

# Alphabet Converter

Jojo, Lili and Bibi are playing together. Because they had just learned the alphabet, Jojo also proposed a game using the alphabet to hone and deepen their abilities.

The game is a game of changing strings. Initially Jojo has an X string. The X string will be changed through several processes given by Jojo.

The process is changing an alphabet  $A_i$  to  $B_i$ . Each alphabet can only be changed once. After all processes take place. Jojo just wants to find out how many characters  $B_i$  are in the string X. If the alphabet does not appear in the string, the character does not need to be displayed. The alphabet displayed must be ordered by alphabet.

Lili and Bibi want to do it, but they doubt their answer, for that they ask for your help to make an answer for the Jojo game.

### Format Input

The input will consist of several lines of input in "testdata.in" file. First consists of T, the number of test cases. For each testcase consists of several lines. The first line consists of the X string, Jojo's initial string. The second line consists of an integer N, the number of processes that must be done. For the next N lines the process must be done.

# Format Output

The output consists of M lines, which contain the character and the amount of characters inside the new string, where M is the number of different characters that are in the string after the process.

#### Constraints

- $1 \le T \le 100$
- $1 \le |X| \le 100$
- $1 \le N \le 26$
- The characters in the X string consist of the alphabet which is uppercase letters.

<sup>©</sup> School of Computer Science - BINUS, 2020. No part of the materials available may be copied, photocopied, reproduced, translated, or reduced to any electronic medium or machine-readable form, in whole or in part, without prior written consent of School of Computer Science - BINUS. Any other reproduction in any form without the permission of School of Computer Science - BINUS is probihited. For those who violated this disclaimer, academic sanctioned can be enforced.



# Sample Input (testdata.in)

1		
JOJO		
2		
J L		
0 I		

## Sample Output (standard output)

I 2		
L 2		

### Note

In the test case, the "JOJO" string will change to "LILI" after 2 processes are carried out.



<sup>©</sup> School of Computer Science - BINUS, 2020. No part of the materials available may be copied, photocopied, reproduced, translated, or reduced to any electronic medium or machine-readable form, in whole or in part, without prior written consent of School of Computer Science - BINUS. Any other reproduction in any form without the permission of School of Computer Science - BINUS is probihited. For those who violated this disclaimer, academic sanctioned can be enforced.



# Alphabet Converter

Jojo, Lili, dan Bibi sedang bermain bersama. Karena mereka baru saja belajar alfabet, maka Jojo pun mengusulkan permainan dengan menggunakan alfabet untuk mengasah dan memperdalam kemampuan mereka.

Permainan tersebut adalah permainan mengubah string. Mula-mula Jojo mempunyai sebuah string X. String X itu akan diubah melalui beberapa proses yang diberikan oleh Jojo.

Proses tersebut adalah mengubah sebuah alfabet  $A_i$  menjadi  $B_i$ . Setiap alfabet hanya dapat diubah sekali. Setelah semua proses berlangsung. Jojo hanya ingin mengetahui berapa jumlah karakter  $B_i$  dalam string X. Apabila alfabet tidak muncul didalam string, karakter tersebut tidak perlu di tampilkan. Alfabet yang ditampilkan harus terurut berdasarkan alfabetnya.

Lili dan Bibi ingin mengerjakannya, namun mereka ragu akan jawaban mereka, untuk itu mereka meminta bantuanmu untuk membuatkan jawaban untuk permainan Jojo tersebut.

### Format Input

Input akan terdiri dari beberapa baris input dalam file "testdata.in". Pertama terdiri dari T, banyaknya jumlah testcase dan untuk setiap testcase terdiri dari beberapa baris.Baris pertama terdiri dari string X, string awal Jojo. Baris kedua terdiri dari sebuah integer N, banyaknya proses yang harus dilakukan. Untuk N baris berikutnya terdiri dari proses yang harus dilakukan.

## Format Output

Output terdiri dari M baris berisikan karakter beserta jumlah karakternya, dimana M adalah jumlah karakter berbeda yang ada didalam string tersebut setelah dilakukan proses.

#### Constraints

- $1 \le T \le 100$
- $1 \le |X| \le 100$
- $1 \le N \le 26$
- Karakter pada string X terdiri dari alfabet yang merupakan huruf besar.

<sup>©</sup> School of Computer Science - BINUS, 2020. No part of the materials available may be copied, photocopied, reproduced, translated, or reduced to any electronic medium or machine-readable form, in whole or in part, without prior written consent of School of Computer Science - BINUS. Any other reproduction in any form without the permission of School of Computer Science - BINUS is probihited. For those who violated this disclaimer, academic sanctioned can be enforced.



# Sample Input (testdata.in)

1	1	
JOJO		
2		
J L		
0 I		

## Sample Output (standard output)

I 2		
L 2		

### Note

Pada testcase tersebut, string "JOJO" akan berubah menjadi "LILI" setelah dilakukan 2 proses.



<sup>©</sup> School of Computer Science - BINUS, 2020. No part of the materials available may be copied, photocopied, reproduced, translated, or reduced to any electronic medium or machine-readable form, in whole or in part, without prior written consent of School of Computer Science - BINUS. Any other reproduction in any form without the permission of School of Computer Science - BINUS is probihited. For those who violated this disclaimer, academic sanctioned can be enforced.