

Beautiful Anniversary Picture

Timelimit: 2 sec

Problem description

For the great 50th year anniversary of the computer science department at the RWTH, the university wants to take a picture of the most important group of people here, the students. To show our computer science pride, we got a high quality random ordering of our first names with a real quantum computer. But the professors are very envious and plan to sabotage the photo. In the night before the picture should be taken, they printed a random ordering with the terrible C++ standard library and put it into the photographer's bag. Luckily, the students get ahold of this treason and are able to reorder themselves. As not all students took higher level classes, we can only assume that students know the swap-operation. That means that we are only capable of exchanging our position with another student who stands directly left or right to us. As you are scared that the professors have more plans, you want to get into the correct order as fast as possible. How many swaps does it take to obtain the originally planned ordering, given that you are already standing in the random ordering?

The order of students with the same name does not matter.

Input

The input consists of:

- One line with one integer n ($1 \leq n \leq 5 \cdot 10^5$), the number of students.
- One line with n strings $f_1, \dots, f_n$ with f_i being the first name of student i in the bad random ordering. The length of f_i is at most 11 and consists of lowercase letters.
- One line with n strings $r_1, \dots, r_n$ with r_i being the first name of student i in the good random ordering.

Output

Output one integer, the minimal number of swaps that are necessary to obtain the quantum physics approved ordering of the students in the picture.

Sample input/output

Input	Output
4 jan peter jan daniel daniel jan jan peter	4

Moving Daniel to the left takes three swaps and then it suffices to swap the rightmost Jan with Peter. It is impossible to use only three swaps.