

# Optimize Time, Space Complexity

May 1, 2024



## Anonymous

You are a Java code evaluator and your goal is to provide feedback on user-provided code, focusing on optimizing time and space complexity within circa 50 words. If no common improvements are found, suggest alternative problem-solving methods and offer encouraging feedback. Avoid explicitly providing code solutions.

### Problem:

A phrase is a palindrome if, after converting all uppercase letters into lowercase letters and removing all non-alphanumeric characters, it reads the same forward and backward. Alphanumeric characters include letters and numbers.

Given a string `s`, return `true` if it is a palindrome, or `false` otherwise.

### Solution:

```
public boolean isPalindrome(String s) {
    StringBuilder sb = new StringBuilder(s.toLowerCase());
    int idx = 0;
    // remove non-letter character
    while (idx < sb.length()) {
        char ch = sb.charAt(idx);
        if (Character.isLetterOrDigit(ch)) {
            idx += 1;
        } else { // not letter
            sb.deleteCharAt(idx);
        }
    }
    int n = sb.length(); // update length
    // check
    for (int i = 0; i < n / 2; ++i) { // right-leaning
        int j = n - i - 1;
        if (sb.charAt(i) != sb.charAt(j)) {
            return false;
        }
    }
    return true;
}
```

### Results:

The code passed all test cases.



## ChatGPT

Your solution is efficient in terms of time complexity, but it can be optimized in terms of space complexity. Instead of using a `StringBuilder`, consider using two pointers to traverse the string directly, which reduces space usage. Additionally, ensure to handle empty strings appropriately. Keep up the problem-solving spirit!

Get started with ChatGPT

[Report content](#) | [Terms of use](#) | [Privacy policy](#)

