# K-th Number

You are working for Macrohard company in data structures department. After failing your previous task about key insertion you were asked to write a new data structure that would be able to return quickly k-th order statistics in the array segment.

That is, given an array a[1 ... n] of different integer numbers, your program must answer a series of questions Q(i, j, k) in the form: "What would be the k-th number in a[i ... j] segment, if this segment was sorted?"

For example, consider the array a = (1, 5, 2, 6, 3, 7, 4). Let the question be Q(2, 5, 3). The segment a[2 ... 5] is (5, 2, 6, 3). If we sort this segment, we get (2, 3, 5, 6), the third number is 5, and therefore the answer to the question is 5.

## Input

The first line of the input contains n — the size of the array, and m — the number of questions to answer ($1 \le n \le 100000$, $1 \le m \le 5000$).

The second line contains n different integer numbers not exceeding $10^9$ by their absolute values — the array for which the answers should be given.

The following m lines contain question descriptions, each description consists of three numbers: i, j, and k ($1 \le i \le j \le n$, $1 \le k \le j - i + 1$) and represents the question Q(i, j, k).

## Output

For each question output the answer to it — the k-th number in sorted a[i ... j] segment.

## Example

**Input:**
7 3
1 5 2 6 3 7 4
2 5 3
4 4 1
1 7 3

**Output:**
5
6
3

Note: a naive solution will not work!!!