SPOJ Problem Set

379. Ambiguous Permutations

Problem code: PERMUT2

Some programming contest problems are really tricky: not only do they require a different output format from what you might have expected, but also the sample output does not show the difference. For an example, let us look at permutations.
A **permutation** of the integers *1* to *n* is an ordering of these integers. So the natural way to represent a permutation is to list the integers in this order. With *n = 5*, a permutation might look like 2, 3, 4, 5, 1.
However, there is another possibility of representing a permutation: You create a list of numbers where the *i*-th number is the position of the integer *i* in the permutation. Let us call this second possibility an **inverse permutation**. The inverse permutation for the sequence above is 5, 1, 2, 3, 4.
An **ambiguous permutation** is a permutation which cannot be distinguished from its inverse permutation. The permutation 1, 4, 3, 2 for example is ambiguous, because its inverse permutation is the same. To get rid of such annoying sample test cases, you have to write a program which detects if a given permutation is ambiguous or not.

Input Specification

The input contains several test cases.
The first line of each test case contains an integer *n* (*1* ≤ *n* ≤ *100000*). Then a permutation of the integers *1* to *n* follows in the next line. There is exactly one space character between consecutive integers. You can assume that every integer between *1* and *n* appears exactly once in the permutation.
The last test case is followed by a zero.

Output Specification

For each test case output whether the permutation is ambiguous or not. Adhere to the format shown in the sample output.

Sample Input

```
4
1 4 3 2
5
2 3 4 5 1
1
1
0
```

Sample Output

```
ambiguous
not ambiguous
ambiguous
```

Added by:	Adrian Kuegel
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