Problem E. Oil Network

Time limit 1000 ms
Memory limit 256MB

Problem Description

There are n cities in a country, and each city needs access to oil in order to operate.

A city can obtain oil in one of the following two ways:

1. Drilling its own oil well: The i-th city can drill an oil well within its territory at a cost of a_i.

2. Connecting to other cities via pipelines: If there are pipelines built between cities, oil can flow freely through them.

In other words, a city can obtain oil if it is connected (directly or indirectly) by one or more built pipelines to at least one city that has drilled a well.

There are m proposed pipeline construction plans. The j-th plan can build an undirected pipeline between cities u_j and v_j at a cost of w_j.

Your task is to decide which cities should drill wells and which pipelines should be built so that every city has access to oil, while minimizing the total cost.

Input format

The first line contains two integers n and m — the number of cities and the number of pipeline plans. $(1 \leq n, m \leq 2 \cdot 10^5)$

The second line contains n integers, where a_i is the cost of drilling an oil well in city i. $(1 \leq a_i \leq 10^9)$

Each of the next m lines contains three integers u_j, v_j, w_j, representing a plan to build an undirected pipeline between cities u_j and v_j with a construction cost of w_j. $(1 \leq u, v \leq n, 1 \leq w_i \leq 10^9)$

Output format

Output a single integer — the minimum total cost required so that all cities have access to oil.

Subtask score

Subtask	Score	Additional Constraints
1	43	$a_1 \leq 5000$, $a_i = 10^9$ for $i \neq 1$ $w_i \leq 5000$ for all $1 \leq i, j \leq n$, there exists a way to connect city i and city j
2	57	No Constraints

Sample

Sample Input 1

```
5 5
1 6 4 1 4
1 4 4
1 2 2
2 3 4
2 3 2
5 4 2
```

Sample Output 1

```
8
```

Sample Input 2

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

Sample Output 2

```
12
```