

Description

Solution

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Submissions

1730. Shortest Path to Get Food

Medium

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You are starving and you want to eat food as quickly as possible. You want to find the shortest path to arrive at any food cell.

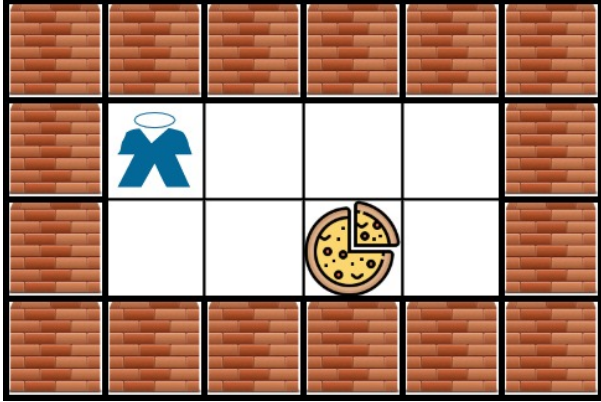
You are given an $m \times n$ character matrix, `grid`, of these different types of cells:

- '*' is your location. There is **exactly one** '*' cell.
- '#' is a food cell. There may be **multiple** food cells.
- 'O' is free space, and you can travel through these cells.
- 'X' is an obstacle, and you cannot travel through these cells.

You can travel to any adjacent cell north, east, south, or west of your current location if there is not an obstacle.

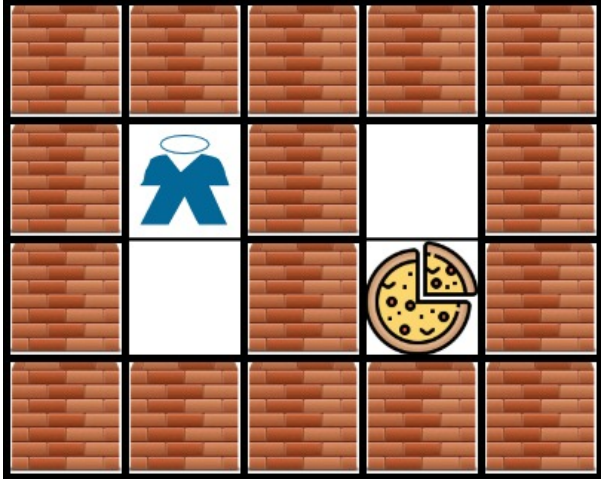
Return *the length of the shortest path for you to reach **any** food cell*. If there is no path for you to reach food, return `-1`.

Example 1:



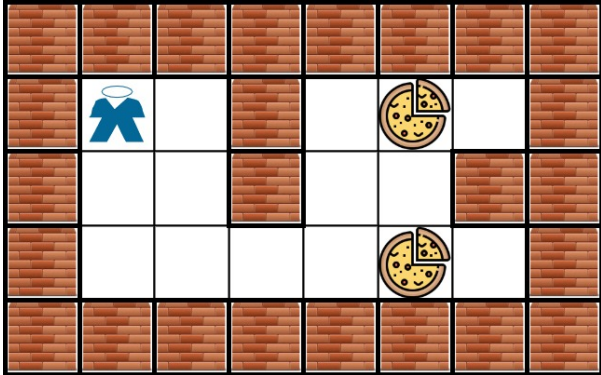
Input: `grid = [[["X","X","X","X","X","X"],["X","*", "0","0","X"], ["X","0","0","#","0","X"],["X","X","X","X","X"]]`
Output: 3
Explanation: It takes 3 steps to reach the food.

Example 2:



Input: `grid = [[["X","X","X","X","X"], ["X","*", "X","0","X"], ["X","0","X","#","X"], ["X","X","X","X","X"]]`
Output: -1
Explanation: It is not possible to reach the food.

Example 3:



Input: `grid = [[["X","X","X","X","X","X"], ["X","*", "0","X","0","0"], ["X","0","0","X","0","X"], ["X","0","0","0","#","0","X"],["X","X","X","X","X","X"]]`
Output: 6
Explanation: There can be multiple food cells. It only takes 6 steps to reach the bottom food.

Example 4:

Input: `grid = [["0","*"], ["#","0"]]`
Output: 2

Example 5:

Input: `grid = [["X","*"], ["#","X"]]`
Output: -1

Constraints:

- `m == grid.length`
- `n == grid[i].length`
- `1 <= m, n <= 200`
- `grid[row][col]` is '*', 'X', 'O', or '#'.
 - The grid contains **exactly one** '*'.

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01 MatrixMedium

Shortest Path in a Grid with Obstacles EliminationHard

Hide Hint 1 ^

Run BFS starting from the '*' position.

Hide Hint 2 ^

Keep the current number of the steps as a state in the queue.

Hide Hint 3 ^

The first time you reach a food, return the number of steps as the answer.

Hide Hint 4 ^

In case the queue is empty and you still did not manage to reach a food, return -1.

i Java

Autocomplete

```
1 class Solution {
2     public int getFood(char[] grid) {
3
4     }
5 }
```