BỘ GIÁO DỤC VÀ ĐÀO TẠO

ĐẠI HỌC DUY TÂN

----- ☙🕮❧ -----

BÀI THỰC HÀNH
PHẦN 2 LỚP – ĐỐI TƯỢNG

Lập Trình Winforms: VB.NET / C#.NET

GIẢNG VIÊN: PHẠM VĂN DƯỢC

ĐÀ NẴNG 08/2019

Bài 5:

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

namespace so_phuc
{
    class Program
    {
        public struct Complex_number
        {
            public double real;
            public double imaginary;
        };
        public static Complex_number A = new Complex_number();
        public static Complex_number B = new Complex_number();
        public static Complex_number C = new Complex_number();
        //------------------ Xem so phuc ----------------------------------//
        public static void Print_Complex(Complex_number C)
        {
            Console.Out.Write("{0:f2} + {1:f2}i\n", C.real, C.imaginary);
        }
        //------------------ Nhap so phuc ---------------------------------//
        public static void Write_Complex(ref Complex_number C)
        {
            try
            {
                Console.Out.Write("real component:");
                C.real = double.Parse(Console.ReadLine());
            }
            catch (FormatException) { Console.Out.Write("Invalid data"); }
```

```
        try
        {
            Console.Out.Write("real imaginary:");
            C.imaginary = double.Parse(Console.ReadLine());
        }
        catch (FormatException) { Console.Out.Write("Invalid data"); }
    }
    //------------------ Tong 2 so phuc --------------------------------//
    public static Complex_number Sum(Complex_number A, Complex_number B)
    {
        Complex_number C = new Complex_number();
        C.real = A.real + B.real;
        C.imaginary = A.imaginary + B.imaginary;
        return C;
    }
    //------------------ Hieu 2 so phuc --------------------------------//
    public static Complex_number Subtraction(Complex_number A, Complex_number B)
    {
        Complex_number C = new Complex_number();
        C.real = A.real - B.real;
        C.imaginary = A.imaginary - B.imaginary;
        return C;
    }
    //------------------ Nhan 2 so phuc --------------------------------//
    public static Complex_number Multi(Complex_number A, Complex_number B)
    {
        Complex_number C = new Complex_number();
        C.real = A.real * B.real - A.imaginary * B.imaginary;
        C.imaginary = A.real * B.imaginary + A.imaginary * B.real;
        return C;
    }
    //------------------ Chia 2 so phuc --------------------------------//
```

```
public static Complex_number Division(Complex_number A, Complex_number B)
{
    Complex_number C = new Complex_number();
    double t = 0;
    t = Math.Pow(B.real, 2) + Math.Pow(B.imaginary, 2);
    C.real = (A.real * A.imaginary + B.real * B.imaginary) / t;
    C.imaginary = (A.imaginary * B.real - A.real * B.imaginary) / t;
    return C;
}
//------------------ Argument ---------------------------------------//
public static double Argument(Complex_number A)
{
    return Math.Acos(A.real / Math.Sqrt(Math.Pow(A.real, 2)
                                        + Math.Pow(A.imaginary, 2)));
}
//------------------ Module phuc ------------------------------------//
public static double Modul(Complex_number A)
{
    return Math.Sqrt(Math.Pow(A.real, 2) + Math.Pow(A.imaginary, 2));
}
//------------------ main function ----------------------------------//
static void Main(string[] args)
{
    Console.Out.WriteLine("Input complex number A:");
    Write_Complex(ref A); Print_Complex(A);
    Console.Out.WriteLine("Input complex number B:");
    Write_Complex(ref B); Print_Complex(B);
    Console.Out.Write("\nA + B ="); C = Sum(A, B); Print_Complex(C);
    Console.Out.Write("\nA - B ="); C = Subtraction(A, B); Print_Complex(C);
    Console.Out.Write("\nA x B ="); C = Multi(A, B); Print_Complex(C);
    Console.Out.Write("\nA / B ="); C = Division(A, B); Print_Complex(C);
    Console.Out.Write("\nArgument(A)={0:F2} pi", Argument(A));
```

```
            Console.Out.Write("\nModule(A)={0:F2}", Modul(A));
            Console.ReadLine();
        }
    }
}
```