID.AutoSize = true;  lbClassID.Location = new System.Drawing.Point(67, 62);  lbClassID.Name = "lbClassID";  lbClassID.Size = new System.Drawing.Size(75, 15);  lbClassID.TabIndex = 0;  lbClassID.Text = "Enter ClassID";  //  // txtClassID  //  txtClassID.Location = new System.Drawing.Point(167, 59);  txtClassID.Name = "txtClassID";  txtClassID.Size = new System.Drawing.Size(227, 23);  txtClassID.TabIndex = 1;  //  // btnViewDetail  //  btnViewDetail.Location = new System.Drawing.Point(67, 100);  btnViewDetail.Name = "btnViewDetail";  btnViewDetail.Size = new System.Drawing.Size(327, 31);  btnViewDetail.TabIndex = 2;  btnViewDetail.Text = "View in Detail";  btnViewDetail.UseVisualStyleBackColor = true;  btnViewDetail.Click += btnViewDetail\_Click;  //  // txtClassIDRes  //  txtClassIDRes.Location = new System.Drawing.Point(167, 169);  txtClassIDRes.Name = "txtClassIDRes";  txtClassIDRes.Size = new System.Drawing.Size(227, 23);  txtClassIDRes.TabIndex = 4;  //  // lblClassIdRes  //  lblClassIdRes.AutoSize = true;  lblClassIdRes.Location = new System.Drawing.Point(67, 172);  lblClassIdRes.Name = "lblClassIdRes";  lblClassIdRes.Size = new System.Drawing.Size(45, 15);  lblClassIdRes.TabIndex = 3;  lblClassIdRes.Text = "ClassID";  //  // txtClassName  //  txtClassName.Location = new System.Drawing.Point(167, 209);  txtClassName.Name = "txtClassName";  txtClassName.Size = new System.Drawing.Size(227, 23);  txtClassName.TabIndex = 6;  //  // lbClassName  //  lbClassName.AutoSize = true;  lbClassName.Location = new System.Drawing.Point(67, 212);  lbClassName.Name = "lbClassName";  lbClassName.Size = new System.Drawing.Size(69, 15);  lbClassName.TabIndex = 5;  lbClassName.Text = "Class Name";  //  // txtYear  //  txtYear.Location = new System.Drawing.Point(167, 255);  txtYear.Name = "txtYear";  txtYear.Size = new System.Drawing.Size(227, 23);  txtYear.TabIndex = 8;  //  // lbYear  //  lbYear.AutoSize = true;  lbYear.Location = new System.Drawing.Point(67, 258);  lbYear.Name = "lbYear";  lbYear.Size = new System.Drawing.Size(29, 15);  lbYear.TabIndex = 7;  lbYear.Text = "Year";  //  // lvStudent  //  lvStudent.Location = new System.Drawing.Point(447, 131);  lvStudent.Name = "lvStudent";  lvStudent.Size = new System.Drawing.Size(324, 147);  lvStudent.TabIndex = 9;  lvStudent.UseCompatibleStateImageBehavior = false;  lvStudent.FullRowSelect = true;  lvStudent.GridLines = true;  lvStudent.View=View.Details;  lvStudent.Columns.Add("Student ID",108);  lvStudent.Columns.Add("Name", 108);  lvStudent.Columns.Add("Class ID",108);  //  // btnViewListStudent  //  btnViewListStudent.Location = new System.Drawing.Point(447, 75);  btnViewListStudent.Name = "btnViewListStudent";  btnViewListStudent.Size = new System.Drawing.Size(327, 31);  btnViewListStudent.TabIndex = 10;  btnViewListStudent.Text = "View List Of Student";  btnViewListStudent.UseVisualStyleBackColor = true;  btnViewListStudent.Click += btnViewListStudent\_Click;  //  // Form3  //  AutoScaleDimensions = new System.Drawing.SizeF(7F, 15F);  AutoScaleMode = System.Windows.Forms.AutoScaleMode.Font;  ClientSize = new System.Drawing.Size(800, 450);  Controls.Add(btnViewListStudent);  Controls.Add(lvStudent);  Controls.Add(txtYear);  Controls.Add(lbYear);  Controls.Add(txtClassName);  Controls.Add(lbClassName);  Controls.Add(txtClassIDRes);  Controls.Add(lblClassIdRes);  Controls.Add(btnViewDetail);  Controls.Add(txtClassID);  Controls.Add(lbClassID);  Name = "Form3";  Text = "Form3";  ResumeLayout(false);  PerformLayout();  }  #endregion  private System.Windows.Forms.Label lbClassID;  private System.Windows.Forms.TextBox txtClassID;  private System.Windows.Forms.Button btnViewDetail;  private System.Windows.Forms.TextBox txtClassIDRes;  private System.Windows.Forms.Label lblClassIdRes;  private System.Windows.Forms.TextBox txtClassName;  private System.Windows.Forms.Label lbClassName;  private System.Windows.Forms.TextBox txtYear;  private System.Windows.Forms.Label lbYear;  private System.Windows.Forms.ListView lvStudent;  private System.Windows.Forms.Button btnViewListStudent;  }  } |

