# TLE '16 Contest 6 (Mock CCC) S1 - Writing the CCC

Time limit: 2.0s   **Memory limit:** 256M

The CS Nerd thinks that he can impress the girl by performing well in contests. As a result, he has decided to write the CCC (Canadian Chemistry Competition).

Surprisingly, there are only T types of chemistry problems in existence! The T types of problems will be listed in order of the CS nerd's preference for that type of problem. That is, the ith type is preferred over the jth type if $i < j$.

The CCC consists of N problems, numbered from 1 to N. The CS Nerd scans through the problems and quickly determines the type of each problem. He would like to complete the problems in order of preferred problem type, breaking ties by solving earlier problems. In what order should he complete the problems in?
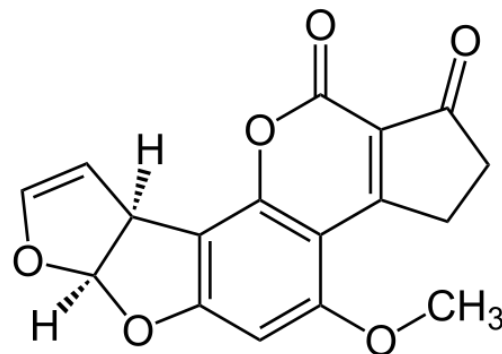
Sample problem: Can you name this compound? (Bonus: Use this compound to describe somebody.)

Input Specification

The first line of input will contain a single integer, T $(1 \leq T \leq 10^5)$.

The next T lines of input will each contain a string with a maximum of 20 characters, consisting of only lowercase English letters. The ith line specifies the ith type of problem. No two lines will contain the same string.

The next line of input will contain a single integer, N $(1 \leq N \leq 10^5)$.

The next N lines of input will each contain a string. The kth line specifies the problem type of the kth problem. It is guaranteed that each string was present in the T lines of input specifying the problem types.

For 4 of the 15 points, $T \leq 2$.

For an additional 6 of the 15 points, $T, N \leq 1\,000$.

Output Specification

The output will consist of N lines. On the ith line, output a single integer specifying the ith problem that the CS nerd should complete.

Sample Input

```
5
equilibrium
trivial
organic
lab
adhoc
7
trivial
organic
adhoc
equilibrium
trivial
lab
adhoc
```

Sample Output

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