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Period 4

Think AP Java Ch 15 Exercises Readme

Exercise 15.1

This file is attached as `CardSoln.java`.

I prefer the class method version of `merge` because it seems to make slightly more sense to call `merge(a, b)` than to call `a.merge(b)`. However, in the grand scheme of things it doesn't really matter because it's only a slight difference, and both the object method version and the class method version give the same result.

Exercise 15.2

```
public double abs() {  
    return Math.sqrt(real * real + imag * imag);  
}
```

Exercise 15.3

```
public static boolean equals(Complex a, Complex b) {  
    return (a.real == b.real && a.imag == b.imag);  
}
```

Exercise 15.4

This file is attached as `Rational.java`.

Object methods take slightly longer to type out because you have to create an object, but make more sense in the long run. It is important to make code object-oriented so that instead of constantly keeping track of a thousand variables, you can simply create a few objects. This also increases readability. Still, I think it's much more natural sounding to use class methods, such as calling `reduce(num5)` over `num5.reduce()` or `add(num1, num2)` over `num1.add(num2)`.

Exercise 15.5

These files are attached as `PokerHand.java` and `SevenCardPokerHand.java`. The probabilities for poker hands from both are very similar to the calculated ones found online. The 7-card poker hand program has a very marginal amount of error as the total probability is very slightly over 100%, but it is still accurate to many digits after the decimal place.