Họ tên: Nguyễn Hữu Bình

Lớp: 11\_ĐH\_CNPM1

MSSV: 1150080005

1.

using System;

using System.Drawing;

using System.Windows.Forms;

namespace \_1150080005\_NguyenHuuBinh

{

public partial class Form1 : Form

{

private Label lblTitle;

private Label lblA, lblB, lblResult;

private TextBox txtA, txtB, txtKetQua;

private Button btnCong, btnTru, btnNhan, btnChia;

private Button btnXoa, btnThoat;

public Form1()

{

InitializeComponent();

}

private void InitializeComponent()

{

this.SuspendLayout();

// Form properties

this.Text = "Thực hành 1";

this.Size = new Size(500, 380);

this.StartPosition = FormStartPosition.CenterScreen;

this.FormBorderStyle = FormBorderStyle.FixedSingle;

this.MaximizeBox = false;

this.BackColor = Color.FromArgb(240, 240, 240);

// Title

this.lblTitle = new Label();

this.lblTitle.Text = "THỰC HIỆN CÁC PHÉP TÍNH SỐ HỌC";

this.lblTitle.Location = new Point(100, 30);

this.lblTitle.Size = new Size(300, 25);

this.lblTitle.Font = new Font("Microsoft Sans Serif", 12F, FontStyle.Bold);

this.lblTitle.ForeColor = Color.Black;

this.lblTitle.TextAlign = ContentAlignment.MiddleCenter;

// Nhập số a

this.lblA = new Label();

this.lblA.Text = "Nhập số a:";

this.lblA.Location = new Point(170, 80);

this.lblA.Size = new Size(70, 20);

this.lblA.Font = new Font("Microsoft Sans Serif", 9F);

this.txtA = new TextBox();

this.txtA.Location = new Point(250, 78);

this.txtA.Size = new Size(120, 20);

this.txtA.Font = new Font("Microsoft Sans Serif", 9F);

// Nhập số b

this.lblB = new Label();

this.lblB.Text = "Nhập số b:";

this.lblB.Location = new Point(170, 115);

this.lblB.Size = new Size(70, 20);

this.lblB.Font = new Font("Microsoft Sans Serif", 9F);

this.txtB = new TextBox();

this.txtB.Location = new Point(250, 113);

this.txtB.Size = new Size(120, 20);

this.txtB.Font = new Font("Microsoft Sans Serif", 9F);

// Buttons for operations

this.btnCong = new Button();

this.btnCong.Text = "Cộng";

this.btnCong.Location = new Point(100, 160);

this.btnCong.Size = new Size(70, 35);

this.btnCong.Font = new Font("Microsoft Sans Serif", 9F);

this.btnCong.BackColor = SystemColors.Control;

this.btnCong.UseVisualStyleBackColor = true;

this.btnCong.Click += new EventHandler(this.BtnCong\_Click);

this.btnTru = new Button();

this.btnTru.Text = "Trừ";

this.btnTru.Location = new Point(190, 160);

this.btnTru.Size = new Size(70, 35);

this.btnTru.Font = new Font("Microsoft Sans Serif", 9F);

this.btnTru.BackColor = SystemColors.Control;

this.btnTru.UseVisualStyleBackColor = true;

this.btnTru.Click += new EventHandler(this.BtnTru\_Click);

this.btnNhan = new Button();

this.btnNhan.Text = "Nhân";

this.btnNhan.Location = new Point(280, 160);

this.btnNhan.Size = new Size(70, 35);

this.btnNhan.Font = new Font("Microsoft Sans Serif", 9F);

this.btnNhan.BackColor = SystemColors.Control;

this.btnNhan.UseVisualStyleBackColor = true;

this.btnNhan.Click += new EventHandler(this.BtnNhan\_Click);

this.btnChia = new Button();

this.btnChia.Text = "Chia";

this.btnChia.Location = new Point(370, 160);

this.btnChia.Size = new Size(70, 35);

this.btnChia.Font = new Font("Microsoft Sans Serif", 9F);

this.btnChia.BackColor = SystemColors.Control;

this.btnChia.UseVisualStyleBackColor = true;

this.btnChia.Click += new EventHandler(this.BtnChia\_Click);

// Kết quả

this.lblResult = new Label();

this.lblResult.Text = "Kết quả:";

this.lblResult.Location = new Point(170, 220);

this.lblResult.Size = new Size(60, 20);

this.lblResult.Font = new Font("Microsoft Sans Serif", 9F);

this.txtKetQua = new TextBox();

this.txtKetQua.Location = new Point(250, 218);

this.txtKetQua.Size = new Size(120, 20);

this.txtKetQua.Font = new Font("Microsoft Sans Serif", 9F);

this.txtKetQua.ReadOnly = true;

// Control buttons

this.btnXoa = new Button();

this.btnXoa.Text = "Xóa";

this.btnXoa.Location = new Point(220, 270);

this.btnXoa.Size = new Size(70, 35);

this.btnXoa.Font = new Font("Microsoft Sans Serif", 9F);

this.btnXoa.BackColor = SystemColors.Control;

this.btnXoa.UseVisualStyleBackColor = true;

this.btnXoa.Click += new EventHandler(this.BtnXoa\_Click);

this.btnThoat = new Button();

this.btnThoat.Text = "Thoát";

this.btnThoat.Location = new Point(310, 270);

this.btnThoat.Size = new Size(70, 35);

this.btnThoat.Font = new Font("Microsoft Sans Serif", 9F);

this.btnThoat.BackColor = SystemColors.Control;

this.btnThoat.UseVisualStyleBackColor = true;

this.btnThoat.Click += new EventHandler(this.BtnThoat\_Click);

// Add controls to form

this.Controls.Add(this.lblTitle);

this.Controls.Add(this.lblA);

this.Controls.Add(this.txtA);

this.Controls.Add(this.lblB);

this.Controls.Add(this.txtB);

this.Controls.Add(this.btnCong);

this.Controls.Add(this.btnTru);

this.Controls.Add(this.btnNhan);

this.Controls.Add(this.btnChia);

this.Controls.Add(this.lblResult);

this.Controls.Add(this.txtKetQua);

this.Controls.Add(this.btnXoa);

this.Controls.Add(this.btnThoat);

this.ResumeLayout(false);

this.PerformLayout();

}

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

{

try

{

if (ValidateInput(out double a, out double b))

{

this.txtKetQua.Text = (a + b).ToString();

}

}

catch (Exception ex)

{

MessageBox.Show("Lỗi: " + ex.Message);

}

}

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

{

try

{

if (ValidateInput(out double a, out double b))

{

this.txtKetQua.Text = (a - b).ToString();

}

}

catch (Exception ex)

{

MessageBox.Show("Lỗi: " + ex.Message);

}

}

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

{

try

{

if (ValidateInput(out double a, out double b))

{

this.txtKetQua.Text = (a \* b).ToString();

}

}

catch (Exception ex)

{

MessageBox.Show("Lỗi: " + ex.Message);

}

}

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

{

try

{

if (ValidateInput(out double a, out double b))

{

if (b == 0)

{

MessageBox.Show("Không thể chia cho 0!");

return;

}

this.txtKetQua.Text = (a / b).ToString("F6");

}

}

catch (Exception ex)

{

MessageBox.Show("Lỗi: " + ex.Message);

}

}

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

{

this.txtA.Clear();

this.txtB.Clear();

this.txtKetQua.Clear();

this.txtA.Focus();

}

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

{

if (MessageBox.Show("Bạn có muốn thoát?", "Xác nhận",

MessageBoxButtons.YesNo) == DialogResult.Yes)

{

this.Close();

}

}

private bool ValidateInput(out double a, out double b)

{

a = 0; b = 0;

if (!double.TryParse(this.txtA.Text, out a))

{

MessageBox.Show("Nhập số hợp lệ cho a!");

this.txtA.Focus();

return false;

}

if (!double.TryParse(this.txtB.Text, out b))

{

MessageBox.Show("Nhập số hợp lệ cho b!");

this.txtB.Focus();

return false;

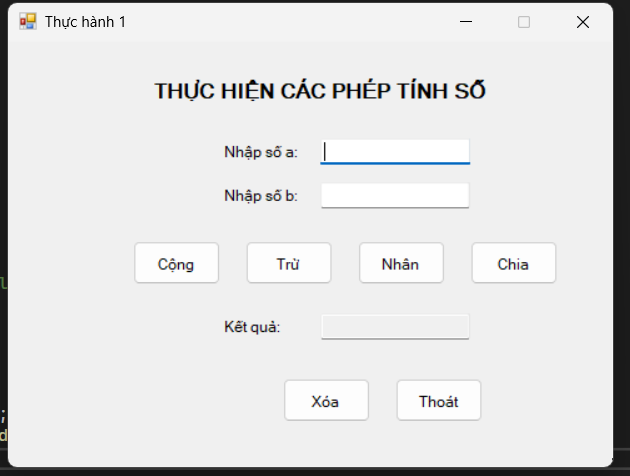
}

return true;

}

}

}



2.

using System;

using System.Drawing;

using System.Windows.Forms;

namespace \_1150080005\_NguyenHuuBinh

{

public partial class Form2 : Form

{

private GroupBox groupBoxInput, groupBoxOption;

private Label lblA, lblB, lblResult;

private TextBox txtA, txtB, txtKetQua;

private RadioButton radUSCLN, radBSCNN;

private Button btnTim, btnThoat;

public Form2()

{

InitializeComponent();

}

private void InitializeComponent()

{

this.SuspendLayout();

// Form properties

this.Text = "Tìm USCLN và BSCNN của số nguyên a và b";

this.Size = new Size(480, 320);

this.StartPosition = FormStartPosition.CenterScreen;

this.FormBorderStyle = FormBorderStyle.FixedSingle;

this.MaximizeBox = false;

this.BackColor = Color.FromArgb(240, 240, 240);

