5883. Check if Word Can Be Placed In Crossword

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Back to Contest (/contest/weekly-contest-260/)

User Accepted:	0
User Tried:	0
Total Accepted:	0
Total Submissions:	0
Difficulty:	Medium

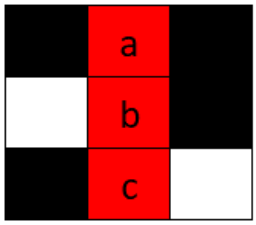
You are given an `m x n` matrix `board`, representing the **current** state of a crossword puzzle. The crossword contains lowercase English letters (from solved words), `' '` to represent any **empty** cells, and `'#'` to represent any **blocked** cells.

A word can be placed **horizontally** (left to right **or** right to left) or **vertically** (top to bottom **or** bottom to top) in the board if:

- It does not occupy a cell containing the character `'#'`.
- The cell each letter is placed in must either be `' '` (empty) or **match** the letter already on the `board`.
- There must not be any empty cells `' '` or other lowercase letters **directly left or right** of the word if the word was placed **horizontally**.
- There must not be any empty cells `' '` or other lowercase letters **directly above or below** the word if the word was placed **vertically**.

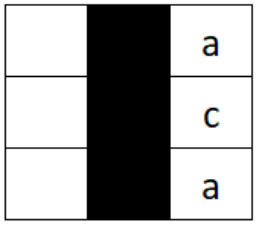
Given a string `word`, return `true` *if* `word` *can be placed in* `board`, *or* `false` ***otherwise***.

Example 1:



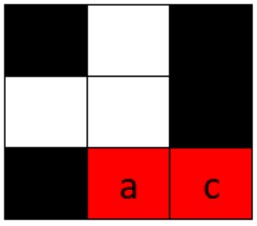

```
Input: board = [["#", " ", "#"], [" ", " ", "#"], ["#", "c", " "]], word = "abc"
Output: true
Explanation: The word "abc" can be placed as shown above (top to bottom).
```

Example 2:




```
Input: board = [[" ", "#", "a"], [" ", "#", "c"], [" ", "#", "a"]], word = "ac"
Output: false
Explanation: It is impossible to place the word because there will always be a space/letter above or below it.
```

Example 3:



```
Input: board = [["#", " ", "#"], [" ", " ", "#"], ["#", " ", "c"]], word = "ca"
Output: true
Explanation: The word "ca" can be placed as shown above (right to left).
```

Constraints:

- `m == board.length`
- `n == board[i].length`
- `1 <= m * n <= 2 * 10^5`
- `board[i][j]` will be `' '`, `'#'`, or a lowercase English letter.
- `1 <= word.length <= max(m, n)`
- `word` will contain only lowercase English letters.

JavaScript

```javascript
const placeWordInCrossword = (g, s) => {
    if (checkHorizontal(g, s) || checkHorizontal(rotate_reverse(g), s)) return true;
    return false;
};

const checkHorizontal = (g, s) => {
    let n = g.length, m = g[0].length;
    for (let i = 0; i < n; i++) {
        for (let j = 0; j < m;) {
            let col = j;
            while (col < m && g[i][col] != '#') col++;
            if (s.length == col - j) { // match
                let ok = true;
                for (let idx = 0; idx < s.length; idx++) {
                    if (g[i][j + idx] != ' ' && g[i][j + idx] != s[idx]) ok = false;
                }
                if (ok) return true;
                ok = true;
                for (let idx = 0; idx < s.length; idx++) {
                    if (g[i][j + idx] != ' ' && g[i][j + idx] != s[s.length - 1 - idx]) ok = false;
                }
                if (ok) return true;
            }
            if (col == j) col++;
            j = col;
        }
    }
    return false;
};

const rotate_reverse = (g) => {
    let n = g.length, m = g[0].length;
    let res = initialize2DArrayNew(m, n);
    for (let i = 0; i < m; i++) {
        for (let j = 0; j < n; j++) {
            res[i][j] = g[j][i];
        }
    }
    return res;
};

const initialize2DArrayNew = (n, m) => { let data = []; for (let i = 0; i < n; i++) { let tmp =
Array(m).fill(0); data.push(tmp); } return data; };
```

Custom Testcase Use Example Testcases

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