
Problem A. The Jump from Height of Self-importance to Height of IQ Level

Input file: *standard input*
Output file: *standard output*
Time limit: 7 seconds
Memory limit: 512 mebibytes

There are n skyscrapers arranged in a row, the height of the i -th of them is h_i . The numbers h_i form a permutation of integers from 1 to n .

Alexey wants to make a jump using his grappling hook. In order to perform a jump, he needs exactly three skyscrapers: i, j, k , such that $i < j < k$ and $h_i < h_j < h_k$.

In addition, skyscrapers sometimes change their positions. You have to handle q queries:

In the i -th query you are given l_i, r_i, k_i . Skyscraper from every position j such that $l_i \leq j \leq r_i - k_i$ moves to position $j + k_i$, and skyscraper from every position j such that $r_i - k_i + 1 \leq j \leq r_i$ moves to position $j + k_i - (r_i - l_i + 1)$. In other words, you need to shift the segment l_i, \dots, r_i of the skyscrapers cyclically to the right k_i times.

After each query, help Alexey to determine whether he can perform a jump or not.

Input

The first line contains one integer n ($1 \leq n \leq 120\,000$), the number of skyscrapers.

The second line contains n integers h_i ($1 \leq h_i \leq n$), the heights of the skyscrapers. The numbers h_i are pairwise distinct.

The third line contains one integer q ($1 \leq q \leq 120\,000$), the number of queries.

Next q lines contain descriptions of queries: the i -th of them contains three positive integers l_i, r_i, k_i ($1 \leq l_i \leq r_i \leq n, 0 \leq k_i \leq r_i - l_i + 1$).

Output

For each query, print a single word on a separate line: “YES” if there are suitable skyscrapers to perform a jump, and “NO” otherwise.

Examples

standard input	standard output
6 2 5 6 1 3 4 1 1 6 5	YES
8 5 1 2 8 7 6 3 4 4 2 4 2 4 5 1 1 3 2 3 8 2	YES YES YES YES
5 4 3 2 5 1 2 3 4 1 1 2 1	NO YES
6 6 5 4 3 2 1 3 1 1 0 1 3 1 2 5 3	NO NO YES

Note