// GroupBox Input (Green background)

this.groupBoxInput = new GroupBox();

this.groupBoxInput.Text = "Nhập dữ liệu:";

this.groupBoxInput.Location = new Point(20, 20);

this.groupBoxInput.Size = new Size(200, 120);

this.groupBoxInput.BackColor = Color.FromArgb(144, 238, 144); // Light green

this.groupBoxInput.Font = new Font("Microsoft Sans Serif", 9F, FontStyle.Bold);

this.lblA = new Label();

this.lblA.Text = "Số nguyên a:";

this.lblA.Location = new Point(15, 30);

this.lblA.Size = new Size(80, 20);

this.lblA.Font = new Font("Microsoft Sans Serif", 9F);

this.lblA.BackColor = Color.Transparent;

this.txtA = new TextBox();

this.txtA.Location = new Point(100, 28);

this.txtA.Size = new Size(80, 20);

this.txtA.Font = new Font("Microsoft Sans Serif", 9F);

this.lblB = new Label();

this.lblB.Text = "Số nguyên b:";

this.lblB.Location = new Point(15, 65);

this.lblB.Size = new Size(80, 20);

this.lblB.Font = new Font("Microsoft Sans Serif", 9F);

this.lblB.BackColor = Color.Transparent;

this.txtB = new TextBox();

this.txtB.Location = new Point(100, 63);

this.txtB.Size = new Size(80, 20);

this.txtB.Font = new Font("Microsoft Sans Serif", 9F);

this.groupBoxInput.Controls.Add(this.lblA);

this.groupBoxInput.Controls.Add(this.txtA);

this.groupBoxInput.Controls.Add(this.lblB);

this.groupBoxInput.Controls.Add(this.txtB);

// GroupBox Options (Gray background)

this.groupBoxOption = new GroupBox();

this.groupBoxOption.Text = "Tùy chọn:";

this.groupBoxOption.Location = new Point(240, 20);

this.groupBoxOption.Size = new Size(200, 120);

this.groupBoxOption.BackColor = Color.FromArgb(192, 192, 192); // Light gray

this.groupBoxOption.Font = new Font("Microsoft Sans Serif", 9F, FontStyle.Bold);

this.radUSCLN = new RadioButton();

this.radUSCLN.Text = "USCLN";

this.radUSCLN.Location = new Point(20, 30);

this.radUSCLN.Size = new Size(80, 20);

this.radUSCLN.Checked = true;

this.radUSCLN.Font = new Font("Microsoft Sans Serif", 9F);

this.radUSCLN.BackColor = Color.Transparent;

this.radBSCNN = new RadioButton();

this.radBSCNN.Text = "BSCNN";

this.radBSCNN.Location = new Point(20, 55);

this.radBSCNN.Size = new Size(80, 20);

this.radBSCNN.Font = new Font("Microsoft Sans Serif", 9F);

this.radBSCNN.BackColor = Color.Transparent;

this.btnTim = new Button();

this.btnTim.Text = "Tìm";

this.btnTim.Location = new Point(120, 25);

this.btnTim.Size = new Size(60, 30);

this.btnTim.Font = new Font("Microsoft Sans Serif", 9F);

this.btnTim.UseVisualStyleBackColor = true;

this.btnTim.Click += new EventHandler(this.BtnTim\_Click);

this.btnThoat = new Button();

this.btnThoat.Text = "Thoát";

this.btnThoat.Location = new Point(120, 65);

this.btnThoat.Size = new Size(60, 30);

this.btnThoat.Font = new Font("Microsoft Sans Serif", 9F);

this.btnThoat.UseVisualStyleBackColor = true;

this.btnThoat.Click += new EventHandler(this.BtnThoat\_Click);

this.groupBoxOption.Controls.Add(this.radUSCLN);

this.groupBoxOption.Controls.Add(this.radBSCNN);

this.groupBoxOption.Controls.Add(this.btnTim);

this.groupBoxOption.Controls.Add(this.btnThoat);

// Result section

this.lblResult = new Label();

this.lblResult.Text = "Kết quả:";

this.lblResult.Location = new Point(20, 180);

this.lblResult.Size = new Size(60, 20);

this.lblResult.Font = new Font("Microsoft Sans Serif", 9F, FontStyle.Bold);

this.txtKetQua = new TextBox();

this.txtKetQua.Location = new Point(100, 178);

this.txtKetQua.Size = new Size(300, 20);

this.txtKetQua.Font = new Font("Microsoft Sans Serif", 9F);

this.txtKetQua.ReadOnly = true;

// Add controls to form

this.Controls.Add(this.groupBoxInput);

this.Controls.Add(this.groupBoxOption);

this.Controls.Add(this.lblResult);

this.Controls.Add(this.txtKetQua);

this.ResumeLayout(false);

this.PerformLayout();

}

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

{

try

{

if (!int.TryParse(this.txtA.Text, out int a))

{

MessageBox.Show("Nhập số nguyên hợp lệ cho a!");

return;

}

if (!int.TryParse(this.txtB.Text, out int b))

{

MessageBox.Show("Nhập số nguyên hợp lệ cho b!");

return;

}

if (a == 0 && b == 0)

{

MessageBox.Show("Cả hai số không thể cùng bằng 0!");

return;

}

long result;

string operation;

if (this.radUSCLN.Checked)

{

result = CalculateGCD(Math.Abs(a), Math.Abs(b));

operation = "USCLN";

}

else

{

result = CalculateLCM(Math.Abs(a), Math.Abs(b));

operation = "BSCNN";

}

this.txtKetQua.Text = $"{operation}({a}, {b}) = {result}";

}

catch (Exception ex)

{

MessageBox.Show("Lỗi: " + ex.Message);

}

}

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

{

if (MessageBox.Show("Bạn có muốn thoát?", "Xác nhận",

MessageBoxButtons.YesNo) == DialogResult.Yes)

{

this.Close();

}

}

private long CalculateGCD(long a, long b)

{

while (b != 0)

{

long temp = b;

b = a % b;

a = temp;

}

return a;

}

private long CalculateLCM(long a, long b)

{

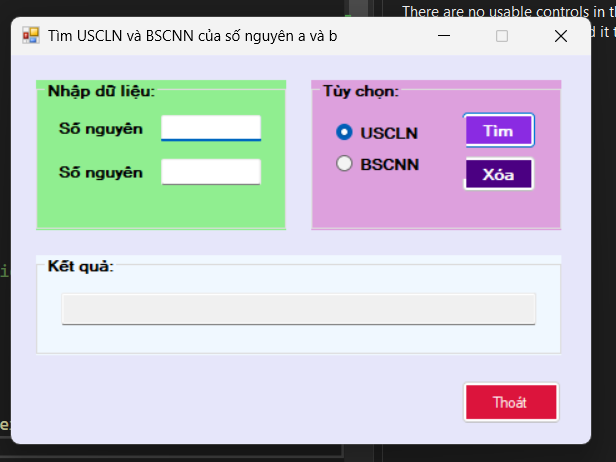
if (a == 0 || b == 0) return 0;

return (a \* b) / CalculateGCD(a, b);

}

}

}



3.

using System;

using System.Collections.Generic;

using System.Windows.Forms;

namespace \_1150080005\_NguyenHuuBinh

{

public partial class Form3 : Form

{

// Map mật khẩu -> tên nhóm (C# 7.3)

private readonly Dictionary<string, string> \_passToGroup =

new Dictionary<string, string>

{

{ "1496", "Phát triển công nghệ" },

{ "2673", "Phát triển công nghệ" },

{ "7462", "Nghiên cứu viên" },

{ "8884", "Thiết kế mô hình" },

{ "3842", "Thiết kế mô hình" },

{ "3383", "Thiết kế mô hình" },

};

public Form3()

{

InitializeComponent();

KeyPreview = true; // bắt phím từ bàn phím máy

}

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

{

txtDisplay.Clear();

txtDisplay.Focus();

}

// Nhập số từ bàn phím máy

private void Form3\_KeyDown(object sender, KeyEventArgs e)

{

if (e.KeyCode >= Keys.D0 && e.KeyCode <= Keys.D9 && !e.Shift)

{

int d = e.KeyCode - Keys.D0;

AppendDigit(d.ToString());

e.Handled = true;

return;

}

if (e.KeyCode >= Keys.NumPad0 && e.KeyCode <= Keys.NumPad9)

{

int d = e.KeyCode - Keys.NumPad0;

AppendDigit(d.ToString());

e.Handled = true;

return;

}

if (e.KeyCode == Keys.Enter)

{

ValidateCode();

e.Handled = true;

return;

}

if (e.KeyCode == Keys.Back)

{

Backspace();

e.Handled = true;

return;

}

}

// Nút số trên keypad UI (dùng chung)

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

{

Button b = sender as Button;

if (b != null && b.Tag is string)

AppendDigit((string)b.Tag);

}

private void AppendDigit(string d)

{

if (txtDisplay.Text.Length >= 4) return;

txtDisplay.Text += d;

if (txtDisplay.Text.Length == 4)

ValidateCode(); // đủ 4 số thì tự xác thực

}

private void Backspace()

{

if (txtDisplay.Text.Length == 0) return;

txtDisplay.Text = txtDisplay.Text.Substring(0, txtDisplay.Text.Length - 1);

txtDisplay.Focus();

}

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

{

txtDisplay.Clear();

txtDisplay.Focus();

}

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

{

ValidateCode();

}

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

{

// Chuông cảnh báo + log sự kiện

System.Media.SystemSounds.Exclamation.Play();

string when = DateTime.Now.ToString("dd/MM/yyyy HH:mm:ss");

ListViewItem item = new ListViewItem(new[] { when, "—", "RING" });

item.BackColor = System.Drawing.Color.FromArgb(255, 249, 196); // vàng nhạt

lvLog.Items.Insert(0, item);

