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# LAB 3: WINDOWS FORMS APPLICATION NÂNG CAO

## Thực hành 1: Thiết kế và lập trình ứng dụng Winform theo mô tả

### Các bước thiết kế giao diện :

* Phần trên cùng :
  + PictureBox : để icon món ăn
  + Label : Nền xanh lá, text “Quán ăn nhanh Hưng Thịnh”

A screenshot of a computer

AI-generated content may be incorrect.

* Phần danh sách món ăn :
  + GroupBox : Text = “Danh sách món ăn
  + Bên trong GroupBox, thêm các Button tương ứng với món ăn :

|  |
| --- |
| btnComChienTrung  btnBanhMyOpla  btnCoca  btnLipton  btnOcRangMuoi  btnKhoaiTayChien  btn7up  btnCam  btnMyXaoHaiSan  btnCaVienChien  btnPepsi  btnCafe  btnBurgerBoNuong  btnDuiGaRan  btnBunBoHue |

A screenshot of a computer

AI-generated content may be incorrect.

* Phần dưới :
  + Button : Text = “Xóa”
  + ComboBox : Text = “Chọn bàn”
    - Items mẫu : “Bàn 1”, “Bàn 2”, “Bàn 3”
  + Button : Text = “Order”
  + ListView

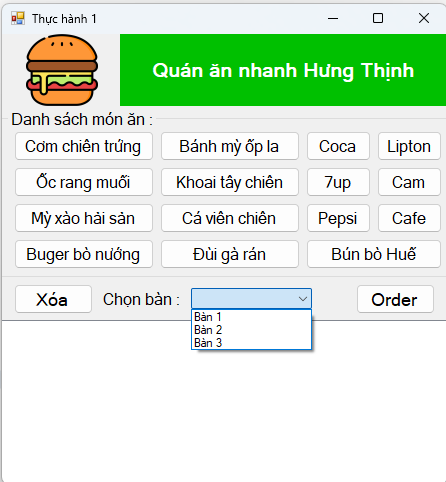
A screenshot of a computer

AI-generated content may be incorrect.

