



北京大学 PEKING UNIVERSITY

JUDGE ONLINE FOR ACM/ICPC



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K-th Number

Time Limit: 20000MS Memory Limit: 65536K
Total Submissions: 65649 Accepted: 23154
Case Time Limit: 2000MS

Description

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 file contains n --- the size of the array, and m --- the number of questions to answer ($1 \leq n \leq 100\,000$, $1 \leq m \leq 5\,000$).

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 ($1 \leq i \leq j \leq n$, $1 \leq k \leq j - i + 1$) 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.

Sample Input

```
7 3
1 5 2 6 3 7 4
2 5 3
4 4 1
1 7 3
```

Sample Output

```
5
6
3
```

Hint

This problem has huge input,so please use c-style input(scanf,printf),or you may got time limit exceed.

Source

Northeastern Europe 2004, Northern Subregion

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