}

// Xác thực mã

private void ValidateCode()

{

string code = txtDisplay.Text.Trim();

if (code.Length == 0) { txtDisplay.Focus(); return; }

if (code.Length < 4)

{

MessageBox.Show("Mã gồm 4 chữ số. Vui lòng nhập đủ.", "Thiếu mã",

MessageBoxButtons.OK, MessageBoxIcon.Information);

txtDisplay.Focus();

return;

}

string group;

string status;

if (\_passToGroup.TryGetValue(code, out group))

status = "Chấp nhận!";

else

{

status = "Từ chối!";

group = "Không có";

}

string when = DateTime.Now.ToString("dd/MM/yyyy HH:mm:ss");

ListViewItem item = new ListViewItem(new[] { when, group, status });

if (status.StartsWith("Chấp")) // xanh nhạt nếu OK

item.BackColor = System.Drawing.Color.FromArgb(232, 245, 233);

else // đỏ nhạt nếu từ chối

item.BackColor = System.Drawing.Color.FromArgb(255, 235, 238);

lvLog.Items.Insert(0, item);

txtDisplay.Clear();

txtDisplay.Focus();

}

}

}

namespace \_1150080005\_NguyenHuuBinh

{

partial class Form3

{

private System.ComponentModel.IContainer components = null;

private System.Windows.Forms.Panel panelTop;

private System.Windows.Forms.Label lblPassword;

private System.Windows.Forms.TextBox txtDisplay;

private System.Windows.Forms.GroupBox grpKeyboard;

private System.Windows.Forms.Button btn1;

private System.Windows.Forms.Button btn2;

private System.Windows.Forms.Button btn3;

private System.Windows.Forms.Button btn4;

private System.Windows.Forms.Button btn5;

private System.Windows.Forms.Button btn6;

private System.Windows.Forms.Button btn7;

private System.Windows.Forms.Button btn8;

private System.Windows.Forms.Button btn9;

private System.Windows.Forms.Button btnClear;

private System.Windows.Forms.Button btnEnter;

private System.Windows.Forms.Button btnRing;

private System.Windows.Forms.GroupBox grpLog;

private System.Windows.Forms.ListView lvLog;

private System.Windows.Forms.ColumnHeader colTime;

private System.Windows.Forms.ColumnHeader colGroup;

private System.Windows.Forms.ColumnHeader colStatus;

protected override void Dispose(bool disposing)

{

if (disposing && (components != null)) components.Dispose();

base.Dispose(disposing);

}

#region Windows Form Designer generated code

private void InitializeComponent()

{

this.panelTop = new System.Windows.Forms.Panel();

this.lblPassword = new System.Windows.Forms.Label();

this.txtDisplay = new System.Windows.Forms.TextBox();

this.grpKeyboard = new System.Windows.Forms.GroupBox();

this.btn1 = new System.Windows.Forms.Button();

this.btn2 = new System.Windows.Forms.Button();

this.btn3 = new System.Windows.Forms.Button();

this.btn4 = new System.Windows.Forms.Button();

this.btn5 = new System.Windows.Forms.Button();

this.btn6 = new System.Windows.Forms.Button();

this.btn7 = new System.Windows.Forms.Button();

this.btn8 = new System.Windows.Forms.Button();

this.btn9 = new System.Windows.Forms.Button();

this.btnClear = new System.Windows.Forms.Button();

this.btnEnter = new System.Windows.Forms.Button();

this.btnRing = new System.Windows.Forms.Button();

this.grpLog = new System.Windows.Forms.GroupBox();

this.lvLog = new System.Windows.Forms.ListView();

this.colTime = new System.Windows.Forms.ColumnHeader();

this.colGroup = new System.Windows.Forms.ColumnHeader();

this.colStatus = new System.Windows.Forms.ColumnHeader();

this.panelTop.SuspendLayout();

this.grpKeyboard.SuspendLayout();

this.grpLog.SuspendLayout();

this.SuspendLayout();

// panelTop (dải xám tiêu đề Password)

this.panelTop.BackColor = System.Drawing.Color.Gainsboro;

this.panelTop.Controls.Add(this.lblPassword);

this.panelTop.Controls.Add(this.txtDisplay);

this.panelTop.Location = new System.Drawing.Point(12, 12);

this.panelTop.Name = "panelTop";

this.panelTop.Size = new System.Drawing.Size(610, 52);

// lblPassword

this.lblPassword.AutoSize = true;

this.lblPassword.Font = new System.Drawing.Font("Segoe UI", 12F, System.Drawing.FontStyle.Bold);

this.lblPassword.Location = new System.Drawing.Point(12, 14);

this.lblPassword.Name = "lblPassword";

this.lblPassword.Size = new System.Drawing.Size(90, 21);

this.lblPassword.Text = "Password:";

// txtDisplay

this.txtDisplay.Font = new System.Drawing.Font("Consolas", 14F, System.Drawing.FontStyle.Regular);

this.txtDisplay.Location = new System.Drawing.Point(110, 12);

this.txtDisplay.MaxLength = 4;

this.txtDisplay.Name = "txtDisplay";

this.txtDisplay.PasswordChar = '●';

this.txtDisplay.ReadOnly = true; // nhập qua keypad

this.txtDisplay.Size = new System.Drawing.Size(360, 29);

this.txtDisplay.TextAlign = System.Windows.Forms.HorizontalAlignment.Center;

// grpKeyboard

this.grpKeyboard.Controls.Add(this.btn1);

this.grpKeyboard.Controls.Add(this.btn2);

this.grpKeyboard.Controls.Add(this.btn3);

this.grpKeyboard.Controls.Add(this.btn4);

this.grpKeyboard.Controls.Add(this.btn5);

this.grpKeyboard.Controls.Add(this.btn6);

this.grpKeyboard.Controls.Add(this.btn7);

this.grpKeyboard.Controls.Add(this.btn8);

this.grpKeyboard.Controls.Add(this.btn9);

this.grpKeyboard.Controls.Add(this.btnClear);

this.grpKeyboard.Controls.Add(this.btnEnter);

this.grpKeyboard.Controls.Add(this.btnRing);

this.grpKeyboard.Font = new System.Drawing.Font("Segoe UI", 10F);

this.grpKeyboard.Location = new System.Drawing.Point(12, 74);

this.grpKeyboard.Name = "grpKeyboard";

this.grpKeyboard.Size = new System.Drawing.Size(610, 180);

this.grpKeyboard.TabStop = true;

this.grpKeyboard.Text = "Keyboard:";

// Common for numeric buttons

System.Drawing.Size numSize = new System.Drawing.Size(60, 40);

System.Drawing.Font numFont = new System.Drawing.Font("Segoe UI", 12F, System.Drawing.FontStyle.Bold);

// btn1..btn9 (lưới 3x3)

this.btn1.Location = new System.Drawing.Point(120, 30);

this.btn1.Name = "btn1";

this.btn1.Size = numSize;

this.btn1.Font = numFont;

this.btn1.Text = "1";

this.btn1.Tag = "1";

this.btn1.UseVisualStyleBackColor = true;

this.btn1.Click += new System.EventHandler(this.Digit\_Click);

this.btn2.Location = new System.Drawing.Point(190, 30);

this.btn2.Name = "btn2";

this.btn2.Size = numSize;

this.btn2.Font = numFont;

this.btn2.Text = "2";

this.btn2.Tag = "2";

this.btn2.UseVisualStyleBackColor = true;

this.btn2.Click += new System.EventHandler(this.Digit\_Click);

this.btn3.Location = new System.Drawing.Point(260, 30);

this.btn3.Name = "btn3";

this.btn3.Size = numSize;

this.btn3.Font = numFont;

this.btn3.Text = "3";

this.btn3.Tag = "3";

this.btn3.UseVisualStyleBackColor = true;

this.btn3.Click += new System.EventHandler(this.Digit\_Click);

this.btn4.Location = new System.Drawing.Point(120, 75);

this.btn4.Name = "btn4";

this.btn4.Size = numSize;

this.btn4.Font = numFont;

this.btn4.Text = "4";

this.btn4.Tag = "4";

this.btn4.UseVisualStyleBackColor = true;

this.btn4.Click += new System.EventHandler(this.Digit\_Click);

this.btn5.Location = new System.Drawing.Point(190, 75);

this.btn5.Name = "btn5";

this.btn5.Size = numSize;

this.btn5.Font = numFont;

this.btn5.Text = "5";

this.btn5.Tag = "5";

this.btn5.UseVisualStyleBackColor = true;

this.btn5.Click += new System.EventHandler(this.Digit\_Click);

this.btn6.Location = new System.Drawing.Point(260, 75);

this.btn6.Name = "btn6";

this.btn6.Size = numSize;

this.btn6.Font = numFont;

this.btn6.Text = "6";

this.btn6.Tag = "6";

this.btn6.UseVisualStyleBackColor = true;

this.btn6.Click += new System.EventHandler(this.Digit\_Click);

this.btn7.Location = new System.Drawing.Point(120, 120);

this.btn7.Name = "btn7";

this.btn7.Size = numSize;

this.btn7.Font = numFont;

this.btn7.Text = "7";

this.btn7.Tag = "7";

this.btn7.UseVisualStyleBackColor = true;

this.btn7.Click += new System.EventHandler(this.Digit\_Click);

this.btn8.Location = new System.Drawing.Point(190, 120);

this.btn8.Name = "btn8";

this.btn8.Size = numSize;

this.btn8.Font = numFont;

this.btn8.Text = "8";

this.btn8.Tag = "8";

this.btn8.UseVisualStyleBackColor = true;

this.btn8.Click += new System.EventHandler(this.Digit\_Click);

this.btn9.Location = new System.Drawing.Point(260, 120);

this.btn9.Name = "btn9";

this.btn9.Size = numSize;

this.btn9.Font = numFont;

this.btn9.Text = "9";

this.btn9.Tag = "9";

this.btn9.UseVisualStyleBackColor = true;

this.btn9.Click += new System.EventHandler(this.Digit\_Click);

