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499. The Maze III Premium

Hard  Topics

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** direction. There is also a hole in this maze. The ball will drop into the hole if it rolls onto the hole.

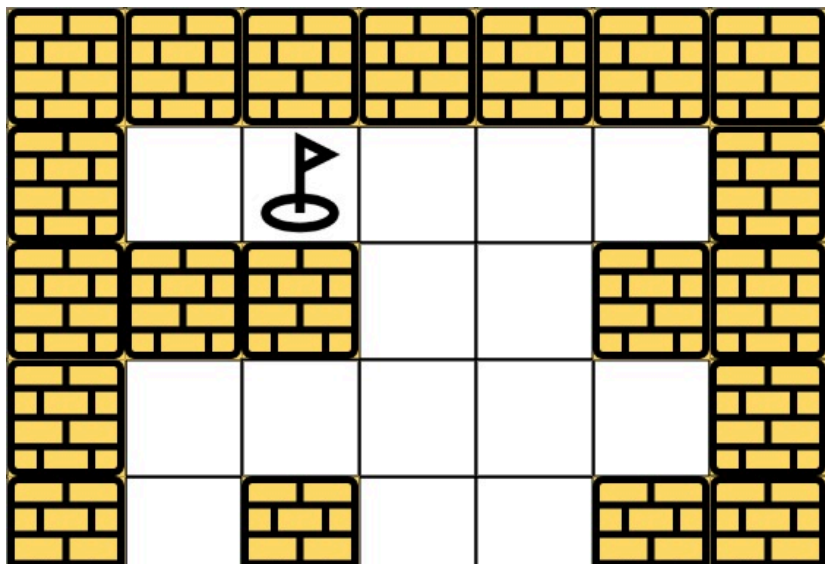
Given the `m x n` `maze`, the ball's position `ball` and the hole's position `hole`, where `ball = [ball_row, ball_col]` and `hole = [hole_row, hole_col]`, return **distance** possible. If there are multiple valid instructions, return the **lexicographically minimum** one. If the ball can't drop in the hole, return `"impossible"`.

If there is a way for the ball to drop in the hole, the answer `instructions` should contain the characters `'u'` (i.e., up), `'d'` (i.e., down), `'l'` (i.e., left

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:



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