### Code :

|  |
| --- |
| namespace DaoThiThuHuyen\_1150080097\_BTTuan6  {  partial class ThucHanh1  {  /// <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()  {  System.ComponentModel.ComponentResourceManager resources = new System.ComponentModel.ComponentResourceManager(typeof(ThucHanh1));  this.pictureBox1 = new System.Windows.Forms.PictureBox();  this.label1 = new System.Windows.Forms.Label();  this.groupBox1 = new System.Windows.Forms.GroupBox();  this.btnBunBoHue = new System.Windows.Forms.Button();  this.btnCafe = new System.Windows.Forms.Button();  this.btnPepsi = new System.Windows.Forms.Button();  this.btnDuiGaRan = new System.Windows.Forms.Button();  this.btnCaVienChien = new System.Windows.Forms.Button();  this.btnBurgerBoNuong = new System.Windows.Forms.Button();  this.btnMyXaoHaiSan = new System.Windows.Forms.Button();  this.btnCam = new System.Windows.Forms.Button();  this.btn7up = new System.Windows.Forms.Button();  this.btnKhoaiTayChien = new System.Windows.Forms.Button();  this.btnOcRangMuoi = new System.Windows.Forms.Button();  this.btnLipton = new System.Windows.Forms.Button();  this.btnCoca = new System.Windows.Forms.Button();  this.btnBanhMyOpla = new System.Windows.Forms.Button();  this.btnComChienTrung = new System.Windows.Forms.Button();  this.backgroundWorker1 = new System.ComponentModel.BackgroundWorker();  this.btnXoa = new System.Windows.Forms.Button();  this.cboBan = new System.Windows.Forms.ComboBox();  this.btnOrder = new System.Windows.Forms.Button();  this.listView1 = new System.Windows.Forms.ListView();  this.lblChonBan = new System.Windows.Forms.Label();  ((System.ComponentModel.ISupportInitialize)(this.pictureBox1)).BeginInit();  this.groupBox1.SuspendLayout();  this.SuspendLayout();  //  // pictureBox1  //  this.pictureBox1.Image = ((System.Drawing.Image)(resources.GetObject("pictureBox1.Image")));  this.pictureBox1.Location = new System.Drawing.Point(-1, 0);  this.pictureBox1.Name = "pictureBox1";  this.pictureBox1.Size = new System.Drawing.Size(122, 72);  this.pictureBox1.SizeMode = System.Windows.Forms.PictureBoxSizeMode.Zoom;  this.pictureBox1.TabIndex = 0;  this.pictureBox1.TabStop = false;  //  // label1  //  this.label1.BackColor = System.Drawing.Color.FromArgb(((int)(((byte)(0)))), ((int)(((byte)(192)))), ((int)(((byte)(0)))));  this.label1.Font = new System.Drawing.Font("Microsoft Sans Serif", 14F, System.Drawing.FontStyle.Bold);  this.label1.ForeColor = System.Drawing.SystemColors.ButtonHighlight;  this.label1.Location = new System.Drawing.Point(118, 0);  this.label1.Name = "label1";  this.label1.Size = new System.Drawing.Size(328, 72);  this.label1.TabIndex = 1;  this.label1.Text = "Quán ăn nhanh Hưng Thịnh";  this.label1.TextAlign = System.Drawing.ContentAlignment.MiddleCenter;  //  // groupBox1  //  this.groupBox1.Controls.Add(this.btnBunBoHue);  this.groupBox1.Controls.Add(this.btnCafe);  this.groupBox1.Controls.Add(this.btnPepsi);  this.groupBox1.Controls.Add(this.btnDuiGaRan);  this.groupBox1.Controls.Add(this.btnCaVienChien);  this.groupBox1.Controls.Add(this.btnBurgerBoNuong);  this.groupBox1.Controls.Add(this.btnMyXaoHaiSan);  this.groupBox1.Controls.Add(this.btnCam);  this.groupBox1.Controls.Add(this.btn7up);  this.groupBox1.Controls.Add(this.btnKhoaiTayChien);  this.groupBox1.Controls.Add(this.btnOcRangMuoi);  this.groupBox1.Controls.Add(this.btnLipton);  this.groupBox1.Controls.Add(this.btnCoca);  this.groupBox1.Controls.Add(this.btnBanhMyOpla);  this.groupBox1.Controls.Add(this.btnComChienTrung);  this.groupBox1.Font = new System.Drawing.Font("Microsoft Sans Serif", 12F);  this.groupBox1.Location = new System.Drawing.Point(-1, 75);  this.groupBox1.Name = "groupBox1";  this.groupBox1.Size = new System.Drawing.Size(447, 169);  this.groupBox1.TabIndex = 2;  this.groupBox1.TabStop = false;  this.groupBox1.Text = "Danh sách món ăn :";  //  // btnBunBoHue  //  this.btnBunBoHue.Location = new System.Drawing.Point(305, 130);  this.btnBunBoHue.Name = "btnBunBoHue";  this.btnBunBoHue.Size = new System.Drawing.Size(136, 30);  this.btnBunBoHue.TabIndex = 15;  this.btnBunBoHue.Text = "Bún bò Huế";  this.btnBunBoHue.UseVisualStyleBackColor = true;  //  // btnCafe  //  this.btnCafe.Location = new System.Drawing.Point(376, 94);  this.btnCafe.Name = "btnCafe";  this.btnCafe.Size = new System.Drawing.Size(65, 30);  this.btnCafe.TabIndex = 14;  this.btnCafe.Text = "Cafe";  this.btnCafe.UseVisualStyleBackColor = true;  //  // btnPepsi  //  this.btnPepsi.Location = new System.Drawing.Point(305, 94);  this.btnPepsi.Name = "btnPepsi";  this.btnPepsi.Size = new System.Drawing.Size(65, 30);  this.btnPepsi.TabIndex = 12;  this.btnPepsi.Text = "Pepsi";  this.btnPepsi.UseVisualStyleBackColor = true;  //  // btnDuiGaRan  //  this.btnDuiGaRan.Location = new System.Drawing.Point(159, 130);  this.btnDuiGaRan.Name = "btnDuiGaRan";  this.btnDuiGaRan.Size = new System.Drawing.Size(140, 30);  this.btnDuiGaRan.TabIndex = 11;  this.btnDuiGaRan.Text = "Đùi gà rán";  this.btnDuiGaRan.UseVisualStyleBackColor = true;  //  // btnCaVienChien  //  this.btnCaVienChien.Location = new System.Drawing.Point(159, 94);  this.btnCaVienChien.Name = "btnCaVienChien";  this.btnCaVienChien.Size = new System.Drawing.Size(140, 30);  this.btnCaVienChien.TabIndex = 10;  this.btnCaVienChien.Text = "Cá viên chiên";  this.btnCaVienChien.UseVisualStyleBackColor = true;  //  // btnBurgerBoNuong  //  this.btnBurgerBoNuong.Location = new System.Drawing.Point(13, 130);  this.btnBurgerBoNuong.Name = "btnBurgerBoNuong";  this.btnBurgerBoNuong.Size = new System.Drawing.Size(140, 30);  this.btnBurgerBoNuong.TabIndex = 9;  this.btnBurgerBoNuong.Text = "Buger bò nướng";  this.btnBurgerBoNuong.UseVisualStyleBackColor = true;  //  // btnMyXaoHaiSan  //  this.btnMyXaoHaiSan.Location = new System.Drawing.Point(13, 94);  this.btnMyXaoHaiSan.Name = "btnMyXaoHaiSan";  this.btnMyXaoHaiSan.Size = new System.Drawing.Size(140, 30);  this.btnMyXaoHaiSan.TabIndex = 8;  this.btnMyXaoHaiSan.Text = "Mỳ xào hải sản";  this.btnMyXaoHaiSan.UseVisualStyleBackColor = true;  //  // btnCam  //  this.btnCam.Location = new System.Drawing.Point(376, 58);  this.btnCam.Name = "btnCam";  this.btnCam.Size = new System.Drawing.Size(65, 30);  this.btnCam.TabIndex = 7;  this.btnCam.Text = "Cam";  this.btnCam.UseVisualStyleBackColor = true;  //  // btn7up  //  this.btn7up.Location = new System.Drawing.Point(305, 58);  this.btn7up.Name = "btn7up";  this.btn7up.Size = new System.Drawing.Size(65, 30);  this.btn7up.TabIndex = 6;  this.btn7up.Text = "7up";  this.btn7up.UseVisualStyleBackColor = true;  //  // btnKhoaiTayChien  //  this.btnKhoaiTayChien.Location = new System.Drawing.Point(159, 58);  this.btnKhoaiTayChien.Name = "btnKhoaiTayChien";  this.btnKhoaiTayChien.Size = new System.Drawing.Size(140, 30);  this.btnKhoaiTayChien.TabIndex = 5;  this.btnKhoaiTayChien.Text = "Khoai tây chiên";  this.btnKhoaiTayChien.UseVisualStyleBackColor = true;  //  // btnOcRangMuoi  //  this.btnOcRangMuoi.Location = new System.Drawing.Point(13, 58);  this.btnOcRangMuoi.Name = "btnOcRangMuoi";  this.btnOcRangMuoi.Size = new System.Drawing.Size(140, 30);  this.btnOcRangMuoi.TabIndex = 4;  this.btnOcRangMuoi.Text = "Ốc rang muối";  this.btnOcRangMuoi.UseVisualStyleBackColor = true;  //  // btnLipton  //  this.btnLipton.Location = new System.Drawing.Point(376, 22);  this.btnLipton.Name = "btnLipton";  this.btnLipton.Size = new System.Drawing.Size(65, 30);  this.btnLipton.TabIndex = 3;  this.btnLipton.Text = "Lipton";  this.btnLipton.UseVisualStyleBackColor = true;  //  // btnCoca  //  this.btnCoca.Location = new System.Drawing.Point(305, 22);  this.btnCoca.Name = "btnCoca";  this.btnCoca.Size = new System.Drawing.Size(65, 30);  this.btnCoca.TabIndex = 2;  this.btnCoca.Text = "Coca";  this.btnCoca.UseVisualStyleBackColor = true;  //  // btnBanhMyOpla  //  this.btnBanhMyOpla.Location = new System.Drawing.Point(159, 22);  this.btnBanhMyOpla.Name = "btnBanhMyOpla";  this.btnBanhMyOpla.Size = new System.Drawing.Size(140, 30);  this.btnBanhMyOpla.TabIndex = 1;  this.btnBanhMyOpla.Text = "Bánh mỳ ốp la";  this.btnBanhMyOpla.UseVisualStyleBackColor = true;  //  // btnComChienTrung  //  this.btnComChienTrung.Location = new System.Drawing.Point(13, 22);  this.btnComChienTrung.Name = "btnComChienTrung";  this.btnComChienTrung.Size = new System.Drawing.Size(140, 30);  this.btnComChienTrung.TabIndex = 0;  this.btnComChienTrung.Text = "Cơm chiên trứng";  this.btnComChienTrung.UseVisualStyleBackColor = true;  //  // btnXoa  //  this.btnXoa.Font = new System.Drawing.Font("Microsoft Sans Serif", 13F);  this.btnXoa.Location = new System.Drawing.Point(12, 250);  this.btnXoa.Name = "btnXoa";  this.btnXoa.Size = new System.Drawing.Size(79, 30);  this.btnXoa.TabIndex = 3;  this.btnXoa.Text = "Xóa";  this.btnXoa.UseVisualStyleBackColor = true;  //  // cboBan  //  this.cboBan.DropDownStyle = System.Windows.Forms.ComboBoxStyle.DropDownList;  this.cboBan.FormattingEnabled = true;  this.cboBan.Items.AddRange(new object[] {  "Bàn 1",  "Bàn 2",  "Bàn 3"});  this.cboBan.Location = new System.Drawing.Point(189, 254);  this.cboBan.Name = "cboBan";  this.cboBan.Size = new System.Drawing.Size(121, 21);  this.cboBan.TabIndex = 4;  //  // btnOrder  //  this.btnOrder.Font = new System.Drawing.Font("Microsoft Sans Serif", 13F);  this.btnOrder.Location = new System.Drawing.Point(354, 250);  this.btnOrder.Name = "btnOrder";  this.btnOrder.Size = new System.Drawing.Size(79, 30);  this.btnOrder.TabIndex = 5;  this.btnOrder.Text = "Order";  this.btnOrder.UseVisualStyleBackColor = true;  //  // listView1  //  this.listView1.HideSelection = false;  this.listView1.Location = new System.Drawing.Point(-1, 286);  this.listView1.Name = "listView1";  this.listView1.Size = new System.Drawing.Size(447, 165);  this.listView1.TabIndex = 6;  this.listView1.UseCompatibleStateImageBehavior = false;  //  // lblChonBan  //  this.lblChonBan.AutoSize = true;  this.lblChonBan.Font = new System.Drawing.Font("Microsoft Sans Serif", 12F);  this.lblChonBan.Location = new System.Drawing.Point(97, 255);  this.lblChonBan.Name = "lblChonBan";  this.lblChonBan.Size = new System.Drawing.Size(86, 20);  this.lblChonBan.TabIndex = 7;  this.lblChonBan.Text = "Chọn bàn :";  //  // ThucHanh1  //  this.AutoScaleDimensions = new System.Drawing.SizeF(6F, 13F);  this.AutoScaleMode = System.Windows.Forms.AutoScaleMode.Font;  this.ClientSize = new System.Drawing.Size(445, 450);  this.Controls.Add(this.lblChonBan);  this.Controls.Add(this.listView1);  this.Controls.Add(this.btnOrder);  this.Controls.Add(this.cboBan);  this.Controls.Add(this.btnXoa);  this.Controls.Add(this.groupBox1);  this.Controls.Add(this.label1);  this.Controls.Add(this.pictureBox1);  this.Name = "ThucHanh1";  this.Text = "Thực hành 1";  this.Load += new System.EventHandler(this.Form1\_Load);  ((System.ComponentModel.ISupportInitialize)(this.pictureBox1)).EndInit();  this.groupBox1.ResumeLayout(false);  this.ResumeLayout(false);  this.PerformLayout();  }  #endregion  private System.Windows.Forms.PictureBox pictureBox1;  private System.Windows.Forms.Label label1;  private System.Windows.Forms.GroupBox groupBox1;  private System.Windows.Forms.Button btnCafe;  private System.Windows.Forms.Button btnPepsi;  private System.Windows.Forms.Button btnDuiGaRan;  private System.Windows.Forms.Button btnCaVienChien;  private System.Windows.Forms.Button btnBurgerBoNuong;  private System.Windows.Forms.Button btnMyXaoHaiSan;  private System.Windows.Forms.Button btnCam;  private System.Windows.Forms.Button btn7up;  private System.Windows.Forms.Button btnKhoaiTayChien;  private System.Windows.Forms.Button btnOcRangMuoi;  private System.Windows.Forms.Button btnLipton;  private System.Windows.Forms.Button btnCoca;  private System.Windows.Forms.Button btnBanhMyOpla;  private System.Windows.Forms.Button btnComChienTrung;  private System.Windows.Forms.Button btnBunBoHue;  private System.ComponentModel.BackgroundWorker backgroundWorker1;  private System.Windows.Forms.Button btnXoa;  private System.Windows.Forms.ComboBox cboBan;  private System.Windows.Forms.Button btnOrder;  private System.Windows.Forms.ListView listView1;  private System.Windows.Forms.Label lblChonBan;  }  } |

### Kết quả :



## Thực hành 2: Tạo mới 1 project có tên là “ThucHanh2” với form chính được minh họa như sau:

### Các bước thiết kế giao diện :

1. Tiêu đề
   * Label : Text “DANH MỤC SINH VIÊN”

A white rectangular object with blue text

AI-generated content may be incorrect.