// Cột phải: Clear (vàng), Enter (xanh), RING (đỏ)

this.btnClear.Location = new System.Drawing.Point(380, 30);

this.btnClear.Name = "btnClear";

this.btnClear.Size = new System.Drawing.Size(100, 40);

this.btnClear.Font = new System.Drawing.Font("Segoe UI", 11F, System.Drawing.FontStyle.Bold);

this.btnClear.Text = "Clear";

this.btnClear.BackColor = System.Drawing.Color.Yellow;

this.btnClear.UseVisualStyleBackColor = false;

this.btnClear.Click += new System.EventHandler(this.btnClear\_Click);

this.btnEnter.Location = new System.Drawing.Point(380, 75);

this.btnEnter.Name = "btnEnter";

this.btnEnter.Size = new System.Drawing.Size(100, 40);

this.btnEnter.Font = new System.Drawing.Font("Segoe UI", 11F, System.Drawing.FontStyle.Bold);

this.btnEnter.Text = "Enter";

this.btnEnter.BackColor = System.Drawing.Color.LimeGreen;

this.btnEnter.UseVisualStyleBackColor = false;

this.btnEnter.Click += new System.EventHandler(this.btnEnter\_Click);

this.btnRing.Location = new System.Drawing.Point(380, 120);

this.btnRing.Name = "btnRing";

this.btnRing.Size = new System.Drawing.Size(100, 40);

this.btnRing.Font = new System.Drawing.Font("Segoe UI", 11F, System.Drawing.FontStyle.Bold);

this.btnRing.Text = "RING";

this.btnRing.BackColor = System.Drawing.Color.Red;

this.btnRing.ForeColor = System.Drawing.Color.White;

this.btnRing.UseVisualStyleBackColor = false;

this.btnRing.Click += new System.EventHandler(this.btnRing\_Click);

// grpLog

this.grpLog.Controls.Add(this.lvLog);

this.grpLog.Font = new System.Drawing.Font("Segoe UI", 10F);

this.grpLog.Location = new System.Drawing.Point(12, 264);

this.grpLog.Name = "grpLog";

this.grpLog.Size = new System.Drawing.Size(610, 210);

this.grpLog.TabStop = true;

this.grpLog.Text = "Login Log:";

// lvLog

this.lvLog.Columns.AddRange(new System.Windows.Forms.ColumnHeader[] {

this.colTime, this.colGroup, this.colStatus

});

this.lvLog.FullRowSelect = true;

this.lvLog.GridLines = true;

this.lvLog.HideSelection = false;

this.lvLog.Location = new System.Drawing.Point(10, 22);

this.lvLog.Name = "lvLog";

this.lvLog.Size = new System.Drawing.Size(590, 180);

this.lvLog.TabIndex = 0;

this.lvLog.UseCompatibleStateImageBehavior = false;

this.lvLog.View = System.Windows.Forms.View.Details;

this.colTime.Text = "Ngày giờ";

this.colTime.Width = 190;

this.colGroup.Text = "Nhóm";

this.colGroup.Width = 260;

this.colStatus.Text = "Kết quả";

this.colStatus.Width = 120;

// Form3

this.AcceptButton = this.btnEnter;

this.AutoScaleDimensions = new System.Drawing.SizeF(7F, 15F);

this.AutoScaleMode = System.Windows.Forms.AutoScaleMode.Font;

this.ClientSize = new System.Drawing.Size(634, 486);

this.Controls.Add(this.grpLog);

this.Controls.Add(this.grpKeyboard);

this.Controls.Add(this.panelTop);

this.FormBorderStyle = System.Windows.Forms.FormBorderStyle.FixedDialog;

this.MaximizeBox = false;

this.Name = "Form3";

this.StartPosition = System.Windows.Forms.FormStartPosition.CenterScreen;

this.Text = "Security Panel";

this.Load += new System.EventHandler(this.Form3\_Load);

this.KeyDown += new System.Windows.Forms.KeyEventHandler(this.Form3\_KeyDown);

this.panelTop.ResumeLayout(false);

this.panelTop.PerformLayout();

this.grpKeyboard.ResumeLayout(false);

this.grpLog.ResumeLayout(false);

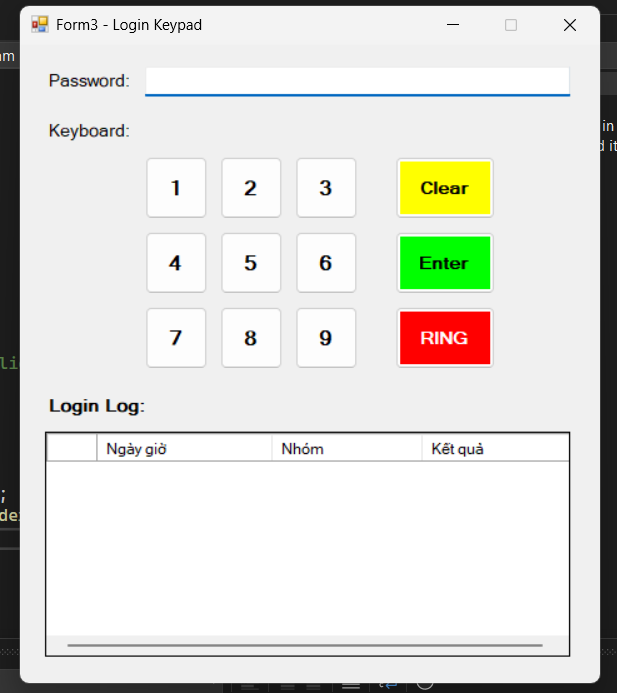
this.ResumeLayout(false);

}

#endregion

}

}



4.

using System;

using System.ComponentModel;

using System.Text;

using System.Windows.Forms;

namespace \_1150080005\_NguyenHuuBinh

{

public partial class Form4 : Form

{

// Đơn giá (VND)

private const int GiaLayCaoRang = 50\_000; // /2 hàm

private const int GiaTayTrangRang = 100\_000; // /2 hàm

private const int GiaHanRang = 100\_000; // /1 răng

private const int GiaBeRang = 10\_000; // /1 răng

private const int GiaBocRang = 1\_000\_000; // /1 răng

public Form4()

{

InitializeComponent();

}

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

{

// Trạng thái ban đầu: nup chỉ bật khi được chọn

nupHanRang.Enabled = chkHanRang.Checked;

nupBeRang.Enabled = chkBeRang.Checked;

nupBocRang.Enabled = chkBocRang.Checked;

txtTenKH.Focus();

}

// Bắt buộc nhập tên khách hàng

private void txtTenKH\_Validating(object sender, CancelEventArgs e)

{

if (string.IsNullOrWhiteSpace(txtTenKH.Text))

{

e.Cancel = true;

err.SetError(txtTenKH, "Tên khách hàng không được để trống!");

}

else

{

e.Cancel = false;

err.SetError(txtTenKH, null);

}

}

private void chkHanRang\_CheckedChanged(object sender, EventArgs e)

{

nupHanRang.Enabled = chkHanRang.Checked;

if (!chkHanRang.Checked) nupHanRang.Value = 0;

else if (nupHanRang.Value == 0) nupHanRang.Value = 1;

}

private void chkBeRang\_CheckedChanged(object sender, EventArgs e)

{

nupBeRang.Enabled = chkBeRang.Checked;

if (!chkBeRang.Checked) nupBeRang.Value = 0;

else if (nupBeRang.Value == 0) nupBeRang.Value = 1;

}

private void chkBocRang\_CheckedChanged(object sender, EventArgs e)

{

nupBocRang.Enabled = chkBocRang.Checked;

if (!chkBocRang.Checked) nupBocRang.Value = 0;

else if (nupBocRang.Value == 0) nupBocRang.Value = 1;

}

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

{

if (!ValidateChildren(ValidationConstraints.Enabled)) return;

decimal tong = 0;

StringBuilder ct = new StringBuilder();

if (chkLayCaoRang.Checked)

{

tong += GiaLayCaoRang;

ct.AppendLine($"- Lấy cao răng: {GiaLayCaoRang:N0} đ");

}

if (chkTayTrangRang.Checked)

{

tong += GiaTayTrangRang;

ct.AppendLine($"- Tẩy trắng răng: {GiaTayTrangRang:N0} đ");

}

if (chkHanRang.Checked && nupHanRang.Value > 0)

{

decimal t = nupHanRang.Value \* GiaHanRang;

tong += t;

ct.AppendLine($"- Hàn răng x{nupHanRang.Value}: {t:N0} đ");

}

if (chkBeRang.Checked && nupBeRang.Value > 0)

{

decimal t = nupBeRang.Value \* GiaBeRang;

tong += t;

ct.AppendLine($"- Bẻ răng x{nupBeRang.Value}: {t:N0} đ");

}

if (chkBocRang.Checked && nupBocRang.Value > 0)

{

decimal t = nupBocRang.Value \* GiaBocRang;

tong += t;

ct.AppendLine($"- Bọc răng x{nupBocRang.Value}: {t:N0} đ");

}

if (ct.Length == 0) ct.AppendLine("- Chưa chọn dịch vụ nào.");

MessageBox.Show(

$"PHÒNG KHÁM NHA KHOA HẢI ÂU\n" +

$"Khách hàng: {txtTenKH.Text.Trim()}\n\n" +

$"Chi tiết:\n{ct}\n" +

$"TỔNG TIỀN: {tong:N0} đ",

"Hóa đơn tạm tính",

MessageBoxButtons.OK,

MessageBoxIcon.Information

);

}

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

{

var rs = MessageBox.Show("Bạn có thực sự muốn thoát?", "Xác nhận",

MessageBoxButtons.YesNo, MessageBoxIcon.Question);

if (rs == DialogResult.Yes) Close();

