

HOME TOP CATALOG CONTESTS GYM PROBLEMSET GROUPS RATING EDU API CALENDAR HELP

STEP 1 STEP 2 STEP 3 STEP 4 | THEORY PRACTICE | SUBMIT SUBMISSIONS HACKS STANDINGS CUSTOM INVOCATION ITMO Academy: pilot course » Segment Tree, part 1 » Step 1 » Practice

C. Number of Minimums on a Segment

time limit per test: 1 second memory limit per test: 1024 megabytes input: standard input output: standard output

Now change the code of the segment tree so that, in addition to the minimum on a segment, it also counts the number of elements equal to the minimum.

Input

The first line contains two integers n and m ($1 \le n, m \le 100000$), the size of the array and the number of operations. The next line contains n numbers a_i , the initial state of the array ($0 \le a_i \le 10^9$). The following lines contain the description of the operations. The description of each operation is as follows:

- 1 i v: set the element with index i to v ($0 \le i < n$, $0 \le v \le 10^9$).
- 2 l r: calculate the minimum and number of elements equal to minimum of elements with indices from l to r-1 ($0 \le l < r \le n$).

Output

For each operation of the second type print two integers: the minimum on a segment, and the number of elements equal to minimum.

Example

input	Сору
5 5 3 4 3 5 2	
2 0 3 1 1 2	
2 0 3 1 0 2	
2 0 5 output	Сору
3 2	
2 1 2 3	

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