1. GroupBox – Thông tin sinh viên
   * GroupBox : Text “Thông tin sinh viên”, bên trong gồm các phần :
     + Label : lblHoTen - Họ tên
     + TextBox : txtHoten
     + Label : lblNgaySinh – Ngày sinh :
     + DateTimePicker : dtpNgaySinh
     + Label : lblLop – Lớp :
     + TextBox : txtLop
     + Label : lblDiaChi – Địa chỉ :
     + TextBox : txtDiaChi

A screenshot of a computer

AI-generated content may be incorrect.

1. GroupBox – Chức năng, bên trong gồm các button :
   * btnThem : Thêm
   * btnSua : Sửa
   * btnXoa : Xóa
   * btnThoat : Thoát

A screenshot of a computer

AI-generated content may be incorrect.

1. GroupBox – Thông tin chung sinh viên, bên trong thêm ListView :

A screenshot of a computer

AI-generated content may be incorrect.

### Code :

#### Form1.Designer.cs

|  |
| --- |
| namespace DaoThiThuHuyen\_1150080097\_ThucHanh2  {  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()  {  this.label1 = new System.Windows.Forms.Label();  this.grpThongTin = new System.Windows.Forms.GroupBox();  this.groupBox1 = new System.Windows.Forms.GroupBox();  this.txtDiaChi = new System.Windows.Forms.TextBox();  this.txtLop = new System.Windows.Forms.TextBox();  this.txtHoTen = new System.Windows.Forms.TextBox();  this.lblDiaChi = new System.Windows.Forms.Label();  this.lblLop = new System.Windows.Forms.Label();  this.lblNgaySinh = new System.Windows.Forms.Label();  this.lblHoTen = new System.Windows.Forms.Label();  this.backgroundWorker1 = new System.ComponentModel.BackgroundWorker();  this.grpChucNang = new System.Windows.Forms.GroupBox();  this.groupBox2 = new System.Windows.Forms.GroupBox();  this.btnThoat = new System.Windows.Forms.Button();  this.btnXoa = new System.Windows.Forms.Button();  this.btnSua = new System.Windows.Forms.Button();  this.btnThem = new System.Windows.Forms.Button();  this.groupBox3 = new System.Windows.Forms.GroupBox();  this.lvSinhVien = new System.Windows.Forms.ListView();  this.hoTen = ((System.Windows.Forms.ColumnHeader)(new System.Windows.Forms.ColumnHeader()));  this.ngaySinh = ((System.Windows.Forms.ColumnHeader)(new System.Windows.Forms.ColumnHeader()));  this.lop = ((System.Windows.Forms.ColumnHeader)(new System.Windows.Forms.ColumnHeader()));  this.diaChi = ((System.Windows.Forms.ColumnHeader)(new System.Windows.Forms.ColumnHeader()));  this.dateTimePicker1 = new System.Windows.Forms.DateTimePicker();  this.dtpNgaySinh = new System.Windows.Forms.DateTimePicker();  this.grpThongTin.SuspendLayout();  this.groupBox1.SuspendLayout();  this.grpChucNang.SuspendLayout();  this.groupBox3.SuspendLayout();  this.SuspendLayout();  //  // label1  //  this.label1.Dock = System.Windows.Forms.DockStyle.Top;  this.label1.Font = new System.Drawing.Font("Microsoft Sans Serif", 18F, System.Drawing.FontStyle.Bold, System.Drawing.GraphicsUnit.Point, ((byte)(0)));  this.label1.ForeColor = System.Drawing.Color.SteelBlue;  this.label1.Location = new System.Drawing.Point(0, 0);  this.label1.Name = "label1";  this.label1.Size = new System.Drawing.Size(691, 103);  this.label1.TabIndex = 0;  this.label1.Text = "DANH MỤC SINH VIÊN";  this.label1.TextAlign = System.Drawing.ContentAlignment.MiddleCenter;  //  // grpThongTin  //  this.grpThongTin.Controls.Add(this.dtpNgaySinh);  this.grpThongTin.Controls.Add(this.groupBox1);  this.grpThongTin.Controls.Add(this.txtDiaChi);  this.grpThongTin.Controls.Add(this.txtLop);  this.grpThongTin.Controls.Add(this.txtHoTen);  this.grpThongTin.Controls.Add(this.lblDiaChi);  this.grpThongTin.Controls.Add(this.lblLop);  this.grpThongTin.Controls.Add(this.lblNgaySinh);  this.grpThongTin.Controls.Add(this.lblHoTen);  this.grpThongTin.Font = new System.Drawing.Font("Microsoft Sans Serif", 12.75F, System.Drawing.FontStyle.Regular, System.Drawing.GraphicsUnit.Point, ((byte)(0)));  this.grpThongTin.Location = new System.Drawing.Point(5, 106);  this.grpThongTin.Name = "grpThongTin";  this.grpThongTin.Size = new System.Drawing.Size(686, 131);  this.grpThongTin.TabIndex = 1;  this.grpThongTin.TabStop = false;  this.grpThongTin.Text = "Thông tin sinh viên";  //  // groupBox1  //  this.groupBox1.Controls.Add(this.dateTimePicker1);  this.groupBox1.Location = new System.Drawing.Point(0, 128);  this.groupBox1.Name = "groupBox1";  this.groupBox1.Size = new System.Drawing.Size(686, 100);  this.groupBox1.TabIndex = 2;  this.groupBox1.TabStop = false;  this.groupBox1.Text = "groupBox1";  //  // txtDiaChi  //  this.txtDiaChi.Location = new System.Drawing.Point(430, 80);  this.txtDiaChi.Name = "txtDiaChi";  this.txtDiaChi.Size = new System.Drawing.Size(216, 27);  this.txtDiaChi.TabIndex = 8;  //  // txtLop  //  this.txtLop.Location = new System.Drawing.Point(430, 31);  this.txtLop.Name = "txtLop";  this.txtLop.Size = new System.Drawing.Size(216, 27);  this.txtLop.TabIndex = 6;  //  // txtHoTen  //  this.txtHoTen.Location = new System.Drawing.Point(119, 34);  this.txtHoTen.Name = "txtHoTen";  this.txtHoTen.Size = new System.Drawing.Size(216, 27);  this.txtHoTen.TabIndex = 2;  //  // lblDiaChi  //  this.lblDiaChi.AutoSize = true;  this.lblDiaChi.Location = new System.Drawing.Point(350, 83);  this.lblDiaChi.Name = "lblDiaChi";  this.lblDiaChi.Size = new System.Drawing.Size(71, 20);  this.lblDiaChi.TabIndex = 5;  this.lblDiaChi.Text = "Địa chỉ :";  //  // lblLop  //  this.lblLop.AutoSize = true;  this.lblLop.Location = new System.Drawing.Point(350, 34);  this.lblLop.Name = "lblLop";  this.lblLop.Size = new System.Drawing.Size(47, 20);  this.lblLop.TabIndex = 4;  this.lblLop.Text = "Lớp :";  //  // lblNgaySinh  //  this.lblNgaySinh.AutoSize = true;  this.lblNgaySinh.Location = new System.Drawing.Point(20, 83);  this.lblNgaySinh.Name = "lblNgaySinh";  this.lblNgaySinh.Size = new System.Drawing.Size(93, 20);  this.lblNgaySinh.TabIndex = 3;  this.lblNgaySinh.Text = "Ngày sinh :";  //  // lblHoTen  //  this.lblHoTen.AutoSize = true;  this.lblHoTen.Location = new System.Drawing.Point(20, 34);  this.lblHoTen.Name = "lblHoTen";  this.lblHoTen.Size = new System.Drawing.Size(69, 20);  this.lblHoTen.TabIndex = 2;  this.lblHoTen.Text = "Họ tên :";  //  // grpChucNang  //  this.grpChucNang.Controls.Add(this.groupBox2);  this.grpChucNang.Controls.Add(this.btnThoat);  this.grpChucNang.Controls.Add(this.btnXoa);  this.grpChucNang.Controls.Add(this.btnSua);  this.grpChucNang.Controls.Add(this.btnThem);  this.grpChucNang.Font = new System.Drawing.Font("Microsoft Sans Serif", 12F, System.Drawing.FontStyle.Regular, System.Drawing.GraphicsUnit.Point, ((byte)(0)));  this.grpChucNang.Location = new System.Drawing.Point(5, 234);  this.grpChucNang.Name = "grpChucNang";  this.grpChucNang.Size = new System.Drawing.Size(686, 70);  this.grpChucNang.TabIndex = 2;  this.grpChucNang.TabStop = false;  this.grpChucNang.Text = "Chức năng";  //  // groupBox2  //  this.groupBox2.Location = new System.Drawing.Point(0, 69);  this.groupBox2.Name = "groupBox2";  this.groupBox2.Size = new System.Drawing.Size(686, 146);  this.groupBox2.TabIndex = 3;  this.groupBox2.TabStop = false;  this.groupBox2.Text = "groupBox2";  //  // btnThoat  //  this.btnThoat.Location = new System.Drawing.Point(516, 25);  this.btnThoat.Name = "btnThoat";  this.btnThoat.Size = new System.Drawing.Size(89, 38);  this.btnThoat.TabIndex = 3;  this.btnThoat.Text = "Thoát";  this.btnThoat.UseVisualStyleBackColor = true;  //  // btnXoa  //  this.btnXoa.Location = new System.Drawing.Point(377, 25);  this.btnXoa.Name = "btnXoa";  this.btnXoa.Size = new System.Drawing.Size(89, 38);  this.btnXoa.TabIndex = 3;  this.btnXoa.Text = "Xóa";  this.btnXoa.UseVisualStyleBackColor = true;  //  // btnSua  //  this.btnSua.Location = new System.Drawing.Point(233, 25);  this.btnSua.Name = "btnSua";  this.btnSua.Size = new System.Drawing.Size(89, 38);  this.btnSua.TabIndex = 1;  this.btnSua.Text = "Sửa";  this.btnSua.UseVisualStyleBackColor = true;  //  // btnThem  //  this.btnThem.Location = new System.Drawing.Point(87, 25);  this.btnThem.Name = "btnThem";  this.btnThem.Size = new System.Drawing.Size(89, 38);  this.btnThem.TabIndex = 0;  this.btnThem.Text = "Thêm";  this.btnThem.UseVisualStyleBackColor = true;  //  // groupBox3  //  this.groupBox3.Controls.Add(this.lvSinhVien);  this.groupBox3.Font = new System.Drawing.Font("Microsoft Sans Serif", 12F);  this.groupBox3.Location = new System.Drawing.Point(5, 303);  this.groupBox3.Name = "groupBox3";  this.groupBox3.Size = new System.Drawing.Size(680, 140);  this.groupBox3.TabIndex = 3;  this.groupBox3.TabStop = false;  this.groupBox3.Text = "Thông tin chung sinh viên";  //  // lvSinhVien  //  this.lvSinhVien.Columns.AddRange(new System.Windows.Forms.ColumnHeader[] {  this.hoTen,  this.ngaySinh,  this.lop,  this.diaChi});  this.lvSinhVien.FullRowSelect = true;  this.lvSinhVien.GridLines = true;  this.lvSinhVien.HideSelection = false;  this.lvSinhVien.Location = new System.Drawing.Point(3, 22);  this.lvSinhVien.Name = "lvSinhVien";  this.lvSinhVien.Size = new System.Drawing.Size(677, 118);  this.lvSinhVien.TabIndex = 0;  this.lvSinhVien.UseCompatibleStateImageBehavior = false;  this.lvSinhVien.View = System.Windows.Forms.View.Details;  //  // hoTen  //  this.hoTen.Text = "Họ tên";  this.hoTen.Width = 137;  //  // ngaySinh  //  this.ngaySinh.Text = "Ngày sinh";  this.ngaySinh.Width = 141;  //  // lop  //  this.lop.Text = "Lớp";  this.lop.Width = 165;  //  // diaChi  //  this.diaChi.Text = "Địa Chỉ";  this.diaChi.Width = 494;  //  // dateTimePicker1  //  this.dateTimePicker1.Location = new System.Drawing.Point(3, 23);  this.dateTimePicker1.Name = "dateTimePicker1";  this.dateTimePicker1.Size = new System.Drawing.Size(200, 27);  this.dateTimePicker1.TabIndex = 0;  //  // dtpNgaySinh  //  this.dtpNgaySinh.Location = new System.Drawing.Point(119, 78);  this.dtpNgaySinh.Name = "dtpNgaySinh";  this.dtpNgaySinh.Size = new System.Drawing.Size(216, 27);  this.dtpNgaySinh.TabIndex = 4;  //  // Form1  //  this.AutoScaleDimensions = new System.Drawing.SizeF(6F, 13F);  this.AutoScaleMode = System.Windows.Forms.AutoScaleMode.Font;  this.ClientSize = new System.Drawing.Size(691, 450);  this.Controls.Add(this.groupBox3);  this.Controls.Add(this.grpChucNang);  this.Controls.Add(this.grpThongTin);  this.Controls.Add(this.label1);  this.Name = "Form1";  this.grpThongTin.ResumeLayout(false);  this.grpThongTin.PerformLayout();  this.groupBox1.ResumeLayout(false);  this.grpChucNang.ResumeLayout(false);  this.groupBox3.ResumeLayout(false);  this.ResumeLayout(false);  }  #endregion  private System.Windows.Forms.Label label1;  private System.Windows.Forms.GroupBox grpThongTin;  private System.Windows.Forms.Label lblHoTen;  private System.Windows.Forms.Label lblDiaChi;  private System.Windows.Forms.Label lblLop;  private System.Windows.Forms.Label lblNgaySinh;  private System.Windows.Forms.TextBox txtDiaChi;  private System.Windows.Forms.TextBox txtLop;  private System.Windows.Forms.TextBox txtHoTen;  private System.Windows.Forms.GroupBox groupBox1;  private System.ComponentModel.BackgroundWorker backgroundWorker1;  private System.Windows.Forms.GroupBox grpChucNang;  private System.Windows.Forms.GroupBox groupBox2;  private System.Windows.Forms.Button btnThoat;  private System.Windows.Forms.Button btnXoa;  private System.Windows.Forms.Button btnSua;  private System.Windows.Forms.Button btnThem;  private System.Windows.Forms.GroupBox groupBox3;  private System.Windows.Forms.ListView lvSinhVien;  private System.Windows.Forms.ColumnHeader hoTen;  private System.Windows.Forms.ColumnHeader ngaySinh;  private System.Windows.Forms.ColumnHeader lop;  private System.Windows.Forms.ColumnHeader diaChi;  private System.Windows.Forms.DateTimePicker dtpNgaySinh;  private System.Windows.Forms.DateTimePicker dateTimePicker1;  }  } |