}

}

}

namespace \_1150080005\_NguyenHuuBinh

{

partial class Form4

{

private System.ComponentModel.IContainer components = null;

private System.Windows.Forms.Panel pnlHeader;

private System.Windows.Forms.Label lblHeader;

private System.Windows.Forms.Label lblTenKH;

private System.Windows.Forms.TextBox txtTenKH;

private System.Windows.Forms.ErrorProvider err;

private System.Windows.Forms.GroupBox grpDichVu;

private System.Windows.Forms.CheckBox chkLayCaoRang;

private System.Windows.Forms.CheckBox chkTayTrangRang;

private System.Windows.Forms.CheckBox chkHanRang;

private System.Windows.Forms.CheckBox chkBeRang;

private System.Windows.Forms.CheckBox chkBocRang;

private System.Windows.Forms.Label lblGiaLayCao;

private System.Windows.Forms.Label lblGiaTayTrang;

private System.Windows.Forms.Label lblGiaHan;

private System.Windows.Forms.Label lblGiaBe;

private System.Windows.Forms.Label lblGiaBoc;

private System.Windows.Forms.NumericUpDown nupHanRang;

private System.Windows.Forms.NumericUpDown nupBeRang;

private System.Windows.Forms.NumericUpDown nupBocRang;

private System.Windows.Forms.GroupBox grpChucNang;

private System.Windows.Forms.Button btnTinhTien;

private System.Windows.Forms.Button btnThoat;

protected override void Dispose(bool disposing)

{

if (disposing && (components != null)) components.Dispose();

base.Dispose(disposing);

}

#region Windows Form Designer generated code

private void InitializeComponent()

{

this.components = new System.ComponentModel.Container();

this.pnlHeader = new System.Windows.Forms.Panel();

this.lblHeader = new System.Windows.Forms.Label();

this.lblTenKH = new System.Windows.Forms.Label();

this.txtTenKH = new System.Windows.Forms.TextBox();

this.err = new System.Windows.Forms.ErrorProvider(this.components);

this.grpDichVu = new System.Windows.Forms.GroupBox();

this.chkLayCaoRang = new System.Windows.Forms.CheckBox();

this.chkTayTrangRang = new System.Windows.Forms.CheckBox();

this.chkHanRang = new System.Windows.Forms.CheckBox();

this.chkBeRang = new System.Windows.Forms.CheckBox();

this.chkBocRang = new System.Windows.Forms.CheckBox();

this.lblGiaLayCao = new System.Windows.Forms.Label();

this.lblGiaTayTrang = new System.Windows.Forms.Label();

this.lblGiaHan = new System.Windows.Forms.Label();

this.lblGiaBe = new System.Windows.Forms.Label();

this.lblGiaBoc = new System.Windows.Forms.Label();

this.nupHanRang = new System.Windows.Forms.NumericUpDown();

this.nupBeRang = new System.Windows.Forms.NumericUpDown();

this.nupBocRang = new System.Windows.Forms.NumericUpDown();

this.grpChucNang = new System.Windows.Forms.GroupBox();

this.btnTinhTien = new System.Windows.Forms.Button();

this.btnThoat = new System.Windows.Forms.Button();

this.pnlHeader.SuspendLayout();

((System.ComponentModel.ISupportInitialize)(this.err)).BeginInit();

this.grpDichVu.SuspendLayout();

((System.ComponentModel.ISupportInitialize)(this.nupHanRang)).BeginInit();

((System.ComponentModel.ISupportInitialize)(this.nupBeRang)).BeginInit();

((System.ComponentModel.ISupportInitialize)(this.nupBocRang)).BeginInit();

this.grpChucNang.SuspendLayout();

this.SuspendLayout();

// ===== Header xanh =====

this.pnlHeader.BackColor = System.Drawing.Color.LimeGreen;

this.pnlHeader.Controls.Add(this.lblHeader);

this.pnlHeader.Location = new System.Drawing.Point(0, 0);

this.pnlHeader.Name = "pnlHeader";

this.pnlHeader.Size = new System.Drawing.Size(700, 56);

this.lblHeader.AutoSize = false;

this.lblHeader.TextAlign = System.Drawing.ContentAlignment.MiddleLeft;

this.lblHeader.Font = new System.Drawing.Font("Segoe UI", 18F, System.Drawing.FontStyle.Bold);

this.lblHeader.ForeColor = System.Drawing.Color.White;

this.lblHeader.Dock = System.Windows.Forms.DockStyle.Fill;

this.lblHeader.Text = "PHÒNG KHÁM NHA KHOA HẢI ÂU";

// ===== Tên khách hàng =====

this.lblTenKH.AutoSize = true;

this.lblTenKH.Location = new System.Drawing.Point(16, 70);

this.lblTenKH.Name = "lblTenKH";

this.lblTenKH.Size = new System.Drawing.Size(95, 15);

this.lblTenKH.Text = "Tên khách hàng:";

this.txtTenKH.Location = new System.Drawing.Point(140, 66);

this.txtTenKH.Name = "txtTenKH";

this.txtTenKH.Size = new System.Drawing.Size(420, 23);

this.txtTenKH.Validating += new System.ComponentModel.CancelEventHandler(this.txtTenKH\_Validating);

this.err.ContainerControl = this;

// ===== Group Dịch vụ =====

this.grpDichVu.Text = "Dịch vụ tại phòng khám:";

this.grpDichVu.Location = new System.Drawing.Point(12, 100);

this.grpDichVu.Name = "grpDichVu";

this.grpDichVu.Size = new System.Drawing.Size(670, 180);

// Cột trái: checkbox

this.chkLayCaoRang.AutoSize = true;

this.chkLayCaoRang.Location = new System.Drawing.Point(20, 32);

this.chkLayCaoRang.Name = "chkLayCaoRang";

this.chkLayCaoRang.Text = "Lấy cao răng";

this.chkTayTrangRang.AutoSize = true;

this.chkTayTrangRang.Location = new System.Drawing.Point(20, 60);

this.chkTayTrangRang.Name = "chkTayTrangRang";

this.chkTayTrangRang.Text = "Tẩy trắng răng";

this.chkHanRang.AutoSize = true;

this.chkHanRang.Location = new System.Drawing.Point(20, 88);

this.chkHanRang.Name = "chkHanRang";

this.chkHanRang.Text = "Hàn răng";

this.chkHanRang.CheckedChanged += new System.EventHandler(this.chkHanRang\_CheckedChanged);

this.chkBeRang.AutoSize = true;

this.chkBeRang.Location = new System.Drawing.Point(20, 116);

this.chkBeRang.Name = "chkBeRang";

this.chkBeRang.Text = "Bẻ răng";

this.chkBeRang.CheckedChanged += new System.EventHandler(this.chkBeRang\_CheckedChanged);

this.chkBocRang.AutoSize = true;

this.chkBocRang.Location = new System.Drawing.Point(20, 144);

this.chkBocRang.Name = "chkBocRang";

this.chkBocRang.Text = "Bọc răng";

this.chkBocRang.CheckedChanged += new System.EventHandler(this.chkBocRang\_CheckedChanged);

// Cột giữa: giá

this.lblGiaLayCao.AutoSize = true;

this.lblGiaLayCao.Location = new System.Drawing.Point(190, 33);

this.lblGiaLayCao.Text = "50.000đ/2 hàm";

this.lblGiaTayTrang.AutoSize = true;

this.lblGiaTayTrang.Location = new System.Drawing.Point(190, 61);

this.lblGiaTayTrang.Text = "100.000đ/2 hàm";

this.lblGiaHan.AutoSize = true;

this.lblGiaHan.Location = new System.Drawing.Point(190, 89);

this.lblGiaHan.Text = "100.000đ/1 răng";

this.lblGiaBe.AutoSize = true;

this.lblGiaBe.Location = new System.Drawing.Point(190, 117);

this.lblGiaBe.Text = "10.000đ/1 răng";

this.lblGiaBoc.AutoSize = true;

this.lblGiaBoc.Location = new System.Drawing.Point(190, 145);

this.lblGiaBoc.Text = "1.000.000đ/1 răng";

// Cột phải: NumericUpDown

this.nupHanRang.Location = new System.Drawing.Point(320, 86);

this.nupHanRang.Maximum = new decimal(new int[] { 100, 0, 0, 0 });

this.nupHanRang.Minimum = new decimal(new int[] { 0, 0, 0, 0 });

this.nupHanRang.Size = new System.Drawing.Size(60, 23);

this.nupHanRang.TextAlign = System.Windows.Forms.HorizontalAlignment.Center;

this.nupHanRang.Value = new decimal(new int[] { 1, 0, 0, 0 });

this.nupBeRang.Location = new System.Drawing.Point(320, 114);

this.nupBeRang.Maximum = new decimal(new int[] { 100, 0, 0, 0 });

this.nupBeRang.Minimum = new decimal(new int[] { 0, 0, 0, 0 });

this.nupBeRang.Size = new System.Drawing.Size(60, 23);

this.nupBeRang.TextAlign = System.Windows.Forms.HorizontalAlignment.Center;

this.nupBeRang.Value = new decimal(new int[] { 1, 0, 0, 0 });

this.nupBocRang.Location = new System.Drawing.Point(320, 142);

this.nupBocRang.Maximum = new decimal(new int[] { 100, 0, 0, 0 });

this.nupBocRang.Minimum = new decimal(new int[] { 0, 0, 0, 0 });

this.nupBocRang.Size = new System.Drawing.Size(60, 23);

this.nupBocRang.TextAlign = System.Windows.Forms.HorizontalAlignment.Center;

this.nupBocRang.Value = new decimal(new int[] { 1, 0, 0, 0 });

