

Distance of nearest cell having 1

Difficulty: **Medium**Accuracy: **47.7%**Submissions: **95K+**Points: **4**

Given a binary grid of $n \times m$. Find the distance of the nearest 1 in the grid for each cell.

The distance is calculated as $|i_1 - i_2| + |j_1 - j_2|$, where i_1, j_1 are the row number and column number of the current cell, and i_2, j_2 are the row number and column number of the nearest cell having value 1. There should be atleast one 1 in the grid.

Example 1:

Input:

grid = [[0,1,1,0], [1,1,0,0], [0,0,1,1]]

Output:

[[1,0,0,1], [0,0,1,1], [1,1,0,0]]

Explanation:

The grid is-

0 1 1 0

1 1 0 0

0 0 1 1

- 0's at (0,0), (0,3), (1,2), (1,3), (2,0) and (2,1) are at a distance of 1 from 1's at (0,1), (0,2), (0,2), (2,3), (1,0) and

(1,1) respectively.

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

Example 2:

Input:

```
grid = [[1,0,1], [1,1,0], [1,0,0]]
```

Output:

```
[[0,1,0], [0,0,1], [0,1,2]]
```

Explanation:

The grid is-

```
1 0 1
```

```
1 1 0
```

```
1 0 0
```

- 0's at (0,1), (1,2), (2,1) and (2,2) are at a distance of 1, 1, 1 and 2 from 1's at (0,0), (0,2), (2,0) and (1,1)

respectively.

0	1	0
0	0	1
0	1	2

Your Task:

You don't need to read or print anything, Your task is to complete the function **nearest()** which takes the grid as an input parameter and returns a matrix of the same dimensions where the value at index (i, j) in the resultant matrix signifies the **minimum distance** of 1 in the matrix from grid[i][j].

Constraints:

$$1 \leq n, m \leq 500$$