

Second Dose (seconddose)

The Italian government has successfully started its vaccine campaign against COVID-19 but is having some troubles after the injections of the second dose have begun.



Figure 1: For some vaccines, doses need to be firstly extracted from vials.

To protect patients' privacy, the only piece of information collected after the vaccination is an anonymous identifier stored in a database that is supposed to uniquely identify a person through the whole process.

This means that at the current point we have a list with N_1 identifiers assigned to people who have been vaccinated with the first dose, and another shorter list with N_2 identifiers assigned to those who have also been vaccinated with the second shot.

Being in a rush, some centers made some mistakes in assigning the proper identifiers when administering the second dose. These errors make it very hard to produce reliable statistics about the number of people fully vaccinated with both doses, but Luca offered himself as a consultant for the government to help. Can you tell how many people have been fully vaccinated?

Among the attachments of this task you may find a template file `seconddose.*` with a sample incomplete implementation.

Input

The first line contains two integers, N_1 and N_2 . The second line contains N_1 integers, the identifiers of people who received the first dose. The third line contains N_2 integers, the identifiers of people who received the second dose.

Output





You need to write a single line with an integer: the number of people who have been fully vaccinated, which means that their identifier appears in both lists.

Constraints

- $1 \leq N_2 \leq N_1 \leq 100\,000$.
- All identifiers are integers between 1 and 10^9 .
- In each of the two lists, considered separately, identifiers are unique (i.e., in a list an identifier is never repeated).

Scoring

Your program will be tested against several test cases grouped in subtasks. In order to obtain the score of a subtask, your program needs to correctly solve all of its test cases.

- **Subtask 1** (0 points) Examples.

- **Subtask 2** (30 points) $N_1 \leq 10\,000$.

- **Subtask 3** (20 points) $N_1 \leq 30\,000$.

- **Subtask 4** (50 points) No additional limitations.


Examples

input	output
4 3 89 34 13 21 13 34 21	3
4 3 89 34 13 21 13 34 50	2

Explanation

In the **first sample case**, four people received the first dose and three people the second one. All the three identifiers (13, 34, and 21) that appear in the second list also appear in the first one, which means that we are certain that three people have been fully vaccinated.

In the **second sample case**, four people received the first dose and three people the second one. Only two identifiers (13 and 34) that appear in the second list also appear in the first one, which means that we are certain that two people have been fully vaccinated. The extra identifier in the second list, 50, is one of the errors made by the vaccination centers and will need further investigation.