UM Librarian

Input file:	`standard input`
Output file:	`standard output`
Time limit:	2 seconds
Memory limit:	256 megabytes

You want to become junior librarian in University of Malaya Library. A senior librarian wants to give you a test before you can be recruited as a junior librarian by giving a books list of size n which contains $d_1, d_2, ...d_n$ books ID, the order of the books should be in. You are also given a book rack of size m containing $b_1, b_2, ..b_m$ books.

Each book have an ID and you are required to arrange the books in a book rack according to the books ID in the list. The books with book ID which is at the lower index position in the book list will have a higher priority to be arranged in front of the book rack.

When arranging the books, you are only allowed to swap any two books **adjacently**. Since you are determined to become a junior librarian and want to impress the senior librarian. How can you arrange the books in **minimum swap**?

Input

The first line of input contains a single integer t ($1 \leq t \leq 100$) - number of test cases.

The first line of every test case contain an integer n ($3 \leq n \leq 10000$) - size of book list.

The second line of every test case contains n integers, representing the book ID in the book list where $d_1, d_2, ...d_n$ ($1 \leq d_i \leq n$).

The third line of every test case contains an integer m where ($m = 2 \times n$) - The size of the book rack.

The fourth line of every test case contains m integers, representing the books in the book rack where $b_1, b_2, ...b_m$ ($1 \leq b_i \leq n$). There may have **duplicated** books ID in the rack, and some books ID in the list may **not exist** in the rack.

Only one valid answer exist.

Output

For every test case, print the **minimum number** of adjacent swaps to arrange the books according to the book list.

Example

standard input	standard output
3 3 1 2 3 6 1 3 1 3 2 3 3 3 1 2 6 2 2 2 2 3 3 3 3 1 2 6 1 1 3 3 2 2	3 8 4

Note

For the 1st test case, after sorting, the book rack will be 1 1 2 3 3 3

This is one of the sorting method :

- 1 **1 3** 3 2 3

- 1 1 3 **2 3** 3

- 1 1 **2 3** 3 3

For the 2nd test case, after sorting, the book rack will be 3 3 2 2 2 2

For the 3rd test case, after sorting, the book rack will be 3 3 1 1 2 2