#### Form1.cs

|  |
| --- |
| using System;  using System.Windows.Forms;  namespace DaoThiThuHuyen\_1150080097\_ThucHanh2  {  public partial class Form1 : Form  {  public Form1()  {  InitializeComponent();  // Gán sự kiện  btnThem.Click += btnThem\_Click;  btnSua.Click += btnSua\_Click;  btnXoa.Click += btnXoa\_Click;  btnThoat.Click += btnThoat\_Click;  lvSinhVien.SelectedIndexChanged += lvSinhVien\_SelectedIndexChanged;  }  // Xóa trắng input  private void ClearInput()  {  txtHoTen.Clear();  txtLop.Clear();  txtDiaChi.Clear();  dtpNgaySinh.Value = DateTime.Now;  txtHoTen.Focus();  }  // Nút Thêm  private void btnThem\_Click(object sender, EventArgs e)  {  if (string.IsNullOrWhiteSpace(txtHoTen.Text))  {  MessageBox.Show("Họ tên không được để trống!", "Lỗi", MessageBoxButtons.OK, MessageBoxIcon.Warning);  return;  }  ListViewItem item = new ListViewItem(txtHoTen.Text);  item.SubItems.Add(dtpNgaySinh.Value.ToShortDateString());  item.SubItems.Add(txtLop.Text);  item.SubItems.Add(txtDiaChi.Text);  lvSinhVien.Items.Add(item);  ClearInput();  }  // Nút Sửa  private void btnSua\_Click(object sender, EventArgs e)  {  if (lvSinhVien.SelectedItems.Count == 0)  {  MessageBox.Show("Vui lòng chọn 1 dòng để sửa!");  return;  }  var item = lvSinhVien.SelectedItems[0];  item.SubItems[0].Text = txtHoTen.Text;  item.SubItems[1].Text = dtpNgaySinh.Value.ToShortDateString();  item.SubItems[2].Text = txtLop.Text;  item.SubItems[3].Text = txtDiaChi.Text;  MessageBox.Show("Cập nhật thành công!");  ClearInput();  }  // Nút Xóa  private void btnXoa\_Click(object sender, EventArgs e)  {  if (lvSinhVien.SelectedItems.Count == 0)  {  MessageBox.Show("Vui lòng chọn 1 dòng để xóa!");  return;  }  if (MessageBox.Show("Bạn có chắc muốn xóa dòng này?", "Xác nhận",  MessageBoxButtons.YesNo, MessageBoxIcon.Question) == DialogResult.Yes)  {  lvSinhVien.Items.Remove(lvSinhVien.SelectedItems[0]);  ClearInput();  }  }  // Khi chọn dòng ListView  private void lvSinhVien\_SelectedIndexChanged(object sender, EventArgs e)  {  if (lvSinhVien.SelectedItems.Count > 0)  {  var item = lvSinhVien.SelectedItems[0];  txtHoTen.Text = item.SubItems[0].Text;  dtpNgaySinh.Value = DateTime.Parse(item.SubItems[1].Text);  txtLop.Text = item.SubItems[2].Text;  txtDiaChi.Text = item.SubItems[3].Text;  }  }  // Nút Thoát  private void btnThoat\_Click(object sender, EventArgs e)  {  Application.Exit();  }  }  } |

### Kết quả

* Hiển thị thông tin và chọn 1 dòng trên listView thì nội dùng sẽ hiển thị trên các ô “Thông tin chung sinh viên”

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* Chức năng xóa :

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* Chức năng sửa :

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# LAB 4: WINFORM KẾT NỐI CƠ SỞ DỮ LIỆU CƠ BẢN

## Thực hành 1: Tạo kết nối giữa Winform và CSDL.

* Chuẩn bị Server name của máy local

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* Tiếp theo, trong VS, check trong Tools/ Connect to database ...

