

Practice Problem PA

Non Classical Problem

Usually, the easiest problem in a contest, especially in the practice session, is to find either the minimum integer, the maximum integer, or the sum of a given array of integers. We find that such problem is too classical and too boring.

Since this is an ICPC, we are going to pose you with a more challenging problem! Instead of giving you an array of integers, we will give you an array of rational numbers. The i^{th} real number can be represented as a pair of integers (A_i, B_i) and the value of the number is $\frac{A_i}{B_i}$.

Find the minimum number, maximum number, and the sum of the given rational numbers!

Input

Input begins with a line containing an integer: N ($1 \leq N \leq 100\,000$) representing the size of the given array. The next N lines each contains two integers: $A_i B_i$ ($1 \leq A_i, B_i \leq 2 \times 10^9$) representing the rational numbers.

Output

Output in a line three real numbers (each separated by a single space): the minimum number, the maximum number, and the sum of the given numbers, respectively. Your answer will be considered correct if the relative or absolute difference between your answer and judge's answer is not more than 10^{-6} .

Sample Input #1

```
5
1 2
2 4
3 4
4 3
1 5
```

Sample Output #1

```
0.20000000000 1.33333333333 3.28333333333
```