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| using MySqlConnector;  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 SQL\_winform  {  public partial class Form3 : Form  {  public Form3()  {  InitializeComponent();  }  private void btnViewDetail\_Click(object sender, EventArgs e)  {  txtClassIDRes.Text = "";  txtClassName.Text = "";  txtYear.Text = "";  if (Connect.Instance.State == ConnectionState.Closed)  Connect.Instance.Open();  MySqlCommand cmd = new MySqlCommand($"SELECT \* from class where ClassID='{txtClassID.Text}'", Connect.Instance);  var result = cmd.ExecuteReader();  if (result.Read())  {  txtClassIDRes.Text = result.GetString(0);  txtClassName.Text = result.GetString(1);  txtYear.Text = result.GetUInt32(2).ToString();  }  Connect.Instance.Close();  }  private void btnViewListStudent\_Click(object sender, EventArgs e)  {  lvStudent.Items.Clear();  if (Connect.Instance.State == ConnectionState.Closed)  Connect.Instance.Open();  MySqlCommand cmd = new MySqlCommand($"SELECT \* from student where ClassID='{txtClassID.Text}'", Connect.Instance);  var result = cmd.ExecuteReader();  while (result.Read())  {  string studentID = result.GetString(0);  string name = result.GetString(1);  string classID = result.GetString(2);  ListViewItem item = new ListViewItem(studentID);  item.SubItems.Add(name);  item.SubItems.Add(classID);  lvStudent.Items.Add(item);  }  Connect.Instance.Close();  }  }  } |

FORM 4

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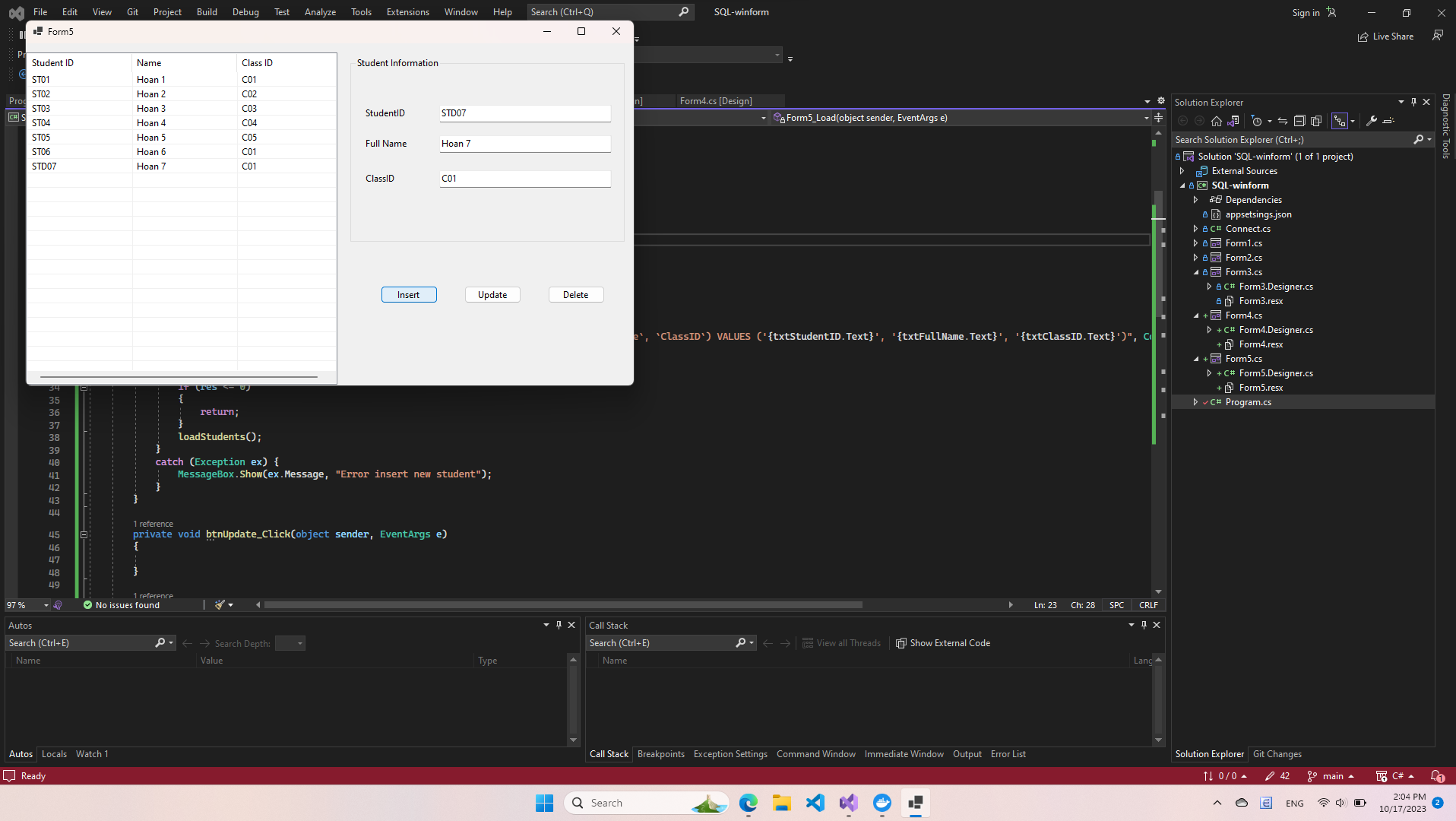
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Code

