DMOPC '15 Contest 4 P4 - Great Sequence

Luke (perhaps Skywalker) is a passionate computer science student. He receives as homework the following task:

> Given a sequence of N integers, determine if the subsequence from x to y inclusive is a *Great Sequence*. A *Great Sequence* is a sequence that whose sum is strictly greater than K.

Luke thought this is too easy, so he has thought up a new challenge: he'd like to know if a subsequence is an *Amazing Sequence*. An *Amazing Sequence* is a Great Sequence in which the integers a and b appear. Given his original sequence, he'd like to answer Q queries, determining if a subsequence is an Amazing Sequence.

Constraints

For all subtasks, $-10^9 \le K \le 10^9$ and $-1\,000 \le a_i, b_i \le 1\,000$ and $1 \le x_i \le y_i \le N$.

Subtask 1 [30%]

$N \le 1\,000$
$Q \le 1\,000$

Subtask 2 [70%]

$2 \le N \le 10^5$
$1 \le Q \le 10^5$

Input Specification

The first line of input will contain the space-separated integers N, K and Q. The second line of input will contain N space-separated integers representing the sequence. For the last Q lines, line i will contain query i in the format a_i, b_i, x_i and y_i.

Output Specification

For each query, print $\boxed{\text{Yes}}$ if the subsequence is an Amazing Sequence, $\boxed{\text{No}}$ otherwise.

Sample Input

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

Sample Output

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Yes
Yes
No
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