

LeetCode

ExploreProblemsInterviewContestDiscussStore

LeetCode is hiring! Apply NOW.

8

DescriptionSolutionDiscuss (999+)Submissions

1706. Where Will the Ball Fall

Medium2488148Add to ListShare

You have a 2-D grid of size  $m \times n$  representing a box, and you have  $n$  balls. The box is open on the top and bottom sides.

Each cell in the box has a diagonal board spanning two corners of the cell that can redirect a ball to the right or to the left.

- A board that redirects the ball to the right spans the top-left corner to the bottom-right corner and is represented in the grid as `1`.
- A board that redirects the ball to the left spans the top-right corner to the bottom-left corner and is represented in the grid as `-1`.

We drop one ball at the top of each column of the box. Each ball can get stuck in the box or fall out of the bottom. A ball gets stuck if it hits a "V" shaped pattern between two boards or if a board redirects the ball into either wall of the box.

Return an array `answer` of size  $n$  where `answer[i]` is the column that the ball falls out of at the bottom after dropping the ball from the  $i^{th}$  column at the top, or `-1` if the ball gets stuck in the box.

**Example 1:**

**Input:** `grid = [[1,1,1,-1,-1],[1,1,1,-1,-1],[-1,-1,1,1,1],[1,1,1,1,-1],[-1,-1,-1,-1,-1]]`  
**Output:** `[1,-1,-1,-1,-1]`  
**Explanation:** This example is shown in the photo.  
Ball `b0` is dropped at column `0` and falls out of the box at column `1`.  
Ball `b1` is dropped at column `1` and will get stuck in the box between column `2` and `3` and row `1`.  
Ball `b2` is dropped at column `2` and will get stuck on the box between column `2` and `3` and row `0`.  
Ball `b3` is dropped at column `3` and will get stuck on the box between column `2` and `3` and row `0`.  
Ball `b4` is dropped at column `4` and will get stuck on the box between column `2` and `3` and row `1`.

**Example 2:**

**Input:** `grid = [[-1]]`  
**Output:** `[-1]`  
**Explanation:** The ball gets stuck against the left wall.

**Example 3:**

**Input:** `grid = [[1,1,1,1,1,1],[-1,-1,-1,-1,-1,-1],[1,1,1,1,1,1],[-1,-1,-1,-1,-1,-1]]`  
**Output:** `[0,1,2,3,4,-1]`

**Constraints:**

- $m == \text{grid.length}$
- $n == \text{grid}[i].\text{length}$
- $1 \leq m, n \leq 100$
- `grid[i][j]` is `1` or `-1`.

Accepted 104,670 Submissions 146,118

Seen this question in a real interview before? Yes No

Companies i

Related Topics

Show Hint 1

Show Hint 2

JavaAutocomplete

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

Problems

Pick One

Prev1706/2459Next

ConsoleContribute i

Run CodeSubmit