

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:



GIẢI PHƯƠNG TRÌNH BẬC HAI

a: x1:

b: x2:

c: x:

Run Reset Exit

Toàn văn chương trình:

```
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{
        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;
            }
        }
    }
}
}
}

```

```

//-----
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("Phuong trinh vo so nghiem !!!");
            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 = "";
    }
}

```