Need More T-shirts!

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

The Innopolis Open 2020 is coming. And this means that it's time to order T-shirts for the participants of the Olympiad.

The organizers decided that it would be great to buy T-shirts of different colors so that you can easily see who is the organizer, jury or participant of the Olympiad.

For this task, two people were assigned, they decided how many T-shirts of each color should be ordered. However, they did not agree among themselves, and one of them wrote down the number of T-shirts of a certain color that needs to be ordered, and the other wrote the percentage of T-shirts of a certain color. As a result, they got a list of length n, where each element of the list a_i is either the number of T-shirts of color i or the percentage of T-shirts of color i of the total number of T-shirts. Moreover, it is known that in the list at least one element a_i is the number of T-shirts of the color i.

Now the organizers need to understand, what is the total of T-shirts they need to buy for the olympiad. Help them find all possible options for the total number of T-shirts for which such a list could be obtained.

Input

The first line contains a single integer n, the number of different colors ($1 \le n \le 10^5$).

The second line contains n integers a_i, either the number of T-shirts or the percentage of t-shirts for the color i ($1 \le a_i \le 10^9$).

Output

In the first line print the number of options for the total number of T-shirts for which such a list could be obtained.

In the second line print all possible options for the total number of T-shirts, in sorted order.

Scoring

Subtask	Points	Constraints
1	13	$1 \le n \le 15$, $1 \le a_i \le 100$
2	21	$1 \le n \le 100$, $1 \le a_i \le 100$
3	38	$1 \le n \le 100$, $1 \le a_i \le 10^9$
4	28	$1 \le n \le 10^5$, $1 \le a_i \le 10^9$

Examples

standard input	standard output
2 1 50	2 2 51
3 20 30 70	4 120 125 140 300
4 2 40 90 5	3 137 470 840
7 10 20 5 15 30 17 3	1 100

Explanation

Explanation of the first example:

If the total number of T-shirts is 2: one of color 1, and one of color 2, we can obtain the given list if the first element (1) is the number of T-shirts of color 1, and the second element (50) is the percentage of T-shirts of color 2. $2 = 1 + 2 \cdot \frac{50}{100}$.

If the total number of T-shirts is 51: one of color 1, and 50 of color 2, we can obtain the given list, if both elements are the numbers of T-shirts of colors 1 and 2. $51 = 1 + 50$.

Explanation of the second example:

$120 = 20 + 30 + 70$

$125 = 125 \cdot \frac{20}{100} + 30 + 70$

$140 = 140 \cdot \frac{20}{100} + 140 \cdot \frac{30}{100} + 70$

$300 = 300 \cdot \frac{20}{100} + 30 + 300 \cdot \frac{70}{100}$