

Searching Frenzy

Have you ever wanted to find something in a large list and hate having to type the whole name of the item you are looking for? Sure, you can type in any substring of the name, but then you get a gazillion irrelevant results! Wow that's annoying! With AutoSearchBot you no longer have to worry!

Simply load a repository of files, names, or anything you want. Then you tell it which item you want to retrieve, and it will tell you what to put in a search bar to retrieve exactly the item you are looking for! But wait... there's more! The AutoSearchBot could very easily just spit the item back out to you to type in, but it actually gives you the smallest number of characters needed to enter in the search box to retrieve your desired result!

The only catch is ... you have to write the code for AutoSearchBot. Gotcha!

Input

Input begins with a single number, R ($R \leq 100$), the number of items in the repository. On each of the next R lines is a word consisting of only lowercase letters, no longer than 100 characters. Then proceeds a number S ($S \leq 100$), the number of searches we have planned. Each search will be a single item in the repository, and will also consist only of lowercase letters, no longer than 100 characters.

Output

For each search, output a single line that has the smallest possible nonempty substring that can be typed to get back the target item and no more. Remember, a search string matches any substring of the repository items, so "se" matches "seal", "case", and "browsed". If two search strings have the same length, pick the one that comes first alphabetically. If there is no way to search for the target without getting extra results, print "<ERROR>" (without the quotes).

Sample Input

```
6
careless
bubbles
blasphemy
careful
bless
care
6
careless
bubbles
blasphemy
careful
bless
care
```

Sample Output

```
el
bb
h
f
bless
<ERROR>
```