1253. Reconstruct a 2-Row Binary Matrix

Description

Given the following details of a matrix with `n` columns and `2` rows :

- The matrix is a binary matrix, which means each element in the matrix can be `0` or `1`.
- The sum of elements of the 0-th(upper) row is given as `upper`.
- The sum of elements of the 1-st(lower) row is given as `lower`.
- The sum of elements in the i-th column(0-indexed) is `colsum[i]`, where `colsum` is given as an integer array with length `n`.

Your task is to reconstruct the matrix with `upper`, `lower` and `colsum`.

Return it as a 2-D integer array.

If there are more than one valid solution, any of them will be accepted.

If no valid solution exists, return an empty 2-D array.

Example 1:

```
Input: upper = 2, lower = 1, colsum = [1,1,1]
Output: [[1,1,0],[0,0,1]]
Explanation: [[1,0,1],[0,1,0]], and [[0,1,1],[1,0,0]] are also correct answers.
```

Example 2:

```
Input: upper = 2, lower = 3, colsum = [2,2,1,1]
Output: []
```

Example 3:

```
Input: upper = 5, lower = 5, colsum = [2,1,2,0,1,0,1,2,0,1]
Output: [[1,1,1,0,1,0,0,1,0,0],[1,0,1,0,0,0,1,1,0,1]]
```

Constraints:

- `1 <= colsum.length <= 10^5`
- `0 <= upper, lower <= colsum.length`
- `0 <= colsum[i] <= 2`