K-dominant array

Professor Mahammad was sitting in his garden when an apple fell on his head, and in a stroke of brilliant insight, he suddenly came up with *K-dominant notation*. An array with length *L* is called *K-dominant*, if and only if there is at least one element *x* lying in the array for which **occurence(x) * K >= L**. After analyzing several arrays with this property, professor now, made up a new problem for you. Your task is simple, there are given an array of length N and several queries. For each of the queries, you just need to check whether *the subarray [l, r] is k-dominant or not*.

Input

The first line of the input contains two positive integers **N** and **Q**, the number of elements of the array and the mean, respectively. (**N, Q ≤ 200000**).

The following line contains N integers which represent elements of the array.

The following Q lines contains three integers **l**, **r**, and **k**. (**1 ≤ l ≤ r ≤ N**).

All the numbers in the input section are 32-bit positive integers.

Sum of all k's in queries does not exceed 500000.

Output

For each of the queries, print per line **YES** or **NO** if there is an element lying in the subarray which satisfies the condition in the statement.

Example

Input:
```
8 3
1 4 2 3 2 2 5 3
2 6 2
1 8 2
1 8 3
```

Output:
```
YES
NO
YES
```

Note: For the first and third queries x = 2 satisfies the condition. And for the second query there is no element for which the condition holds true.