

## Problem D. Odd Queries

**Time limit** 2000 ms

**Mem limit** 262144 kB

You have an array  $a_1, a_2, \dots, a_n$ . Answer  $q$  queries of the following form:

- If we change all elements in the range  $a_l, a_{l+1}, \dots, a_r$  of the array to  $k$ , will the sum of the entire array be odd?

Note that queries are **independent** and do not affect future queries.

### Input

Each test contains multiple test cases. The first line contains the number of test cases  $t$  ( $1 \leq t \leq 10^4$ ). The description of the test cases follows.

The first line of each test case consists of 2 integers  $n$  and  $q$  ( $1 \leq n \leq 2 \cdot 10^5$ ;  $1 \leq q \leq 2 \cdot 10^5$ ) — the length of the array and the number of queries.

The second line of each test case consists of  $n$  integers  $a_i$  ( $1 \leq a_i \leq 10^9$ ) — the array  $a$ .

The next  $q$  lines of each test case consists of 3 integers  $l, r, k$  ( $1 \leq l \leq r \leq n$ ;  $1 \leq k \leq 10^9$ ) — the queries.

It is guaranteed that the sum of  $n$  over all test cases doesn't exceed  $2 \cdot 10^5$ , and the sum of  $q$  doesn't exceed  $2 \cdot 10^5$ .

### Output

For each query, output "YES" if the sum of the entire array becomes odd, and "NO" otherwise.

You can output the answer in any case (upper or lower). For example, the strings "yEs", "yes", "Yes", and "YES" will be recognized as positive responses.

### Examples

Input	Output
2	YES
5 5	YES
2 2 1 3 2	YES
2 3 3	NO
2 3 4	YES
1 5 5	NO
1 4 9	NO
2 4 3	NO
10 5	NO
1 1 1 1 1 1 1 1 1 1	YES
3 8 13	
2 5 10	
3 8 10	
1 10 2	
1 9 100	

## Note

For the first test case:

- If the elements in the range (2, 3) would get set to 3 the array would become {2, 3, 3, 3, 2}, the sum would be  $2 + 3 + 3 + 3 + 2 = 13$  which is odd, so the answer is "YES".
- If the elements in the range (2, 3) would get set to 4 the array would become {2, 4, 4, 3, 2}, the sum would be  $2 + 4 + 4 + 3 + 2 = 15$  which is odd, so the answer is "YES".
- If the elements in the range (1, 5) would get set to 5 the array would become {5, 5, 5, 5, 5}, the sum would be  $5 + 5 + 5 + 5 + 5 = 25$  which is odd, so the answer is "YES".
- If the elements in the range (1, 4) would get set to 9 the array would become {9, 9, 9, 9, 2}, the sum would be  $9 + 9 + 9 + 9 + 2 = 38$  which is even, so the answer is "NO".
- If the elements in the range (2, 4) would get set to 3 the array would become {2, 3, 3, 3, 2}, the sum would be  $2 + 3 + 3 + 3 + 2 = 13$  which is odd, so the answer is "YES".