Find Index

Setter: Ashish Khatkar
Tester: Ashish Khatkar

You are given an array of integers. Now, you have to find the index of the number which contains Kth zero globally.
See example:
Say array is [100, 1000, 12345, 4560]
Now, globally the number of zeroes in array are 6.
index_of_1st_zero = 0
index_of_2nd_zero = 0
index_of_3rd_zero = 1
index_of_4th_zero = 1
index_of_5th_zero = 1
index_of_6th_zero = 3
Indexes are 0-indexed.

So, now I hope question is clear. So, let me tell what you have to do.
You will be given Q queries on this array.
There will be 2 type of queries :
1K
0 I V
In **1 K** type of queries you have to output the index of Kth zero.
In **0 I V** type queries update the value of Ith index to V.

Input:
First line of input contains a single integer **N**, denoting the length of the array.
2nd line contains **N** space separated integers of the array.
3rd line contains a single integer **Q** denoting number of queries.
Next **Q** line contains queries as explained above.

Output:
For each **1 K** type of query output the index of Kth zero. (Use 0 based indexing). **If K is greater than number of zeroes print -1**.

Sample Input:

```
4
100 1000 12345 4560
10
1 1
1 2
1 3
1 4
1 5
1 6
1 7
0 0 98
1 1
1 5
```

Sample Output:

```
0
0
1
1
1
3
-1
1
-1
```

Sample Explanation:

As explained above. After query 0 0 98 array becomes [98, 1000, 12345, 4560]

Constraints:

1<=N<=10^6
1<=Q<=10^6
0<=ar[i], V<=10^6
1<=K<=10^8
0<=I<=N-1