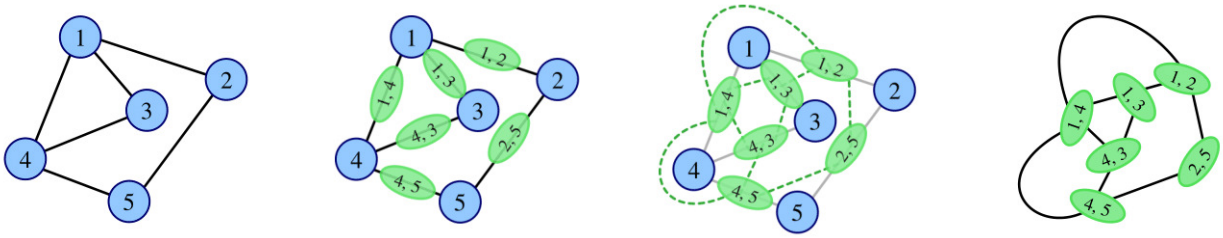
# Problem H. Line Graph Matching

| | |
|---|---|
| Input file: | `standard input` |
| Output file: | `standard output` |
| Time limit: | 1 second |
| Memory limit: | 512 megabytes |

In the mathematical discipline of graph theory, the line graph of a simple undirected weighted graph $G$ is another simple undirected weighted graph $L(G)$ that represents the adjacency between every two edges in $G$.

Precisely speaking, for an undirected weighted graph $G$ without loops or multiple edges, its line graph $L(G)$ is an undirected weighted graph such that:

- Each vertex of $L(G)$ represents an edge of $G$;
- Two vertices of $L(G)$ are adjacent if and only if their corresponding edges share a common endpoint in $G$, and the weight of such edge between this two vertices is the sum of the weights of their corresponding edges.




A maximum weighted matching in a simple undirected weighted graph is defined as a set of edges where no two edges share a common vertex and the sum of the weights of the edges in the set is maximized.

Given a simple undirected weighted connected graph $G$, your task is to find the sum of the weights of the edges in the maximum weighted matching of $L(G)$.

## Input

The first line contains two integers $n$ ($3 \le n \le 10^5$) and $m$ ($n-1 \le m \le \min(\frac{n(n-1)}{2}, 2 \times 10^5)$), indicating the number of vertices and edges in the given graph $G$.

Then follow $m$ lines, the $i$-th of which contains three integers $u$, $v$ ($1 \le u, v \le n$) and $w$ ($1 \le w \le 10^9$), indicating that the $i$-th edge in the graph $G$ has a weight of $w$ and connects the $u$-th and the $v$-th vertices. It is guaranteed that the graph $G$ is connected and contains no loops and no multiple edges.

## Output

Output a line containing a single integer, indicating the sum of the weights of the edges in the maximum weighted matching of $L(G)$.

## Examples

| standard input | standard output |
| --- | --- |
| 5 6<br>1 2 1<br>1 3 2<br>1 4 3<br>4 3 4<br>4 5 5<br>2 5 6 | 21 |
| 6 5<br>1 2 4<br>2 3 1<br>3 4 3<br>4 5 2<br>5 6 5 | 12 |
| 5 5<br>1 2 1<br>2 3 2<br>3 4 3<br>4 5 4<br>5 1 5 | 14 |