Problem H – Heisenberg Uncertainty Principle
Time limit: 5 seconds

Maybe you have heard of the *Heisenberg Uncertainty Principle* before. It states that some pairs of physical properties, like position and momentum, cannot both be known with arbitrary precision.

This principle can be extended for the prediction of the appearance of aliens and monsters. You may predict either the location **or** the time of the appearance exactly. The other property is only known with a certain fuzziness.

Currently, you are searching for a habitable planet outside of your solar system. One characteristic number for habitable planets is the chance of a simultaneous appearance of aliens and monsters (less is better). We already tried to predict the locations and times of the appearances. But as you now know, we cannot get those two properties simultaneously. However, we are able to predict the exact location for every alien and the exact time for every monster. Please help us to determine the number of possible clashes between aliens and monsters.
You may assume that we have already filtered out the worst planets, i.e. there is no planet with more than $55\,555$ conflicts.

Input

The input consists of:

- One line with two integers a and m ($0 < a, m \leq 55\,555$), where a is the number of aliens and m is the number of monsters on that planet.
- a lines, each with three integers s_i, e_i and l_i ($0 \leq s_i, e_i, l_i < 10\,000\,000$; $s_i < e_i$) where s_i and e_i are the fuzzy timespans and l_i the exact location[2] of the i-th alien.
- m lines, each with three integers s_j, e_j and t_j ($0 \leq s_j, e_j, l_j < 10\,000\,000$; $s_j < e_j$) where s_j and e_j are the fuzzy location and t_j the exact time for the j-th monster.

Output

Output the number of possible conflicts between aliens and monsters.

Sample Input 1	Sample Output 1
3 1 2 10 5 5 15 5 11 19 5 1 10 10	2

[2]Recently, a clever scientist found out how to map the three dimensions of space down to exactly one dimension.

Sample Input 2	Sample Output 2
2 2 1 7 12 2 23 3 5 16 6 1 42 2	3