// Add controls vào grpDichVu

this.grpDichVu.Controls.AddRange(new System.Windows.Forms.Control[] {

this.chkLayCaoRang, this.chkTayTrangRang, this.chkHanRang, this.chkBeRang, this.chkBocRang,

this.lblGiaLayCao, this.lblGiaTayTrang, this.lblGiaHan, this.lblGiaBe, this.lblGiaBoc,

this.nupHanRang, this.nupBeRang, this.nupBocRang

});

// ===== Group Chức năng =====

this.grpChucNang.Text = "Chức năng:";

this.grpChucNang.Location = new System.Drawing.Point(12, 286);

this.grpChucNang.Name = "grpChucNang";

this.grpChucNang.Size = new System.Drawing.Size(670, 80);

this.btnTinhTien.Text = "Tính tiền";

this.btnTinhTien.Font = new System.Drawing.Font("Segoe UI", 10F);

this.btnTinhTien.Location = new System.Drawing.Point(140, 30);

this.btnTinhTien.Size = new System.Drawing.Size(140, 32);

this.btnTinhTien.Click += new System.EventHandler(this.btnTinhTien\_Click);

this.btnThoat.Text = "Thoát";

this.btnThoat.Font = new System.Drawing.Font("Segoe UI", 10F);

this.btnThoat.Location = new System.Drawing.Point(380, 30);

this.btnThoat.Size = new System.Drawing.Size(140, 32);

this.btnThoat.Click += new System.EventHandler(this.btnThoat\_Click);

this.grpChucNang.Controls.Add(this.btnTinhTien);

this.grpChucNang.Controls.Add(this.btnThoat);

// ===== Form4 =====

this.AcceptButton = this.btnTinhTien;

this.AutoScaleDimensions = new System.Drawing.SizeF(7F, 15F);

this.AutoScaleMode = System.Windows.Forms.AutoScaleMode.Font;

this.ClientSize = new System.Drawing.Size(694, 381);

this.Controls.Add(this.grpChucNang);

this.Controls.Add(this.grpDichVu);

this.Controls.Add(this.txtTenKH);

this.Controls.Add(this.lblTenKH);

this.Controls.Add(this.pnlHeader);

this.FormBorderStyle = System.Windows.Forms.FormBorderStyle.FixedDialog;

this.MaximizeBox = false;

this.Name = "Form4";

this.StartPosition = System.Windows.Forms.FormStartPosition.CenterScreen;

this.Text = "Phòng khám nha khoa - Tính tiền";

this.Load += new System.EventHandler(this.Form4\_Load);

this.pnlHeader.ResumeLayout(false);

((System.ComponentModel.ISupportInitialize)(this.err)).EndInit();

this.grpDichVu.ResumeLayout(false);

this.grpDichVu.PerformLayout();

((System.ComponentModel.ISupportInitialize)(this.nupHanRang)).EndInit();

((System.ComponentModel.ISupportInitialize)(this.nupBeRang)).EndInit();

((System.ComponentModel.ISupportInitialize)(this.nupBocRang)).EndInit();

this.grpChucNang.ResumeLayout(false);

this.ResumeLayout(false);

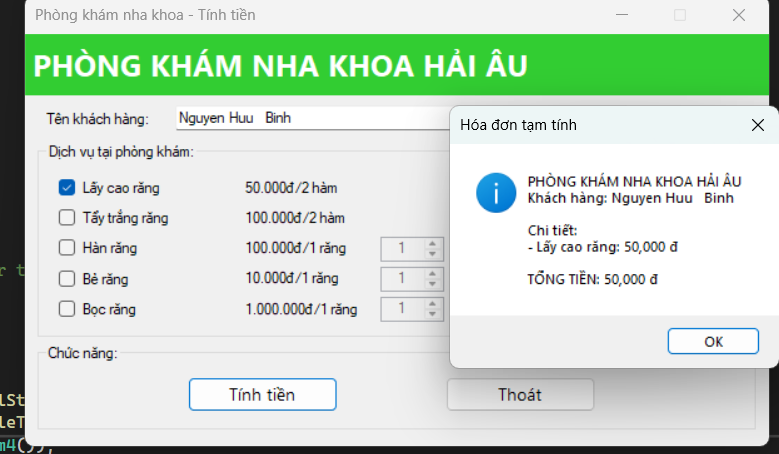
this.PerformLayout();

}

#endregion

}

}



5.

using System;

using System.Windows.Forms;

namespace \_1150080005\_NguyenHuuBinh

{

public partial class Form5 : Form

{

public Form5()

{

InitializeComponent();

}

private void Form6\_Load(object sender, EventArgs e)

{

txtSo.Focus();

UpdateButtons();

}

// Chỉ cho nhập số nguyên (cho phép dấu âm ở đầu)

private void txtSo\_KeyPress(object sender, KeyPressEventArgs e)

{

if (!char.IsControl(e.KeyChar) &&

!char.IsDigit(e.KeyChar) &&

!(e.KeyChar == '-' && txtSo.SelectionStart == 0 && !txtSo.Text.Contains("-")))

{

e.Handled = true;

}

}

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

{

int n;

if (!int.TryParse(txtSo.Text.Trim(), out n))

{

MessageBox.Show("Vui lòng nhập số nguyên hợp lệ!", "Lỗi nhập liệu",

MessageBoxButtons.OK, MessageBoxIcon.Warning);

txtSo.SelectAll(); txtSo.Focus();

return;

}

lsbDaySo.Items.Add(n);

txtSo.Clear();

txtSo.Focus();

UpdateButtons();

}

private void btnTang2\_Click(object sender, EventArgs e)

{

for (int i = 0; i < lsbDaySo.Items.Count; i++)

{

int val = Convert.ToInt32(lsbDaySo.Items[i]);

lsbDaySo.Items[i] = val + 2;

}

}

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

{

for (int i = 0; i < lsbDaySo.Items.Count; i++)

{

int val = Convert.ToInt32(lsbDaySo.Items[i]);

if (val % 2 == 0)

{

lsbDaySo.SelectedIndex = i;

lsbDaySo.TopIndex = i; // cuộn tới

return;

}

}

MessageBox.Show("Không có số chẵn trong dãy.", "Thông báo",

MessageBoxButtons.OK, MessageBoxIcon.Information);

}

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

{

for (int i = lsbDaySo.Items.Count - 1; i >= 0; i--)

{

int val = Convert.ToInt32(lsbDaySo.Items[i]);

if (val % 2 != 0)

{

lsbDaySo.SelectedIndex = i;

lsbDaySo.TopIndex = i;

return;

}

}

MessageBox.Show("Không có số lẻ trong dãy.", "Thông báo",

MessageBoxButtons.OK, MessageBoxIcon.Information);

}

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

{

int idx = lsbDaySo.SelectedIndex;

if (idx >= 0)

{

lsbDaySo.Items.RemoveAt(idx);

UpdateButtons();

}

else

{

MessageBox.Show("Hãy chọn một phần tử để xóa.", "Thông báo",

MessageBoxButtons.OK, MessageBoxIcon.Information);

}

}

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

{

if (lsbDaySo.Items.Count > 0)

{

lsbDaySo.Items.RemoveAt(0);

UpdateButtons();

}

}

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

{

if (lsbDaySo.Items.Count > 0)

{

lsbDaySo.Items.RemoveAt(lsbDaySo.Items.Count - 1);

UpdateButtons();

}

}

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

{

lsbDaySo.Items.Clear();

UpdateButtons();

}

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

{

var rs = MessageBox.Show("Bạn có muốn kết thúc ứng dụng?", "Xác nhận",

MessageBoxButtons.YesNo, MessageBoxIcon.Question);

if (rs == DialogResult.Yes) Close();

}

private void UpdateButtons()

{

bool hasItems = lsbDaySo.Items.Count > 0;

btnTang2.Enabled = hasItems;

btnChonChanDau.Enabled = hasItems;

btnChonLeCuoi.Enabled = hasItems;

btnXoaDangChon.Enabled = hasItems;

btnXoaDau.Enabled = hasItems;

btnXoaCuoi.Enabled = hasItems;

btnXoaDaySo.Enabled = hasItems;

}

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

{

btnXoaDangChon.Enabled = lsbDaySo.SelectedIndex >= 0;

}

}

}

namespace \_1150080005\_NguyenHuuBinh

{

partial class Form5

{

private System.ComponentModel.IContainer components = null;

private System.Windows.Forms.Panel pnlHeader;

private System.Windows.Forms.Label lblHeader;

private System.Windows.Forms.Label lblNhapSo;

private System.Windows.Forms.TextBox txtSo;

private System.Windows.Forms.Button btnNhapSo;

private System.Windows.Forms.ListBox lsbDaySo;

private System.Windows.Forms.GroupBox grpChucNang;

private System.Windows.Forms.Button btnTang2;

private System.Windows.Forms.Button btnChonChanDau;

private System.Windows.Forms.Button btnChonLeCuoi;

private System.Windows.Forms.Button btnXoaDangChon;

private System.Windows.Forms.Button btnXoaDau;

private System.Windows.Forms.Button btnXoaCuoi;

private System.Windows.Forms.Panel pnlBottom;

private System.Windows.Forms.Button btnKetThuc;

private System.Windows.Forms.Button btnXoaDaySo;

protected override void Dispose(bool disposing)

{

if (disposing && (components != null)) components.Dispose();

base.Dispose(disposing);

}

#region Windows Form Designer generated code

private void InitializeComponent()

