Problem F - Game of Words

John is playing a simple words game with his friend. There are 2 password strings, called S_1 and S_2, that are critical for John online accounts. John won't tell these to his friend, though, because they are too valuable. Instead, he will give out two modified strings, M_1 and M_2. John goes through two steps to transform the password strings into the modified strings. First, he shuffles the characters within each password string. Then, he picks a single character and replaces it with the next or previous letter in the alphabet.

John is interested in measuring how different the modified strings M_1 and M_2 are from the original strings S_1 and S_2. First, he translates each letter in the string into an integer, where $a = 1$, $b = 2$, ..., $z = 26$. Then, for each character in the string, he computes the absolute difference between the values at each index (e.g. the difference between b and e is 3). He computes the difference D_1 between M_1 and S_1, and the difference D_2 between M_2 and S_2. Finally, he defines the total distance X as the sum of D_1 and D_2.

As an example:

- Let the 2 original passwords be: $S_1 = \{ccf\}$, and $S_2 = \{cd\}$

- After shuffling letters: $\{cfc\}$, $\{dc\}$

- John randomly selects $\{cfc\}$ to have a modified character

- John picks the second c to be modified, replacing it with a d: $\{cfd\}$

- Now John has constructed $M_1 = \{cfd\}$ and $M_2 = \{dc\}$

- $D_1 = $ Distance $(\{cfd\}, \{ccf\}) = 5$

- $D_2 = $ Distance $(\{cd\}, \{dc\}) = 2$

- $X = D_1 + D_2 = 5 + 2 = 7$

For security purposes, John wants to know how hard to find the original passwords. Given the 2 modified passwords M_1 and M_2 and the total distance X, compute the number of possible original pairs of passwords. Note that $S_1 = \{ce\}, S_2 = \{ec\}$ and $S_1 = \{ec\}, S_2 = \{ce\}$ are considered two different pairs of passwords.

Input Specification:

The input begins with an integer $T \leq 100$, the number of testcases. Each testcase consists of one line containing two strings, M_1 and M_2 (separated by a space), and a non-negative integer X, where $X \leq 10^5$. Both strings M_1 and M_2 consist of English lower case letters (except **a, z**). Neither M_1 nor M_2 will have length exceeding 10.

Output Specification:

For each testcase, output a single line of output with a single integer: the number of possible original pairs of passwords.

Sample Input:

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2
c g 1
fdj dc 15
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Sample Output:

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4
16
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