

Problem A. Best Subsequence

Input file: *standard input*
Output file: *standard output*
Time limit: 7 seconds
Memory limit: 1024 mebibytes

We call W a k -best number of sequence $B_{1\dots m}$ if there exists a sequence $C_{1\dots k}$ satisfying the following two conditions:

1. $C_{1\dots k}$ is a subsequence of $B_{1\dots m}$.
2. $\forall i \in [1, k], C_i + C_{(i \bmod k) + 1} \leq W$.

Given a sequence $A_{1\dots n}$, you need to answer Q questions. Each question consists of three integers L, R, K , and you need to calculate the minimum K -best number of $A_{L\dots R}$.

Recall that C is a subsequence of B if and only if we can obtain C by removing some elements of B (possibly none or all).

Input

The first line contains two integers n and Q ($1 \leq n, Q \leq 10^5$).

The second line contains n integers $A_{1\dots n}$ ($0 \leq A_i \leq 10^9$).

Then Q lines follow. Each of them contains three integers L, R, K , representing a question ($1 \leq L \leq R \leq n$; $1 \leq K \leq R - L + 1$).

Output

For each question, output a single line with a single integer: the answer.

Example

standard input	standard output
5 3	8
2 6 1 5 4	3
1 5 4	6
1 3 2	
1 5 3	