



2352 - Sequence Alignment

Asia - Dhaka - 2001/2002

Consider a problem of finding the best possible solution of a new kind of right alignment of two strings. As an example, here is the best such right alignment for two strings AADDEFGGHC and ADCDEGH:

AAD-DEFGGHC

ADCDE--GH-

Each vertical matching position scores 2, and each continuous run of gaps scores -1. Thus the total score of an alignment is twice the number of matching positions, less the number of continuous runs of gaps. In the given example, six positions (A, D, D, E, G, H) match, and three runs of gaps are introduced. Thus the score of this alignment is $2 \times 6 + (-1) \times 3 = 9$. Note that we do not penalize for misalignment at the left, as we only consider the problem of finding the best right alignment.

You are to write a program that finds the score of the best right alignment for any two given strings.

Input

The first line of the input file contains an integer N ($1 \leq N \leq 10,000$) indicating the number of test cases to follow. Each test case consists of two lines each of which contains a string of length at most 50. The strings are composed entirely of alpha-numeric characters.

Output

For each test case in the input print a line containing the score of the best possible right alignment of the two given strings.

Sample Input

```
2
AADDEFGGHC
ADCDEGH
ERTTHCBYNQC
BEARTBCHQYN
```

Sample Output

```
9
8
```

Dhaka 2001-2002