

∞ ECHO ∞

Juliet went to the Echo Valley. According to the myth, if you shout something into the valley, you will hear an echo that is reflected in a mysterious way. For example, shouting abcdef will echo back as faebdccdbeaf. More generally, if you shout a message

$$a_1 a_2 a_3 \dots a_n$$

you will hear the echo

$$a_n a_1 a_{n-1} a_2 a_{n-2} a_3 \dots a_1 a_n$$

Juliet wanted to test the myth. She shouted N messages and carefully wrote down all the echoes she heard. Given all the shouted messages and their corresponding echoes, determine how many pairs match the myth of the Echo Valley.

Input

The first line contains an integer N ($1 \leq N \leq 1\,000$), the number of shouted messages. Each of the following N lines contains a string S_i , the shouted message, in order of i . Each of the following N lines contains a string T_i , the echo heard in response, in order of i . Each string consists only of lowercase English letters (a–z), with length at most 200.

Output

Output the number of pairs of messages S_i and echoes T_i that follow the myth of the Echo Valley.

Example

Input	Output
5 abcdef sdfsdf python cpp fate faebdccdbeaf fdsfds pnyothhtoynp pcppcp fatessssss	2