# Marei El Brimo

| | |
|---|---|
| Input file: | `standard input` |
| Output file: | `standard output` |
| Time limit: | 1 second |
| Memory limit: | 256 megabytes |

$Marei$ is a watermelon seller. So he will sell $n$ different watermelons with prices $a_i$ for all $i$ $(1 \leq i \leq n)$.

and there are $q$ customers who come to buy from him.

Each customer will buy $j_{th}$ watermelon $j : (1 \leq j \leq n)$, You should tell this customer what is the price he will buy his watermelon from $Marei$.

Each customer will also come with two integers $x$ and $y$ recommend $Marei$ to change $x_{th}$ watermelon's price with price $y$. As you know, $Marei$ is a greedy seller, so he can take the customer's recommended price or not.

After that, you need to tell me the amount of money that $Marei$ will earn from his customers.

$NOTE$ : The customer will buy first and then recommend changing another watermelon's price.

suppose for each different watermelon you have an infinite supply of it.

## Input

First line contains $n - (1 \leq n \leq 2 \cdot 10^5)$- number of watermelons.

Second line contains n integers-$(1 \leq a_i \leq 10^9)$ for all $i - (1 \leq i \leq n)$ price for each watermelon.

Third line contains $q - (1 \leq q \leq 2 \cdot 10^5)$- number of customers.

For each customer, there are $j, x, y - (1 \leq j, x \leq n), (1 \leq y \leq 10^9)$

$j$ is the watermelon the customer will buy, $x$ is the watermelon the customer recommends changing its price and $y$ is the new price recommended for it.

## Output

For each line, you should tell the customer the price of his watermelon.

And in the last line, you should tell me the amount of money that $Marei$ will earn from his customers.

## Example

| standard input | standard output |
|---|---|
| 5<br>10 4 5 12 1<br>4<br>1 2 15<br>2 1 4<br>1 3 2<br>3 4 1 | 10<br>15<br>10<br>5<br>40 |

## Note

$The\ first$ customer came to buy $the\ first$ watermelon for 10 and recommended Marei change $the\ second$ one's price to 15 Marei is greedy, So he will change the $second$ one's price to $max(15, 4)$

$The\ second$ customer came to buy $the\ second$ one so he found that $the\ second$ one's price is 15 and recommended changing $the\ first$ one's price to 4 but Marei will take $max(10, 4)$.

and so on.