→ Submit?

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

Choose file: Choose File No file chosen

Submit

B. K-th one

time limit per test: 1 second

memory limit per test: 1024 megabytes

input: standard input

output: standard output

In this problem, you need to add to the segment tree the operation of finding the k-th one.

Input

The first line contains two numbers n and m ($1 \le n, m \le 100000$), the size of the array and the number of operations. The next line contains n numbers a_i, the initial state of the array ($a_i \in \{0, 1\}$). The following lines contain the description of the operations. The description of each operation is as follows:

- 1 i: change the element with index i to the opposite.
- 2 k: find the k-th one (ones are numbered from 0, it is guaranteed that there are enough ones in the array).

Output

For each operation of the second type, print the index of the corresponding one (all indices in this problem are from 0).

Example

input Copy

```
5 7
1 1 0 1 0
2 0
2 1
2 2
1 2
2 3
1 0
2 0
```

output Copy

```
0
1
3
3
1
```