Second Best MST

Time Limit: 1 Second
Memory Limit: 2048 MB

You have learned how to find the minimum spanning tree T of an weighted undirected graph G in this class. Can you design an efficient algorithm that finds the second best MST of G?

The second best MST of G is a spanning tree T' such that the total weights of T' is the second smallest among all spanning trees of G. In other words, find the spanning tree with the smallest total weights such that it is different from MST. It is guaranteed that G is connected and has at least two spanning trees (i.e., G is not a tree).

Input

The first line contains two integers n and m ($1 \leq n \leq m \leq 10^5$) - number of vertices and edges in G.

The next m lines describe the edges of G. The i-th line contains three integers u_i, v_i, w_i ($1 \leq u_i, v_i \leq n$, $1 \leq w_i \leq 10^9$), denoting an undirected edge between u_i and v_i with weight w_i. It is guaranteed that there is no self-loop or multiple edges.

Output

Output a single value denoting the total weight of second best MST.

Sample Inputs

```
5 5
1 2 1
2 3 2
3 4 3
4 5 4
1 5 5
```

Sample Outputs

```
11
```