Problem I
Stock Analysis

Time Limit: 2 Seconds

SY Company wants to analyze a stock. The fluctuation value, which is the difference in stock prices for two consecutive days, is the most frequently used data for the time-series analysis of the stock. It is important to utilize the largest sum of the contiguous fluctuation values. However, using the largest contiguous sum as a key indicator could be risky. As an alternative, the company utilizes the largest contiguous sum that is not greater than a predetermined value U in a specified period $[S, E]$ from S to E. The company wants to process such queries as fast as possible, where a query is defined as a predetermined value U and a period $[S, E]$.

Given a collection of n recent fluctuation values for some stock and m queries $\{(S_1, E_1, U_1), \ldots, (S_m, E_m, U_m)\}$, write a program to find the largest sum of contiguous fluctuation values that is less than or equal to U_i in the period $[S_i, E_i]$for each query (S_i, E_i, U_i).

Input

Your program is to read from standard input. The input starts with a line containing two integers, n and m, representing the number of fluctuation values and the number of queries respectively, where $1 \le n \le 2{,}000$ and $1 \le m \le 200{,}000$. The next line contains n integers representing n fluctuation values, which are numbered in chronological order from 1 to n. Each of the following m lines represents a query that consists of three integers, S_i, E_i, and U_i, where $[S_i, E_i]$ is the period from S_i to E_i over which the fluctuation values should be considered and U_i is the value that the contiguous sum should not exceed. Note that all fluctuation values are between -10^9 and 10^9, $1 \le S_i \le E_i \le n$ and $-10^{14} \le U_i \le 10^{14}$ for $i = 1, \ldots, m$.

Output

Your program is to write to standard output. Print exactly m lines. The i-th line should contain the largest sum of contiguous fluctuation values that does not exceed U_i and in the period $[S_i, E_i]$ for the i-th query. Note that every contiguous sum is the sum of one or more consecutive fluctuation values. When it is impossible to find such the sum, the program should print `NONE`.

The following shows sample input and output for two test cases.

Sample Input 1	Output for the Sample Input 1
5 3 1 -2 -3 5 4 1 3 -2 1 5 8 1 5 3	-2 6 2

Sample Input 2	Output for the Sample Input 2
6 4 3 8 -3 2 5 2 1 6 17 1 6 16 2 5 4 2 5 -4	17 15 4 NONE