**B • Islands in the Data Stream**

Given a sequence of integers $a_1, a_2, a_3, \ldots, a_n$, 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.

\[
\begin{array}{cccccccccccccc}
0 & 0 & 1 & 1 & 2 & 2 & 1 & 1 & 0 & 1 & 2 & 0 \\
\end{array}
\]

\[
\begin{array}{cccccccccccccc}
0 & 1 & 2 & 4 & 3 & 1 & 3 & 4 & 5 & 2 & 1 & 0 \\
\end{array}
\]

\[
\begin{array}{cccccccccccccc}
0 & 1 & 2 & 4 & 4 & 1 & 0 & 2 & 4 & 1 & 0 & 0 \\
\end{array}
\]

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.

<table>
<thead>
<tr>
<th>Sample Input</th>
<th>Sample Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>1 4</td>
</tr>
<tr>
<td>1 0 0 1 1 2 2 1 1 0 1 2 0</td>
<td>2 8</td>
</tr>
<tr>
<td>2 0 1 2 4 3 1 3 4 5 2 1 0</td>
<td>3 6</td>
</tr>
<tr>
<td>3 0 1 2 4 4 1 0 2 4 1 0 0</td>
<td>4 10</td>
</tr>
<tr>
<td>4 0 1 2 3 4 5 6 7 8 9 10 0</td>
<td></td>
</tr>
</tbody>
</table>