

제 10 회
대학생
프로그래밍
경시대회



Problem C

Iris

Iris, which carries on clandestine activities, like spying over the world, is veiled in mystery. But it is known that it works for an encouraging conflict between nations, international arms trades, etc. Members of Iris cover a wide range, i.e. students, scholars, financiers, politicians. They sometimes deliver organization's passwords to each other with plain texts. Salesman's thank-you letters, headlines of CNN and exam papers for entrance might contain passwords. The decoding method is delivered to members irregularly.

Recently, 'Paeksan' received a decoding method for tests. Given a word, its frequency and location in a text is the password. The first digit of the password is the frequency and the others are locations. When the frequency is two, the password is 2 X Y and when the frequency is three, the password is 3 X Y Z (X, Y and Z are integers). Each letter forming the word need not be consecutive in a text. The location is determined by the last letter of the word. If the last letter is duplicated in a text, the first one should be chosen. The location of the first letter in a text is 1 and the others are calculated by the distance from the first letter. This method is not case-sensitive.

Following examples show decoding passwords from a word and a text. In example 1, the given word does not appear in the text, so the password is 0. In example 2, the given word appears 1 time in the text and the last letter of the word 'a' locates in the text in the second, so the password is 1 2. The example 3 shows that it is not case-sensitive: the word appears 1 time and the last letter 'i' locates in the 4th in the text. Example 4 shows that the word need not be consecutive in a text and example 5 shows for the duplication.

Table 1. Examples

	Word	Text	Password
Example 1	sample	elpmas	0
Example 2	ca	cab	1 2
Example 3	Bi	ibbie	1 4
Example 4	bo	bboo	2 3 4
Example 5	Abc	aabccbcc	2 4 7
Example 6	Boy	bbbooyyy	3 7 8 9

Input

Your program is to read from standard input. The input consists of T test cases ($0 < T < 21$) and each test case consists of two lines. T is given in the first line. The first line of each test case contains a word and the second line gives a text. The word consists of alphabets, numbers and spaces but the first letter is not a space. The maximum length of a word is 10 and the maximum length of a text is 20,000,000. A word can appear in a text up to 4,000,000 times. A word does not contain a same letter with an upper case and a lower case.

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Output

Your program is to write to standard output. Print exactly on line for each test case. Each line should contain a password. If the frequency is more than 3, use only the first 3 locations for the password so that the password consists of 4 numbers.

The follwoing shows sample input and output for six test cases.

Sample Input	Output for the Sample Input
6	0
Cat	1 6
At a car	2 12 16
B	3 23 27 28
Def abc	7 1 2 3
key	6 13 14 15
yeey kkk yey yeyy	
Al	
Qaeda No 2 speaks on flotilla incident	
R	
Rrrrrrrr	
ac	
aaaaaabbabbbcccccc	