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| using Microsoft.Data.SqlClient;  using MySqlConnector;  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 SQL\_winform  {  public partial class Form4 : Form  {  public Form4()  {  InitializeComponent();  }  private void lsbClass\_SelectedIndexChanged(object sender, EventArgs e)  {  lvStudent.Items.Clear();  if (lsbClass.SelectedIndex == -1) return;  string classId = lsbClass.SelectedItem.ToString()  .Split("-")[0];  if (Connect.Instance.State == ConnectionState.Closed)  Connect.Instance.Open();  MySqlCommand cmd = new MySqlCommand($"select \* from student where ClassID='{classId}'", Connect.Instance);  var result = cmd.ExecuteReader();  while (result.Read())  {  string studentID = result.GetString(0);  string name = result.GetString(1);  string classID = result.GetString(2);  ListViewItem item = new ListViewItem(studentID);  item.SubItems.Add(name);  item.SubItems.Add(classID);  lvStudent.Items.Add(item);  }  Connect.Instance.Close();  }  private void Form4\_Load(object sender, EventArgs e)  {  if(Connect.Instance.State==ConnectionState.Closed)  Connect.Instance.Open();  MySqlCommand cmd = new MySqlCommand("select \* from class", Connect.Instance);  lsbClass.ClearSelected();  MySqlDataReader reader = cmd.ExecuteReader();  while (reader.Read())  {  string classID= reader.GetString(0);  string className= reader.GetString(1);  int Year= reader.GetInt32(2);  string line = classID+"-"+ className+" -"+Year.ToString();  lsbClass.Items.Add(line);  }  Connect.Instance.Close();  }  }  } |

