2556. Disconnect Path in a Binary Matrix by at Most One Flip

Description

You are given a **0-indexed** $[m \times n]$ binary matrix [grid]. You can move from a cell [row, col) to any of the cells [row + 1, col) or [row, col + 1) that has the value [1]. The matrix is disconnected if there is no path from [0, 0] to [m - 1, n - 1].

You can flip the value of at most one (possibly none) cell. You cannot flip the cells (0, 0) and (m - 1, n - 1).

Return true if it is possible to make the matrix disconnect or false otherwise.

Note that flipping a cell changes its value from 0 to 1 or from 1 to 0.

Example 1:

1	1	1	1	1	1
1	0	0	0	0	0
1	1	1	1	1	1

Input: grid = [[1,1,1],[1,0,0],[1,1,1]]

Output: true

Explanation: We can change the cell shown in the diagram above. There is no path from (0, 0) to (2, 2) in the resulting grid.

Example 2:

1	1	1
1	0	1
1	1	1

Input: grid = [[1,1,1],[1,0,1],[1,1,1]]

Output: false

Explanation: It is not possible to change at most one cell such that there is not path from (0, 0) to (2, 2).

Constraints:

- m == grid.length
- n == grid[i].length
- 1 <= m, n <= 1000
- 1 <= $m * n <= 10^{5}$
- grid[i][j] is either 0 or 1.
- grid[0][0] == grid[m 1][n 1] == 1