

A. I.O.U.

Time limit: 1s

Memory limit: 256 MB

Imagine that there is a group of three friends: A, B and C. A owes B 20 rubles and B owes C 20 rubles. The total sum of the debts is 40 rubles. You can see that the debts are not organized in a very optimal manner. Let's rearrange them like that: assume that A owes C 20 rubles and B doesn't owe anything to anybody. The debts still mean the same but the total sum of the debts now equals 20 rubles.

This task is a generalisation of a described example. Imagine that your group of friends has n people and you know the debts between the people. Optimize the given debts without changing their meaning. In other words, finally for each friend the difference between the total money he should give and the total money he should take must be the same. Print the minimum sum of all debts in the optimal rearrangement of the debts. See the notes to the test samples to better understand the problem.

Input

The first line contains two integers n and m ($1 \leq n \leq 100$; $0 \leq m \leq 10^4$). The next m lines contain the debts. The i -th line contains three integers a_i, b_i, c_i ($1 \leq a_i, b_i \leq n$; $a_i \neq b_i$; $1 \leq c_i \leq 100$), which mean that person a_i owes person b_i c_i rubles.

Assume that the people are numbered by integers from 1 to n .

It is guaranteed that the same pair of people occurs at most once in the input. The input doesn't simultaneously contain pair of people (x, y) and pair of people (y, x) .

Output

Print a single integer — the minimum sum of debts in the optimal rearrangement.

Examples**input**

```
5 3
1 2 10
2 3 1
2 4 1
```

output

```
10
```

input

```
3 0
```

output

```
0
```

input

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

output

0

Note

In the first sample, you can assume that person number 1 owes 8 rubles to person number 2, 1 ruble to person number 3 and 1 ruble to person number 4. He doesn't owe anybody else anything. In the end, the total debt equals 10.

In the second sample, there are no debts.

In the third sample, you can annul all the debts.