505. The Maze II

Description

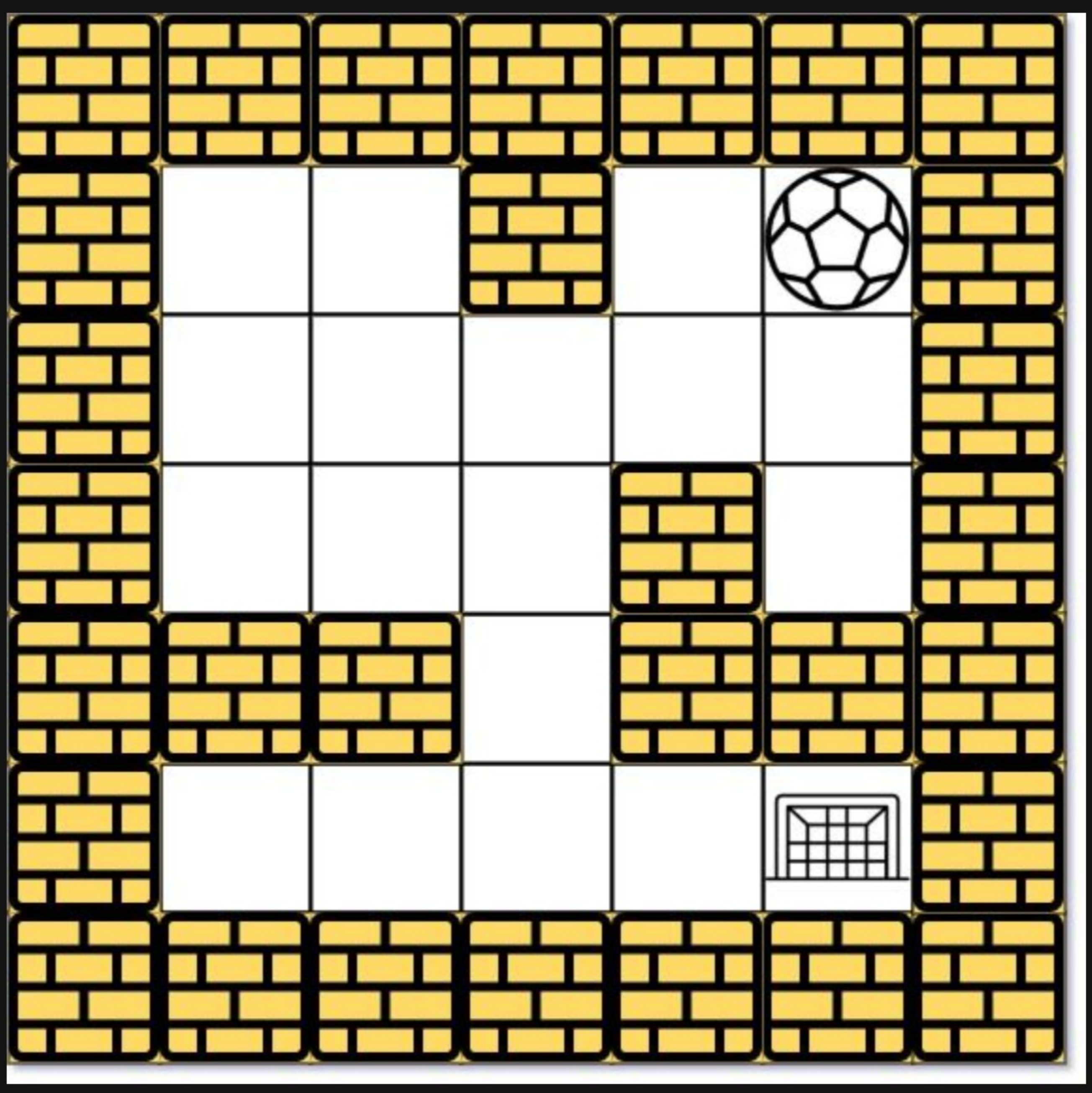
There is a ball in a `maze` with empty spaces (represented as `0`) and walls (represented as `1`). The ball can go through the empty spaces by rolling **up, down, left or right**, but it won't stop rolling until hitting a wall. When the ball stops, it could choose the next direction.

