

A. Common Multiple

time limit per test: 1 second
memory limit per test: 256 megabytes

You are given an array of integers a_1, a_2, \dots, a_n . An array x_1, x_2, \dots, x_m is *beautiful* if there exists an array y_1, y_2, \dots, y_m such that the elements of y are distinct (in other words, $y_i \neq y_j$ for all $1 \leq i < j \leq m$), and the product of x_i and y_i is the same for all $1 \leq i \leq m$ (in other words, $x_i \cdot y_i = x_j \cdot y_j$ for all $1 \leq i < j \leq m$).

Your task is to determine the maximum size of a subsequence* of array a that is beautiful.

*A sequence b is a subsequence of a sequence a if b can be obtained from a by the deletion of several (possibly, zero or all) element from arbitrary positions.

Input

Each test contains multiple test cases. The first line contains the number of test cases t ($1 \leq t \leq 500$). The description of the test cases follows.

The first line of each test case contains a single integer n ($1 \leq n \leq 100$) — the length of the array a .

The second line of each test case contains n integers a_1, a_2, \dots, a_n ($1 \leq a_i \leq n$) — the elements of array a .

Note that there are **no** constraints on the sum of n over all test cases.

Output

For each test case, output the maximum size of a subsequence of array a that is beautiful.

Example

input	Copy
3	
3	
1 2 3	
5	
3 1 4 1 5	
1	
1	
output	Copy
3	
4	
1	

Note

In the first test case, the entire array $a = [1, 2, 3]$ is already beautiful. A possible array y is $[6, 3, 2]$, which is valid since the elements of y are distinct, and $1 \cdot 6 = 2 \cdot 3 = 3 \cdot 2$.

In the second test case, the subsequence $[3, 1, 4, 5]$ is beautiful. A possible array y is $[20, 60, 15, 12]$. It can be proven that the entire array $a = [3, 1, 4, 1, 5]$ is not beautiful, so the maximum size of a subsequence of array a that is beautiful is 4.

Codeforces Round 1019 (Div. 2)

Contest is running

00:43:51

Contestant



→ Submit?

Language: GNU G++23 14.2 (64 bit, ms) ▼

Choose file: No file chosen

Be careful: there is 50 points penalty for submission which fails the pretests or resubmission (except failure on the first test, denial of judgement or similar verdicts). "Passed pretests" submission verdict doesn't guarantee that the solution is absolutely correct and it will pass system tests.

→ Last submissions

Submission	Time	Verdict
316542533	Apr/21/2025 17:56	Pretests passed

→ Score table

	Score
Problem A	350
Problem B	700
Problem C	1050
Problem D	1400
Problem E	1925
Problem F	2100
Successful hack	100
Unsuccessful hack	-50
Unsuccessful submission	-50
Resubmission	-50

* If you solve problem on 01:15 from the first attempt