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* Chọn Microsoft SQL Server

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* Nhập Server name, chọn phương thức đăng nhập và chọn database

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* Sau đó ấn Test Connection để kiểm tra :

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* Sau khi test thành công, ấn OK để tiến hành hoàn tất cấu hình



### 1. Mở/Đóng kết nối

|  |
| --- |
| 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 DaoThiThuHuyen\_1150080097\_Lab4\_Th1  {  public partial class Form1 : Form  {  // Khai báo chuỗi kết nối và đối tượng kết nối  SqlConnection sqlCon = null;  string strCon = @"Data Source=LAPTOP-A17NR9K5;Initial Catalog=QuanLySinhVien;Integrated Security=True";  public Form1()  {  InitializeComponent();  }  // Hàm mở kết nối  private void btnMoKetNoi\_Click(object sender, EventArgs e)  {  try  {  if (sqlCon == null)  {  sqlCon = new SqlConnection(strCon);  }  if (sqlCon.State == ConnectionState.Closed)  {  sqlCon.Open();  MessageBox.Show("Kết nối CSDL thành công!", "Thông báo",  MessageBoxButtons.OK, MessageBoxIcon.Information);  }  else  {  MessageBox.Show("Kết nối đã được mở sẵn!");  }  }  catch (Exception ex)  {  MessageBox.Show("Lỗi khi kết nối: " + ex.Message);  }  }  // Hàm đóng kết nối  private void btnDongKetNoi\_Click(object sender, EventArgs e)  {  try  {  if (sqlCon != null && sqlCon.State == ConnectionState.Open)  {  sqlCon.Close();  MessageBox.Show("Đã đóng kết nối!", "Thông báo",  MessageBoxButtons.OK, MessageBoxIcon.Information);  }  else  {  MessageBox.Show("Kết nối hiện đang đóng!");  }  }  catch (Exception ex)  {  MessageBox.Show("Lỗi khi đóng kết nối: " + ex.Message);  }  }  }  } |

## Thực hành 2: Truy vấn dữ liệu

### 1. Truy vấn lấy 1 giá trị

* Ở trong bảng dữ liệu, em có 2 dòng dữ liệu như sau :

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* Tạo Form để hiển thị :

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* Đoạn code hiển thị :

|  |
| --- |
| // Truy vấn lấy 1 giá trị  private void btnCount\_Click(object sender, EventArgs e)  {  try  {  // Mở kết nối  if (sqlCon == null)  sqlCon = new SqlConnection(strCon);  if (sqlCon.State == ConnectionState.Closed)  sqlCon.Open();  // Tạo truy vấn  SqlCommand sqlCmd = new SqlCommand();  sqlCmd.CommandType = CommandType.Text;  sqlCmd.CommandText = "SELECT COUNT(\*) FROM SinhVien";  sqlCmd.Connection = sqlCon;  // Thực thi và lấy kết quả  int soLuongSV = (int)sqlCmd.ExecuteScalar();  // Hiển thị kết quả ra màn hình  MessageBox.Show("Số lượng sinh viên là: " + soLuongSV,  "Kết quả", MessageBoxButtons.OK, MessageBoxIcon.Information);  }  catch (Exception ex)  {  MessageBox.Show("Lỗi khi truy vấn: " + ex.Message);  }  } |

* Kết quả :

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### 2. Truy vấn lấy 1 dòng dữ liệu

#### Tạo form để hiển thị :

| **Control** | **Name** | **Text / Ghi chú** |
| --- | --- | --- |
| **Label** | lblMaSV | Mã sinh viên: |
| **TextBox** | txtMaSV | Nhập mã SV (ví dụ “SV01”) |
| **Button** | btnXemThongTin | Xem thông tin |
| **Label** | lblTenSV | Họ tên: |
| **TextBox** | txtTenSV | (readonly = true) |
| **Label** | lblGioiTinh | Giới tính: |
| **TextBox** | txtGioiTinh | (readonly = true) |
| **Label** | lblNgaySinh | Ngày sinh: |
| **DateTimePicker** | dtpNgaySinh | (Enabled = false) |
| **Label** | lblQueQuan | Quê quán: |
| **TextBox** | txtQueQuan | (readonly = true) |
| **Label** | lblMaLop | Mã lớp: |
| **TextBox** | txtMaLop | (readonly = true) |

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#### Code ThucHanh2.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;  using System.Data.SqlClient;  namespace DaoThiThuHuyen\_1150080097\_Lab4\_Th1  {  public partial class ThucHanh2 : Form  {  // Khai báo chuỗi kết nối và đối tượng kết nối  SqlConnection sqlCon = null;  string strCon = @"Data Source=LAPTOP-A17NR9K5;Initial Catalog=QuanLySinhVien;Integrated Security=True";  public ThucHanh2()  {  InitializeComponent();  }  // Hàm mở kết nối  private void btnMoKetNoi\_Click(object sender, EventArgs e)  {  try  {  if (sqlCon == null)  {  sqlCon = new SqlConnection(strCon);  }  if (sqlCon.State == ConnectionState.Closed)  {  sqlCon.Open();  MessageBox.Show("Kết nối CSDL thành công!", "Thông báo",  MessageBoxButtons.OK, MessageBoxIcon.Information);  }  else  {  MessageBox.Show("Kết nối đã được mở sẵn!");  }  }  catch (Exception ex)  {  MessageBox.Show("Lỗi khi kết nối: " + ex.Message);  }  }  // Hàm đóng kết nối  private void btnDongKetNoi\_Click(object sender, EventArgs e)  {  try  {  if (sqlCon != null && sqlCon.State == ConnectionState.Open)  {  sqlCon.Close();  MessageBox.Show("Đã đóng kết nối!", "Thông báo",  MessageBoxButtons.OK, MessageBoxIcon.Information);  }  else  {  MessageBox.Show("Kết nối hiện đang đóng!");  }  }  catch (Exception ex)  {  MessageBox.Show("Lỗi khi đóng kết nối: " + ex.Message);  }  }  // Nút Xem Thông Tin  private void btnXemThongTin\_Click(object sender, EventArgs e)  {  try  {  // Mở kết nối  if (sqlCon == null)  sqlCon = new SqlConnection(strCon);  if (sqlCon.State == ConnectionState.Closed)  sqlCon.Open();  // Lấy mã sinh viên từ TextBox  string maSV = txtMaSV.Text.Trim();  if (string.IsNullOrWhiteSpace(maSV))  {  MessageBox.Show("Vui lòng nhập mã sinh viên!", "Thông báo",  MessageBoxButtons.OK, MessageBoxIcon.Warning);  return;  }  // Tạo câu lệnh truy vấn có tham số  SqlCommand sqlCmd = new SqlCommand();  sqlCmd.CommandType = CommandType.Text;  sqlCmd.CommandText = "SELECT \* FROM SinhVien WHERE MaSV = @maSV";  sqlCmd.Parameters.AddWithValue("@maSV", maSV);  sqlCmd.Connection = sqlCon;  // Thực thi truy vấn  SqlDataReader reader = sqlCmd.ExecuteReader();  if (reader.Read())  {  // Đọc dữ liệu từng cột trong dòng  txtTenSV.Text = reader.GetString(1);  txtGioiTinh.Text = reader.GetString(2);  dtpNgaySinh.Value = reader.GetDateTime(3);  txtQueQuan.Text = reader.GetString(4);  txtMaLop.Text = reader.GetString(5);  }  else  {  MessageBox.Show("Không tìm thấy sinh viên có mã: " + maSV, "Kết quả",  MessageBoxButtons.OK, MessageBoxIcon.Information);  // Xóa dữ liệu cũ  ClearFields();  }  // Đóng DataReader  reader.Close();  }  catch (Exception ex)  {  MessageBox.Show("Lỗi: " + ex.Message, "Thông báo lỗi",  MessageBoxButtons.OK, MessageBoxIcon.Error);  }  }  // Hàm dọn sạch các ô nhập khi không tìm thấy dữ liệu  private void ClearFields()  {  txtTenSV.Clear();  txtGioiTinh.Clear();  txtQueQuan.Clear();  txtMaLop.Clear();  dtpNgaySinh.Value = DateTime.Now;  }  }  } |

