Rabbit Rotation

Problem Statement

There are N rabbits, with a number tag on their body, line up into a single queue. Then they perform K times "Rabbit rotation". "Rabbit rotation" means to shift all rabbits to the right, and the last rabbit in the queue moves to the front of the queue. For example, in the beginning, the queue is: "0 1 2 3 4 … n-1". After one "Rabbit rotation", the queue becomes "n-1 0 1 2 3 4 … n-2".

After K times of "Rabbit rotation", Usagi Twei, the head of rabbits group, asks Q queries. In each query, she selects a position on the queue, and you need to help her to find which rabbit is at that position.

Input

There are multiple test cases. For each test case, there are 3 integers N ($1 \le N \le 10^5$), K ($1 \le K \le 10^5$) and Q($1 \le Q \le 500$) separated by a single space.

The next line contains N space separated integers which indicates the number tag ($1 \le queue[i] \le 10^5$), of each rabbit on the queue.

Each of the next *Q* lines contains one integer per line denoting the position of each query ($0 \le query[i] \le N-1$).

The input ends with EOF

Output

For each query, output the number tag of the target rabbit after K "Rabbit rotation".

Samples

Input	Output
3 2 3 1 2 3 0 1 2 3 2 3 1 1 1 0 1 2	2 3 1 1 1 1