

Flight Planning II: BASMAS

Input File: *standard input*

Output File: *standard output*

Time and Memory Limits: 1 second, 128 MB

The once dominant airline Burgmanistan And Southern Menzico Airline Service (*BASMAS*) is in some strife. Despite a recent international codeshare agreement, staff layoffs and a new Titanium Zero frequent flyer status level, the airline has not recovered from the drop of its perfect safety record, staff strikes and competing low-cost carriers. Overall revenue is plummeting. In order to save the airline, BASMAS CEO Joy Alance has employed your consulting firm to save money by cancelling un-necessary costly flight routes.

BASMAS operates M flight routes. Each flight route connects two of the N cities that BASMAS services, and has a cost of operation. Each city is in a certain country. BASMAS guarantees its customers that:

- It is always possible to travel between any two cities by taking one or more BASMAS flights.
- It is always possible to travel between any two cities in the same country without needing to pass through a city in a different country.

It is critical that BASMAS maintains these two guarantees after cancelling flight routes.

You will be given the country of each city that BASMAS services and the list of BASMAS flight routes - for each one the two cities that it connects and the total cost to BASMAS of operating the route.

Your task is to find the maximum operating costs the company can save by cancelling routes while maintaining the two conditions described above.

Input

- The first line of input will contain two space-separated integers N and M .
- The following N lines will each contain one integer, the i th representing the country of city i . Each country will be labelled with some integer between 1 and N .
- The following M lines will each contain three integers a_i, b_i, c_i representing a flight route between cities a_i and b_i ($a_i \neq b_i, 1 \leq a_i, b_i \leq N$) with cost c_i . No pair of cities will appear more than once in this list (that is, there is at most one direct flight route between any two cities).

Output

Output should consist of one line with one integer: the maximum sum of costs of flight routes that can be cancelled without breaking the two described conditions of BASMAS service.

Sample Input

```
5 6
1
1
1
4
4
1 2 10
1 3 40
3 2 20
2 4 50
3 5 55
5 4 80
```

Sample Output

```
95
```

Explanation

In this example, we can cut the flight route between 1 and 3 to save \$40, and the route between 3 and 5 to save \$55. (Note that the two countries in this example are labelled 1 and 4 – countries might not be given consecutive labels).

Subtasks

For all subtasks, $1 \leq M \leq 100\,000$ and each flight route will have a cost between 1 and 10 000.

- For Subtask 1 (40 points), all cities will be in the same country and $2 \leq N \leq 1000$.
- For Subtask 2 (40 points), $2 \leq N \leq 1000$.
- For Subtask 3 (20 points), $2 \leq N \leq 100\,000$.