A. k-Multiple Free Set

time limit per test: 2 seconds
memory limit per test: 256 megabytes
input: standard input
output: standard output

A k-multiple free set is a set of integers where there is no pair of integers where one is equal to another integer multiplied by k. That is, there are no two integers x and y $(x < y)$ from the set, such that $y = x \cdot k$.

You're given a set of n distinct positive integers. Your task is to find the size of it's largest k-multiple free subset.

Input

The first line of the input contains two integers n and k $(1 \le n \le 10^5, 1 \le k \le 10^9)$. The next line contains a list of n distinct positive integers $a_1, a_2, ..., a_n$ $(1 \le a_i \le 10^9)$.

All the numbers in the lines are separated by single spaces.

Output

On the only line of the output print the size of the largest k-multiple free subset of $\{a_1, a_2, ..., a_n\}$.

Examples

input	Copy
6 2 2 3 6 5 4 10	

output	Copy
3	

Note

In the sample input one of the possible maximum 2-multiple free subsets is {4, 5, 6}.

→ Problem tags

binary search greedy sortings *1500

No tag edit access

→ Contest materials

- Announcement
- Tutorial (en)