

Interval Mex

Input file: **standard input**
Output file: **standard output**
Time limit: 1 second
Memory limit: 64 megabytes

For any multiset S (S may contain duplicated elements) of non-negative integers, define $\text{mex}(S)$ as the smallest non-negative integer that is not in S .

You are given a sequence of n non-negative integers A_1, A_2, \dots, A_n and q queries.

For any interval $[l, r]$ ($1 \leq l \leq r \leq n$), let its weight be $\text{mex}([l, r]) = \text{mex}(\{A_l, A_{l+1}, \dots, A_r\})$.

For each query, you are given an interval $[L, R]$ and a positive integer k . Find the k -th smallest weight among all subintervals of $[L, R]$.

Input

The first line contains two integers n, q ($n, q \leq 10^5$), denoting the length of the sequence and the number of queries.

The second line contains n non-negative integers A_1, A_2, \dots, A_n ($0 \leq A_i \leq n$) separated by spaces.

In the following q lines, each line contains three integers L, R, k ($1 \leq L \leq R \leq n, 1 \leq k \leq \frac{(R-L+1)(R-L+2)}{2}$), denoting a query.

Output

Output q lines. The i -th line should contain the answer of the i -th query.

Example

standard input	standard output
5 5	0
1 0 3 0 2	1
1 5 3	1
3 4 2	1
1 3 4	1
1 3 3	
2 2 1	