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| using System.Windows.Forms;  namespace SQL\_winform  {  partial class Form4  {  /// <summary>  /// Required designer variable.  /// </summary>  private System.ComponentModel.IContainer components = null;  /// <summary>  /// Clean up any resources being used.  /// </summary>  /// <param name="disposing">true if managed resources should be disposed; otherwise, false.</param>  protected override void Dispose(bool disposing)  {  if (disposing && (components != null))  {  components.Dispose();  }  base.Dispose(disposing);  }  #region Windows Form Designer generated code  /// <summary>  /// Required method for Designer support - do not modify  /// the contents of this method with the code editor.  /// </summary>  private void InitializeComponent()  {  lvStudent = new ListView();  lbListStudent = new Label();  lbListOfClass = new Label();  lsbClass = new ListBox();  SuspendLayout();  //  // lvStudent  //  lvStudent.FullRowSelect = true;  lvStudent.GridLines = true;  lvStudent.HideSelection = false;  lvStudent.Location = new System.Drawing.Point(438, 167);  lvStudent.Name = "lvStudent";  lvStudent.Size = new System.Drawing.Size(324, 147);  lvStudent.TabIndex = 11;  lvStudent.UseCompatibleStateImageBehavior = false;  lvStudent.View = View.Details;  lvStudent.Columns.Add("Student ID", 108);  lvStudent.Columns.Add("Name", 108);  lvStudent.Columns.Add("Class ID", 108);  //  // lbListStudent  //  lbListStudent.AutoSize = true;  lbListStudent.Location = new System.Drawing.Point(550, 121);  lbListStudent.Name = "lbListStudent";  lbListStudent.Size = new System.Drawing.Size(82, 15);  lbListStudent.TabIndex = 12;  lbListStudent.Text = "List of student";  //  // lbListOfClass  //  lbListOfClass.AutoSize = true;  lbListOfClass.Location = new System.Drawing.Point(159, 121);  lbListOfClass.Name = "lbListOfClass";  lbListOfClass.Size = new System.Drawing.Size(80, 15);  lbListOfClass.TabIndex = 13;  lbListOfClass.Text = "List of Classes";  //  // lsbClass  //  lsbClass.FormattingEnabled = true;  lsbClass.ItemHeight = 15;  lsbClass.Location = new System.Drawing.Point(54, 167);  lsbClass.Name = "lsbClass";  lsbClass.Size = new System.Drawing.Size(274, 139);  lsbClass.TabIndex = 14;  lsbClass.SelectedIndexChanged += lsbClass\_SelectedIndexChanged;  //  // Form4  //  AutoScaleDimensions = new System.Drawing.SizeF(7F, 15F);  AutoScaleMode = AutoScaleMode.Font;  ClientSize = new System.Drawing.Size(800, 450);  Controls.Add(lsbClass);  Controls.Add(lbListOfClass);  Controls.Add(lbListStudent);  Controls.Add(lvStudent);  Name = "Form4";  Text = "Form4";  Load += Form4\_Load;  ResumeLayout(false);  PerformLayout();  }  #endregion  private ListView lvStudent;  private Label lbListStudent;  private Label lbListOfClass;  private ListBox lsbClass;  }  } |

FORM 5



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CODE:

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| using MySqlConnector;  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 SQL\_winform  {  public partial class Form5 : Form  {  public Form5()  {  InitializeComponent();  }  private void Form5\_Load(object sender, EventArgs e)  {  loadStudents();  }  private void btnInsert\_Click(object sender, EventArgs e)  {  if(Connect.Instance.State==ConnectionState.Closed)  Connect.Instance.Open();  MySqlCommand cmd = new MySqlCommand($"INSERT INTO `student` (`StudentID`, `StudentName`, `ClassID`) VALUES ('{txtStudentID.Text}', '{txtFullName.Text}', '{txtClassID.Text}')", Connect.Instance);  try  {  int res = cmd.ExecuteNonQuery();  if (res <= 0)  {  return;  }  loadStudents();  }  catch (Exception ex) {  MessageBox.Show(ex.Message, "Error insert new student");  }  }  private void btnUpdate\_Click(object sender, EventArgs e)  {  if (Connect.Instance.State == ConnectionState.Closed)  Connect.Instance.Open();  MySqlCommand cmd = new MySqlCommand($"UPDATE `student` SET `StudentName` = '{txtFullName.Text}', `ClassID` = '{txtClassID.Text}' WHERE `student`.`StudentID` = '{txtStudentID.Text}'", Connect.Instance);  try  {  int res = cmd.ExecuteNonQuery();  if (res <= 0)  {  return;  }  loadStudents();  }  catch (Exception ex)  {  MessageBox.Show(ex.Message, "Error update student");  }  }  private void btnDelete\_Click(object sender, EventArgs e)  {  if (Connect.Instance.State == ConnectionState.Closed)  Connect.Instance.Open();  MySqlCommand cmd = new MySqlCommand($"DELETE FROM `student` WHERE `student`.`StudentID` = '{txtStudentID.Text}';", Connect.Instance);  try  {  int res = cmd.ExecuteNonQuery();  if (res <= 0)  {  return;  }  loadStudents();  txtStudentID.Text = "";  txtFullName.Text = "";  txtClassID.Text = "";  }  catch (Exception ex)  {  MessageBox.Show(ex.Message, "Error delete student");  }  }  private void lvStudent\_SelectedIndexChanged(object sender, EventArgs e)  {  if(lvStudent.SelectedIndices.Count > 0)  {  txtStudentID.Text = lvStudent.SelectedItems[0].SubItems[0].Text;  txtFullName.Text = lvStudent.SelectedItems[0].SubItems[1].Text;  txtClassID.Text = lvStudent.SelectedItems[0].SubItems[2].Text;  }  }  private void loadStudents()  {  lvStudent.Items.Clear();  if (Connect.Instance.State == ConnectionState.Closed)  Connect.Instance.Open();  MySqlCommand cmd = new MySqlCommand($"select \* from student", Connect.Instance);  var result = cmd.ExecuteReader();  while (result.Read())  {  string studentID = result.GetString(0);  string name = result.GetString(1);  string classID = result.GetString(2);  ListViewItem item = new ListViewItem(studentID);  item.SubItems.Add(name);  item.SubItems.Add(classID);  lvStudent.Items.Add(item);  }  Connect.Instance.Close();  }  }  } |

