

3227. Vowels Game in a String

Solved ●

Medium Topics Hint

Alice and Bob are playing a game on a string.

You are given a string `s`, Alice and Bob will take turns playing the following game where Alice starts **first**:

- On Alice's turn, she has to remove any **non-empty substring** from `s` that contains an **odd** number of vowels.
- On Bob's turn, he has to remove any **non-empty substring** from `s` that contains an **even** number of vowels.

The first player who cannot make a move on their turn loses the game. We assume that both Alice and Bob play **optimally**.

Return `true` if Alice wins the game, and `false` otherwise.

The English vowels are: `a`, `e`, `i`, `o`, and `u`.

Example 1:

Input: `s = "leetcode"`

Output: `true`

Explanation:

Alice can win the game as follows:

- Alice plays first, she can delete the underlined substring in `s = "leetcode"` which contains 3 vowels. The resulting string is `s = "der"`.
- Bob plays second, he can delete the underlined substring in `s = "der"` which contains 0 vowels. The resulting string is `s = "er"`.
- Alice plays third, she can delete the whole string `s = "er"` which contains 1 vowel.
- Bob plays fourth, since the string is empty, there is no valid play for Bob. So Alice wins the game.

Example 2:

Input: `s = "bbcd"`

Output: `false`

Explanation:

There is no valid play for Alice in her first turn, so Alice loses the game.

Constraints:

- $1 \leq s.length \leq 10^5$
- `s` consists only of lowercase English letters.

Seen this question in a real interview before? 1/5

Yes No

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Topics

Hint 1



Hint 2



Hint 3



Discussion (52)



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