Contest Duration: 2021-04-17(Sat) 12:40 (http://www.timeanddate.com/worldclock/fixedtime.html?
iso=20210417T1610&p1=248) - 2021-04-17(Sat) 14:40 (http://www.timeanddate.com/worldclock/fixedtime.html?
iso=20210417T1810&p1=248) (local time) (120 minutes)   Back to Home (/home)

📌

H - Shipping

🔴 / 🇬🇧

Time Limit: 5 sec / Memory Limit: 1024 MB

Score : 600 points

Problem Statement

In the Republic of AtCoder, there are N cities called City 1 through City N and N canals
called Canal 1 through Canal N.

Canal i connects City i and City A_i bidirectionally, and you have to pay the toll of C_i yen to
go through it, but after paying the toll once, you can use it any number of times in any
direction.

It is guaranteed that you can reach from any city to any city using some canals.

You are asked to deliver M cargoes in this country. The i-th cargo should be delivered from
City X_i to City Y_i.

There is no way other than using the canals to deliver the cargoes, but you yourself can
travel between the cities freely without using the canals.

Find the minimum total toll you have to pay to deliver all M cargoes.

Constraints

- $3 \le N \le 2 \times 10^5$
- $1 \le M \le 2 \times 10^5$
- $1 \le A_i \le N$
- $A_i \ne i$
- $1 \le C_i \le 10^9$

Remaining Time
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- It is possible to reach from any city to any city by using some canals.
- $1 \le X_i \le N$
- $1 \le Y_i \le N$
- $X_i \ne Y_i$
- All values in input are integers.

Input

Input is given from Standard Input in the following format:

```
N   M
A_1   C_1
A_2   C_2
A_3   C_3
    ⋮
A_N   C_N
X_1   Y_1
X_2   Y_2
X_3   Y_3
    ⋮
X_M   Y_M
```

Output

Print the minimum total toll you have to pay, as an integer.

Sample Input 1 Copy

```
4 2
3 3
1 7
2 5
1 2
4 3
2 1
```
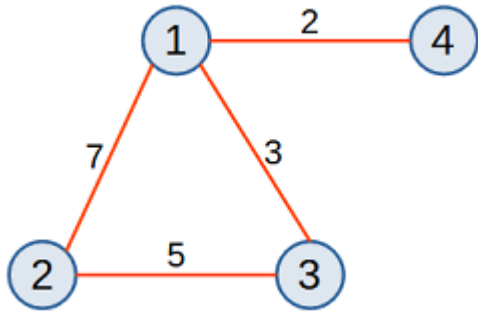
Sample Output 1 Copy

```
10
```

The figure below shows the cities and canals in this country, where numbers along the lines representing canals represent the tolls:

You can deliver the cargoes as follows to make the total toll 10 yen:

- The 1-st cargo: use Canal $1, 4$ to deliver it on the route: City $4, 1, 3$.
- The 2-nd cargo: use Canal $3, 1$ to deliver it on this route: City $2, 3, 1$.

Sample Input 2   Copy

```
5 2
2 2
5 5
5 7
2 4
3 10
3 5
4 1
```
Copy

Sample Output 2   Copy

```
13
```
Copy

Multiple canals may connect the same pair of cities.

Sample Input 3   Copy

Copy

```
11 4
8 1
9 9
8 10
8 3
1 2
11 3
9 2
6 5
3 4
1 7
3 2
7 8
10 1
4 9
11 6
```

Sample Output 3   Copy

26	Copy

Language

Python (3.8.2)   ▾

Source Code

1	

* at most 512 KiB

* Your source code will be saved as Main.*extension*.

📂 Open File   Toggle Editor   Auto Height

Submit

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telegram)

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Rule (/contests/jsc2021/rules)   Glossary (/contests/jsc2021/glossary)

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