File name = Complex.java

```
public class Complex{
   private int real;
   private int imaginary;

   public Complex(){
      real = 0;
      imaginary = 0;
   }
   public Complex(int rl, int imag) {
      real = rl;
      imaginary = imag;
   }
   public void add(int re , int imag) {
      System.out.println("Addition of " + real + "+" + imaginary + "j" +" and " + re + "+" + imaginary + "j" + " is " +
(real + re) + "+" + (imaginary + imag) + "j");
   }

   public void subtract(int re , int imag) {
      System.out.println("Subtraction  of " + real + "+" + imaginary + "j" +" and " + re + "+" + imaginary + "j"
       + " is " + (real - re) + "+" + (imaginary - imag) + "j");
   }

   public void multiplyWith(int re ,int imag) {
      System.out.println("Multiplication  of " + real + "+" + imaginary + "j" +" and " + re + "+" + imaginary + "j"
       + " is " + ( (real * re) + (imag * imaginary) ) + "+" + ( (real * imag) + (re * imaginary) ) + "j");
   }
   public void divideBy(int re ,int imag) {
      System.out.println("Division  of " + real + "+" + imaginary + "j" +" and      " + re + "+" + imaginary + "j"
       + " is " + ( ((real * re) - (imaginary * imag)) / (Math.pow(re,2) - Math.pow(imag,2)) ) + "+" + ( ((real * imag) -
(re * imaginary)) / (Math.pow(re,2) - Math.pow(imag,2)) ) + "j");
   }
   public boolean isReal() {
      if(imaginary == 0)
         return true;
      return false;
   }
   public boolean isImaginary() {
      if(real == 0)
         return true;
      return false;
   }
}
```

Filename :SolutionComplex.java

```
public class SolutionComplex {
    public static void main(String[] args) {
        Complex complex;
        complex = new Complex(1,2);
        complex.add(1, 2);
        complex.subtract(1, 2);
        complex.multiplyWith(1, 2);
        complex.divideBy(1, 2);
        Complex complex1;
        complex1 = new Complex(1,0);
      System.out.println("Given Complex Number is Real = " + complex1.isReal());
        System.out.println("Given Complex Number is Imaginary = " +
complex1.isImaginary());
    }
}
```