

# Problem B

## Blackboard

Time limit: 6 seconds

You find yourself in a room with a blackboard that has  $n$  positive integers written on it. You like it when things are organized, but this blackboard is one big mess: the numbers are all over the place, with a mix of very small and very large numbers.

To organize things, you will split the numbers into smaller numbers, one at a time, such that the total sum remains the same. Thus, in one operation, you can choose any value  $x$  from the blackboard, erase it, and replace it with two positive *real* numbers  $y$  and  $z$  such that  $x = y + z$ . Your goal is to ensure that the largest value on the blackboard is at most  $k$  percent larger than the smallest value.



Figure B.1: Illustration of Sample Input 1. The 7 can be replaced by 2.4 and 4.6. The 4.6 can in turn be replaced by 2.6 and 2. Finally, the 5 can be replaced by 2.3 and 2.7. After that, the largest value (3) is 50% larger than the smallest value (2).

Determine the minimum number of operations required to achieve this goal.

### Input

The input consists of:

- One line with two integers  $n$  and  $k$  ( $1 \leq n \leq 10\,000$ ,  $0 \leq k \leq 100$ ), the initial number of integers on the blackboard and the required percentage of maximal difference.
- One line with  $n$  integers  $a$  ( $1 \leq a \leq 10^9$ ), the initial integers on the blackboard.

### Output

Output the minimum number of operations required to ensure that the largest value on the blackboard is at most  $k$  percent larger than the smallest value.

#### Sample Input 1

```
4 50
2 3 5 7
```

#### Sample Output 1

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3
```

#### Sample Input 2

```
2 20
7 4
```

#### Sample Output 2

```
1
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