4. Closet OCD

Program Name: Closet.java **Input File: closet.dat**

The only problem with someone else doing your laundry is that they always hang up clothes in the wrong places in your closet. Now you have to go set things right, but you want to do it with the least amount of possible effort.

Given a sequence of numbers representing articles of clothing on a rack, determine the least number of moves required to return the sequence to ascending order.

A 'move' simply removes a number from one place in the sequence and places it in another. For instance, consider the following sequence of 10 numbers:

9 1 2 3 4 5 6 7 8 10

All that is required is a single move of the '9' to return the sequence to its proper order.

Input
The first line will contain a single integer n that indicates the number of data sets in the input. Each of the following n lines will contain a sequence of the numbers from 1 to 10.

Output
For each data set in the input, output the minimum number of moves required to return the sequence of numbers to ascending order.

Example Input File

```
3
9 1 2 3 4 5 6 7 8 10
10 9 8 7 6 5 4 3 2 1
10 2 3 4 5 6 7 8 9 1
```

Example Output to Screen

```
1
9
2
```