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
6 2 2 3 6 5 4 10
output
3

Note

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

→ Attention

Package for this problem was not updated by the problem writer or Codeforces administration after we've upgraded the judging servers. To adjust the time limit constraint, solution execution time will be multiplied by 2. For example, if your solution works for 400 ms on judging servers, then value 800 ms will be displayed and used to determine the verdict.

Codeforces Round #168 (Div. 1)

Finished

→ Virtual participation

Virtual contest is a way to take part in past contest, as close as possible to participation on time. It is supported only ACM-ICPC mode for virtual contests. If you've seen these problems, a virtual contest is not for you - solve these problems in the archive. If you just want to solve some problem from a contest, a virtual contest is not for you - solve this problem in the archive. Never use someone else's code, read the tutorials or communicate with other person during a virtual contest.

Start virtual contest

→ Problem tags

binary search greedy sortings

No tag edit access

→ Contest materials

- Announcement
- Tutorial

Codeforces (c) Copyright 2010-2016 Mike Mirzayanov
The only programming contests Web 2.0 platform
Server time: Nov/30/2016 19:18:33 UTC+8 (c4).
Desktop version, switch to mobile version.