

Buckets

SEASON 6 – ROUND TWO – 50 points



Ivancho likes collecting identical buckets very much. In his spare time he sometimes fills his buckets with water. Today is such a day. Ivancho has already filled all of his buckets with some amount of water and now wonders if he could have fit the same amount of water in fewer buckets. Help him, by writing a program *buckets* which will tell Ivancho the fewest buckets required to fit the water from all the buckets.

Input

The first two rows of the input file *buckets.in* contain two positive integers N and V – the number of buckets and the amount of water each bucket can hold without overflowing.

N positive integers follow – $a_1, a_2, \dots, a_n$ where a_i denotes the amount of water in bucket i .

Note: all buckets have equal capacity - V

Output

In the output file *buckets.out* print the minimum amount of buckets required to fit the water from all buckets.

Constraints

$$1 \leq N \leq 10000$$

$$1 \leq V \leq 100$$

$$0 \leq a_i \leq V$$

Time limit: 0.7 sec

Memory limit: 256 MB

Remark: Reading and writing to a file can be done using the appropriate statement. You can use the `freopen` statement from the standard library `<fstream>` by adding the following two lines in the beginning of your main function:

```
freopen ("basek.in", "r", stdin);  
freopen ("basek.out", "w" , stdout);
```

Example test

Input (<i>buckets.in</i>)	Output (<i>buckets.out</i>)
3 3 1 2 3	2

Buckets

SEASON 6 – ROUND TWO – 50 points



5 2 1 1 1 1	3
-------------------	---

Clarifications

1. We have 3 buckets each with capacity 3. We can, for example, transfer the water from bucket 1 to bucket 2 and reach the configuration 0 3 3. Then we have fit the entire amount of water in 2 buckets (as we have one empty bucket) so we need only 2 buckets. Thus we print 2.

2. We have 5 buckets each with capacity 2. We can, for example, transfer the water from bucket 3 to bucket 1 and transfer the water from bucket 4 to bucket 2. We reach the configuration 2 2 0 0 1. So we need only 3 buckets to fit the entire amount of water. So we print 3.