

**1000. LIS**

Total: 310 Accepted: 92

**Description****Time Limit: 1sec    Memory Limit: 256MB**

A numeric sequence of  $a_i$  is ordered if  $a_1 \leq a_2 \leq \dots \leq a_N$ . Let the subsequence of the given numeric sequence ( $a_1, a_2, \dots, a_N$ ) be any sequence ( $a_{i_1}, a_{i_2}, \dots, a_{i_K}$ ), where  $1 \leq i_1 < i_2 < \dots < i_K \leq N$ . For example, the sequence (1, 7, 3, 5, 9, 4, 8) has ordered subsequences, e. g., (1, 7), (3, 4, 8) and many others. All the longest ordered subsequences are of length 4, e. g., (1, 3, 5, 8).

Your program, when given the numeric sequence, must find the length of its longest ordered subsequence  $L$  with the minimum  $a_L$ .

**Input**

The first line of input file contains the length of sequence  $N$ . The second line contains the elements of sequence -  $N$  integers in the range from 0 to  $10^9$  each, separated by spaces. ( $1 \leq N \leq 5000$ )

**Output**

Output must contain two integers - the length of the longest ordered subsequence of the given sequence  $L$  and the minimum  $a_L$ .

**Sample Input**[Copy](#)

```
7
1 7 3 5 9 4 8
```

**Sample Output**[Copy](#)

```
4 8
```

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