Problem B: Friendly Transfer

Filename: `b`

Time Limit: `2 seconds`

Each of your friends owes one other person in your friend group money. Interestingly enough, each person owes exactly the same amount of money. You realize any cycle of friends who owe each other money would not need to exchange anything, because the actual change in their money would be zero.

You know that the more complicated the money exchanges become, the more likely someone is to mess up the exchange. Your friend group decides to void out any cyclical exchange of money, since everyone in a debt cycle ends up with the same amount anyway.

You would like to know how many people will have to give someone money in the end.

Problem

Given a list of debts, determine how many people will still owe money after the people in cycles are excluded.

Input

The first line of input contains a single positive integer, **f**, representing the number of friend groups.

The first line of each friend group contains a positive integer, **p**, the number of people in the friend group. Let these people be numbered 1 through **p**, inclusive.

The following line will contain **p** integers, where the **i**th integer on the line represents the **id** of the person the **i**th person owes money to. No one will owe themself money.

Output

For each friend group, output a single integer, the number of people who owe someone else money after all cyclic owings are removed.

Input Bounds and Corresponding Credit

- $1 \leq \mathbf{f} \leq 10$
- $2 \leq \mathbf{p} \leq 10^5$
- $1 \leq \mathbf{id} \leq \mathbf{p}$

Samples

Input	Output
2 3 3 1 2 4 2 1 1 2	0 2