Problem F - Beginning of the End

After escaping from MWTS's kidnap, you have decided to lay low for a while. However, your colleague, Sally, who is a spy of the ACM working inside MWTS, knows something that you do not, yet.

She has sent you a cryptic message consisting of two seemingly indecipherable strings. You realized that this is one of the old ACM commucation protocols. The real message can be recovered by computing the longest common subsequence of the two strings, that does not contain a third, secret, string which you both know.

As you went along busily decrypting the message, little did you know the shocking truth that was about to be revealed... (to be continued in Assignment 3)

Input

The input begins with an integer T, the number of test cases.

Each test case consists of three separate lines. The first line contains the first string, S_1. The second line contains the second string, S_2. The third line contains the secret, S_{SECRET}. All three strings are non-empty and have length ≤ 100, and contain only uppercase English letters.

Output

For each test case, output the length of the longest common subsequence of S_1 and S_2 without S_{SECRET} as a substring. If there is no valid common subsequence, output 0.

Sample Input

```
6
ACABADABACABCABAAB
BADAB
ACAACABA
BCBCBC
BCBCBC
BC
ZZXAZXYZZBZZXYZ
XXAXYZBZXYZXYYZ
XYZ
ABABABADABACA
CADABACABACBA
AABAC
CAM
EAT
A
BDDDBBBABABDAACACCACDDABDACDDCBDCDCBCCBABBBADDADACCCAADCDBCDBBBBDDBBBBDCCCCCDDACACCABCACABDBCACDDDAC
BBBDDCBCBDDBADCBAACCDBBABDCDDBACADADCABADBABCAABBDBADDDABDCDCCBDBABADCCBBBCCDCCBDACABDDDCCDACDBDBCAC
DBBDBABAAAC
```

Sample Output

```
5
3
9
8
0
64
```

Sample Input Explanation

In the first test case, the longest common subsequence of S_1 and S_2 is $S_2 =$ `BADAB` as the second string is a subsequence of the first. Trivially, it does not contain the secret string, which is longer.

In the second test case, we have to avoid substring `BC` when we choose our common subsequence, so the possible choices are `BBB`, `CBB`, `CCB`, `CCC`, all of which have length 3.

In the third test case, one possible common subsequence of length 9 is `XAYZBZZYZ`; the common subsequence `XAXYZBZZXYZ` of length 11 is excluded as it contains `XYZ` as a substring.

Similarly, in the fourth test case, `AABABABA` is a valid common subsequence but the longer `AABAABACA` is not.

In the fifth case there are no valid common subsequences as the LCS is `A`.

In the last case a valid LCS is `BDDBBBABAACCACDDBACDDCBDBCABBBADDDACCCAADCCBBBCCCCDACABCCABDBCAC`