Q.4>>Create a class name Complex with data members real & imaginary. Overload 3 constructors to initialize the data members that is,default,normal & through object of the Complex clad as the result for addition,subtraction ,multiplication of 3 numbers.

```
/*complex no add,mul,subtarct by constructor overloading*/

class Complex {

   float real, img;

   public Complex() {

      real = 0;

      img = 0;

   }


   public Complex(float a, float b) {

      real = a;

      img = b;

   }


   public void Display(Complex C1, Complex C2) {

      System.out.println("First Complex Numbers=(" + C1.real + ")+(" + C1.img + ")i"); //printing first
complex number

      System.out.println("Second Complex Numbers = ("+C2.real+") + ("+C2.img+")i");

      //printing second complex number

   }


   public void AddNumbers(Complex C1, Complex C2) { //addition of two complex number

      float real, img;

      real = (C1.real + C2.real); //real part of complex number

      img = (C1.img + C2.img); //img part of complex number

      System.out.println("Addition of Complex Numbers = ("+real+") + ("+img+")i");

      //printing addition of two complex number

   }


   public void SubNumbers(Complex C1, Complex C2) { //substraction of two complex number
```

```
    float real, img;
    real = (C1.real - C2.real); //real part of complex number
    img = (C1.img - C2.img); //img part of complex number
    System.out.println("Substraction of Complex Numbers = ("+real+") + ("+img+")i"); //priting substraction of two complex number
  }

  public void MultiNumbers(Complex C1, Complex C2) { //multiplication of two complex number
    float real, img;
    real = (C1.real * C2.real - C1.img * C2.img); //real part of complex number
    img = (C1.real * C2.img + C1.img * C2.real); //img part of complex number
    System.out.println("Multiplication of Complex Numbers = ("+real+") + ("+img+")i"); //printing multiplication of two complex number
  }

  /*public void DivNumbers(Complex C1, Complex C2) { //division of two complex number
    float real, img;
    real = (C1.real * C2.real + C1.img * C2.img) / (C2.real * C2.real + C2.img * C2.img); //real part of complex number
    img = (C1.img * C2.real - C1.real * C2.img) / (C2.real * C2.real + C2.img * C2.img); //img part of complex number
    System.out.println("Division of Complex Numbers = ("+real+") + ("+img+")i");
    //printing division of two complex number
  }*/
}
public class Complex_No {
  public static void main(String[] args) {
    float num1, num2;
    Complex cal = new Complex();
    //Enter the Complex number in a+bi format
    //taking input for first Number
    //Enter real part of First Number: a
```

```
        num1 = Integer.parseInt(args[0]);
        //Enter img part of First Number: b
        num2 = Integer.parseInt(args[1]);
        Complex Com1 = new Complex(num1, num2);
        //taking input for Second Number
        //Enter real part of Second Number: a
        num1 = Integer.parseInt(args[2]);
        //Enter img part of Second Number: b
        num2 = Integer.parseInt(args[3]);
        Complex Com2 = new Complex(num1, num2);
        System.out.print("\n");
        cal.Display(Com1, Com2); //calling display function
        System.out.print("\n");
        cal.AddNumbers(Com1, Com2); //calling addition function
        cal.SubNumbers(Com1, Com2); //calling substraction function
        cal.MultiNumbers(Com1, Com2); //calling multiplication function
       /* cal.DivNumbers(Com1, Com2); //calling division function */
    }
}
```