Assignment 3

A. Call of Beauty

Time limit : 2 sec
Memory Limit : 256 MB

Problem Statement

As we all know, R.Arora is immensely popular among girls. So much so, that girls are required to get an appointment to spend time with him on any given day!

For the given day, Arora has an appointment list L of N girls. Each girl has a name that consists of lower case English alphabet from 'a' to 'e'.

Girls, being quite feisty, wish to tease Arora a bit. When they come to meet him at his office, instead of telling their name at the desk, they mask their name by giving a fake one, which has a few '?'s in it. Arora can either replace a '?' with a letter from 'a' to 'e', or drop it. But as they don't want to confuse Arora too much, they only put up to three question marks.

Whenever somebody arrives, and gives their fake name, Arora wants to guess who it could be. For every fake name, Arora wants to know how many of his girlfriends' names match the fake one.

Input

The first line of input contains a single integer N ($1 \leq N \leq 10^5$), the number of names in the appointment list L. The next N lines contain a name each, which make up the appointment list. Each name is made of letters only from 'a' to 'e', and has at most 50 characters.

The next line contains Q ($1 \leq Q \leq 5000$), the number of queries.
The next Q lines contain the fake names S_i ($1 \leq |S_i| \leq 50$).
Note: Each fake name has at most three '?' characters.

Output

For each query name, output the number of names in the list that match.

Sample Input 1

```
4
abc
aec
ac
ab
2
a?c
ab?
```

Sample output 1

3
2

Sample Input 2

4
ecca
bead
bebe
bea
2
e??a
be??

Sample output 2

1
3