Task Pizza

After a long day and miserable at work, Mirko decided to order a pizza for dinner to cheer himself up. In a big pile of papers on his desk, he found a flyer of a nearby pizza restarant.

The restarant offers m different pizzas. Pizza toppings are labeled with positive integers. i-th pizza has k_i toppings, with labels $b_{i,1}, b_{i,2}, \ldots, b_{i,k_i}$.

Mirko is very picky when it comes to food. He doesn't like n toppings, those with labels $a_1, a_2, \ldots, a_n$, so he wants to order a pizza that doesn't contain any of those toppings. Determine the number of pizzas that Mirko can order.

Input

The first line contains an integer n ($1 \leq n \leq 100$), the number of toppings, followed by n distinct integers a_i ($1 \leq a_i \leq 100$), the labels of toppings Mirko dislikes.

The second line contains an integer m ($1 \leq m \leq 100$), the number of pizzas.

The following m lines describe the pizzas. The i-th line contains an integer k_i ($1 \leq k_i \leq 100$), the numer of toppings, followed by k_i distinct integers $b_{i,j}$ ($1 \leq b_{i,j} \leq 100$), the labels of toppings on the i-th pizza.

The pizzas, i.e. the sets of toppings, will be distinct.

Output

Output the number of pizzas that Mirko can order.

Scoring

In test cases worth 20 points it holds $n = 1$ and $k_1 = k_2 = \cdots = k_m = 1$.

Examples

input

```
1 2
3
1 1
1 2
1 3
```

output

```
2
```

input

```
2 1 2
4
2 1 4
3 1 2 3
2 3 4
3 3 5 7
```

output

```
2
```

input

```
1 4
3
1 1
1 2
1 3
```

output

```
3
```