

PROBLEMS SUBMIT CODE MY SUBMISSIONS STATUS STANDINGS CUSTOM INVOCATION

B. Digit occurrence Sum

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

Given n distinct non-negative currently available integers a_1, a_2, \dots, a_n . Define the function $count(x)$ as the number of times the digit x appears in all currently available integers. For any integer k , $f(k)$ is defined as the sum of $count(x)$ for each digit x in k .

For example, let's consider the currently available integers: 70, 123, 311, 125. In this case, $count(0) = 1$, $count(1) = 4$, and so on. For $f(311)$, we have $count(3) + count(1) + count(1) = 2 + 4 + 4 = 10$.

You will be given q queries, each of which can be one of the following three types:

- $+ k$: Add integer k to the currently available integers if it's not already present. If k is already in the list, remove it.
- $- k$: Delete the k -th largest integer from the currently available integers. If there are fewer than k integers available, skip this operation.
- $? k$: Print $f(k)$ if k is currently available among the integers. If k is not available, print -1 .

Input

The first line consists of two integers n, q .

Second line consists of n integers a_1, a_2, \dots, a_n .

Next q lines each consist of $- k$, $+ k$ or $? k$.

$$1 \leq n, q \leq 3 \times 10^5$$
$$1 \leq a_i \leq 2 \times 10^9$$

Output

For each " $? k$ " In the query, Print $f(k)$ if k is currently available. Otherwise print -1 .

Example


input	Copy
4 6 70 123 311 125 ? 123 - 2 ? 123 + 234 - 3 ? 123	
output	Copy
8 6 -1	

Replay of Ostad Presents Intra KUET Programming Contest 2023

Finished

Practice

About Contest



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
302160288	Jan/21/2025 04:47	Accepted
302141471	Jan/20/2025 22:41	Accepted

Contest materials

Announcement (en)

Editorial (PDF) (en)