505. The Maze II Premium

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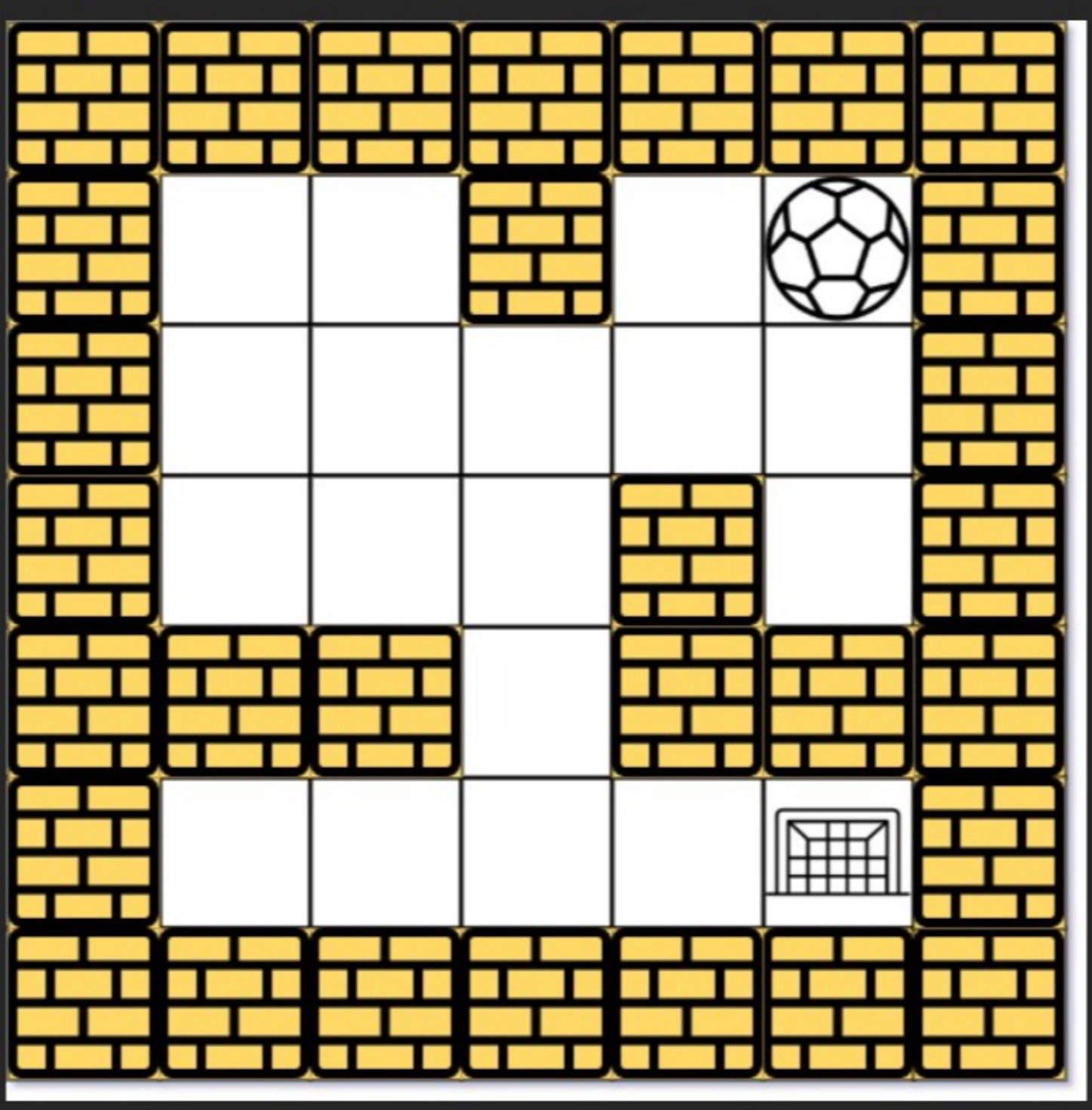
There is a ball in a `maze` with empty spaces (represented as `0`) and walls (represented as `1`). The ball can go through the empty spaces by rolling **up, down, left or right**, but it won't stop rolling until hitting a wall. When the ball stops, it could choose the next direction.

Given the `m x n` `maze`, the ball's `start` position and the `destination`, where `start = [start_row, start_col]` and `destination = [destination_row, destination_col]`, return *the shortest **distance** for the ball to stop at the destination*. If the ball cannot stop at `destination`, return `-1`.

The **distance** is the number of **empty spaces** traveled by the ball from the start position (excluded) to the destination (included).

