



Network Protection

Time Limit: 1.0 s | Memory Limit: 512 MiB

The National Zero-Day Protection Challenge (NZPC) is an annual cybersecurity exercise in which participants study how attackers and defenders move through computer networks. Every year, security analysts build a network consisting of n servers and m bidirectional communication links. The servers are numbered from 1 to n , and server i contains data of size c_i gigabytes. For each communication link m_i , there is a latency w_i associated with it, indicating the amount of time it takes to travel between the two connected servers. Note that multiple communication links can exist between the same pair of servers.



Every year, analysts have to secure servers from malware.

Suppose a malware outbreak has been detected at server a . Once compromised, the malware spreads through the network along communication links. Meanwhile, a security analyst maintains a secure backup server located at server b . For the analyst, a server u is considered **recoverable** if there exists a route from u to the backup server b such that for every server x on that route (including both u and b), the earliest possible time at which the malware can reach server x is **strictly greater** than the time required for the analyst to reach server x along the chosen route.

In other words, the analyst can always plan a route from recoverable server to the backup server such that the analyst arrives strictly before the malware along the chosen route.

To avoid any risk of data loss, it is decided that only recoverable servers can store data. The analyst wants to know the **maximum** amount of storage that can be safely protected by the backup server.

Input

The first line contains two integers $3 \leq n \leq 10^5$ and $1 \leq m \leq 10^5$, the number of servers and communication links.

The second line contains two integers a and b , representing the malware source server and the backup server. It is guaranteed that $a \neq b$ and $1 \leq a, b \leq n$.

The third line contains n integers $c_1, c_2, \dots, c_n$, where c_i ($1 \leq c_i \leq 10^9$) is the size of data stored on server i in gigabytes.

The next m lines each contain three integers u_i, v_i , and w_i ($1 \leq u_i, v_i \leq n, u_i \neq v_i, 1 \leq w_i \leq 10^9$), representing a bidirectional communication link between servers u_i and v_i with latency w_i milliseconds.

Output

Output a single integer: the total value of data stored on all recoverable servers.

Sample Input 1

```
5 5
1 2
1 2 4 8 16
1 2 4
2 3 3
3 4 1
2 5 2
3 1 8
```

Sample Output 1

```
22
```

NZPC26

1

Sample Input 2

```
6 10
3 4
1 1 1 1 1 1
```

Sample Output 2

```
3
```

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