

F. Range Update Point Query

time limit per test: 2 seconds
memory limit per test: 256 megabytes

Given an array a_1, a_2, \dots, a_n , you need to handle a total of q updates and queries of two types:

- 1 $l\ r$ — for each index i with $l \leq i \leq r$, update the value of a_i to the sum of the digits of a_i .
- 2 x — output a_x .

Input

The first line of the input contains an integer t ($1 \leq t \leq 1000$) — the number of testcases.

The first line of each test case contains two integers n and q ($1 \leq n, q \leq 2 \cdot 10^5$) — the size of the array and the number of queries, respectively.

The second line of each test case contains n integers a_1, a_2, \dots, a_n ($1 \leq a_i \leq 10^9$).

The next q lines of each test case are of two forms:

- 1 $l\ r$ ($1 \leq l \leq r \leq n$) — it means, for each index i with $l \leq i \leq r$, you should update the value of a_i to the sum of its digits.
- 2 x ($1 \leq x \leq n$) — it means you should output a_x .

There is at least one query of the second type.

The sum of n over all test cases does not exceed $2 \cdot 10^5$.

The sum of q over all test cases does not exceed $2 \cdot 10^5$.

Output

For each test case, output the answers of queries of the second type, in the order they are given.

Example

input	Copy
3 5 8 1 420 69 1434 2023 1 2 3 2 2 2 3 2 4 1 2 5 2 1 2 3 2 5 2 3 9999 1000 1 1 2 2 1 2 2 1 1 1 2 1	
output	Copy
6 15 1434 1 6 7 36 1 1	

Note

In the first test case, the following process occurs:

- Initially, $a = [1, 420, 69, 1434, 2023]$.
- The operation is performed for $l = 2, r = 3$, yielding $[1, 6, 15, 1434, 2023]$.
- We are queried for $x = 2, x = 3$, and $x = 4$, and output 6, 15, and 1434.
- The operation is performed for $l = 2, r = 5$, yielding $[1, 6, 6, 12, 7]$.
- We are queried for $x = 1, x = 3$, and $x = 5$, and output 1, 6, and 7.

Codeforces Round 849 (Div. 4)

Finished

Practice

→ Virtual participation

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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
291102819	Nov/11/2024 21:15	Accepted
274665867	Aug/06/2024 12:17	Accepted
274662862	Aug/06/2024 11:57	Accepted
274662626	Aug/06/2024 11:55	Time limit exceeded on test 19

→ Problem tags

binary searchbrute forcedata structures*1500

No tag edit access

→ Contest materials

Announcement (en)

Tutorial (en)