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## 370. Range Addition

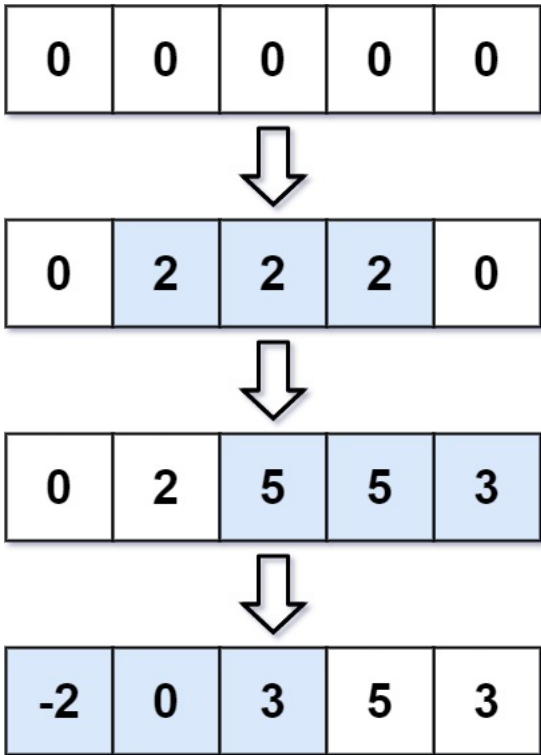
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You are given an integer `length` and an array `updates` where `updates[i] = [startIdxi, endIdxi, inci]`.

You have an array `arr` of length `length` with all zeros, and you have some operation to apply on `arr`. In the  $i^{\text{th}}$  operation, you should increment all the elements `arr[startIdxi]`, `arr[startIdxi + 1]`, ..., `arr[endIdxi]` by `inci`.

Return `arr` after applying all the updates.

## Example 1:



**Input:** `length = 5, updates = [[1,3,2],[2,4,3],[0,2,-2]]`

**Output:** `[-2,0,3,5,3]`

## Example 2:

**Input:** `length = 10, updates = [[2,4,6],[5,6,8],[1,9,-4]]`

**Output:** `[0,-4,2,2,2,4,4,-4,-4,-4]`

## Constraints:

- $1 \leq \text{length} \leq 10^5$
- $0 \leq \text{updates.length} \leq 10^4$
- $0 \leq \text{startIdx}_i \leq \text{endIdx}_i < \text{length}$
- $-1000 \leq \text{inc}_i \leq 1000$

Accepted 83,290 Submissions 117,319

Seen this question in a real interview before?

☐ Yes

☐ No

```

1 class Solution {
2 public:
3     vector<int>
    getModifiedArray(int length,
        vector<vector<int>>& updates) {
4
5         vector<int> res(length, 0);
6         for(int i = 0; i <
            updates.size(); i++)
7         {
8             if(updates[i]
                [0]-1 >= 0)
9             {
10                 res[updates[i]
                    [0]-1] += updates[i][2];
11                 res[updates[i][1]
                    ] += updates[i][2];
12             }
13         }
14         for(int i=length-
            2; i >= 0; i--)
15         {
16             res[i] += res[i+1];
17         }
18         return res;
19     }
20 }
21
22

```

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**Accepted** Runtime: 0 ms

Your input `10`  
`[[2,4,6],[5,6,8],`  
`[1,9,-4]]`

Output `[0,-4,2,2,2,4`

Expected `[0,-4,2,2,2,4,4,-4,-4,-4]`

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