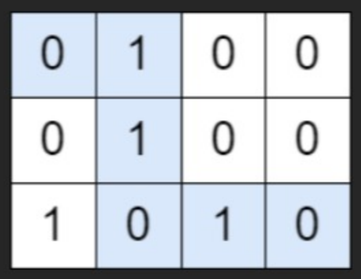
2510. Check if There is a Path With Equal Number of 0's And 1's Premium

Medium | Topics | Companies | Hint

You are given a **0-indexed** `m x n` **binary** matrix `grid`. You can move from a cell `(row, col)` to any of the cells `(row + 1, col)` or `(row, col + 1)`.

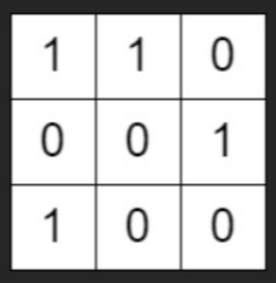
Return `true` *if there is a path from* `(0, 0)` *to* `(m - 1, n - 1)` *that visits an* ***equal*** *number of* `0`*'s and* `1`*'s*. Otherwise return `false`.

Example 1:




```
Input: grid = [[0,1,0,0],[0,1,0,0],[1,0,1,0]]
Output: true
Explanation: The path colored in blue in the above diagram is a valid path because we have 3 cells with a value of 1 and 3 with a value of 0. Since there is a valid path, we return true.
```

Example 2:




```
Input: grid = [[1,1,0],[0,0,1],[1,0,0]]
Output: false
Explanation: There is no path in this grid with an equal number of 0's and 1's.
```

Constraints:

- `m == grid.length`
- `n == grid[i].length`
- `2 <= m, n <= 100`
- `grid[i][j]` is either `0` or `1`.

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

Yes No

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Topics

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Hint 1

Can you use dynamic programming to solve the problem?

Hint 2

Let dp[i][j][diff] be true if there is a path from the cell (i, j) to (m - 1, n - 1) such that the difference between the number of 0's and the number of 1's that we visited so far is diff, or false otherwise. The answer to the problem will be dp[0][0][0]. How do you compute this dp?

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