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| using System.Windows.Forms;  namespace SQL\_winform  {  partial class Form5  {  /// <summary>  /// Required designer variable.  /// </summary>  private System.ComponentModel.IContainer components = null;  /// <summary>  /// Clean up any resources being used.  /// </summary>  /// <param name="disposing">true if managed resources should be disposed; otherwise, false.</param>  protected override void Dispose(bool disposing)  {  if (disposing && (components != null))  {  components.Dispose();  }  base.Dispose(disposing);  }  #region Windows Form Designer generated code  /// <summary>  /// Required method for Designer support - do not modify  /// the contents of this method with the code editor.  /// </summary>  private void InitializeComponent()  {  lvStudent = new ListView();  groupbox = new GroupBox();  txtClassID = new TextBox();  lbClassID = new Label();  txtFullName = new TextBox();  lbName = new Label();  txtStudentID = new TextBox();  lblStudentId = new Label();  btnInsert = new Button();  btnUpdate = new Button();  btnDelete = new Button();  groupbox.SuspendLayout();  SuspendLayout();  //  // lvStudent  //  lvStudent.FullRowSelect = true;  lvStudent.GridLines = true;  lvStudent.HideSelection = false;  lvStudent.Location = new System.Drawing.Point(0, 12);  lvStudent.Name = "lvStudent";  lvStudent.Size = new System.Drawing.Size(410, 437);  lvStudent.TabIndex = 12;  lvStudent.UseCompatibleStateImageBehavior = false;  lvStudent.View = View.Details;  lvStudent.FullRowSelect = true;  lvStudent.GridLines = true;  lvStudent.Columns.Add("Student ID", 138);  lvStudent.Columns.Add("Name", 138);  lvStudent.Columns.Add("Class ID", 138);  lvStudent.SelectedIndexChanged += lvStudent\_SelectedIndexChanged;  //  // groupbox  //  groupbox.Controls.Add(txtClassID);  groupbox.Controls.Add(lbClassID);  groupbox.Controls.Add(txtFullName);  groupbox.Controls.Add(lbName);  groupbox.Controls.Add(txtStudentID);  groupbox.Controls.Add(lblStudentId);  groupbox.Location = new System.Drawing.Point(427, 18);  groupbox.Name = "groupbox";  groupbox.Size = new System.Drawing.Size(361, 244);  groupbox.TabIndex = 13;  groupbox.TabStop = false;  groupbox.Text = "Student Information";  //  // txtClassID  //  txtClassID.Location = new System.Drawing.Point(117, 149);  txtClassID.Name = "txtClassID";  txtClassID.Size = new System.Drawing.Size(227, 23);  txtClassID.TabIndex = 14;  //  // lbClassID  //  lbClassID.AutoSize = true;  lbClassID.Location = new System.Drawing.Point(17, 152);  lbClassID.Name = "lbClassID";  lbClassID.Size = new System.Drawing.Size(45, 15);  lbClassID.TabIndex = 13;  lbClassID.Text = "ClassID";  //  // txtFullName  //  txtFullName.Location = new System.Drawing.Point(117, 103);  txtFullName.Name = "txtFullName";  txtFullName.Size = new System.Drawing.Size(227, 23);  txtFullName.TabIndex = 12;  //  // lbName  //  lbName.AutoSize = true;  lbName.Location = new System.Drawing.Point(17, 106);  lbName.Name = "lbName";  lbName.Size = new System.Drawing.Size(61, 15);  lbName.TabIndex = 11;  lbName.Text = "Full Name";  //  // txtStudentID  //  txtStudentID.Location = new System.Drawing.Point(117, 63);  txtStudentID.Name = "txtStudentID";  txtStudentID.Size = new System.Drawing.Size(227, 23);  txtStudentID.TabIndex = 10;  //  // lblStudentId  //  lblStudentId.AutoSize = true;  lblStudentId.Location = new System.Drawing.Point(17, 66);  lblStudentId.Name = "lblStudentId";  lblStudentId.Size = new System.Drawing.Size(59, 15);  lblStudentId.TabIndex = 9;  lblStudentId.Text = "StudentID";  //  // btnInsert  //  btnInsert.Location = new System.Drawing.Point(467, 319);  btnInsert.Name = "btnInsert";  btnInsert.Size = new System.Drawing.Size(75, 23);  btnInsert.TabIndex = 14;  btnInsert.Text = "Insert";  btnInsert.UseVisualStyleBackColor = true;  btnInsert.Click += btnInsert\_Click;  //  // btnUpdate  //  btnUpdate.Location = new System.Drawing.Point(577, 319);  btnUpdate.Name = "btnUpdate";  btnUpdate.Size = new System.Drawing.Size(75, 23);  btnUpdate.TabIndex = 15;  btnUpdate.Text = "Update";  btnUpdate.UseVisualStyleBackColor = true;  btnUpdate.Click += btnUpdate\_Click;  //  // btnDelete  //  btnDelete.Location = new System.Drawing.Point(687, 319);  btnDelete.Name = "btnDelete";  btnDelete.Size = new System.Drawing.Size(75, 23);  btnDelete.TabIndex = 16;  btnDelete.Text = "Delete";  btnDelete.UseVisualStyleBackColor = true;  btnDelete.Click += btnDelete\_Click;  //  // Form5  //  AutoScaleDimensions = new System.Drawing.SizeF(7F, 15F);  AutoScaleMode = AutoScaleMode.Font;  ClientSize = new System.Drawing.Size(800, 450);  Controls.Add(btnDelete);  Controls.Add(btnUpdate);  Controls.Add(btnInsert);  Controls.Add(groupbox);  Controls.Add(lvStudent);  Name = "Form5";  Text = "Form5";  Load += Form5\_Load;  groupbox.ResumeLayout(false);  groupbox.PerformLayout();  ResumeLayout(false);  }  #endregion  private ListView lvStudent;  private GroupBox groupbox;  private TextBox txtClassID;  private Label lbClassID;  private TextBox txtFullName;  private Label lbName;  private TextBox txtStudentID;  private Label lblStudentId;  private Button btnInsert;  private Button btnUpdate;  private Button btnDelete;  }  } |

