

Problem 1275: Find Winner on a Tic Tac Toe Game

Problem Information

Difficulty: Easy

Acceptance Rate: 54.34%

Paid Only: No

Tags: Array, Hash Table, Matrix, Simulation

Problem Description

Tic-tac-toe is played by two players `A` and `B` on a `3 x 3` grid. The rules of Tic-Tac-Toe are:

* Players take turns placing characters into empty squares `` ``. * The first player `A` always places `X` characters, while the second player `B` always places `O` characters. * `X` and `O` characters are always placed into empty squares, never on filled ones. * The game ends when there are **three** of the same (non-empty) character filling any row, column, or diagonal. * The game also ends if all squares are non-empty. * No more moves can be played if the game is over.

Given a 2D integer array `moves` where `moves[i] = [rowi, coli]` indicates that the `ith` move will be played on `grid[rowi][coli]`. return _the winner of the game if it exists_ (`A` or `B`). In case the game ends in a draw return `"Draw"`. If there are still movements to play return `"Pending"`.

You can assume that `moves` is valid (i.e., it follows the rules of **Tic-Tac-Toe**), the grid is initially empty, and `A` will play first.

Example 1:

Input: moves = [[0,0],[2,0],[1,1],[2,1],[2,2]] **Output:** "A" **Explanation:** A wins, they always play first.

****Example 2:****

****Input:**** moves = [[0,0],[1,1],[0,1],[0,2],[1,0],[2,0]] ****Output:**** "B" ****Explanation:**** B wins.

****Example 3:****

****Input:**** moves = [[0,0],[1,1],[2,0],[1,0],[1,2],[2,1],[0,1],[0,2],[2,2]] ****Output:**** "Draw"

****Explanation:**** The game ends in a draw since there are no moves to make.

****Constraints:****

* `1 <= moves.length <= 9` * `moves[i].length == 2` * `0 <= rowi, colj <= 2` * There are no repeated elements on `moves`. * `moves` follow the rules of tic tac toe.

Code Snippets

C++:

```
class Solution {
public:
    string tictactoe(vector<vector<int>>& moves) {
        }
};
```

Java:

```
class Solution {
public String tictactoe(int[][] moves) {
        }
}
```

Python3:

```
class Solution:  
    def tictactoe(self, moves: List[List[int]]) -> str:
```