130. Surrounded Regions

Given a 2D board containing 'X' and 'O' (the letter O), capture all regions surrounded by 'X'.

A region is captured by flipping all 'O's into 'X's in that surrounded region.

Example:

```
X X X X
X O O X
X X O X
X O X X
```

After running your function, the board should be:

```
X X X X
X X X X
X X X X
X O X X
```

```
class Solution {

    // dfs
    public void solve(char[][] board) {
        if (board.length == 0 || board[0].length == 0)
            return;

        if (board.length < 3 || board[0].length < 3)
            return;

        int row = board.length;
        int col = board[0].length;

        for (int i = 0; i < row; i++) {
            if (board[i][0] == 'O')
                helper(board, i, 0);
            if (board[i][col-1] == 'O')
                helper(board, i, col-1);
        }

        for (int j = 1; j < col-1; j++) {
            if (board[0][j] == 'O')
```

```
                helper(board, 0, j);
            if (board[row-1][j] == 'O')
                helper(board, row-1, j);
        }

        for (int i = 0; i < row; i++) {
            for (int j = 0; j < col; j++) {
                if (board[i][j] == 'O')
                    board[i][j] = 'X';

                if (board[i][j] == '*')
                    board[i][j] = 'O';
            }
        }
    }

    private void helper(char[][] board, int row, int col) {
        if (row < 0 || col < 0 || row > board.length-1
           || col > board[0].length-1 || board[row][col] != 'O')
            return;

        board[row][col] = '*';
        helper(board, row+1, col);
        helper(board, row-1, col);
        helper(board, row, col+1);
        helper(board, row, col-1);
    }
}
```