1 MarysTypingSkills

Mary is from rural back ground and wants to become a data entry operator some day. She has started to learn typing on a computer. But as she is new to typing she ends up holding the key down too long and the words get stretched.

Given a stretched word and few query words , you have to find the count of the query words that can be stretched to form the stretched word.

A stretched word can be divided into groups(of adjacent characters that are same) , for example, in the word "jeeellooo" , the groups are - "j","eee","ll","ooo". The original word in this case is "jello".

Here is the rule for checking-

For a stretched word T, a query word is stretchy if it can be made to be equal to T by any number of applications of characters k, and add some number of characters k to the group so that the size of the group is 3 or more.

Here is an example, starting with "jello", we could do an extension on the group "o" to get "jellooo", but we cannot get "jelloo" since the group "oo" has size less than 3. Also, we could do another extension like "ll" -> "lllll" to get "hellllllooo".

If T = "Jellllllooo", then the query word "Jello" would be stretchy because of these two extension operations: query = "Jello" -> "Jellooo" -> "Jellllllooo" = S.

Sample-

S = jeeellooo

words = jello ji jelo

Output: 1

Explanation:

We can extend "e" and "o" in the word "jello" to get "jeeellooo".

We can't extend "jelo" to get "jeeellooo" because the group "ll" is not size 3 or more.

Notes:

0 <= len(T) <= 100.

0 <= len(words) <= 100.

0 <= len(words[j]) <= 100.

T and all words/letters in words consist only of lowercase letters

Input/Output

Input	Output	Comments
aaaammmmyyyy **aamy am amy ammmy**	**3**	**Input :** Line 1(Red font) - Represents stretched word NextLine(Black font) -List of Query words **Explanation:** The Stretched string contains **a's - 4, m's - 4, y's - 4** count of all alphabets in sequence > 3 So the query words should contain all the alphabets with count of each one is at least 1 **aamy amy ammmy** - are the words which satisfies the given criteria**.** **am - 'y'** is missing **Hence output - 3**
xaaammsss **xamms xe xams**	**1**	**Explanation:** The Stretched string contains **x's - 1, a's - 3, m's - 2, s's - 3** number of x's and m's are < 3, so the query string should contain equal number of alphabets. Accordingly, **xamms -** is the word which satisfies the given criteria**.** **xe -** mismatched word as it doesn't contain all alphabets. **xams -** mismatched word as 'm' count should be exactly the same**.** **Hence output - 1**
xyzz **xyzzz xyyz xyz**	**0**	**Explanation:** The Stretched string contains **x's - 1, y's - 1, z's - 2** The Query word (xyzzz) length > stretched word The Query words (xyyz, xyz) - Mismatches the given criteria **Hence output - 0**
kllmmmnnnn **klmn kllmn kllmmmn** **kllmmn kllmmmnn**	**4**	**Explanation:** The Stretched string contains **k's - 1, l's - 2, m's - 3, n's - 4**

		The query string should contain exact frequency matching only for ‘k’ & ‘l’ but ‘m’ & ‘n’ neednot have same frequency count. Accordingly, **kllmn kllmmmn kllmmn kllmmmnn -** is the word which satisfies the given criteria**.** **klmn -** ‘l’ count should be exactly the same **Hence output - 4**

2 Length of Closed Figures

Two lines P1 and P2 are said to be connected if the end point of P1 and start point of P2 are same. In this problem, there is a collection of points in a two dimensional space and the point numbers are given to represent a line. All the lines have distinct starting point and ending point. Given the start and end point numbers of 'n' lines and a checkpoint number 'p' write a code to find out the length of the closed figure that can be formed that starts with the check point number 'p'.

Input Format

First line contains the number of lines, n
Next 'n' lines contain the number of the start and end points
Next line contains the checkpoint, p

Output Format

Length of the closed figure that can be formed with check point, p
Print zero if a closed figure cannot be formed with check point, p

Input/Output

Input	Output	Comments
10 2 5 7 11 13 14 11 15 17 18 15 17 18 25 32 40 25 32 40 7 7	8	**Input :** Line 1(10) - Represents number of lines Next 10 lines represents 10 start and end points of each line Last Line indicates check point **Explanation:** a check point number as 7, a closed figure of length 8 can be formed with the points: (7, 11) - (11, 15) - (15, 17) - (17, 18) - (18, 25) - (25, 32) - (32, 40) - (40, 7) **Hence output - 8**
5 3 5 5 3 4 8 7 4 6 2 3	2	**Explanation:** a check point number as 7, a closed figure of length 8 can be formed with the points: **(3,5)-(5,3)** **Hence output - 2**