

C. Circular RMQ

time limit per test: 1.5 seconds
memory limit per test: 256 megabytes

You are given circular array a_0, a_1, \dots, a_{n-1} . There are two types of operations with it:

- $inc(lf, rg, v)$ — this operation increases each element on the segment $[lf, rg]$ (inclusively) by v ;
- $rmq(lf, rg)$ — this operation returns minimal value on the segment $[lf, rg]$ (inclusively).

Assume segments to be circular, so if $n = 5$ and $lf = 3, rg = 1$, it means the index sequence: 3, 4, 0, 1.

Write program to process given sequence of operations.

Input

The first line contains integer n ($1 \leq n \leq 200000$). The next line contains initial state of the array: a_0, a_1, \dots, a_{n-1} ($-10^6 \leq a_i \leq 10^6$), a_i are integer. The third line contains integer m ($0 \leq m \leq 200000$), m — the number of operations. Next m lines contain one operation each. If line contains two integer lf, rg ($0 \leq lf, rg \leq n-1$) it means rmq operation, it contains three integers lf, rg, v ($0 \leq lf, rg \leq n-1; -10^6 \leq v \leq 10^6$) — inc operation.

Output

For each rmq operation write result for it. Please, do not use `%lld` specifier to read or write 64-bit integers in C++. It is preferred to use `cout` (also you may use `%I64d`).

Examples

input	Copy
4 1 2 3 4 4 3 0 3 0 -1 0 1 2 1	
output	Copy
1 0 0	

Codeforces Testing Round 1

Finished

Practice



→ Virtual participation

Virtual contest is a way to take part in past contest, as close as possible to participation on time. It is supported only ICPC mode for virtual contests. If you've seen these problems, a virtual contest is not for you - solve these problems in the archive. If you just want to solve some problem from a contest, a virtual contest is not for you - solve this problem in the archive. Never use someone else's code, read the tutorials or communicate with other person during a virtual contest.

Start virtual contest

→ Clone Contest to Mashup

You can clone this contest to a mashup.

Clone Contest

→ Submit?

Language: GNU G++20 13.2 (64 bit, win)

Choose file:

Choose File

 No file chosen

Submit

→ Last submissions

Submission	Time	Verdict
291101020	Nov/11/2024 20:59	Accepted
272264517	Jul/24/2024 09:57	Accepted
272262296	Jul/24/2024 09:41	Accepted

→ Problem tags

data structures

*2200

No tag edit access

→ Contest materials

Announcement

