

The 80/20 Rule

Input file: **standard input**
Output file: **standard output**
Time limit: 1 second
Memory limit: 512 megabytes

The law of twenty-eight (the Pareto law) is also known as the law of **80/20**, and it is also called Barrett's law, Julen's law, the law of the critical minority, the law of the unimportant majority, the law of the least effort, the principle of imbalance. It is widely used in Sociology and business management. It was discovered by Pareto, an Italian economist in the late 19th and 20th centuries. He believes that in any set of things, the most important part only accounts for a small part of it, about 20% , and the remaining 80%, although in the majority, is secondary, so it is also known as the law of twenty-eight.

A popular example is that, the 80% of the wealth in the world is owned by the 20% of the people. Now I want you to write a program to check that, for a given set of bank accounts, whether the stored balances is strictly not weaker than **the law of twenty-eight**. The test method is to find two real numbers A , B , and the $A\%$ of the people own the $B\%$ of the wealth, and $B - A$ is maximized.

Input

The first line contains an integer n , indicating that we have the stored balances of n accounts.

The second line contains n integers a_1, \dots, a_n , which respectively represents the stored balance of each account.

Output

The first line contains two real numbers (the result is rounded to two decimal places), representing A , B respectively.

If more than one pair of (A, B) can maximize $B - A$, please output the answer with the largest A .

Examples

standard input	standard output
13 411 5622 3638 3411 5069 693 2738 3757 2496 2861 6761 355 1839	46.15 71.27
2 10 10	100.00 100.00

Note

Subtask 1 (20pts): $1 \leq n \leq 20$

Subtask 2 (40pts): $1 \leq n \leq 1000$

Subtask 3 (40pts): $1 \leq n \leq 10^5, 1 \leq a_i \leq 10^4$

For 100% data, it's guaranteed that $1 \leq n \leq 10^5, 1 \leq a_i \leq 10^4$

In the first set of examples, the stored balances of individuals 2, 3, 4, 5, 8, 11 are 5622, 3638, 3411, 5069, 3757, 6761, and their total balance is 28258. The total balance of all people is 39651. Therefore, these selected people, who have $28258/39651 \approx 71.27\%$ of the wealth, correspond to $6/13 \approx 46.15\%$ of all people.

In the second set of examples, there are three possible sets of (A, B) , namely $(0, 0)$, $(50, 50)$, $(100, 100)$: their corresponding $B - A$ are all 0. Therefore, according to the problem statement, you need to output the answer with the largest A , namely $(100, 100)$.