{

this.pnlHeader = new System.Windows.Forms.Panel();

this.lblHeader = new System.Windows.Forms.Label();

this.lblNhapSo = new System.Windows.Forms.Label();

this.txtSo = new System.Windows.Forms.TextBox();

this.btnNhapSo = new System.Windows.Forms.Button();

this.lsbDaySo = new System.Windows.Forms.ListBox();

this.grpChucNang = new System.Windows.Forms.GroupBox();

this.btnTang2 = new System.Windows.Forms.Button();

this.btnChonChanDau = new System.Windows.Forms.Button();

this.btnChonLeCuoi = new System.Windows.Forms.Button();

this.btnXoaDangChon = new System.Windows.Forms.Button();

this.btnXoaDau = new System.Windows.Forms.Button();

this.btnXoaCuoi = new System.Windows.Forms.Button();

this.pnlBottom = new System.Windows.Forms.Panel();

this.btnKetThuc = new System.Windows.Forms.Button();

this.btnXoaDaySo = new System.Windows.Forms.Button();

this.pnlHeader.SuspendLayout();

this.grpChucNang.SuspendLayout();

this.pnlBottom.SuspendLayout();

this.SuspendLayout();

// ===== Header (xanh ngọc) =====

this.pnlHeader.BackColor = System.Drawing.Color.FromArgb(0, 150, 136); // teal

this.pnlHeader.Controls.Add(this.lblHeader);

this.pnlHeader.Dock = System.Windows.Forms.DockStyle.Top;

this.pnlHeader.Height = 56;

this.lblHeader.Dock = System.Windows.Forms.DockStyle.Fill;

this.lblHeader.Text = "Ứng dụng xử lý dãy số";

this.lblHeader.TextAlign = System.Drawing.ContentAlignment.MiddleCenter;

this.lblHeader.Font = new System.Drawing.Font("Segoe UI", 18F, System.Drawing.FontStyle.Bold);

this.lblHeader.ForeColor = System.Drawing.Color.White;

// ===== Ô nhập số + nút =====

this.lblNhapSo.AutoSize = true;

this.lblNhapSo.Location = new System.Drawing.Point(16, 70);

this.lblNhapSo.Name = "lblNhapSo";

this.lblNhapSo.Size = new System.Drawing.Size(88, 15);

this.lblNhapSo.Text = "Nhập số nguyên:";

this.txtSo.Location = new System.Drawing.Point(120, 66);

this.txtSo.Name = "txtSo";

this.txtSo.Size = new System.Drawing.Size(180, 23);

this.txtSo.KeyPress += new System.Windows.Forms.KeyPressEventHandler(this.txtSo\_KeyPress);

this.btnNhapSo.Location = new System.Drawing.Point(320, 64);

this.btnNhapSo.Name = "btnNhapSo";

this.btnNhapSo.Size = new System.Drawing.Size(110, 28);

this.btnNhapSo.Text = "Nhập số";

this.btnNhapSo.UseVisualStyleBackColor = true;

this.btnNhapSo.Click += new System.EventHandler(this.btnNhapSo\_Click);

// ===== ListBox bên trái =====

this.lsbDaySo.Location = new System.Drawing.Point(12, 100);

this.lsbDaySo.Name = "lsbDaySo";

this.lsbDaySo.Size = new System.Drawing.Size(300, 290);

this.lsbDaySo.SelectedIndexChanged += new System.EventHandler(this.lsbDaySo\_SelectedIndexChanged);

// ===== Group Chức năng bên phải =====

this.grpChucNang.Text = "Chức năng:";

this.grpChucNang.Location = new System.Drawing.Point(330, 100);

this.grpChucNang.Name = "grpChucNang";

this.grpChucNang.Size = new System.Drawing.Size(220, 290);

// Buttons trong group (xếp dọc)

int x = 18, w = 184, h = 34, y = 28, gap = 12;

this.btnTang2.Location = new System.Drawing.Point(x, y);

this.btnTang2.Size = new System.Drawing.Size(w, h);

this.btnTang2.Text = "Tăng mỗi phần tử lên 2";

this.btnTang2.UseVisualStyleBackColor = true;

this.btnTang2.Click += new System.EventHandler(this.btnTang2\_Click);

y += h + gap;

this.btnChonChanDau.Location = new System.Drawing.Point(x, y);

this.btnChonChanDau.Size = new System.Drawing.Size(w, h);

this.btnChonChanDau.Text = "Chọn số chẵn đầu";

this.btnChonChanDau.UseVisualStyleBackColor = true;

this.btnChonChanDau.Click += new System.EventHandler(this.btnChonChanDau\_Click);

y += h + gap;

this.btnChonLeCuoi.Location = new System.Drawing.Point(x, y);

this.btnChonLeCuoi.Size = new System.Drawing.Size(w, h);

this.btnChonLeCuoi.Text = "Chọn số lẻ cuối";

this.btnChonLeCuoi.UseVisualStyleBackColor = true;

this.btnChonLeCuoi.Click += new System.EventHandler(this.btnChonLeCuoi\_Click);

y += h + gap;

this.btnXoaDangChon.Location = new System.Drawing.Point(x, y);

this.btnXoaDangChon.Size = new System.Drawing.Size(w, h);

this.btnXoaDangChon.Text = "Xóa phần tử đang chọn";

this.btnXoaDangChon.UseVisualStyleBackColor = true;

this.btnXoaDangChon.Click += new System.EventHandler(this.btnXoaDangChon\_Click);

y += h + gap;

this.btnXoaDau.Location = new System.Drawing.Point(x, y);

this.btnXoaDau.Size = new System.Drawing.Size(w, h);

this.btnXoaDau.Text = "Xóa phần tử đầu";

this.btnXoaDau.UseVisualStyleBackColor = true;

this.btnXoaDau.Click += new System.EventHandler(this.btnXoaDau\_Click);

y += h + gap;

this.btnXoaCuoi.Location = new System.Drawing.Point(x, y);

this.btnXoaCuoi.Size = new System.Drawing.Size(w, h);

this.btnXoaCuoi.Text = "Xóa phần tử cuối";

this.btnXoaCuoi.UseVisualStyleBackColor = true;

this.btnXoaCuoi.Click += new System.EventHandler(this.btnXoaCuoi\_Click);

this.grpChucNang.Controls.Add(this.btnTang2);

this.grpChucNang.Controls.Add(this.btnChonChanDau);

this.grpChucNang.Controls.Add(this.btnChonLeCuoi);

this.grpChucNang.Controls.Add(this.btnXoaDangChon);

this.grpChucNang.Controls.Add(this.btnXoaDau);

this.grpChucNang.Controls.Add(this.btnXoaCuoi);

// ===== Bottom panel (2 nút lớn) =====

this.pnlBottom.Dock = System.Windows.Forms.DockStyle.Bottom;

this.pnlBottom.Height = 56;

this.pnlBottom.BackColor = System.Drawing.SystemColors.Control;

this.btnKetThuc.BackColor = System.Drawing.Color.FromArgb(198, 40, 40);

this.btnKetThuc.ForeColor = System.Drawing.Color.White;

this.btnKetThuc.FlatStyle = System.Windows.Forms.FlatStyle.Standard;

this.btnKetThuc.Location = new System.Drawing.Point(12, 10);

this.btnKetThuc.Name = "btnKetThuc";

this.btnKetThuc.Size = new System.Drawing.Size(170, 36);

this.btnKetThuc.Text = "Kết thúc ứng dụng";

this.btnKetThuc.UseVisualStyleBackColor = false;

this.btnKetThuc.Click += new System.EventHandler(this.btnKetThuc\_Click);

this.btnXoaDaySo.BackColor = System.Drawing.Color.DimGray;

this.btnXoaDaySo.ForeColor = System.Drawing.Color.White;

this.btnXoaDaySo.Location = new System.Drawing.Point(380, 10);

this.btnXoaDaySo.Name = "btnXoaDaySo";

this.btnXoaDaySo.Size = new System.Drawing.Size(170, 36);

this.btnXoaDaySo.Text = "Xóa dãy số";

this.btnXoaDaySo.UseVisualStyleBackColor = false;

this.btnXoaDaySo.Click += new System.EventHandler(this.btnXoaDaySo\_Click);

this.pnlBottom.Controls.Add(this.btnKetThuc);

this.pnlBottom.Controls.Add(this.btnXoaDaySo);

// ===== Form5 =====

this.AcceptButton = this.btnNhapSo;

this.AutoScaleDimensions = new System.Drawing.SizeF(7F, 15F);

this.AutoScaleMode = System.Windows.Forms.AutoScaleMode.Font;

this.ClientSize = new System.Drawing.Size(564, 460);

this.Controls.Add(this.pnlBottom);

this.Controls.Add(this.grpChucNang);

this.Controls.Add(this.lsbDaySo);

this.Controls.Add(this.btnNhapSo);

this.Controls.Add(this.txtSo);

this.Controls.Add(this.lblNhapSo);

this.Controls.Add(this.pnlHeader);

this.FormBorderStyle = System.Windows.Forms.FormBorderStyle.FixedDialog;

this.MaximizeBox = false;

this.Name = "Form5";

this.StartPosition = System.Windows.Forms.FormStartPosition.CenterScreen;

this.Text = "Xử lý dãy số";

this.Load += new System.EventHandler(this.Form6\_Load);

this.pnlHeader.ResumeLayout(false);

this.grpChucNang.ResumeLayout(false);

this.pnlBottom.ResumeLayout(false);

this.ResumeLayout(false);

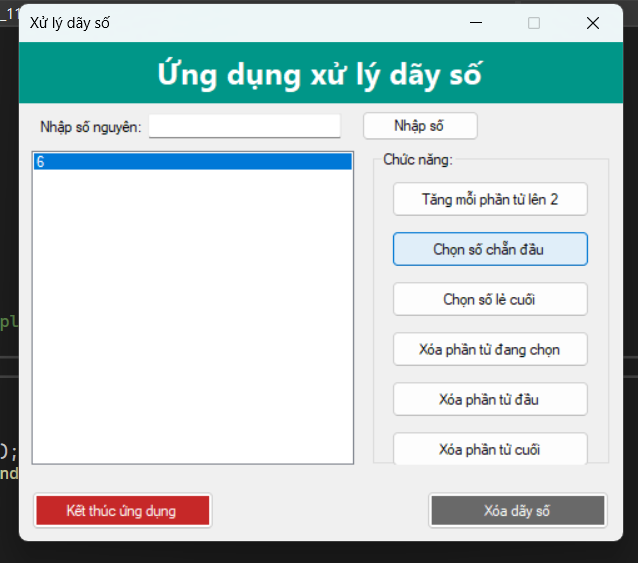
this.PerformLayout();

