CMPSC 100

Computational Expression

As a general rule, 4/3 programming languages do not understand fractions.

For today's activities

- Locate your "class-activities" repository.
- Perform a git pull download master
- cd to the 9-october folder:
 - src/main/java/fractions/Fraction.java
 - src/main/java/fractions/RationalMath.java
- Open Fraction.java in your text editor.

Fractions inside of fractions?!

RationalMath

main(args: String[]): void

Fraction.java

numer: final int denom: final int

Fraction(int numer, int denom)

reciprocal(): Fraction

toString(): String

```
public Fraction(int numer, int denom) {
    this.numer = numer;
    this.denom = denom;
}
```

```
public Fraction reciprocal(){
   Fraction inverse = new Fraction(this.denom, this.numer);
   return inverse;
}
```

```
public String toString(){
    String fraction = this.numer + "/" + this.denom;
    return fraction;
}
```

```
Scanner input = new Scanner(System.in);
System.out.print("Enter the numerator: ");
int numer = input.nextInt();
System.out.print("Enter the denominator: ");
int denom = input.nextInt();
Fraction fraction = new Fraction(numer, denom);
Fraction reciprocal = fraction.reciprocal();
System.out.print("The reciprocal of the fraction is: " + reciprocal.toString());
```

Run using gradle -q --console plain run

```
public static Fraction getProduct(Fraction f1, Fraction f2) {
   int newNumer = f1.numer * f2.numer;
   int newDenom = f1.denom * f2.denom;
   Fraction product = new Fraction(newNumer,newDenom);
   return product;
}
```

```
Scanner input = new Scanner(System.in);
System.out.print("Enter the numerator: ");
int numer = input.nextInt();
System.out.print("Enter the denominator: ");
int denom = input.nextInt();
Fraction fraction = new Fraction(numer, denom);
Fraction reciprocal = fraction.reciprocal();
System.out.print("The reciprocal of the fraction is: " + reciprocal.toString());
Fraction product = Fraction.getProduct(fraction, reciprocal);
System.out.println("The product of these is: " + product.toString());
```