

Long Common Subsequence

Given a main sequence of N ($1 \leq N \leq 1000000$) numbers range from 0 to 10000 and several other sequence of M ($0 \leq M \leq 5$) numbers, you have to compute the Longest Common Subsequence of this sequence with the main sequence.

Input

First line of the input will be N the number of elements of the main sequence. After that line there will be N numbers in one or more lines. Each of this number will be between 0 to 10000 (inclusive). Then there will be Q ($1 \leq Q \leq 5000$) the number of query. Then following Q lines will be queries. In each query, start with a number M ($0 \leq M \leq 5$), followed by M numbers also between 0 to 10000 (inclusive).

Output

For each query first print the number of elements in the longest common subsequence of the main and query sequences. Then print the subsequence. If there is more than one then print the lexicographically smallest.

Example

Input:

```
10
5 1 4 3 2 6 5 5 0 7
5
1 5
1 10
4 5 0 4 7
5 4 1 2 3 5
5 2 6 5 0 7
```

Output:

```
1 5
0
3 5 0 7
3 1 2 5
5 2 6 5 0 7
```

Huge Test Case (almost 5MB)