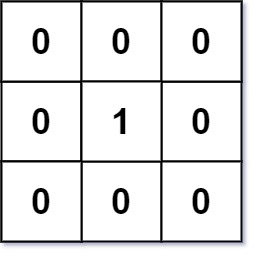
Given an m x n binary matrix mat, return *the distance of the nearest*0*for each cell*.

The distance between two adjacent cells is 1.

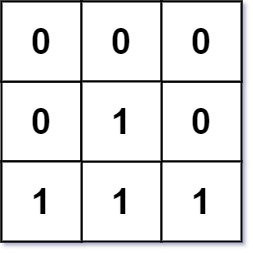
**Example 1:**



**Input:** mat = [[0,0,0],[0,1,0],[0,0,0]]

**Output:** [[0,0,0],[0,1,0],[0,0,0]]

**Example 2:**



**Input:** mat = [[0,0,0],[0,1,0],[1,1,1]]

**Output:** [[0,0,0],[0,1,0],[1,2,1]]

**Constraints:**

* m == mat.length
* n == mat[i].length
* 1 <= m, n <= 104
* 1 <= m \* n <= 104
* mat[i][j] is either 0 or 1.
* There is at least one 0 in mat.