2018. Check if Word Can Be Placed In Crossword

Description

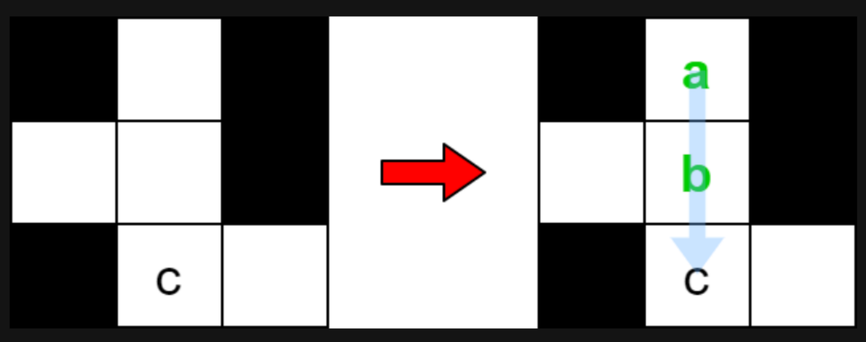
You are given an `m x n` matrix `board`, representing the **current** state of a crossword puzzle. The crossword contains lowercase English letters (from solved words), `' '` to represent any **empty** cells, and `'#'` to represent any **blocked** cells.

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**.

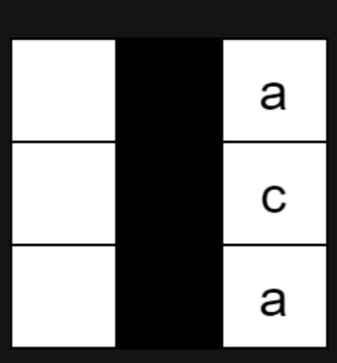
Given a string `word`, return `true` *if* `word` *can be placed in* `board`*, or* `false` ***otherwise***.

Example 1:



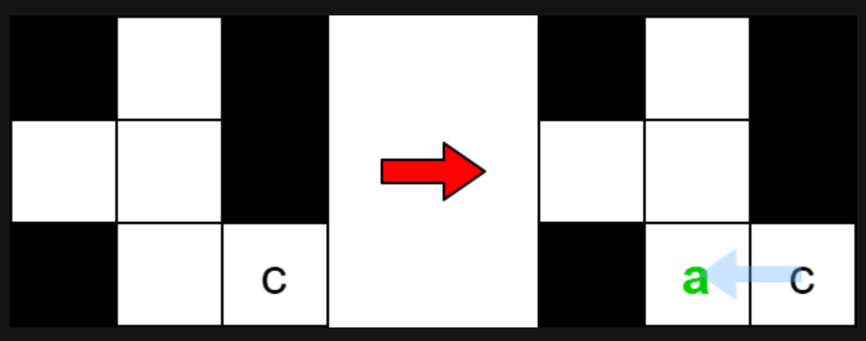

```
Input: board = [["#", " ", "#"], [" ", " ", "#"], ["#", "c", " "]], word = "abc"
Output: true
Explanation: The word "abc" can be placed as shown above (top to bottom).
```

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.