It's time for MED!

Time Limit : 3.0 sec
Memory Limit : 512 MB

The edit distance between two words is defined as the minimum number of characters that need to be replaced, added, and/or deleted from the first word to transform it into the second word. Your task in this problem is to find the edit distance between a given pair of words. For example, Consider the words "HEN" and "FAN". The two words differ in their first character and second character. We need to replace the 'H' and 'E' in "HEN" with 'F' and 'A' to arrive at "FAN". Therefore the edit distance is 2. The words "CRY" and "CRYING" are identical in their first three characters, but the second word has three additional characters. Adding "ING" to the first word produces the second word. The edit distance in this case is 3. Consider "GRAVE" and "GROOVY". We can perform the following substitutions in the first word: (1) 'A' → 'O', (2) 'E' → 'Y', then (3) insert the character 'O' in position 4 (after the first 'O'). Thus, the edit distance in this case is 3.

Input

The input will start with an integer N (0<N<1000) on a line by itself. This is followed by N lines, each of which contains a pair of words. Each word will be no longer than 300 characters, and will contain only non-space alphanumeric character. The case of alphabetic characters is to be ignored.

Output

For each pair of words, output the value of minimum edit distance between two words.

Sample Input	Sample Output
7 HELLO Swallow Intention execution Hash Flash Kitten Sitting Fan HEN MOVING Running Static Dynamic	4 5 2 3 2 4 4