#### Code ThucHanh2.Designer.cs

|  |
| --- |
| namespace DaoThiThuHuyen\_1150080097\_Lab4\_Th1  {  partial class ThucHanh2  {  /// <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()  {  this.lblMaSV = new System.Windows.Forms.Label();  this.txtMaSV = new System.Windows.Forms.TextBox();  this.btnXemThongTin = new System.Windows.Forms.Button();  this.lblTenSV = new System.Windows.Forms.Label();  this.txtTenSV = new System.Windows.Forms.TextBox();  this.lblGioiTinh = new System.Windows.Forms.Label();  this.txtGioiTinh = new System.Windows.Forms.TextBox();  this.lblNgaySinh = new System.Windows.Forms.Label();  this.dtpNgaySinh = new System.Windows.Forms.DateTimePicker();  this.lblQueQuan = new System.Windows.Forms.Label();  this.txtQueQuan = new System.Windows.Forms.TextBox();  this.lblMaLop = new System.Windows.Forms.Label();  this.txtMaLop = new System.Windows.Forms.TextBox();  this.SuspendLayout();  //  // lblMaSV  //  this.lblMaSV.AutoSize = true;  this.lblMaSV.Font = new System.Drawing.Font("Segoe UI", 10F);  this.lblMaSV.Location = new System.Drawing.Point(50, 40);  this.lblMaSV.Name = "lblMaSV";  this.lblMaSV.Size = new System.Drawing.Size(94, 19);  this.lblMaSV.TabIndex = 0;  this.lblMaSV.Text = "Mã sinh viên:";  //  // txtMaSV  //  this.txtMaSV.Font = new System.Drawing.Font("Segoe UI", 10F);  this.txtMaSV.Location = new System.Drawing.Point(160, 37);  this.txtMaSV.Name = "txtMaSV";  this.txtMaSV.Size = new System.Drawing.Size(180, 25);  this.txtMaSV.TabIndex = 1;  //  // btnXemThongTin  //  this.btnXemThongTin.Font = new System.Drawing.Font("Segoe UI", 10F, System.Drawing.FontStyle.Bold);  this.btnXemThongTin.Location = new System.Drawing.Point(370, 35);  this.btnXemThongTin.Name = "btnXemThongTin";  this.btnXemThongTin.Size = new System.Drawing.Size(130, 30);  this.btnXemThongTin.TabIndex = 2;  this.btnXemThongTin.Text = "Xem thông tin";  this.btnXemThongTin.UseVisualStyleBackColor = true;  this.btnXemThongTin.Click += new System.EventHandler(this.btnXemThongTin\_Click);  //  // lblTenSV  //  this.lblTenSV.AutoSize = true;  this.lblTenSV.Font = new System.Drawing.Font("Segoe UI", 10F);  this.lblTenSV.Location = new System.Drawing.Point(50, 90);  this.lblTenSV.Name = "lblTenSV";  this.lblTenSV.Size = new System.Drawing.Size(97, 19);  this.lblTenSV.TabIndex = 3;  this.lblTenSV.Text = "Tên sinh viên:";  //  // txtTenSV  //  this.txtTenSV.Font = new System.Drawing.Font("Segoe UI", 10F);  this.txtTenSV.Location = new System.Drawing.Point(160, 87);  this.txtTenSV.Name = "txtTenSV";  this.txtTenSV.ReadOnly = true;  this.txtTenSV.Size = new System.Drawing.Size(340, 25);  this.txtTenSV.TabIndex = 4;  //  // lblGioiTinh  //  this.lblGioiTinh.AutoSize = true;  this.lblGioiTinh.Font = new System.Drawing.Font("Segoe UI", 10F);  this.lblGioiTinh.Location = new System.Drawing.Point(50, 130);  this.lblGioiTinh.Name = "lblGioiTinh";  this.lblGioiTinh.Size = new System.Drawing.Size(70, 19);  this.lblGioiTinh.TabIndex = 5;  this.lblGioiTinh.Text = "Giới tính:";  //  // txtGioiTinh  //  this.txtGioiTinh.Font = new System.Drawing.Font("Segoe UI", 10F);  this.txtGioiTinh.Location = new System.Drawing.Point(160, 127);  this.txtGioiTinh.Name = "txtGioiTinh";  this.txtGioiTinh.ReadOnly = true;  this.txtGioiTinh.Size = new System.Drawing.Size(100, 25);  this.txtGioiTinh.TabIndex = 6;  //  // lblNgaySinh  //  this.lblNgaySinh.AutoSize = true;  this.lblNgaySinh.Font = new System.Drawing.Font("Segoe UI", 10F);  this.lblNgaySinh.Location = new System.Drawing.Point(290, 130);  this.lblNgaySinh.Name = "lblNgaySinh";  this.lblNgaySinh.Size = new System.Drawing.Size(76, 19);  this.lblNgaySinh.TabIndex = 7;  this.lblNgaySinh.Text = "Ngày sinh:";  //  // dtpNgaySinh  //  this.dtpNgaySinh.Enabled = false;  this.dtpNgaySinh.Font = new System.Drawing.Font("Segoe UI", 10F);  this.dtpNgaySinh.Format = System.Windows.Forms.DateTimePickerFormat.Short;  this.dtpNgaySinh.Location = new System.Drawing.Point(380, 127);  this.dtpNgaySinh.Name = "dtpNgaySinh";  this.dtpNgaySinh.Size = new System.Drawing.Size(120, 25);  this.dtpNgaySinh.TabIndex = 8;  //  // lblQueQuan  //  this.lblQueQuan.AutoSize = true;  this.lblQueQuan.Font = new System.Drawing.Font("Segoe UI", 10F);  this.lblQueQuan.Location = new System.Drawing.Point(50, 170);  this.lblQueQuan.Name = "lblQueQuan";  this.lblQueQuan.Size = new System.Drawing.Size(75, 19);  this.lblQueQuan.TabIndex = 9;  this.lblQueQuan.Text = "Quê quán:";  //  // txtQueQuan  //  this.txtQueQuan.Font = new System.Drawing.Font("Segoe UI", 10F);  this.txtQueQuan.Location = new System.Drawing.Point(160, 167);  this.txtQueQuan.Name = "txtQueQuan";  this.txtQueQuan.ReadOnly = true;  this.txtQueQuan.Size = new System.Drawing.Size(340, 25);  this.txtQueQuan.TabIndex = 10;  //  // lblMaLop  //  this.lblMaLop.AutoSize = true;  this.lblMaLop.Font = new System.Drawing.Font("Segoe UI", 10F);  this.lblMaLop.Location = new System.Drawing.Point(50, 210);  this.lblMaLop.Name = "lblMaLop";  this.lblMaLop.Size = new System.Drawing.Size(58, 19);  this.lblMaLop.TabIndex = 11;  this.lblMaLop.Text = "Mã lớp:";  //  // txtMaLop  //  this.txtMaLop.Font = new System.Drawing.Font("Segoe UI", 10F);  this.txtMaLop.Location = new System.Drawing.Point(160, 207);  this.txtMaLop.Name = "txtMaLop";  this.txtMaLop.ReadOnly = true;  this.txtMaLop.Size = new System.Drawing.Size(180, 25);  this.txtMaLop.TabIndex = 12;  //  // Form1  //  this.AutoScaleDimensions = new System.Drawing.SizeF(7F, 15F);  this.AutoScaleMode = System.Windows.Forms.AutoScaleMode.Font;  this.ClientSize = new System.Drawing.Size(584, 271);  this.Controls.Add(this.txtMaLop);  this.Controls.Add(this.lblMaLop);  this.Controls.Add(this.txtQueQuan);  this.Controls.Add(this.lblQueQuan);  this.Controls.Add(this.dtpNgaySinh);  this.Controls.Add(this.lblNgaySinh);  this.Controls.Add(this.txtGioiTinh);  this.Controls.Add(this.lblGioiTinh);  this.Controls.Add(this.txtTenSV);  this.Controls.Add(this.lblTenSV);  this.Controls.Add(this.btnXemThongTin);  this.Controls.Add(this.txtMaSV);  this.Controls.Add(this.lblMaSV);  this.Font = new System.Drawing.Font("Segoe UI", 9F);  this.Name = "Form1";  this.StartPosition = System.Windows.Forms.FormStartPosition.CenterScreen;  this.Text = "Truy vấn thông tin sinh viên";  this.ResumeLayout(false);  this.PerformLayout();  }  #endregion  private System.Windows.Forms.Label lblMaSV;  private System.Windows.Forms.TextBox txtMaSV;  private System.Windows.Forms.Button btnXemThongTin;  private System.Windows.Forms.Label lblTenSV;  private System.Windows.Forms.TextBox txtTenSV;  private System.Windows.Forms.Label lblGioiTinh;  private System.Windows.Forms.TextBox txtGioiTinh;  private System.Windows.Forms.Label lblNgaySinh;  private System.Windows.Forms.DateTimePicker dtpNgaySinh;  private System.Windows.Forms.Label lblQueQuan;  private System.Windows.Forms.TextBox txtQueQuan;  private System.Windows.Forms.Label lblMaLop;  private System.Windows.Forms.TextBox txtMaLop;  }  } |

#### Kết quả

A screenshot of a computer

AI-generated content may be incorrect.

