

1605. Find Valid Matrix Given Row and Column Sums

Solved ●

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You are given two arrays `rowSum` and `colSum` of non-negative integers where `rowSum[i]` is the sum of the elements in the `ith` row and `colSum[j]` is the sum of the elements of the `jth` column of a 2D matrix. In other words, you do not know the elements of the matrix, but you do know the sums of each row and column.

Find any matrix of **non-negative** integers of size `rowSum.length x colSum.length` that satisfies the `rowSum` and `colSum` requirements.

Return a 2D array representing **any** matrix that fulfills the requirements. It's guaranteed that **at least one** matrix that fulfills the requirements exists.

Example 1:

Input: `rowSum = [3,8]`, `colSum = [4,7]`**Output:** `[[3,0],
[1,7]]`**Explanation:**`0th row: 3 + 0 = 3 == rowSum[0]``1st row: 1 + 7 = 8 == rowSum[1]``0th column: 3 + 1 = 4 == colSum[0]``1st column: 0 + 7 = 7 == colSum[1]`

The row and column sums match, and all matrix elements are non-negative.

Another possible matrix is: `[[1,2],
[3,5]]`

Example 2:

Input: `rowSum = [5,7,10]`, `colSum = [8,6,8]`**Output:** `[[0,5,0],
[6,1,0],
[2,0,8]]`

Constraints:

- `1 <= rowSum.length, colSum.length <= 500`
- `0 <= rowSum[i], colSum[i] <= 108`
- `sum(rowSum) == sum(colSum)`

Seen this question in a real interview before? 1/5

Yes No

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Hint 1

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