Problem I. Odd Queries

Time limit 2000 ms
Mem limit 262144 kB

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

- If we change all elements in the range $a_l, a_{l+1}, \ldots, a_r$ 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 ($1 \le t \le 10^4$). The description of the test cases follows.

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

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

The next q lines of each test case consists of 3 integers l, r, k ($1 \le l \le r \le n$; $1 \le k \le 10^9$) — 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 5 5 2 2 1 3 2 2 3 3 2 3 4 1 5 5 1 4 9 2 4 3 10 5 1 1 1 1 1 1 1 1 1 1 3 8 13 2 5 10 3 8 10 1 10 2 1 9 100	YES YES YES NO YES NO NO NO NO YES

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".