

Event Raffle

You and $n - 1$ friends entered a raffle where each person won a free ticket to one of n events in Amsterdam. Each person won exactly one free ticket to an event, and no event accepts two tickets (all events occur simultaneously).

The events are all centered around the theme of *passions*, and each event has a list of passions it provides. This is lucky, because you are all passionate people. Some of you prefer wine tasting over hiking and others prefer hiking over biking, so each of you has a list of your own personal passions.

A person in the group is *happy* if they have a ticket to an event that satisfies at least one of their personal passions. Because these tickets were all won in a raffle, the event that a person has a ticket for doesn't necessarily offer the passion(s) they're looking for. In cases where someone is *not happy* with their assigned ticket, they can give their ticket to anyone else in the group and take a ticket from anyone else in the group.

Given the list of passions and ticket assignments for all n people in your group as well as the list of passions offered by each event, find and print the maximum number of people who can be *happy* with their ticket assignment.

Input Format

The first line contains a single integer, n , denoting the number of people in your group (including you). Each line i of the n subsequent lines describes event i (where $1 \leq i \leq n$) as a single line of space-separated values in the following format:

- The first value is an integer, c_i , denoting the ID of the event for which person i already has a ticket.
- The second value is an integer, p_i , denoting the number of passions person i longs to pursue. This is followed by p_i space-separated strings describing person i 's respective passions.

Each line i of the n subsequent lines describes the event having ID i (where $1 \leq i \leq n$) as a single line of space-separated values in the following format:

- The first value is an integer, e_i , denoting the number of passions that the event satisfies. This is followed by e_i space-separated strings describing the respective passions available at the event.

Note: The number of people and the number of events is always the same because there are n people and n tickets to unique events.

Constraints

- $1 \leq 100 \leq n$
- $1 \leq c_i \leq n$
- $1 \leq p_i \leq n$
- $1 \leq e_i \leq n$
- Event IDs are distinct positive integers in the inclusive range from 1 to n .
- There are a maximum of 1000 unique passions.
- It is guaranteed that the strings consist of lowercase English letters and underscores (`_`) only. Each string contains a maximum of 100 characters.
- Each event ID is distinct and must remain so when exchanging tickets between group members.

Output Format

Print a single integer denoting the maximum number of people who can be *happy* with their event ticket, meaning that they have (either as their original ticket or one received through trading with another group member) a ticket to an event satisfying one or more of their passions.

Sample Input

```
3
1 3 museum wine_tasting biking
3 2 museum flower_parade
2 2 hiking biking
1 flower_parade
1 museum
2 biking wine_tasting
```

Sample Output

```
3
```

Explanation

Person **1** won a ticket to event **1** (*flower_parade*) and has three personal passions: *museum*, *wine_tasting*, and *biking*. They can swap for the ticket to event **2** and go to the *museum* (thus satisfying their passion).

Person **2** won a ticket to event **3** (*biking* and *wine_tasting*) and has two personal passions: *museum* and *flower_parade*. They can swap for the ticket to event **1** and go to the *flower_parade* (thus satisfying their passion).

Person **3** won a ticket to event **2** (*museum*) and has two personal passions: *hiking* and *biking*. They can swap for the ticket to event **3** and go *biking* (thus satisfying their passion).

To recap, person **1** goes to event **2**, person **2** goes to event **3**, and person **3** goes to event **1**. Because all three people were able to get a ticket to an event satisfying at least one of their respective passions, we print **3** on a new line.