# 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.

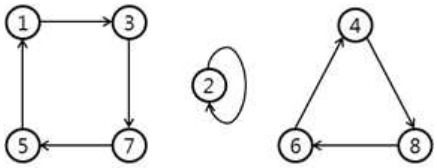


Figure 1.

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 $\pi_i$ 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 $n(2 \le n \le 1{,}000)$. 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<br>8<br>3 2 7 8 1 4 5 6<br>10<br>2 1 3 4 5 6 7 9 10 8 | 3<br>7 |