

Problem E

How Many to Be Happy?

Time Limit: 0.5 Seconds

Let G be a connected simple undirected graph where each edge has an associated weight. Let's consider the popular MST (Minimum Spanning Tree) problem. Today, we will see, for each edge e , how much modification on G is needed to make e part of an MST for G . For an edge e in G , there may already exist an MST for G that includes e . In that case, we say that e is *happy* in G and we define $H(e)$ to be 0. However, it may happen that there is no MST for G that includes e . In such a case, we say that e is *unhappy* in G . We may remove a few of the edges in G to make a *connected* graph G' in which e is happy. We define $H(e)$ to be the minimum number of edges to remove from G such that e is happy in the resulting graph G' .

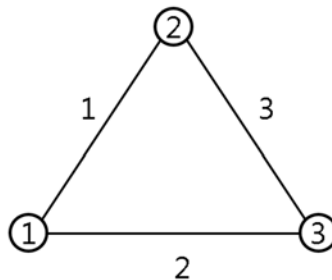


Figure E.1. A complete graph with 3 nodes.

Consider the graph in Figure E.1. There are 3 nodes and 3 edges connecting the nodes. One can easily see that the MST for this graph includes the 2 edges with weights 1 and 2, so the 2 edges are happy in the graph. How to make the edge with weight 3 happy? It is obvious that one can remove any one of the two happy edges to achieve that.

Given a connected simple undirected graph G , your task is to compute $H(e)$ for each edge e in G and print the total sum.

Input

Your program is to read from standard input. The first line contains two positive integers n and m , respectively, representing the numbers of vertices and edges of the input graph, where $n \leq 100$ and $m \leq 500$. It is assumed that the graph G has n vertices that are indexed from 1 to n . It is followed by m lines, each contains 3 positive integers u , v , and w that represent an edge of the input graph between vertex u and vertex v with weight w . The weights are given as integers between 1 and 500, inclusive.

Output

Your program is to write to standard output. The only line should contain an integer S , which is the sum of $H(e)$ where e ranges over all edges in G .

The following shows sample input and output for two test cases.

Sample Input 1

```
3 3
1 2 1
3 1 2
3 2 3
```

Output for the Sample Input 1

```
1
```

Sample Input 2

```
7 9
1 2 8
1 3 3
2 3 6
4 2 7
4 5 1
5 6 9
6 7 3
7 4 2
4 6 2
```

Output for the Sample Input 2

```
3
```