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PROBLEMS   SUBMIT CODE   MY SUBMISSIONS   STATUS   HACKS   STANDINGS   CUSTOM INVOCATION

G. Mass Change Queries

time limit per test: 3 seconds

memory limit per test: 512 megabytes

You are given an array a consisting of n integers. You have to process q queries to this array; each query is given as four numbers l, r, x and y, denoting that for every i such that $l \le i \le r$ and $a_i = x$ you have to set a_i equal to y.

Print the array after all queries are processed.

Input

The first line contains one integer n ($1 \le n \le 200000$) — the size of array a.

The second line contains n integers $a_1, a_2, ..., a_n$ ($1 \le a_i \le 100$) — the elements of array a.

The third line contains one integer q ($1 \le q \le 200000$) — the number of queries you have to process.

Then q lines follow. i-th line contains four integers l, r, x and y denoting i-th query ($1 \le l \le r \le n$, $1 \le x, y \le 100$).

Output

Print n integers — elements of array a after all changes are made.

Example

input
5 1 2 3 4 5 3 3 5 3 5 1 5 5 1 1 5 1 5

output
5 2 5 4 5

→ 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
316139421	Apr/18/2025 21:32	Accepted
316137426	Apr/18/2025 21:15	Accepted
316135115	Apr/18/2025 20:57	Runtime error on test 1
316134253	Apr/18/2025 20:51	Wrong answer on test 122
316133423	Apr/18/2025 20:44	Wrong answer on test 114
316132978	Apr/18/2025 20:41	Wrong answer on test 2
316131686	Apr/18/2025 20:31	Runtime error on test 114
316130919	Apr/18/2025 20:26	Runtime error on test 114
316129657	Apr/18/2025 20:16	Wrong answer on test 2

→ Problem tags

[data structures] [*2500]

No tag edit access

→ Contest materials

- A (en)   ✕
- T (en)   ✕