COP 3330   3/6/26

1. Announcement: Helpers for UCF's
   High School Programming Contest
   March 16, 2026 (MON)

2. Today's Topic: Comparable Interface
   ↪ allows for Custom Sorting

3. Introduce you to open.kattis.com
   website: hosts programming contests +
   practice on problems

Diff comp. Programming format

1) Don't prompt user to enter into!
   Just read in data...

2) Solve problem

3) To prove it, your must output something
   in a very specific format.
   Only judged correct IF output is identical

   Submit → Correct (all cases worked)
            Wrong Answer (at least 1 case gave ans incorrectly)
            Run-Time Error (≥1 case crashed)
            Time Limit Exceeded (execution on ≥1 case took too long)
            Compile Time Error

Comparable Interface
Require Method

$\nearrow$ Generic

public int compareTo(T other)

Similar (not syntax):

public interface Comparable<T> { $\longrightarrow$ whatever type you want it to represent

  int compareTo(T o);

} // return neg int   if   this < 0
      pos int   if   this > 0, return 0 if
                   equal

Correct syntax to use this:

public class fraction2 implements Comparable<fraction2>

{

  // everything same

  public int compareTo(fraction2 other) {

    return this.numerator * other.denominator -
       other.numerator * this.denominator;

  }

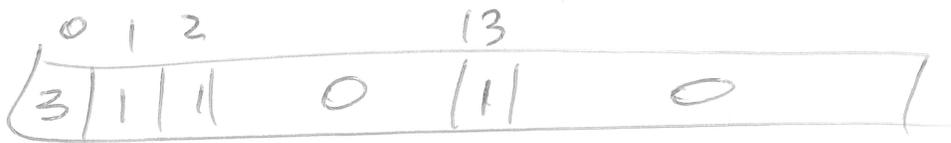if $\dfrac{n_1}{d_1} < \dfrac{n_2}{d_2} \implies n_1 d_2 < n_2 d_1$

$\implies n_1 d_2 - n_2 d_1 < 0$

$d_1 > 0$
$d_2 > 0$

fraction2[] list = new fraction2[n];

Arrays.sort(list);

CABANA

3	1	1	0	1	0

0 1 2   13

String name
int[] freq

Java prog < prog.in > myout.out

input
file

where output
is piped.