

## ABC...

Despite your best efforts, your writing is riddled with typos. You are constantly trying to improve, but it is hard work. Luckily, you have just come up with a brilliant solution – you will write a computer program to correct misspelt words!

Your ‘misspell checker’ must be able to take a dictionary of valid words and a message, and correct all the typos. For the purposes of this problem, a *typo* is a word not in the dictionary which, by replacing a single letter with a different letter, becomes a valid word.

### Input

The first line of input will contain a single integer  $N$ , indicating the number of words in the dictionary ( $1 \leq N \leq 100\,000$ ). Each of the next  $N$  lines will contain a single distinct dictionary word. The next line of input will contain a single integer  $M$ , indicating the number of words in the message ( $1 \leq M \leq 10\,000$ ). Each of the next  $M$  lines will contain a single word to be checked. All words will consist of between 1 and 20 lower-case letters, inclusive.

For 30% of the available marks,  $N, M \leq 1000$ . For 60% of the available marks,  $N \leq 30\,000$ .

### Output

For each of the  $M$  message words in the input, your program should output a single line:

- If the input word was correctly spelt (i.e., it is in the dictionary), output it as it is;
- If the input word can be corrected by replacing a single character, output the corrected version. If there are multiple possibilities, output any one of them;
- If the input word cannot be corrected by replacing a single character, output the single character ‘?’.

### Sample Input

```
9
i
apple
far
mat
job
for
then
may
apply
6
may
i
apple
fur
the
jpb
```

### Sample Output

```
may
i
apple
for
?
job
```

### Scoring

The score for each input scenario will be 100% if a correct answer is written to the output file, and 0% otherwise.