

6899 Permutation Cycles

There are several ways to represent a permutation of the n integers from 1 to n . For example, when the permutation of 8 integers is $(3,2,7,8,1,4,5,6)$, one way to represent it as an array is $\begin{pmatrix} 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 \\ 3 & 2 & 7 & 8 & 1 & 4 & 5 & 6 \end{pmatrix}$. Another way to represent it in cycle-arrow form is shown in Figure 1.

If we represent a permutation as an array $\begin{pmatrix} 1 & \dots & i & \dots & n \\ \pi_1 & \dots & \pi_i & \dots & \pi_n \end{pmatrix}$ then there is a directed edge from i to π_i in its corresponding cycle-arrow form for each i .

As shown in Figure 1, there are 3 cycles when we represent permutation $(3,2,7,8,1,4,5,6)$ in cycle-arrow form. We call these cycles ‘permutation cycles.’

You are to write a program which counts the number of permutation cycles in a given permutation of n integers.

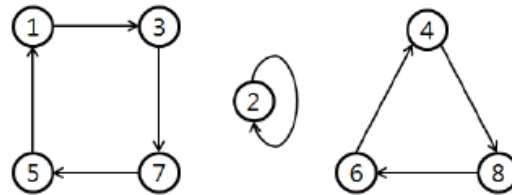


Figure 1.

Input

Your program is to read from standard input. The input consists of T test cases. The number of test cases T is given in the first line of the input. Each test case starts with a line containing an integer n ($2 \leq n \leq 1,000$). In the following line there is a permutation of n integers from 1 to n . Each integer in a permutation is separated by a blank.

Output

Your program is to write to standard output. Print exactly one line for each test case. The line should contain the number of permutation cycles in the given permutation.

The following shows sample input and output for two test cases.

Sample Input

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

Sample Output

```
3
7
```