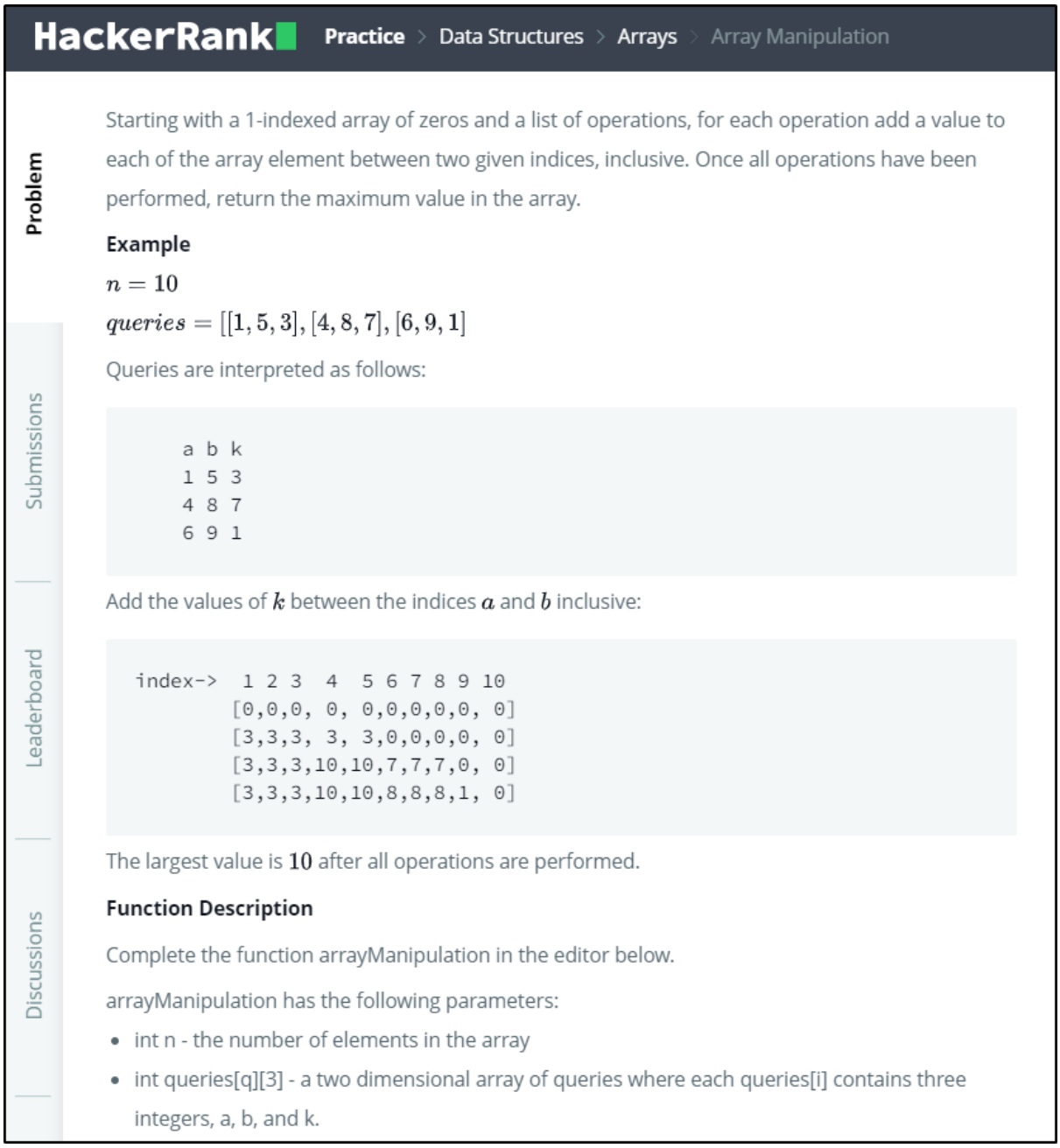
PROBLEM STATEMENT



HackerRank Practice > Data Structures > Arrays > 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`.

