

BỘ GIÁO DỤC VÀ ĐÀO TẠO

ĐẠI HỌC DUY TÂN

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BÀI THỰC HÀNH

PHẦN 3 WINDOWFORM

Lập Trình Winforms: VB.NET / C#.NET

GIẢNG VIÊN: PHẠM VĂN DƯỢC

ĐÀ NẴNG 08/2014

Bài 2:
THIẾT KẾ GIAO DIỆN

The image shows a Windows-style application window with a title bar containing a minimize button, a maximize button, and a close button. The window's title is "GIẢI PHƯƠNG TRÌNH BẬC HAI". The main area of the window is light gray and contains the following elements:

- Three input fields for coefficients, labeled "a:", "b:", and "c:" on the left.
- Three input fields for the roots, labeled "x1:", "x2:", and "x:" on the left.
- Three buttons on the right: "Run", "Reset", and "Exit".

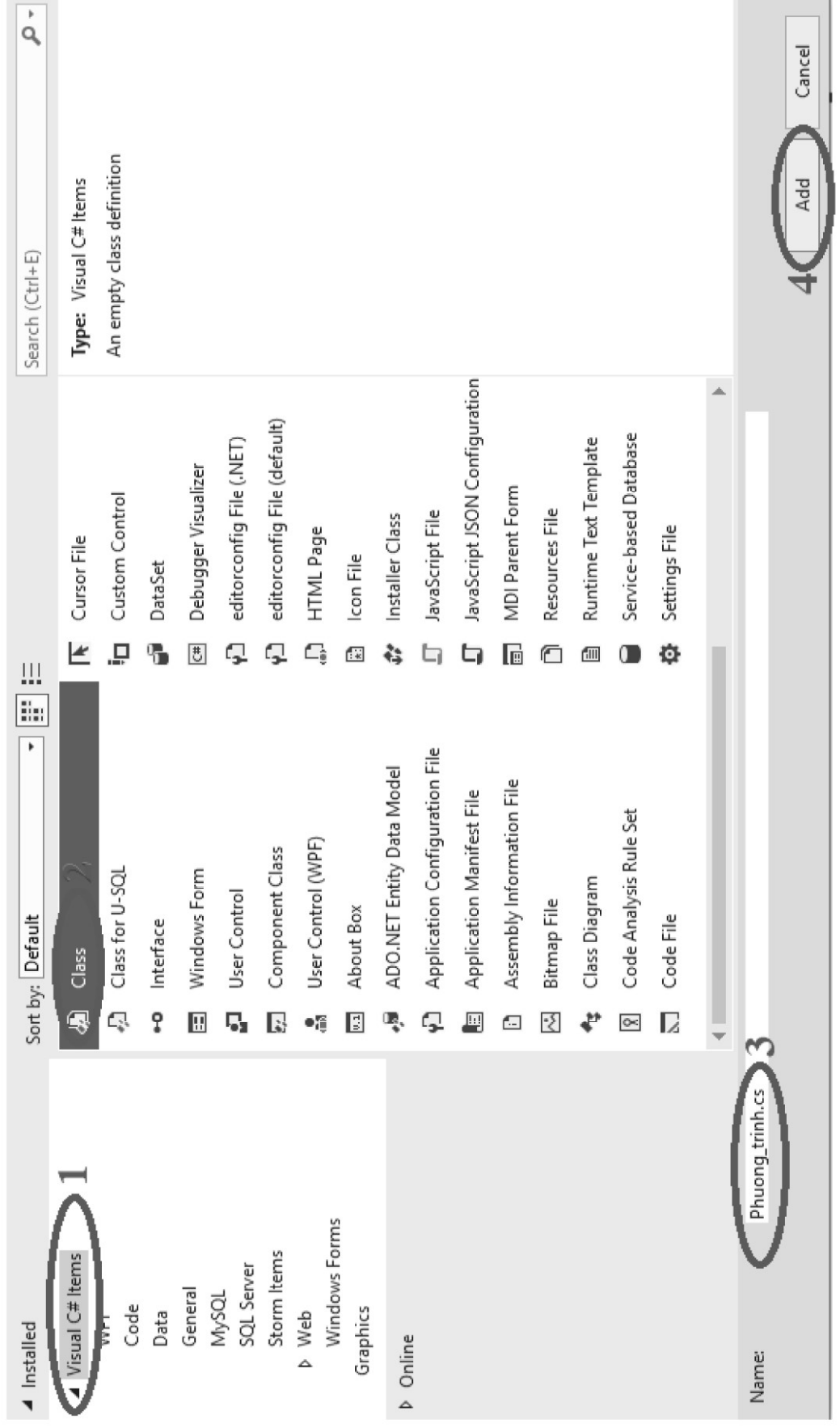
TẠO LỚP PHƯƠNG TRÌNH

BƯỚC 1:



BƯỚC 2:

Add New Item - giai_phuong_trinh_bac_2



Toàn văn chương trình:

CODE CLASS PHUONG_TRINH

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;

namespace giai_phuong_trinh_bac_2 {
    class Phuong_trinh {
        private double a;
        private double b;
        private double c;
        private double x1;
        private double x2;
        private double x;
        private double delta;
        //-----
        public Phuong_trinh(double a, double b, double c)
        {
            this.a = a; this.b = b; this.c = c;
        }
        //-----
        public double X
        {
            get { return this.x; }
        }
        //-----
        public double X1
        {
```

