# IOITC 2016 Practice Test Day 4

## Mindcraft

Tanuj is playing a new game named "Mindcraft". In this game there are $n$ different items. Items are numbered from 1 to $n$. He wants to get the item with number 1.

There are two ways to obtain an item:

- You can buy an item. The $i$-th item costs $c_i$ money.
- You can craft an item. This game supports only $m$ types of crafting. To craft an item, you give two particular different items and get another one as a result.

Help Tanuj to spend the least amount of money to get the item number 1.

### Input

The first line of input contains two integers $n$ and $m$ ($1 \leq n \leq 10\,000; 0 \leq m \leq 100\,000$) — the number of different items and the number of crafting types.

The second line contains $n$ integers $c_i$ — values of the items ($0 \leq c_i \leq 10^9$).

The following $m$ lines describe crafting types, each line contains three distinct integers $a_i$, $x_i$, $y_i$ — $a_i$ is the item that can be crafted from items $x_i$ and $y_i$ ($1 \leq a_i, x_i, y_i \leq n$; $a_i \neq x_i$; $x_i \neq y_i$; $y_i \neq a_i$).

### Output

The output should contain a single integer — the least amount of money to spend.

#### Sample Input1

```
5 3
5 0 1 2 5
5 2 3
4 2 3
1 4 5
```

#### Sample Output1

```
2
```

#### Sample Input2

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

#### Sample Output2

```
2
```

### Limits

Time: 2 seconds

Memory: 256 MB