Problem 794: Valid Tic-Tac-Toe State

Problem Information

Difficulty: Medium
Acceptance Rate: 34.71%
Paid Only: No
Tags: Array, Matrix

Problem Description

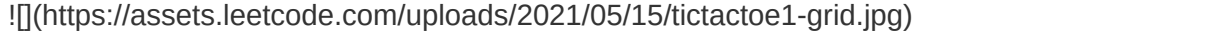
Given a Tic-Tac-Toe board as a string array `board`, return `true` if and only if it is possible to reach this board position during the course of a valid tic-tac-toe game.

The board is a `3 x 3` array that consists of characters `' '`, `'X'`, and `'O'`. The `' '` character represents an empty square.

Here are the rules of Tic-Tac-Toe:

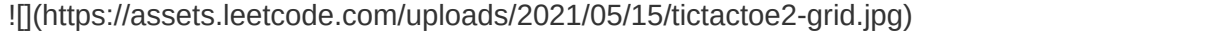
* Players take turns placing characters into empty squares `' '`. * The first player always places `'X'` characters, while the second player always places `'O'` characters. * `'X'` and `'O'` characters are always placed into empty squares, never filled ones. * The game ends when there are three of the 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.

Example 1:



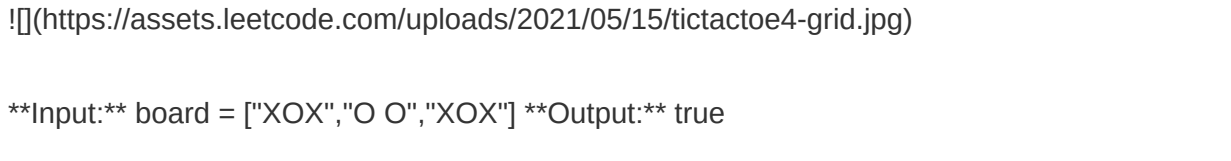
Input: board = ["O "," "," "] **Output:** false **Explanation:** The first player always plays "X".

Example 2:



Input: board = ["XOX"," X "," "] **Output:** false **Explanation:** Players take turns making moves.

Example 3:



Input: board = ["XOX","O O","XOX"] **Output:** true

Constraints:

* `board.length == 3` * `board[i].length == 3` * `board[i][j]` is either `'X'`, `'O'`, or `' '`.

Code Snippets

C++:

```
class Solution {
public:
bool validTicTacToe(vector<string>& board) {

}
};
```

Java:

```
class Solution {
public boolean validTicTacToe(String[] board) {

}
}
```

Python3:

```
class Solution:
def validTicTacToe(self, board: List[str]) -> bool:
```