LAB 2

A screenshot of a computer

Description automatically generated

CODE

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| using MySql.Data.MySqlClient;  using System;  using System.Collections.Generic;  using System.ComponentModel;  using System.Data;  using System.Drawing;  using System.IO;  using System.Linq;  using System.Text;  using System.Threading.Tasks;  using System.Windows.Forms;  namespace Winform\_sqldata\_adapter  {  public partial class Form1 : Form  {  DataTable ds = null;  MySqlDataAdapter adapter = null;  public Form1()  {  InitializeComponent();  }  private void Form1\_Load(object sender, EventArgs e)  {  adapter = Connect.Adapter("SELECT \* from student");  MySqlCommandBuilder builder = new MySqlCommandBuilder(adapter);  ds = new DataTable();  adapter.Fill(ds);  }  int position = -1;  private void dataGridView1\_CellContentClick(object sender, DataGridViewCellEventArgs e)  {  position = e.RowIndex;  if (position == -1)  {  MessageBox.Show("No row selected");  return;  }  DataRow row = ds.Rows[position];  txtStudentID.Text = row[0].ToString();  txtFullName.Text = row[1].ToString();  txtClassID.Text = row[2].ToString();  }  private void btnInsert\_Click(object sender, EventArgs e)  {  DataRow row = ds.NewRow();  row[0]=txtStudentID.Text;  row[1]=txtFullName.Text;  row[2]=txtClassID.Text;  ds.Rows.Add(row);  try  {  adapter.Update(ds);  }  catch(Exception ex) {  MessageBox.Show(ex.Message, "Error");  }  }  private void btnUpdate\_Click(object sender, EventArgs e)  {  if (position == -1)  {  MessageBox.Show("No row selected");  return;  }  DataRow row = ds.Rows[position];  row.BeginEdit();  row[0] = txtStudentID.Text;  row[1] = txtFullName.Text;  row[2] = txtClassID.Text;  row.EndEdit();  int res= adapter.Update(ds);  if(res>0)  {  MessageBox.Show("Updated successfully");  }  else  {  MessageBox.Show("Update Failed");  }  }  private void btnDelete\_Click(object sender, EventArgs e)  {  if (position == -1)  return;  DataRow row = ds.Rows[position];  row.Delete();  int res = adapter.Update(ds);  if (res > 0)  {  MessageBox.Show("Delete successfully");  }  else  {  MessageBox.Show("Delete Failed");  }  }  private void btnLoadStudent\_Click(object sender, EventArgs e)  {  dtgStudent.DataSource = ds;  using (StreamWriter writer = new StreamWriter("D:\\log.txt"))  {  foreach (DataRow row in ds.Rows)  {  foreach (DataColumn column in ds.Columns)  {  writer.WriteLine($"{column.ColumnName}: {row[column]}");  }  writer.WriteLine("--------------------");  }  }  }  }  } |