}

#endregion

}

}



6.

using System;

using System.Collections.Generic;

using System.Drawing;

using System.Linq;

using System.Windows.Forms;

using \_1150080005\_NguyenHuuBinh;

namespace \_1150080005\_NguyenHuuBinh

{

public partial class Form6 : Form

{

private Label lblDanhSach;

private ListBox lstDanhSachMatHang;

private Label lblLuaChon;

private ListBox lstMatHangLuaChon;

private Button btnChuyenSang;

private Button btnChuyenTatCaSang;

private Button btnChuyenVe;

private Button btnChuyenTatCaVe;

public Form6()

{

InitializeComponent();

LoadInitialData();

}

private void InitializeComponent()

{

this.SuspendLayout();

// Form

this.Text = "Bài tập 7";

this.Size = new Size(650, 400);

this.StartPosition = FormStartPosition.CenterScreen;

this.FormBorderStyle = FormBorderStyle.FixedSingle;

this.MaximizeBox = false;

this.BackColor = Color.LightGray;

// Label Danh sách các mặt hàng

this.lblDanhSach = new Label();

this.lblDanhSach.Location = new Point(30, 20);

this.lblDanhSach.Size = new Size(200, 25);

this.lblDanhSach.Text = "Danh sách các mặt hàng";

this.lblDanhSach.Font = new Font("Microsoft Sans Serif", 10, FontStyle.Bold);

// ListBox Danh sách mặt hàng

this.lstDanhSachMatHang = new ListBox();

this.lstDanhSachMatHang.Location = new Point(30, 50);

this.lstDanhSachMatHang.Size = new Size(200, 250);

this.lstDanhSachMatHang.Font = new Font("Microsoft Sans Serif", 9);

this.lstDanhSachMatHang.SelectionMode = SelectionMode.MultiExtended;

this.lstDanhSachMatHang.BackColor = Color.White;

// Label Các mặt hàng lựa chọn

this.lblLuaChon = new Label();

this.lblLuaChon.Location = new Point(380, 20);

this.lblLuaChon.Size = new Size(200, 25);

this.lblLuaChon.Text = "Các mặt hàng lựa chọn";

this.lblLuaChon.Font = new Font("Microsoft Sans Serif", 10, FontStyle.Bold);

// ListBox Mặt hàng lựa chọn

this.lstMatHangLuaChon = new ListBox();

this.lstMatHangLuaChon.Location = new Point(380, 50);

this.lstMatHangLuaChon.Size = new Size(200, 250);

this.lstMatHangLuaChon.Font = new Font("Microsoft Sans Serif", 9);

this.lstMatHangLuaChon.SelectionMode = SelectionMode.MultiExtended;

this.lstMatHangLuaChon.BackColor = Color.White;

// Button > (Chuyển sang)

this.btnChuyenSang = new Button();

this.btnChuyenSang.Location = new Point(270, 80);

this.btnChuyenSang.Size = new Size(60, 30);

this.btnChuyenSang.Text = ">";

this.btnChuyenSang.Font = new Font("Microsoft Sans Serif", 12, FontStyle.Bold);

this.btnChuyenSang.UseVisualStyleBackColor = true;

this.btnChuyenSang.Click += new EventHandler(this.btnChuyenSang\_Click);

// Button >> (Chuyển tất cả sang)

this.btnChuyenTatCaSang = new Button();

this.btnChuyenTatCaSang.Location = new Point(270, 120);

this.btnChuyenTatCaSang.Size = new Size(60, 30);

this.btnChuyenTatCaSang.Text = ">>";

this.btnChuyenTatCaSang.Font = new Font("Microsoft Sans Serif", 11, FontStyle.Bold);

this.btnChuyenTatCaSang.UseVisualStyleBackColor = true;

this.btnChuyenTatCaSang.Click += new EventHandler(this.btnChuyenTatCaSang\_Click);

// Button < (Chuyển về)

this.btnChuyenVe = new Button();

this.btnChuyenVe.Location = new Point(270, 160);

this.btnChuyenVe.Size = new Size(60, 30);

this.btnChuyenVe.Text = "<";

this.btnChuyenVe.Font = new Font("Microsoft Sans Serif", 12, FontStyle.Bold);

this.btnChuyenVe.UseVisualStyleBackColor = true;

this.btnChuyenVe.Click += new EventHandler(this.btnChuyenVe\_Click);

// Button << (Chuyển tất cả về)

this.btnChuyenTatCaVe = new Button();

this.btnChuyenTatCaVe.Location = new Point(270, 200);

this.btnChuyenTatCaVe.Size = new Size(60, 30);

this.btnChuyenTatCaVe.Text = "<<";

this.btnChuyenTatCaVe.Font = new Font("Microsoft Sans Serif", 11, FontStyle.Bold);

this.btnChuyenTatCaVe.UseVisualStyleBackColor = true;

this.btnChuyenTatCaVe.Click += new EventHandler(this.btnChuyenTatCaVe\_Click);

// Add all controls to form

this.Controls.Add(this.lblDanhSach);

this.Controls.Add(this.lstDanhSachMatHang);

this.Controls.Add(this.lblLuaChon);

this.Controls.Add(this.lstMatHangLuaChon);

this.Controls.Add(this.btnChuyenSang);

this.Controls.Add(this.btnChuyenTatCaSang);

this.Controls.Add(this.btnChuyenVe);

this.Controls.Add(this.btnChuyenTatCaVe);

this.ResumeLayout(false);

}

private void LoadInitialData()

{

// Thêm dữ liệu mặc định vào danh sách các mặt hàng

List<string> matHangs = new List<string>

{

"CPU",

"HardBoard",

"RAM",

"Keyboard",

"Mouse",

"HDD",

"Fan"

};

foreach (string matHang in matHangs)

{

lstDanhSachMatHang.Items.Add(matHang);

}

}

// Chuyển các mục được chọn từ danh sách mặt hàng sang danh sách lựa chọn

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

{

if (lstDanhSachMatHang.SelectedItems.Count == 0)

{

MessageBox.Show("Vui lòng chọn ít nhất một mặt hàng để chuyển!", "Thông báo",

MessageBoxButtons.OK, MessageBoxIcon.Information);

return;

}

// Lưu các item được chọn vào list tạm

List<object> selectedItems = new List<object>();

foreach (object item in lstDanhSachMatHang.SelectedItems)

{

selectedItems.Add(item);

}

// Chuyển các item sang listbox đích và xóa khỏi listbox nguồn

foreach (object item in selectedItems)

{

if (!lstMatHangLuaChon.Items.Contains(item))

{

lstMatHangLuaChon.Items.Add(item);

}

lstDanhSachMatHang.Items.Remove(item);

}

// Sắp xếp lại danh sách

SortListBox(lstMatHangLuaChon);

}

// Chuyển tất cả mặt hàng sang danh sách lựa chọn

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

{

if (lstDanhSachMatHang.Items.Count == 0)

{

MessageBox.Show("Danh sách mặt hàng đã trống!", "Thông báo",

MessageBoxButtons.OK, MessageBoxIcon.Information);

return;

}

// Chuyển tất cả items

List<object> allItems = new List<object>();

foreach (object item in lstDanhSachMatHang.Items)

{

allItems.Add(item);

}

foreach (object item in allItems)

{

if (!lstMatHangLuaChon.Items.Contains(item))

{

lstMatHangLuaChon.Items.Add(item);

}

}

lstDanhSachMatHang.Items.Clear();

SortListBox(lstMatHangLuaChon);

}

// Chuyển các mục được chọn từ danh sách lựa chọn về danh sách mặt hàng

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

{

if (lstMatHangLuaChon.SelectedItems.Count == 0)

{

MessageBox.Show("Vui lòng chọn ít nhất một mặt hàng để chuyển về!", "Thông báo",

MessageBoxButtons.OK, MessageBoxIcon.Information);

return;

}

// Lưu các item được chọn vào list tạm

List<object> selectedItems = new List<object>();

foreach (object item in lstMatHangLuaChon.SelectedItems)

{

selectedItems.Add(item);

}

// Chuyển các item về listbox nguồn và xóa khỏi listbox đích

foreach (object item in selectedItems)

{

if (!lstDanhSachMatHang.Items.Contains(item))

{

lstDanhSachMatHang.Items.Add(item);

}

lstMatHangLuaChon.Items.Remove(item);

}

// Sắp xếp lại danh sách

SortListBox(lstDanhSachMatHang);

}

// Chuyển tất cả mặt hàng về danh sách ban đầu

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

{

if (lstMatHangLuaChon.Items.Count == 0)

{

MessageBox.Show("Danh sách lựa chọn đã trống!", "Thông báo",

MessageBoxButtons.OK, MessageBoxIcon.Information);

return;

}

// Chuyển tất cả items về

List<object> allItems = new List<object>();

foreach (object item in lstMatHangLuaChon.Items)

{

allItems.Add(item);

}

foreach (object item in allItems)

{

if (!lstDanhSachMatHang.Items.Contains(item))

{

lstDanhSachMatHang.Items.Add(item);

}

}

lstMatHangLuaChon.Items.Clear();

SortListBox(lstDanhSachMatHang);

}

// Sắp xếp các item trong ListBox theo thứ tự alphabet

private void SortListBox(ListBox listBox)

{

List<string> items = new List<string>();

foreach (object item in listBox.Items)

{

items.Add(item.ToString());

}

items.Sort();

listBox.Items.Clear();

foreach (string item in items)

{

listBox.Items.Add(item);

}

}

}

}

