

A complex number is made up of two parts: a real part and an imaginary part. You are to design a class that represents a complex number. You may assume that the real and imaginary parts will always have integer coefficients. You must write your Complex class so that the following code works in a Driver file. If you don't remember how complex numbers work, or have never learned them before, refer to this website and/or ask a friend!

<http://www.purplemath.com/modules/complex.htm>

```
public class Driver
{
    public static void main(String[] args)
    {
        Complex a = new Complex(2, 4); //2 + 4i
        Complex b = new Complex(5); //5 + 0i
        Complex c = new Complex(a); //2 + 4i

        Complex d = a.add(b); //7 + 4i

        double mag = a.magnitude(); //This is the pythagorean theorem on a right triangle
                                    //with the legs being the real part (2) and the imaginary
                                    //part (4). In this case, the magnitude is 4.47

        d.setImaginaryPart(5); //changes imaginary part to 5

        int real = d.getRealPart(); //gets the real part of the complex number: 7

        d.print(); //should print out the info about the imaginary number: 5 + 7i

        //If you get done fast!
        Complex conj = a.conjugate(); //returns the complex conjugate of a
        Complex mult = a.multiply(d); ///multiplies the two complex numbers
        Complex div = a.divide(d); //divides the two complex number
    }
}
```