DMOPC '15 Contest 4 P4 - Great Sequence

Time limit: 0.2s **Memory limit:** 64M
Java: 1.0s
Python: 1.0s

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 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:

$-10^9 \leq K \leq 10^9$

$-1\,000 \leq a_i, b_i \leq 1\,000$

$1 \leq x_i \leq y_i \leq N$

Subtask 1 [30%]

$N \leq 1\,000$

$Q \leq 1\,000$

Subtask 2 [70%]

$2 \leq N \leq 10^5$

$1 \leq Q \leq 10^5$

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 `Yes` if the subsequence is an Amazing Sequence, `No` otherwise.

Sample Input

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

Sample Output

```
Yes
Yes
No
```