

## Friends

There are  $N$  people. For a pair of people  $(i, j)$ , they have a friend value  $A[i][j]$ .

We want to split these  $N$  people into 2 groups, such that each person belongs to exactly one group, and each group contains at least one person.

The partition value of a split is defined as the minimum friend value of all pairs of different people within the same group.

Find the maximum partition value possible.

Suppose the minimum friend value of all pairs of different people from Group 1 is  $\text{min1}$  and from Group 2 it is  $\text{min2}$ .

Then partition value is defined as  $\min(\text{min1}, \text{min2})$ .

Input format-

- The first line contains single integer  $N$  representing the number of people.
- The next  $N$  line contains  $N$  integers each where  $A[i][j]$  represents friend value between  $i$  and  $j$ .

Output format-

- Print a single integer representing the maximum partition value possible.

Constraints-

$$3 \leq N \leq 500$$

$$1 \leq A[i][j] \leq 10^9, \text{ for } i \neq j$$

$$A[i][i] = 0$$

$$A[i][j] = A[j][i]$$

```
1 #include <iostream>
2 using namespace std;
3
4 /** To execute C++, please define "int main()" as below **/
5 int main() {
6     /** Note: Write your code here ****/
7     // Sample code to perform I/O:
8     int num;
9     cin >> num;          // Reading input from STDIN
10    cout << num;          // Writing output to STDOUT
11    return 0;
12 }
13
14 // Warning: Printing unwanted or ill-formatted data to output will cause the test cases to fail
15
```

▶ RUN

Custom Input

Which of the following is false for SQL?

Select option

☐ Read in CRUD Operator means to retrieve and fetch the data from the table.

☐ U in CRUD Operator refers to Unique.

☐ Both of the above

☐ None of the above

Submit answer



To broadcast two packets on the medium at a time, which of the following method is used?

To broadcast two packets on the medium at a time, which of the following method is used?

Select option

☐ Synchronous

☐ Asynchronous

☐ Collision

☐ All of these

Submit answer

Which of the following is false?

Which of the following is false?

Select option

- ☐ By default, sorting by ORDER BY clause is done in descending order.
- ☐ SQL INSERT is used to insert a single or multiple records in the table.
- ☐ Both of the above
- ☐ None of the above

Submit answer

Reason for cache memory being faster than main memory

Select option

☐ Cache memory is closer to CPU than main memory

☐ It is costly than main memory

☐ Main memory is SRAM and Cache is DRAM

☐ cache stores data in compressed format implicitly

Submit answer

### Select Appropriate Option

Which of the following is NOT correct -

### Select option

- ☐ Demand paging is the process in which page is delivered from main memory to secondary memory on the basis of requirement
- ☐ Threads share same address space
- ☐ Removal of page from main memory is called page fault
- ☐ None of the above.

Submit answer



## The XOR operation

### Find the answer of each query

You are given an array of integers  $A$  of size  $N$ . Now you are given  $Q$  queries to be performed over this array.

In each of the query, you are given 3 space separated integers  $L$ ,  $R$  and  $X$ , you need to output the summation of **XOR** of  $X$  with each of the array element from range  $L$  to  $R$  both inclusive (1-based indexing).

The array does not change after any query.

### Input format:

```
N Q
A1 A2 ... AN
L1 R1 X1
L2 R2 X2
...
LQ RQ XQ
```

- The first line contains the size of the array  $N$  and number of queries  $Q$ .
- Next line contains  $N$  space separated array elements.
- $Q$  lines follow, each containing 3 space separated integers  $L$ ,  $R$  and  $X$ .

### Output format:

```
S1
S2
...
SQ
```

Print  $Q$  lines, the  $i$ th line denoting the answer ( $S_i$ ) to the  $i$ th query.

```
1  /**
2      Default code for reading input data
3  */
4  process.stdin.resume();
5  process.stdin.setEncoding("utf-8");
6  var stdin_input = "";
7
8  process.stdin.on("data", function (input) {
9      stdin_input += input;
10 });
11
12 process.stdin.on("end", function () {
13     main(stdin_input);
14 });
15
16
17 /**
18     Below "main" function will be called with input as string argument
19 */
20 function main(input) {
21     /**
22         NOTE: Start modifying below code
23         If necessary parse input as required in question and
24         print your program's output using console.log
25     */
26     console.log("Code output is: " + input + ".");
27 }
28
```

▶ RUN

Custom Input



$N$   $Q$   
 $A_1 A_2 \dots A_N$   
 $L_1 R_1 X_1$   
 $L_2 R_2 X_2$   
 $\dots$   
 $L_Q R_Q X_Q$

- The first line contains the size of the array  $N$  and number of queries  $Q$ .
- Next line contains  $N$  space separated array elements.
- $Q$  lines follow, each containing 3 space separated integers  $L$   $R$  and  $X$ .

**Output format:**

$S_1$   
 $S_2$   
 $\dots$   
 $S_Q$

Print  $Q$  lines, the  $i$ -th line denoting the answer( $S_i$ ) to the  $i$ -th query.

**Example:**

Input:  
5 2  
2 3 1 4 5  
1 1 3  
3 5 2

Output:  
1  
16

Explanation:

For 1st query we have  $L = 1$ ,  $R = 1$  and  $X = 3$ , i.e  $A_1^X = 2^3 = 1$ .

For 2nd query we have  $L = 3$ ,  $R = 5$  and  $X = 2$ , i.e  $A_3^X + A_4^X + A_5^X$   
 $\Rightarrow 1^2 + 4^2 + 5^2 = 16$ .

```
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▶ RUN

Custom Input