CCO 1997 — reconstructed official HTML

See the QOJ adaptation notes at the end for judging details.

Day 2 Question 1

High Tide

Input file: probd.in

Output file: probd.out

A planet has n moons revolving about it in constant clockwise coplanar circular orbits. How often do all the moons appear directly overhead as viewed from some point on the planet? We will call such a situation a 'vertical alignment'.

Your input consists of a number of sets of lines; each set consists of an integer n, indicating the number of moons, followed by n distinct positive integers, one per line, indicating the exact period of revolution for each moon, in days. (Thus there are n+1 lines of data for each set with the first line containing n.) The last line contains only a zero.

For each input set, except the last, generate a line of output indicating the interval in days, to two decimal places, between consecutive vertical alignments.

Sample Input

```
2
20
30
3
20
30
40
2
10
3
0
```

Sample Output

```
60.00
120.00
4.29
```

QOJ adaptation notes

This PDF is a reconstruction of the archived official HTML statement, not an original contest PDF. The historical statement text is reproduced above, including its original sample and ambiguities. These notes define the QOJ version.

Read standard input and write standard output. Historical file names do not apply. Original test data and exact historical test weights were not recovered. The QOJ data are independently reconstructed and checked using separate oracles. Each of 25 test files is worth 1 mark, for a total of 25.

The reconstructed tests contain 2 to 20 moons. Periods are distinct integers between 1 and 1,000,000. Output the strictly positive interval between consecutive common alignments, rounded to two decimal places (exact halves upward). A one-moon case is excluded because continuous alignment has no such strictly positive interval.