```

        get { return this.x1; }
    }
    //-----
    public double X2
    {
        get { return this.x2; }
    }
    //-----
    public double A
    {
        get { return this.a; }
        set { this.a = value; }
    }
    //-----
    public double B
    {
        get { return this.b; }
        set { this.b = value; }
    }
    //-----
    public double C
    {
        get { return this.c; }
        set { this.c = value; }
    }
    //-----
    public double Delta
    {
        get { return this.delta; }
    }

```

```

}
//-----
public int giai_PT()
{
    if (this.a == 0)
        if (this.b == 0)
            if (this.c == 0) return 0;
            else return 1;
        else
        {
            this.x = -this.c / this.b;
            return 2;
        }
    else
    {
        double delta;
        delta = Math.Pow(b, 2) - 4 * a * c;
        if (delta < 0)
        {
            this.delta = Math.Sqrt(-delta);
            return 3;
        }
        else
            if (delta == 0)
            {
                this.x1 = this.x2 = -this.b / (2 * this.a);
                return 4;
            }
        else
        {

```

```
        x1 = (-b + Math.Sqrt(delta)) / (2 * a);  
        x2 = (-b - Math.Sqrt(delta)) / (2 * a);  
        return 5;  
    }  
}  
}  
}
```


CODE XỬ LÝ:

```
using System;
using System.Collections.Generic;
using System.ComponentModel;
using System.Data;
using System.Drawing;
using System.Linq;
using System.Text;
using System.Windows.Forms;

namespace giai_phuong_trinh_bac_2
{
    public partial class Form1 : Form
    {
        //-----
        Phuong_trinh P = new Phuong_trinh(0, 0, 0);
        //-----

        public Form1()
        {
            InitializeComponent();
        }
        //-----
        private void button_run_Click(object sender, EventArgs e)
        {
            double a = 0, b = 0, c = 0;
            int signal = 0;
            try{
                a = double.Parse(this.textBox_a.Text);
            }catch(System.Exception){
```

```

        MessageBox.Show("TextBox a empty data !");
        this.textBox_a.Select();
    }
    try
    {
        b = double.Parse(this.textBox_b.Text);
    } catch (System.Exception) {
        MessageBox.Show("TextBox b empty data !!!\n");
        this.textBox_b.Select();
    }
    try
    {
        c = double.Parse(this.textBox_c.Text);
    } catch (System.Exception) {
        MessageBox.Show("TextBox c empty data !!!\n");
        this.textBox_c.Select();
    }
    P.A = a; P.B = b; P.C = c;
    signal = P.giai_PT();
    switch (signal)
    {
        case 0:
            MessageBox.Show("Phương trình vô số nghiệm !!!");
            button_reset_Click(this, e);
            break;
        case 1:
            MessageBox.Show("Phương trình vô nghiệm !!!");
            button_reset_Click(this, e);
            break;
        case 2:

```

```

        this.textBox_x.Text = P.X.ToString();
        break;
    case 3:
        MessageBox.Show("Phương trình có nghiệm phức:");
        double real = -(P.B / (2 * P.A));
        double imaginary = (P.Delta / (2 * P.A));
        this.textBox_x1.Text = real.ToString();
        this.textBox_x1.Text = this.textBox_x1.Text + " + i. " + imaginary.ToString();
        this.textBox_x2.Text = real.ToString();
        this.textBox_x2.Text = this.textBox_x2.Text + " - i. " + imaginary.ToString();
        break;
    case 4:
        MessageBox.Show("Phương trình có nghiệm kép:");
        this.textBox_x1.Text = this.textBox_x2.Text = (-(P.B / (2 * P.A))).ToString();
        break;
    case 5:
        this.textBox_x1.Text = P.X1.ToString();
        this.textBox_x2.Text = P.X2.ToString();
        break;
    }
}
//-----
private void button_exit_Click(object sender, EventArgs e)
{
    this.Close();
}
//-----
private void textBox_b_Leave(object sender, EventArgs e)
{
    try

```

```

    {
        double.Parse(textBox_b.Text);
    }
    catch (System.Exception)
    {
        MessageBox.Show("Invalid data in textbox b!!!");
        this.textBox_b.Text = "";
        this.textBox_b.Select();
    }
}
//-----
private void textBox_a_Leave(object sender, EventArgs e)
{
    try
    {
        double.Parse(textBox_a.Text);
    }
    catch (System.Exception)
    {
        MessageBox.Show("Invalid data in textbox a !!!");
        this.textBox_a.Text = "";
        this.textBox_a.Select();
    }
}
//-----
private void textBox_c_Leave(object sender, EventArgs e)
{
    try
    {
        double.Parse(textBox_c.Text);
    }
}

```

```

    }
    catch (System.Exception)
    {
        MessageBox.Show("Invalid data in textbox c !!!");
        this.textBox_c.Text = "";
        this.textBox_c.Select();
    }
}
//-----
private void button_reset_Click(object sender, EventArgs e)
{
    this.textBox_a.Text = this.textBox_b.Text = this.textBox_c.Text = "";
    this.textBox_x.Text = this.textBox_x1.Text = this.textBox_x2.Text = "";
}
}
}

```