

## 7092 Islands in the Data Stream

Given a sequence of integers  $a_1, a_2, a_3, \dots, a_n$ , an *island* in the sequence is a contiguous subsequence for which each element is greater than the elements immediately before and after the subsequence. In the examples below, each island in the sequence has a bracket below it. The bracket for an island contained within another island is below the bracket of the containing island.

0 0 1 1 2 2 1 1 0 1 2 0

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

0 1 2 4 4 1 0 2 4 1 0 0

Write a program that takes as input a sequence of 12 non-negative integers and outputs the number of islands in the sequence.

### Input

The first line of input contains a single integer  $P$ , ( $1 \leq P \leq 1000$ ), which is the number of data sets that follow. Each data set should be processed identically and independently.

Each data set consists of a single line of input. It contains the data set number,  $K$ , followed by 12 non-negative integers separated by a single space. The first and last integers in the sequence will be '0'.

### Output

For each data set there is one line of output. The single output line consists of the data set number,  $K$ , followed by a single space followed by the number of islands in the sequence.

### Sample Input

```
4
1 0 0 1 1 2 2 1 1 0 1 2 0
2 0 1 2 4 3 1 3 4 5 2 1 0
3 0 1 2 4 4 1 0 2 4 1 0 0
4 0 1 2 3 4 5 6 7 8 9 10 0
```

### Sample Output

```
1 4
2 8
3 6
4 10
```