

Permutation Cycles

Problem Description

There are several ways to represent a permutation consisted of the n integers from 1 to n . For example, when a 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.

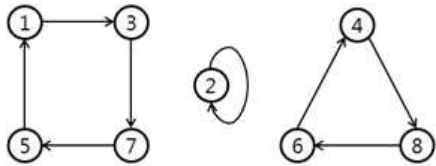


Figure 1.

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.

Input

The input file name is `cycle.inp`. 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 the n integers from 1 to n . Each integer in a permutation is separated by a blank.

Output

The output file name is `cycle.out`. Print exactly one line for each test case. The line should contain the number of permutation cycles in the given permutation.

Sample Input	Output for the Sample Input
2 8 3 2 7 8 1 4 5 6 10 2 1 3 4 5 6 7 9 10 8	3 7