

Problem A. Average Value

Input file: *standard input*
Output file: *standard output*
Time limit: 2 seconds
Memory limit: 512 mebibytes

You are given an array a of n integers. Find any index i ($1 \leq i \leq n$) such that the element a_i equals to the geometric mean of all the other elements. In other words, find any index i that satisfies the following formula:

$$a_i = \sqrt[n-1]{\prod_{\substack{k=1 \\ k \neq i}}^n a_k}.$$

Input

The first line contains one integer n ($2 \leq n \leq 10^5$): the length of the array.

The second line contains n integers a_1, a_2, \dots, a_n ($a_k \geq 1$; the total number of digits in all numbers does not exceed 300 000).

It is guaranteed that the answer exists for the given array.

Output

Output one integer: the index of the element that equals to geometric mean of the others items. If there are several answers, output any one of them.

Examples

standard input
5 2 4 8 16 32
standard output
3

standard input
2 123456789012345678901234567890 123456789012345678901234567890
standard output
2