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).

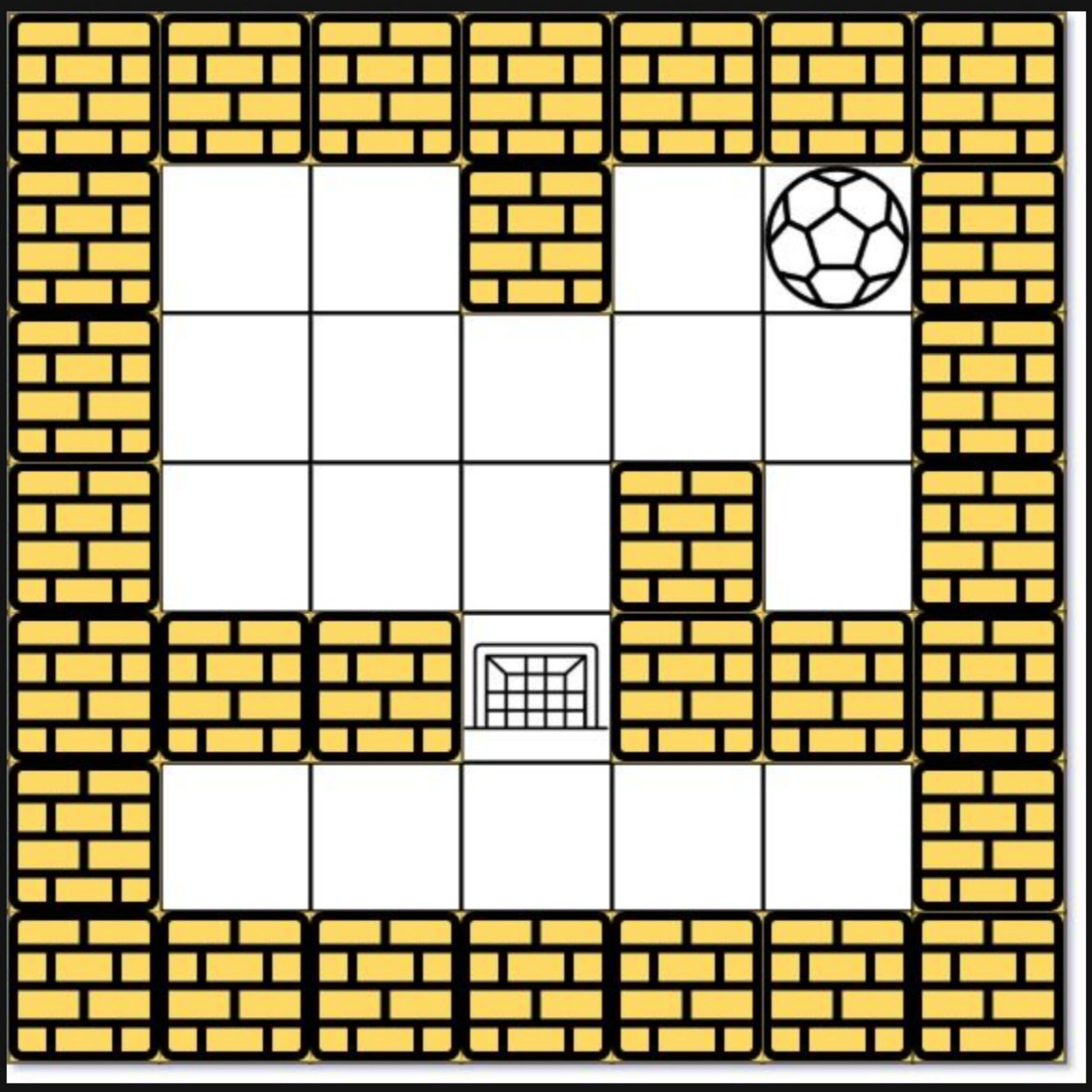
You may assume that **the borders of the maze are all walls** (see examples).

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 = 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**.