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| using Microsoft.Data.SqlClient;  using MySql.Data.MySqlClient;  using System;  using System.Collections.Generic;  using System.Linq;  using System.Text;  using System.Threading.Tasks;  namespace Winform\_sqldata\_adapter  {  static class Connect  {  static string url = "Server=localhost;User ID=root;Password='';Database=student";  public static MySqlDataAdapter Adapter(string query) => new(query, url);  }    } |

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| using System.Drawing;  using System.Windows.Forms;  namespace Winform\_sqldata\_adapter  {  partial class Form1  {  /// <summary>  /// Required designer variable.  /// </summary>  private System.ComponentModel.IContainer components = null;  /// <summary>  /// Clean up any resources being used.  /// </summary>  /// <param name="disposing">true if managed resources should be disposed; otherwise, false.</param>  protected override void Dispose(bool disposing)  {  if (disposing && (components != null))  {  components.Dispose();  }  base.Dispose(disposing);  }  #region Windows Form Designer generated code  /// <summary>  /// Required method for Designer support - do not modify  /// the contents of this method with the code editor.  /// </summary>  private void InitializeComponent()  {  DataGridViewCellStyle dataGridViewCellStyle1 = new DataGridViewCellStyle();  DataGridViewCellStyle dataGridViewCellStyle2 = new DataGridViewCellStyle();  btnLoadStudent = new Button();  dtgStudent = new DataGridView();  btnDelete = new Button();  btnUpdate = new Button();  btnInsert = new Button();  groupbox = new GroupBox();  txtClassID = new TextBox();  lbClassID = new Label();  txtFullName = new TextBox();  lbName = new Label();  txtStudentID = new TextBox();  lblStudentId = new Label();  StudentID = new DataGridViewTextBoxColumn();  StudentName = new DataGridViewTextBoxColumn();  ClassID = new DataGridViewTextBoxColumn();  ((System.ComponentModel.ISupportInitialize)dtgStudent).BeginInit();  groupbox.SuspendLayout();  SuspendLayout();  //  // btnLoadStudent  //  btnLoadStudent.Location = new Point(79, 50);  btnLoadStudent.Name = "btnLoadStudent";  btnLoadStudent.Size = new Size(161, 40);  btnLoadStudent.TabIndex = 0;  btnLoadStudent.Text = "Load table student on data grid view";  btnLoadStudent.UseVisualStyleBackColor = true;  btnLoadStudent.Click += btnLoadStudent\_Click;  //  // dtgStudent  //  dataGridViewCellStyle1.BackColor = Color.LightGray;  dtgStudent.AlternatingRowsDefaultCellStyle = dataGridViewCellStyle1;  dtgStudent.ColumnHeadersHeightSizeMode = DataGridViewColumnHeadersHeightSizeMode.AutoSize;  dtgStudent.Columns.AddRange(new DataGridViewColumn[] { StudentID, StudentName, ClassID });  dtgStudent.Location = new Point(12, 111);  dtgStudent.MultiSelect = false;  dtgStudent.Name = "dtgStudent";  dataGridViewCellStyle2.BackColor = Color.White;  dtgStudent.RowsDefaultCellStyle = dataGridViewCellStyle2;  dtgStudent.RowTemplate.Height = 25;  dtgStudent.SelectionMode = DataGridViewSelectionMode.FullRowSelect;  dtgStudent.Size = new Size(339, 327);  dtgStudent.TabIndex = 1;  dtgStudent.CellContentClick += dataGridView1\_CellContentClick;  //  // btnDelete  //  btnDelete.Location = new Point(662, 412);  btnDelete.Name = "btnDelete";  btnDelete.Size = new Size(75, 23);  btnDelete.TabIndex = 20;  btnDelete.Text = "Delete";  btnDelete.UseVisualStyleBackColor = true;  btnDelete.Click += btnDelete\_Click;  //  // btnUpdate  //  btnUpdate.Location = new Point(552, 412);  btnUpdate.Name = "btnUpdate";  btnUpdate.Size = new Size(75, 23);  btnUpdate.TabIndex = 19;  