## **DWARF TOWER**

Little Vasya is playing a new game named "Dwarf Tower". In this game there are *n* different items, which you can put on your dwarf character. Items are numbered from 1 to *n*. Vasya 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 *ci* 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 Vasya 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* ( $1 \le n \le 10\,000$ ;  $0 \le m \le 100\,000$ ) — the number of different items and the number of crafting types.

The second line contains *n* integers ci — values of the items ( $0 \le c_j \le 10^9$ ).

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  $y_i$  ( $1 \le a_i$ ,  $x_i$ ,  $y_i \le n$ ;  $a_i <> x_i$ ;  $x_i <> y_i$ ;  $y_i <> a_i$ ).

## Output

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

## Examples

N⁰	stdin	stdout
1	5 3	2
	5 0 1 2 5	
	5 2 3	
	4 2 3	
	1 4 5	
2	3 1	2
	2 2 1	
	1 2 3	