

CMPUT 274 - Tangible Computing

Morning Problem: Sound Sensitivity

Description

After the latest software update Bob's computer has done something very peculiar. All of his precious volume settings have been randomly assigned! Bob can only tolerate sound that is l decibels and lower so this is quite the dire situation. Thankfully there exists a global volume that will adjust all programs by the same percentage.

Bob needs assistance figuring out which percentage to set the global volume to such that all program volumes are as loud as possible, but no program is strictly louder than l decibels.

Input

The first line of input contains two space separated integers $1 \leq n \leq 100,000$, the amount of individual program volumes, and $1 \leq l \leq 70$, the loudest sound (in decibels) Bob can tolerate.

The second line of input contains n space separated integers v_0, \dots, v_{n-1} , with $1 \leq v_i \leq 140$ for all i indicating the volume of each program (in decibels).

Output

The first and only line of output should contain a single integer between 1 and 100 indicating the percentage that the global volume should be set to in order to maximize the volume of each program while ensuring no program is strictly louder than l decibels.

Sample Input 1

```
5 10
10 50 20 40 30
```

Sample Output 1

```
20
```

Explanation: There are 5 individual programs, if we set the global volume to 20% these program volumes (in given order) will now be [2, 10, 4, 8, 6], all of which are less than or equal to 10. If we however set the global volume to 21%, the program volumes will then be [2.1, 10.5, 4.2, 8.4, 3.3], but 10.5 is larger than 10 so this does not work, therefore the largest we can set the global volume is 20.

Sample Input 2

```
5 15
73 18 92 38 47
```

Sample Output 2

```
16
```