btnUpdate.Text = "Update";  btnUpdate.UseVisualStyleBackColor = true;  btnUpdate.Click += btnUpdate\_Click;  //  // btnInsert  //  btnInsert.Location = new Point(442, 412);  btnInsert.Name = "btnInsert";  btnInsert.Size = new Size(75, 23);  btnInsert.TabIndex = 18;  btnInsert.Text = "Insert";  btnInsert.UseVisualStyleBackColor = true;  btnInsert.Click += btnInsert\_Click;  //  // groupbox  //  groupbox.Controls.Add(txtClassID);  groupbox.Controls.Add(lbClassID);  groupbox.Controls.Add(txtFullName);  groupbox.Controls.Add(lbName);  groupbox.Controls.Add(txtStudentID);  groupbox.Controls.Add(lblStudentId);  groupbox.Location = new Point(402, 111);  groupbox.Name = "groupbox";  groupbox.Size = new Size(361, 244);  groupbox.TabIndex = 17;  groupbox.TabStop = false;  groupbox.Text = "Student Information";  //  // txtClassID  //  txtClassID.Location = new Point(117, 149);  txtClassID.Name = "txtClassID";  txtClassID.Size = new Size(227, 23);  txtClassID.TabIndex = 14;  //  // lbClassID  //  lbClassID.AutoSize = true;  lbClassID.Location = new Point(17, 152);  lbClassID.Name = "lbClassID";  lbClassID.Size = new Size(45, 15);  lbClassID.TabIndex = 13;  lbClassID.Text = "ClassID";  //  // txtFullName  //  txtFullName.Location = new Point(117, 103);  txtFullName.Name = "txtFullName";  txtFullName.Size = new Size(227, 23);  txtFullName.TabIndex = 12;  //  // lbName  //  lbName.AutoSize = true;  lbName.Location = new Point(17, 106);  lbName.Name = "lbName";  lbName.Size = new Size(61, 15);  lbName.TabIndex = 11;  lbName.Text = "Full Name";  //  // txtStudentID  //  txtStudentID.Location = new Point(117, 63);  txtStudentID.Name = "txtStudentID";  txtStudentID.Size = new Size(227, 23);  txtStudentID.TabIndex = 10;  //  // lblStudentId  //  lblStudentId.AutoSize = true;  lblStudentId.Location = new Point(17, 66);  lblStudentId.Name = "lblStudentId";  lblStudentId.Size = new Size(59, 15);  lblStudentId.TabIndex = 9;  lblStudentId.Text = "StudentID";  //  // StudentID  //  StudentID.AutoSizeMode = DataGridViewAutoSizeColumnMode.ColumnHeader;  StudentID.DataPropertyName = "StudentID";  StudentID.HeaderText = "StudentID";  StudentID.Name = "StudentID";  StudentID.Width = 105;  //  // StudentName  //  StudentName.AutoSizeMode = DataGridViewAutoSizeColumnMode.ColumnHeader;  StudentName.DataPropertyName = "StudentName";  StudentName.HeaderText = "StudentName";  StudentName.Name = "StudentName";  StudentName.Width = 105;  //  // ClassID  //  ClassID.AutoSizeMode = DataGridViewAutoSizeColumnMode.ColumnHeader;  ClassID.DataPropertyName = "ClassID";  ClassID.HeaderText = "ClassID";  ClassID.Name = "ClassID";  ClassID.Width = 105;  //  // Form1  //  AutoScaleDimensions = new SizeF(7F, 15F);  AutoScaleMode = AutoScaleMode.Font;  ClientSize = new Size(800, 450);  Controls.Add(btnDelete);  Controls.Add(btnUpdate);  Controls.Add(btnInsert);  Controls.Add(groupbox);  Controls.Add(dtgStudent);  Controls.Add(btnLoadStudent);  Name = "Form1";  Load += Form1\_Load;  ((System.ComponentModel.ISupportInitialize)dtgStudent).EndInit();  groupbox.ResumeLayout(false);  groupbox.PerformLayout();  ResumeLayout(false);  }  #endregion  private Button btnLoadStudent;  private DataGridView dtgStudent;  private Button btnDelete;  private Button btnUpdate;  private Button btnInsert;  private GroupBox groupbox;  private TextBox txtClassID;  private Label lbClassID;  private TextBox txtFullName;  private Label lbName;  private TextBox txtStudentID;  private Label lblStudentId;  private DataGridViewTextBoxColumn StudentID;  private DataGridViewTextBoxColumn StudentName;  private DataGridViewTextBoxColumn ClassID;  }  } |