### 3. Truy vấn lấy nhiều dòng dữ liệu

#### Tạo form để hiển thị :

A screenshot of a computer

AI-generated content may be incorrect.

#### Code ThucHanh3.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 DaoThiThuHuyen\_1150080097\_Lab4\_Th1  {  public partial class ThucHanh3 : Form  {  // Khai báo chuỗi kết nối và đối tượng kết nối  SqlConnection sqlCon = null;  string strCon = @"Data Source=LAPTOP-A17NR9K5;Initial Catalog=QuanLySinhVien;Integrated Security=True";  public ThucHanh3()  {  InitializeComponent();  }  private void btnListView\_Click(object sender, EventArgs e)  {  try  {  // Mở kết nối  if (sqlCon == null)  sqlCon = new SqlConnection(strCon);  if (sqlCon.State == ConnectionState.Closed)  sqlCon.Open();  // Xóa dữ liệu cũ  lsvList.Items.Clear();  // Tạo đối tượng truy vấn  SqlCommand sqlCmd = new SqlCommand();  sqlCmd.CommandType = CommandType.Text;  sqlCmd.CommandText = "SELECT \* FROM SinhVien";  sqlCmd.Connection = sqlCon;  SqlDataReader reader = sqlCmd.ExecuteReader();  while (reader.Read())  {  string maSV = reader.GetString(0);  string tenSV = reader.GetString(1);  string gioiTinh = reader.GetString(2);  string ngaySinh = reader.GetDateTime(3).ToString("dd/MM/yyyy");  string queQuan = reader.GetString(4);  string maLop = reader.GetString(5);  // Thêm vào ListView  ListViewItem lvi = new ListViewItem(maSV);  lvi.SubItems.Add(tenSV);  lvi.SubItems.Add(gioiTinh);  lvi.SubItems.Add(ngaySinh);  lvi.SubItems.Add(queQuan);  lvi.SubItems.Add(maLop);  lsvList.Items.Add(lvi);  }  reader.Close();  }  catch (Exception ex)  {  MessageBox.Show("Lỗi: " + ex.Message);  }  }  }  } |

#### Code ThucHanh3.Designer.cs

|  |
| --- |
| namespace DaoThiThuHuyen\_1150080097\_Lab4\_Th1  {  partial class ThucHanh3  {  /// <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()  {  this.lsvList = new System.Windows.Forms.ListView();  this.colMaSV = new System.Windows.Forms.ColumnHeader();  this.colTenSV = new System.Windows.Forms.ColumnHeader();  this.colGioiTinh = new System.Windows.Forms.ColumnHeader();  this.colNgaySinh = new System.Windows.Forms.ColumnHeader();  this.colQueQuan = new System.Windows.Forms.ColumnHeader();  this.colMaLop = new System.Windows.Forms.ColumnHeader();  this.btnListView = new System.Windows.Forms.Button();  this.SuspendLayout();  //  // lsvList  //  this.lsvList.Columns.AddRange(new System.Windows.Forms.ColumnHeader[] {  this.colMaSV,  this.colTenSV,  this.colGioiTinh,  this.colNgaySinh,  this.colQueQuan,  this.colMaLop});  this.lsvList.FullRowSelect = true;  this.lsvList.GridLines = true;  this.lsvList.HideSelection = false;  this.lsvList.Location = new System.Drawing.Point(12, 70);  this.lsvList.Name = "lsvList";  this.lsvList.Size = new System.Drawing.Size(760, 360);  this.lsvList.TabIndex = 0;  this.lsvList.UseCompatibleStateImageBehavior = false;  this.lsvList.View = System.Windows.Forms.View.Details;  //  // colMaSV  //  this.colMaSV.Text = "Mã SV";  this.colMaSV.Width = 100;  //  // colTenSV  //  this.colTenSV.Text = "Tên SV";  this.colTenSV.Width = 150;  //  // colGioiTinh  //  this.colGioiTinh.Text = "Giới tính";  this.colGioiTinh.Width = 80;  //  // colNgaySinh  //  this.colNgaySinh.Text = "Ngày sinh";  this.colNgaySinh.Width = 100;  //  // colQueQuan  //  this.colQueQuan.Text = "Quê quán";  this.colQueQuan.Width = 150;  //  // colMaLop  //  this.colMaLop.Text = "Mã lớp";  this.colMaLop.Width = 80;  //  // btnListView  //  this.btnListView.Font = new System.Drawing.Font("Segoe UI", 10F, System.Drawing.FontStyle.Bold, System.Drawing.GraphicsUnit.Point);  this.btnListView.Location = new System.Drawing.Point(12, 15);  this.btnListView.Name = "btnListView";  this.btnListView.Size = new System.Drawing.Size(180, 40);  this.btnListView.TabIndex = 1;  this.btnListView.Text = "Hiển thị danh sách";  this.btnListView.UseVisualStyleBackColor = true;  this.btnListView.Click += new System.EventHandler(this.btnListView\_Click);  //  // ThucHanh3  //  this.AutoScaleDimensions = new System.Drawing.SizeF(7F, 15F);  this.AutoScaleMode = System.Windows.Forms.AutoScaleMode.Font;  this.ClientSize = new System.Drawing.Size(784, 451);  this.Controls.Add(this.btnListView);  this.Controls.Add(this.lsvList);  this.Name = "ThucHanh3";  this.StartPosition = System.Windows.Forms.FormStartPosition.CenterScreen;  this.Text = "Thực hành 3 - Truy vấn nhiều dòng dữ liệu";  this.ResumeLayout(false);  }  #endregion  private System.Windows.Forms.ListView lsvList;  private System.Windows.Forms.Button btnListView;  private System.Windows.Forms.ColumnHeader colMaSV;  private System.Windows.Forms.ColumnHeader colTenSV;  private System.Windows.Forms.ColumnHeader colGioiTinh;  private System.Windows.Forms.ColumnHeader colNgaySinh;  private System.Windows.Forms.ColumnHeader colQueQuan;  private System.Windows.Forms.ColumnHeader colMaLop;  }  } |

#### Kết quả

A screenshot of a computer

AI-generated content may be incorrect.

### 4. Sử dụng Parameter để truy vấn dữ liệu trong C#

#### Tạo Form để hiển thị :

| **Thành phần** | **Tên** | **Mô tả** |
| --- | --- | --- |
| Label (title) | lblTitle | “Áp dụng” (phông lớn, in đậm, căn giữa) |
| Label | lblDSLop | “Danh sách lớp:” |
| ListBox | lsbDSLop | Hiển thị danh sách lớp (tên lớp) |
| Label | lblDSSV | “Danh sách sinh viên:” |
| ListView | lsvDSSV | Hiển thị danh sách sinh viên |

A screenshot of a computer

AI-generated content may be incorrect.

