

## PROBLEM 2

Write a program to transform a given string of symbols to another, based on a given table of transformation.

Each string consists of Roman letters and digits, where uppercase letters and lowercase letters should be distinguished. There is no rule on appearance of letters in the transformation table.

In the transformation table, each line contains 2 letters/digits separated by a single space character, meaning that whenever the first letter appears, it should be transformed into the second one.

The transformation should be done just once for each occurrence of letters and digits. In other words, an occurrence of a letter/digit in the original string should not be transformed again even if the transformed letter is one of the letters/digits in the transformation table. Any letter/digit which does not appear in the transformation table should be transformed into itself.

### INPUT

The first line of each input file contains an integer  $n$ , the number of lines of the transformation table. The  $i + 1$ -st line ( $1 \leq i \leq n$ ) contains 2 letters, say  $p$  and  $q$ , separated by a space character, which means that  $p$  should be transformed into  $q$ . The  $n + 2$ -nd line contains an integer  $m$  ( $0 < m < 10^8$ ), the length of a string to be transformed. The consecutive  $m$  lines beginning from the  $n + 3$ -rd line represent each letter/digit of the string, that is,  $(n + 2 + j)$ -th line ( $1 \leq j \leq m$ ) contains a letter/digit which is the  $j$ -th letter/digit of the string to be transformed.

### OUTPUT

The output file should contain a single line consisting of a string obtained from the input string by the transformation, followed by the Return code.

### EXAMPLE

Example input 1	Example output 2
3	aBC5144aba
A a	
0 5	
5 4	
10	
A	
B	
C	
0	
1	
4	
5	
a	
b	
A	