Array Manipulation ☆

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Starting with a 1-indexed array of zeros and a list of operations, for each operation add a value to each of the array element between two given indices, inclusive. Once all operations have been performed, return the maximum value in the array.

Example

$n = 10$

$queries = [[1, 5, 3], [4, 8, 7], [6, 9, 1]]$

Queries are interpreted as follows:

```
    a b k
    1 5 3
    4 8 7
    6 9 1
```

Add the values of k between the indices a and b inclusive:

```
    index->  1 2 3  4  5 6 7 8 9 10
             [0,0,0, 0, 0,0,0,0,0, 0]
             [3,3,3, 3, 3,0,0,0,0, 0]
             [3,3,3,10,10,7,7,7,0, 0]
             [3,3,3,10,10,8,8,8,1, 0]
```

The largest value is 10 after all operations are performed.

Function Description

Complete the function arrayManipulation in the editor below.

arrayManipulation has the following parameters:

- int n - the number of elements in the array
- int queries[q][3] - a two dimensional array of queries where each queries[i] contains three integers, a, b, and k.

Returns

- int - the maximum value in the resultant array

Input Format

The first line contains two space-separated integers n and m, the size of the array and the number of operations.

Each of the next m lines contains three space-separated integers a, b and k, the left index, right index and summand.

Constraints

- $3 \leq n \leq 10^7$
- $1 \leq m \leq 2 * 10^5$
- $1 \leq a \leq b \leq n$
- $0 \leq k \leq 10^9$

Sample Input

```
5 3
1 2 100
2 5 100
3 4 100
```

Sample Output

```
200
```

Explanation

After the first update the list is 100 100 0 0 0.

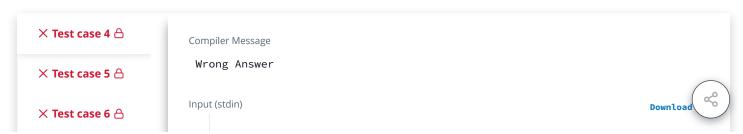After the second update list is 100 200 100 100 100.

After the third update list is 100 200 200 200 100.

The maximum value is **200**.

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```cpp
 4
 5    vector<string> split_string(string);
 6
 7    // Complete the arrayManipulation function below.
 8    long arrayManipulation(int n, vector<vector<int>> queries) {
 9        long max=0;
10        int val;
11        vector<int> vect(n, 0);
12        for (int i = 0; i < queries.size(); i++){
13            val =queries[i][2];
14            for (int j = queries[i][0]; j<=queries[i][1]; j++)    {
15             vect[j-1]+=val;
16            }
17        }
18        max = *max_element(vect.begin(),vect.end());
19        return max;
20    }
21
22    int main()
23    {
24        ofstream fout(getenv("OUTPUT_PATH"));
25
```

Line: 9 Col: 15

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Compiler Message

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Input (stdin)   Download

⏱ **Test case 7** 🔒

⏱ **Test case 8** 🔒

⏱ **Test case 9** 🔒

⏱ **Test case 10** 🔒

```
1    4000 30000
2    2250 2540 180674
3    2459 3892 434122
4    2321 3289 363503
5    1975 2754 374161
6    3283 3759 45954
7    711 3596 978769
8    1468 3899 109177
9    1044 2661 538264
```