

CSES Problem Set

Dynamic Range Minimum Queries

TASK | SUBMIT | RESULTS | STATISTICS | HACKING

Time limit: 1.00 s Memory limit: 512 MB

Given an array of n integers, your task is to process q queries of the following types:

1. update the value at position k to u
2. what is the minimum value in range $[a, b]$?

Input

The first input line has two integers n and q : the number of values and queries.

The second line has n integers x_1, x_2, \dots, x_n : the array values.

Finally, there are q lines describing the queries. Each line has three integers: either " 1 k u " or " 2 a b ".

Output

Print the result of each query of type 2.

Constraints

- $1 \leq n, q \leq 2 \cdot 10^5$
- $1 \leq x_i, u \leq 10^9$
- $1 \leq k \leq n$
- $1 \leq a \leq b \leq n$

Example

Input:
8 4
3 2 4 5 1 1 5 3
2 1 4
2 5 6
1 2 3
2 1 4


Output:
2
1
3

Range Queries

Static Range Sum Queries	
Static Range Minimum Queries	
Dynamic Range Sum Queries	
Dynamic Range Minimum Queries	
Range Xor Queries	
Range Update Queries	
Forest Queries	
Hotel Queries	

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Your submissions

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