**Auto Complete**

Given a dictionary containing N words and a new set of Q query words, your goal is to print the smallest words from the original dictionary for which the query word is a prefix. The Q words were typed really fast and  some typos may have occurred. You should find matches considering at most 1 typo only. A “typo” means an incorrect character was typed instead of the correct one. For example, “the -> tje” or “test -> tast” have 1 typo, but “the -> teh” has 2 typos. Additional and missing characters, such as "the" -> "thje" and "the" -> "te", are not considered typos.

If there are more than 10 matches, print only the smallest 10 matches. Otherwise print all of them.

See the samples for explanation.

### **Input** **-------**

You will be given an integer N (1 <= N <= 105) representing the number of words in the original dictionary, followed by N words. An integer Q (1 <= Q <= 105) representing the number of query words will then be given, followed by Q query words. Each word contains only lowercase latin letters. Words in the dictionary or the queries may appear multiple times.

The length of a single word is at most 105. The sum of all words' lengths in the dictionary is at most 3 \* 105 and the sum of all query words is at most 3 \* 105.

### **Output** **---------**

For each word in the Q query words, find the smallest words in the original dictionary that have the query word as a prefix. If there are more than 10 matches, print only the smallest 10. Otherwise print all of them. The printed words should be ordered from smallest to largest lexicographically. If the same word appears multiple times in the dictionary, it should be considered only once in the output.

The output per query should be in a single line and words separated by spaces.

If there are no matches at all, print "<no matches>" without the quotations.

See the samples for further elaboration.

### **Examples** **--------------**

Input

7

tech

computer

technology

elevate

compute

elevator

company

4

tevh

new

techn

compa

Output

tech technology

<no matches>

technology

company compute computer

Notes

In the first query, the word was "tevh", which does not match any words. However, considering that 'v' is a typo and that the intended character was possibly 'c', then it matches "tech" and "technology".

The same occurs with the last query "compa". It of course matches "company" with 0 errors. It also matches "compute" and "computer" since the prefixes "compu" and "compa" differ by only one character.