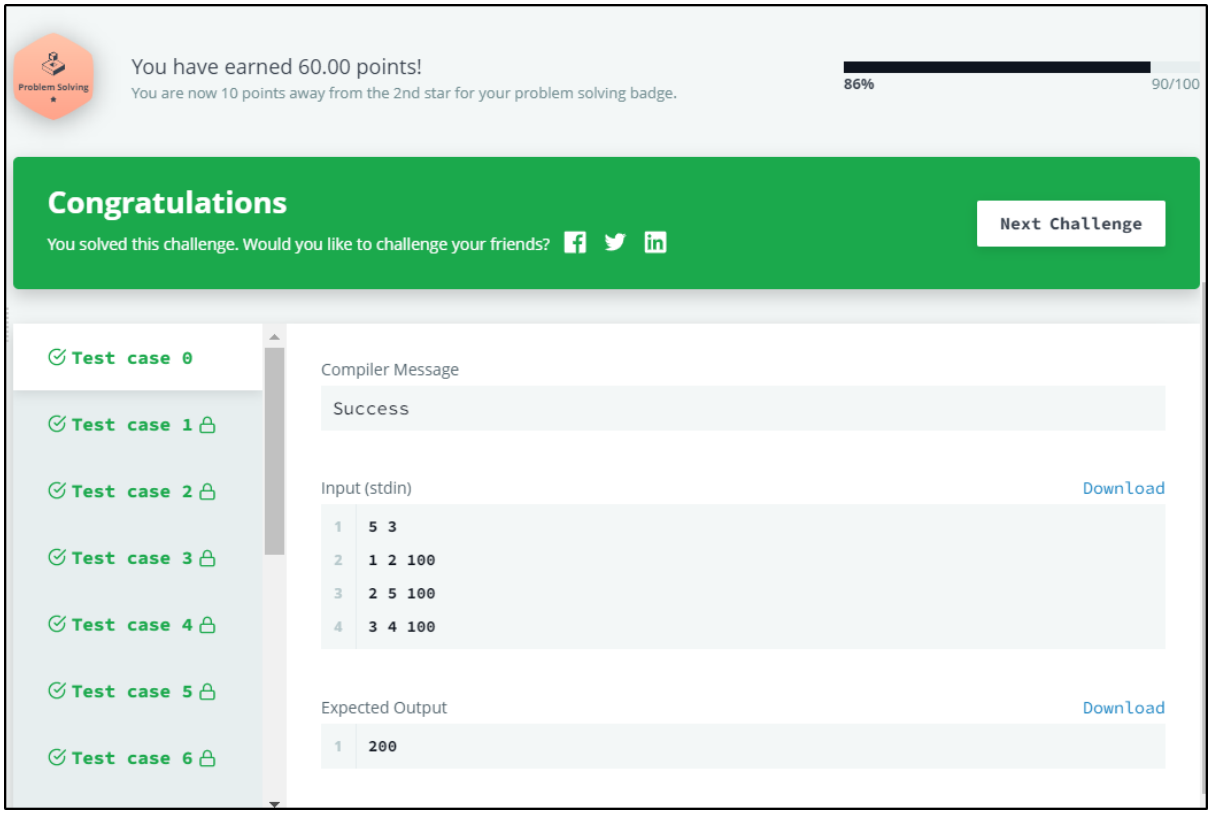
After the third update list is `100 200 200 200 100`.

The maximum value is 200.

PROGRAM USED TO SOLVE THE PROBLEM STATEMENT

```c
#include <stdio.h>
#include <string.h>
#include <math.h>
#include <stdlib.h>

int main(void)
{
    int n, m, a, b, k;
    scanf("%d %d", &n, &m);

    long *ar, sum = 0, answer = -1;
    ar = (long*)malloc(sizeof(long)*10000000);
    memset(ar, 0, n);

    for (int i = 0; i < m; i++)
    {
        scanf("%i %i %i", &a, &b, &k);
        ar[a-1] += k;
        ar[b] -= k;
    }

    for (int i = 0; i < n; i++)
    {
        sum += ar[i];
        if (sum > answer)
            answer = sum;
    }

    free(ar);
    printf("%ld\n", answer);
    return 0;
}
```

TEST CASES


You have earned 60.00 points!
You are now 10 points away from the 2nd star for your problem solving badge.
86%
90/100
Congratulations
You solved this challenge. Would you like to challenge your friends?
Next Challenge
Test case 0
Test case 1
Test case 2
Test case 3
Test case 4
Test case 5
Test case 6
Compiler Message
Success
Input (stdin)
Download
5 3
1 2 100
2 5 100
3 4 100
Expected Output
Download
200