

Poor Valet

Problem Code: **PVALET**



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Our Chef is opening a new restaurant in the city. Today being the inauguration night of his new restaurant and Chef's huge popularity has attracted a large crowd for the grand opening. For convenience of the customers, cars of all the customers have been marked with a number from 1 to N where N is the total number of cars, corresponding to their parking space number in which each car has to be parked. Due to the large crowd, the car parking is full except for one parking space. Moreover, as the cars came too frequently, they could not be parked in their respective parking space. Poor valet at the restaurant's parking, Raka, is left with the arduous task of parking the cars at their respective places. Luckily for him, parking has been closed and no more cars are coming and he can now arrange the cars in their proper places. As Raka is left alone to park the cars, he can only move one car from one parking to the other parking. He can use the empty parking space to move the cars around. He wants to arrange the cars in as few moves as possible. Raka asks you for help in finding the optimal strategy to arrange cars in their proper places.

[All Submissions \(/DI17R041/status/PVALET\)](#)

Successful Submissions



Input

An integer T denoting the number of test cases.

For each test cases there are 2 lines.

The first line cointans a single integer N where N denotes the number of cars.

The second line contains N integers K_0 to K_{N-1} where K_i represents the number marked on the car standing at parking space number i in the initial configuration.

Parking lot number N is left empty.

Output

For each test output a single integer M, where M is the number of car moves required to arrange all the cars to their proper location.

Example

Input :

```
2
3
1 0 2
4
2 1 3 0
```

Output :

```
3
4
```

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Tags: [directi_campus \(/tags/problems/directi_campus\)](#)

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Time Limit: 0.122807 secs

Source Limit: 50000 Bytes

Languages: C, CPP 4.3.2, CPP 6.3, CPP14, JAVA, PYTH, PYTH 3.5

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[Problem Setting \(http://www.codechef.com/problemsetting\)](http://www.codechef.com/problemsetting)
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