Assignment No:1

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SE - A

R o l l n o : 2 1 2 5

Problem Statement :

Aim: Design a class 'Complex 'with data members for real and imaginary part. Provide default and

Parameterized constructors. Write a program to perform arithmetic operations of two complex

numbers.

Program:

```
public class Complex
{
   double real;
   double imag;
   Complex()
   {
      real=0.0;
      imag=0.0;
   }
   Complex(double real, double imag)
   {
      this.real=real;
      this.imag=imag;
   }
```

```
public static Complex addComplex(Complex c1,Complex c2)
{
   Complex temp=new Complex();
   temp.real=c1.real+c2.real;
   temp.imag=c1.imag+c2.imag;
   return temp;
}

public static Complex subComplex(Complex c1,Complex c2)
{
   Complex temp1=new Complex();
   temp1.real=c1.real-c2.real;
   temp1.imag=c1.imag-c2.imag;
   return temp1;
}
public static Complex mulComplex(Complex c1,Complex c2)
{
   Complex temp2=new Complex();
   temp2.real=c1.real*c2.real;
   temp2.imag=c1.imag*c2.imag;
   return temp2;
}
public static Complex divComplex(Complex c1,Complex c2)
{
   Complex temp3=new Complex();
   temp3.real=c1.real/c2.real;
   temp3.imag=c1.imag/c2.imag;
   return temp3;
}
```

```
    public static void main(String a[])
   {
      Complex t1=new Complex(8.3,5.6);
      Complex t2=new Complex(2.2,3.1);
      Complex temp;
      temp=addComplex(t1,t2);
      System.out.println(temp.real + "+" + temp.imag + "i");

      Complex temp1;
      temp1=subComplex(t1,t2);
      System.out.println(temp1.real + "+" + temp1.imag + "i");

      Complex temp2;
      temp2=mulComplex(t1,t2);
      System.out.println(temp2.real + "+" + temp2.imag + "i");

      Complex temp3;
      temp3=divComplex(t1,t2);
      System.out.println(temp3.real + "+" + temp3.imag + "i");

   }
}
```

Output:-

```
10.5+8.7i
6.1000000000000005+2.4999999999999996i
18.26+17.36i
```

3.772727272727273+1.8064516129032255i