#### Code ThucHanh4.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 DaoThiThuHuyen\_1150080097\_Lab4\_Th1  {  public partial class ThucHanh4 : Form  {  // Khai báo chuỗi kết nối và đối tượng kết nối  SqlConnection sqlCon = null;  string strCon = @"Data Source=LAPTOP-A17NR9K5;Initial Catalog=QuanLySinhVien;Integrated Security=True";  public ThucHanh4()  {  InitializeComponent();  }  private void FrmApDung\_Load(object sender, EventArgs e)  {  try  {  if (sqlCon == null)  sqlCon = new SqlConnection(strCon);  if (sqlCon.State == ConnectionState.Closed)  sqlCon.Open();  // Xóa danh sách lớp cũ  lsbDSLop.Items.Clear();  // Lấy danh sách lớp  SqlCommand cmd = new SqlCommand("SELECT MaLop FROM SinhVien", sqlCon);  SqlDataReader reader = cmd.ExecuteReader();  while (reader.Read())  {  string maLop = reader.GetString(0).Trim(); // loại bỏ khoảng trắng dư  lsbDSLop.Items.Add($"{maLop}");  }  reader.Close();  }  catch (Exception ex)  {  MessageBox.Show("Lỗi tải danh sách lớp: " + ex.Message);  }  }  private void lsbDSLop\_SelectedIndexChanged(object sender, EventArgs e)  {  if (lsbDSLop.SelectedIndex == -1) return;  try  {  if (sqlCon == null)  sqlCon = new SqlConnection(strCon);  if (sqlCon.State == ConnectionState.Closed)  sqlCon.Open();  // Xóa danh sách sinh viên cũ  lsvDSSV.Items.Clear();  // Lấy mã lớp được chọn  string selectedItem = lsbDSLop.SelectedItem.ToString();  string maLop = selectedItem.Split('-')[0].Trim();  // Tạo truy vấn có tham số (dùng RTRIM để bỏ khoảng trắng trong DB)  SqlCommand cmd = new SqlCommand();  cmd.CommandType = CommandType.Text;  cmd.CommandText = "SELECT \* FROM SinhVien WHERE RTRIM(MaLop) = @maLop";  cmd.Connection = sqlCon;  // Sử dụng VarChar thay vì Char để tránh lỗi padding  SqlParameter parMaLop = new SqlParameter("@maLop", SqlDbType.VarChar);  parMaLop.Value = maLop;  cmd.Parameters.Add(parMaLop);  SqlDataReader reader = cmd.ExecuteReader();  int count = 0;  while (reader.Read())  {  string maSV = reader.GetString(0);  string tenSV = reader.GetString(1);  string gioiTinh = reader.GetString(2);  string ngaySinh = reader.GetDateTime(3).ToString("dd/MM/yyyy");  string queQuan = reader.GetString(4);  string lop = reader.GetString(5).Trim();  ListViewItem lvi = new ListViewItem(maSV);  lvi.SubItems.Add(tenSV);  lvi.SubItems.Add(gioiTinh);  lvi.SubItems.Add(ngaySinh);  lvi.SubItems.Add(queQuan);  lvi.SubItems.Add(lop);  lsvDSSV.Items.Add(lvi);  count++;  }  reader.Close();  // Hiển thị tổng số sinh viên  MessageBox.Show($"Lớp {maLop} có {count} sinh viên.");  }  catch (Exception ex)  {  MessageBox.Show("Lỗi khi hiển thị sinh viên: " + ex.Message);  }  }  }  } |

#### Code ThucHanh4.Designer.cs

|  |
| --- |
| namespace DaoThiThuHuyen\_1150080097\_Lab4\_Th1  {  partial class ThucHanh4  {  /// <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()  {  this.lblTitle = new System.Windows.Forms.Label();  this.lblDSLop = new System.Windows.Forms.Label();  this.lblDSSV = new System.Windows.Forms.Label();  this.lsbDSLop = new System.Windows.Forms.ListBox();  this.lsvDSSV = new System.Windows.Forms.ListView();  this.colMaSV = ((System.Windows.Forms.ColumnHeader)(new System.Windows.Forms.ColumnHeader()));  this.colTenSV = ((System.Windows.Forms.ColumnHeader)(new System.Windows.Forms.ColumnHeader()));  this.colGioiTinh = ((System.Windows.Forms.ColumnHeader)(new System.Windows.Forms.ColumnHeader()));  this.colNgaySinh = ((System.Windows.Forms.ColumnHeader)(new System.Windows.Forms.ColumnHeader()));  this.colQueQuan = ((System.Windows.Forms.ColumnHeader)(new System.Windows.Forms.ColumnHeader()));  this.colMaLop = ((System.Windows.Forms.ColumnHeader)(new System.Windows.Forms.ColumnHeader()));  this.SuspendLayout();  //  // lblTitle  //  this.lblTitle.Font = new System.Drawing.Font("Segoe UI", 11F, System.Drawing.FontStyle.Bold);  this.lblTitle.Location = new System.Drawing.Point(10, 8);  this.lblTitle.Name = "lblTitle";  this.lblTitle.Size = new System.Drawing.Size(480, 20);  this.lblTitle.TabIndex = 0;  this.lblTitle.Text = "Áp dụng";  this.lblTitle.TextAlign = System.Drawing.ContentAlignment.MiddleCenter;  //  // lblDSLop  //  this.lblDSLop.AutoSize = true;  this.lblDSLop.Font = new System.Drawing.Font("Segoe UI", 9F, System.Drawing.FontStyle.Bold);  this.lblDSLop.Location = new System.Drawing.Point(17, 39);  this.lblDSLop.Name = "lblDSLop";  this.lblDSLop.Size = new System.Drawing.Size(87, 15);  this.lblDSLop.TabIndex = 1;  this.lblDSLop.Text = "Danh sách lớp:";  //  // lblDSSV  //  this.lblDSSV.AutoSize = true;  this.lblDSSV.Font = new System.Drawing.Font("Segoe UI", 9F, System.Drawing.FontStyle.Bold);  this.lblDSSV.Location = new System.Drawing.Point(197, 39);  this.lblDSSV.Name = "lblDSSV";  this.lblDSSV.Size = new System.Drawing.Size(118, 15);  this.lblDSSV.TabIndex = 2;  this.lblDSSV.Text = "Danh sách sinh viên:";  //  // lsbDSLop  //  this.lsbDSLop.FormattingEnabled = true;  this.lsbDSLop.Location = new System.Drawing.Point(17, 56);  this.lsbDSLop.Name = "lsbDSLop";  this.lsbDSLop.Size = new System.Drawing.Size(155, 238);  this.lsbDSLop.TabIndex = 3;  this.lsbDSLop.SelectedIndexChanged += new System.EventHandler(this.lsbDSLop\_SelectedIndexChanged);  //  // lsvDSSV  //  this.lsvDSSV.Columns.AddRange(new System.Windows.Forms.ColumnHeader[] {  this.colMaSV,  this.colTenSV,  this.colGioiTinh,  this.colNgaySinh,  this.colQueQuan,  this.colMaLop});  this.lsvDSSV.FullRowSelect = true;  this.lsvDSSV.GridLines = true;  this.lsvDSSV.HideSelection = false;  this.lsvDSSV.Location = new System.Drawing.Point(197, 56);  this.lsvDSSV.Name = "lsvDSSV";  this.lsvDSSV.Size = new System.Drawing.Size(446, 238);  this.lsvDSSV.TabIndex = 4;  this.lsvDSSV.UseCompatibleStateImageBehavior = false;  this.lsvDSSV.View = System.Windows.Forms.View.Details;  //  // colMaSV  //  this.colMaSV.Text = "Mã SV";  this.colMaSV.Width = 80;  //  // colTenSV  //  this.colTenSV.Text = "Tên SV";  this.colTenSV.Width = 120;  //  // colGioiTinh  //  this.colGioiTinh.Text = "Giới tính";  this.colGioiTinh.Width = 70;  //  // colNgaySinh  //  this.colNgaySinh.Text = "Ngày sinh";  this.colNgaySinh.Width = 90;  //  // colQueQuan  //  this.colQueQuan.Text = "Quê quán";  this.colQueQuan.Width = 100;  //  // colMaLop  //  this.colMaLop.Text = "Mã lớp";  //  // ThucHanh4  //  this.AutoScaleDimensions = new System.Drawing.SizeF(6F, 13F);  this.AutoScaleMode = System.Windows.Forms.AutoScaleMode.Font;  this.ClientSize = new System.Drawing.Size(655, 313);  this.Controls.Add(this.lsvDSSV);  this.Controls.Add(this.lsbDSLop);  this.Controls.Add(this.lblDSSV);  this.Controls.Add(this.lblDSLop);  this.Controls.Add(this.lblTitle);  this.Name = "ThucHanh4";  this.StartPosition = System.Windows.Forms.FormStartPosition.CenterScreen;  this.Text = "Hiển thị danh sách sinh viên theo mã lớp";  this.Load += new System.EventHandler(this.FrmApDung\_Load);  this.ResumeLayout(false);  this.PerformLayout();  }  #endregion  private System.Windows.Forms.Label lblTitle;  private System.Windows.Forms.Label lblDSLop;  private System.Windows.Forms.Label lblDSSV;  private System.Windows.Forms.ListBox lsbDSLop;  private System.Windows.Forms.ListView lsvDSSV;  private System.Windows.Forms.ColumnHeader colMaSV;  private System.Windows.Forms.ColumnHeader colTenSV;  private System.Windows.Forms.ColumnHeader colGioiTinh;  private System.Windows.Forms.ColumnHeader colNgaySinh;  private System.Windows.Forms.ColumnHeader colQueQuan;  private System.Windows.Forms.ColumnHeader colMaLop;  }  } |

#### Kết quả

A screenshot of a computer

AI-generated content may be incorrect.