

Sherlock and Watson



John Watson performs an operation called *Right Circular Rotation* on an integer array $[a_0, a_1, \dots a_{N-1}]$. *Right Circular Rotation* transforms the array from $[a_0, a_1, \dots a_{N-1}]$ to $[a_{N-1}, a_0, \dots, a_{N-2}]$.

He performs the operation K times and tests Sherlock's ability to identify the element at a particular position in the array. He asks Q queries. Each query consists of one integer, idx, for which you have to print the element at index idx in the rotated array, i.e. a_{idx} .

Input Format

The first line consists of three integers, N, K, and Q,, separated by a single space. The next line contains N space-separated integers which indicate the elements of the array A. Each of the next Q lines contains one integer per line denoting idx.

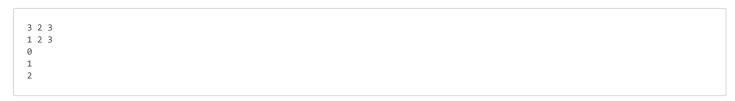
Output Format

For each query, print the value at index idx in the updated array separated by newline.

Constraints

- $1 \le N \le 10^5$
- $1 \le a_i \le 10^5$
- $1 < K < 10^5$
- $1 \le Q \le 500$
- $0 \le idx \le N-1$

Sample input



Sample output



Explanation

After one rotation array becomes, [3, 1, 2]. After another rotation array becomes [2, 3, 1]. Final array now is [2, 3, 1]. Oth element of array is 2. 1st element of array is 3. 2nd element of array is 1.

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Submissions: 6499

Max Score: 20

Difficulty: Moderate

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