Problem F

Maximize The Value

You are given a one-based array consisting of N integers: $A_1, A_2, \cdots, A_N$. Initially, the value of each element is set to 0.

There are M operations (numbered from 1 to M). Operation i is represented by $\langle L_i, R_i, X_i \rangle$. If operation i is executed, all elements A_j for $L_i \leq j \leq R_i$ will be increased by X_i.

You have to answer Q **independent** queries. Each query is represented by $\langle K, S, T \rangle$ which represents the following task. Choose a range $[l, r]$ satisfying $S \leq l \leq r \leq T$, and execute operations $l, l+1, \ldots, r$. The answer to the query is the maximum value of A_K after the operations are executed among all possible choices of l and r.

Input

The first line consists of two integers N M ($1 \leq N, M \leq 100\,000$).

Each of the next M lines consists of three integers L_i R_i X_i ($1 \leq L_i \leq R_i \leq N; -100\,000 \leq X_i \leq 100\,000$).

The following line consists of an integer Q ($1 \leq Q \leq 100\,000$).

Each of the next Q lines consists of three integers K S T ($1 \leq K \leq N; 1 \leq S \leq T \leq M$).

Output

For each query, output in a single line, an integer which represent the answer of the query.

Sample Input #1

```
2 6
1 1 -50
1 2 -20
2 2 -30
1 1 60
1 2 40
2 2 10
5
1 1 6
2 1 6
1 1 3
2 1 3
1 1 2
```

Sample Output #1

```
100
50
0
0
-20
```

Explanation for the sample input/output #1

For query 1, one of the solutions is to execute operation 4 and 5.

For query 2, one of the solutions is to execute operation 4, 5, and 6.

For query 3, the only solution is to execute operation 3.

For query 4, the only solution is to execute operation 1.

For query 6, the only solution is to execute operation 2.

Sample Input #2

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

Sample Output #2

```
3
3
4
3
0
-2
```