

Q. No standard again

time limit per test: 1 second🕒
memory limit per test: 256 megabytes

You have a grid a of size $10^9 * 10^9$, where all its elements equal zero, instead of n elements are not equals to zero.

You need to answer q queries, each query needs to get the summation of all number in the subgrid its upper left corner is $(x1, y1)$ and its Lower right corner is $(x2, y2)$.

Input

The first line contains two integers n, q ($1 \leq n, q \leq 10^5$).

The next n lines contains *three* integers i, j and $a_{i,j}$ ($1 \leq i, j, a_{i,j} \leq 10^9$).

The next q lines contains $x1, y1, x2, y2$ ($1 \leq x1 \leq x2 \leq 10^9, 1 \leq y1 \leq y2 \leq 10^9$).

Output

For each query print the answer of this query in one line.

Example

input	Copy
5 4 1 3 4 2 2 6 4 3 3 5 4 8 5 6 5 1 1 2 3 2 2 4 5 2 3 6 4 1 3 5 6	
output	Copy
10 9 11 20	

Note


summation of distinct $i, x1$, and $x2$ will not exceed 2000.

and summation of distinct $j, y1$, and $y2$ will not exceed 2000.

ICPC Assiut University Training - Juniors Phase 1 Sheets-2022

Public

Participant




→ **Group Contests** ▾

- Juniors Phase 1 Practice #5 (Bitmask, Bitset, Bits)
- Juniors Phase 1 Practice #4 (Binary search , Two pointers)
- Juniors Phase 1 Practice #3 (STL 2)
- Juniors Phase 1 Practice #2 (STL 1)
- Juniors Phase 1 Practice #1 (Prefix sum , Frequency Array)

Juniors Phase 1 Practice #3 (STL 2).

Finished

Practice



→ **About Time Scaling** ▾

This contest uses time limits scaling policy (depending on a programming language). The system automatically adjusts time limits by the following multipliers for some languages. Despite scaling (adjustment), the time limit cannot be more than 30 seconds. Read the details by the [link](#).

→ **Virtual participation** ▾

Virtual contest is a way to take part in past contest, as close as possible to participation on time. It is supported only ICPC mode for virtual contests. If you've seen these problems, a virtual contest is not for you - solve these problems in the archive. If you just want to solve some problem from a contest, a virtual contest is not for you - solve this problem in the archive. Never use someone else's code, read the tutorials or communicate with other person during a virtual contest.

Start virtual contest

→ **Submit?**

Language: GNU G++20 13.2 (64 bit, win ▾)

Choose file: Choose File No file chosen

Submit

→ **Last submissions**

Submission	Time	Verdict
312217132	Mar/24/2025 18:51	Accepted
312217018	Mar/24/2025 18:50	Memory limit exceeded on test 57