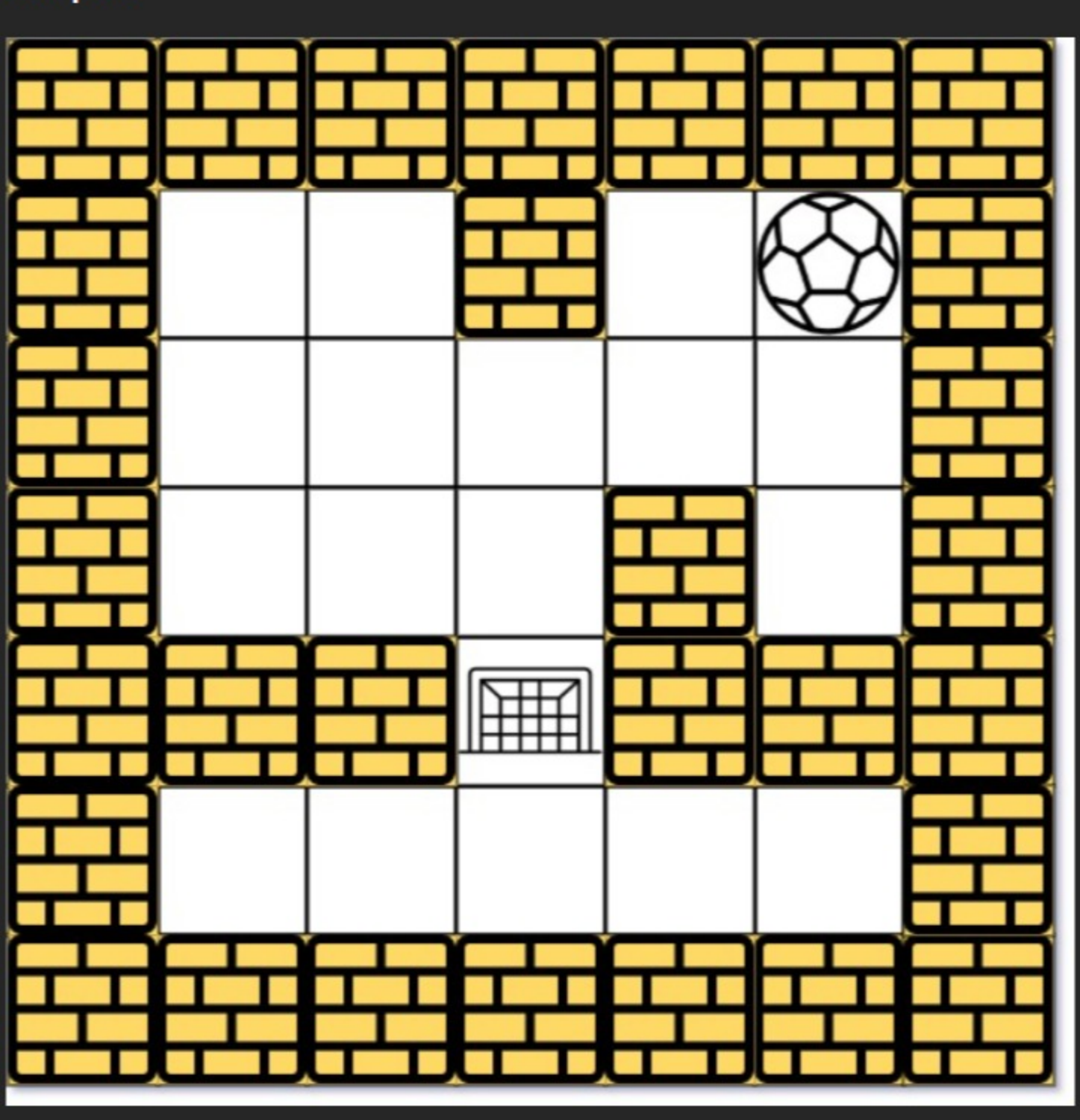
You may assume that **the borders of the maze are all walls** (see examples).

Example 1:



> **Input:** maze = [[0,0,1,0,0],[0,0,0,0,0],[0,0,0,1,0],[1,1,0,1,1],[0,0,0,0,0]], start = [0,4], destination = [4,4]
> **Output:** 12
> **Explanation:** One possible way is : left -> down -> left -> down -> right -> down -> right.
> The length of the path is 1 + 1 + 3 + 1 + 2 + 2 + 2 = 12.

Example 2:



> **Input:** maze = [[0,0,1,0,0],[0,0,0,0,0],[0,0,0,1,0],[1,1,0,1,1],[0,0,0,0,0]], start = [0,4], destination = [3,2]
> **Output:** -1
> **Explanation:** There is no way for the ball to stop at the destination. Notice that you can pass through the destination but you cannot stop there.

Example 3:

> **Input:** maze = [[0,0,0,0,0],[1,1,0,0,1],[0,0,0,0,0],[0,1,0,0,1],[0,1,0,0,0]], start = [4,3], destination = [0,1]
> **Output:** -1

Constraints:

- `m == maze.length`
- `n == maze[i].length`
- `1 <= m, n <= 100`
- `maze[i][j]` is `0` or `1`.
- `start.length == 2`
- `destination.length == 2`
- `0 <= start_row, destination_row < m`
- `0 <= start_col, destination_col < n`
- Both the ball and the destination exist in an empty space, and they will not be in the same position initially.
- The maze contains **at least 2 empty spaces**.

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

Yes No

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