# 5948. Check if a Parentheses String Can Be Valid

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

A parentheses string is a **non-empty** string consisting only of `'('` and `')'`. It is valid if **any** of the following conditions is **true**:

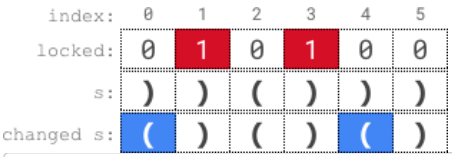
- It is `()`.
- It can be written as `AB` (`A` concatenated with `B`), where `A` and `B` are valid parentheses strings.
- It can be written as `(A)`, where `A` is a valid parentheses string.

You are given a parentheses string `s` and a string `locked`, both of length `n`. `locked` is a binary string consisting only of `'0'`s and `'1'`s. For **each** index `i` of `locked`,

- If `locked[i]` is `'1'`, you **cannot** change `s[i]`.
- But if `locked[i]` is `'0'`, you **can** change `s[i]` to either `'('` or `')'`.

Return `true` *if you can make* `s` *a valid parentheses string.* Otherwise, return `false`.

**Example 1:**




```
Input: s = "))()))", locked = "010100"
Output: true
Explanation: locked[1] == '1' and locked[3] == '1', so we cannot change s[1] or s[3].
We change s[0] and s[4] to '(' while leaving s[2] and s[5] unchanged to make s valid.
```

**Example 2:**

```
Input: s = "()()", locked = "0000"
Output: true
Explanation: We do not need to make any changes because s is already valid.
```

**Example 3:**

```
Input: s = ")", locked = "0"
Output: false
Explanation: locked permits us to change s[0].
Changing s[0] to either '(' or ')' will not make s valid.
```

**Constraints:**

- `n == s.length == locked.length`
- `1 <= n <= 10^5`
- `s[i]` is either `'('` or `')'`.
- `locked[i]` is either `'0'` or `'1'`.

JavaScript

```
const canBeValid = (s, locked) => {
    let a = s.split(""), n = s.length; left = 0, right = 0, immutable = '1';
    if (n & 1) return false;
    let half = n / 2;
    for (let i = 0; i < n; i++) {
```

```
        if (locked[i] == immutable) {
            a[i] == '(' ? left++ : right++;
        }
    }
    if (left > half || right > half) return false;
    for (let i = 0; i < n; i++) {
        if (locked[i] != immutable) {
            if (left < half) {
                a[i] = '(';
                left++;
            } else {
                a[i] = ')';
            }
        }
    }
    let cnt = 0;
    for (let i = 0; i < n; i++) {
        a[i] == '(' ? cnt++ : cnt--;
        if (cnt < 0) return false;
    }
    return true;
};
```

☐ **Custom Testcase** Use Example Testcases

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