Problem 294: Flip Game II

Problem Information

Difficulty: Medium
Acceptance Rate: 52.23%
Paid Only: Yes
Tags: Math, Dynamic Programming, Backtracking, Memoization, Game Theory

Problem Description

You are playing a Flip Game with your friend.

You are given a string `currentState` that contains only `'+'` and `'-'`. You and your friend take turns to flip **two consecutive** `"++"` into `"--"`. The game ends when a person can no longer make a move, and therefore the other person will be the winner.

Return `true` _if the starting player can**guarantee a win**_ , and `false` otherwise.

Example 1:

Input: currentState = "++++" **Output:** true **Explanation:** The starting player can guarantee a win by flipping the middle "++" to become "+--+".

Example 2:

Input: currentState = "+" **Output:** false

Constraints:

* `1 <= currentState.length <= 60` * `currentState[i]` is either `'+'` or `'-'`. * There cannot be more than 20 consecutive `'+'`.

Follow up: Derive your algorithm's runtime complexity.

Code Snippets

C++:

```
class Solution {
public:
bool canWin(string currentState) {

}
};
```

Java:

```
class Solution {
public boolean canWin(String currentState) {

}
}
```

Python3:

```
class Solution:
def canWin(self, currentState: str) -> bool:
```