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package Calculator

public class Main
{
    public static void main(String[] args)
    {
        Scanner in - expressions.txt - reader
        PrintWriter out - results.txt - writer

        while(in.hasNextLine) - Iterate through input file
        {
            line = in.nextLine - Take in and store line input
            - skip line if its blank or has invalid input
            parts = line.split() - Split into 3 parts

            -turn values into objects
            Object obj1 = getObject(part for obj1)
            Object obj2 = getObject(part for obj2)
            Object answer = evaluate(obj1, obj2, part for
operator)

            out.write(obj1 operation obj2 --> answer)
        }

        - flush reader/writer out of memory
        in.close();
        out.close();
    }

    //Find Type of Number
    public Object getObject(String obj)
    {
        switch(obj)
        {
            case Complex: -return ComplexNumber
            case Imaginary: return ComplexNumber with 0 for Real
            case Real: return Number
            default: null
        }
    }

    //Answer the Expression
    public Object evaluate(Object obj1, Object obj2, String
operator)
    {
        switch(operator)
        {
            case +,-: return ComplexNumber/Number with obj1 +-
obj2
            case *: return ComplexNumber/Number after using FOIL
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            case /: -find conjugate
                -find numerator/denominator
                return ComplexNumber/Number after evaluating
            case <,>:
                return |obj1| >< |obj2|
            case =,/=:
                return (!)obj1.equals(obj2)
        }
    }
}

public class Number
{
    double nReal;
    Number(double num) - Constructor

    getter() - 1 line methods
    setter()
    toString()
    equals()
}

public class ComplexNumber extends Number
{
    double nImaginary;
    ComplexNumber(double real, double unreal) - Constructor

    getter() - 1 line methods
    setter()
    toString()
    equals()
}
```