

STRING

Problem – Valid Parentheses

Easy



LeetCode

leetcode.com/problems/valid-parentheses

Problem Statement

- Given a string ...

Solution – Valid Parentheses

Easy



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leetcode.com/problems/valid-parentheses

Solution

- Explain...

Code – Valid Parentheses

Easy



LeetCode

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Code

```
bool isValid(string s) {
    // stack (LIFO)
    std::stack<char> brackets;
    // O(n)
    for (int i = 0; i < s.size(); ++i) {
        char bracket = s[i];
        if (bracket == '(' || bracket == '[' || bracket == '{') {
            brackets.push(bracket);
        } else {
            if (brackets.size() == 0) return false;
            char lastBracket = brackets.top();
            if (bracket == ')' && lastBracket != '(') return false;
            if (bracket == '}' && lastBracket != '{') return false;
            if (bracket == ']' && lastBracket != '[') return false;
            brackets.pop();
        }
    }
    // all brackets must be closed
    return brackets.size() == 0;
}
```

Problem – Minimum Number of Increments on Subarrays

Hard



LeetCode

leetcode.com/problems/minimum-number-of-increments-on-subarrays-to-form-a-target-array

Problem Statement

Given an array of integers initialized with zeros (example $[0,0,0,0]$), the goal is to reach some target (example $[1, 2, 2, 3]$). The valid operations is to take a subarray and increment by one. The output is the total number of operations. In this case:

$[1,1,1,1]$ → increment the subarray starting from 0 to total size

$[1,2,2,2]$ → increment the subarray starting from 1 to total size

$[1,2,2,3]$ → increment the subarray starting and ending from the last element

Output: 3 (total number of operations)

Solution – Minimum Number of Increments on Subarrays

Hard



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Solution

- Explain...

Code – Minimum Number of Increments on Subarrays

Hard



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Code

```
int minNumberOperations(vector<int>& target) {
    int totalOp = target[0];
    for (int i = 1; i < target.size(); ++i) {
        // can't reuse
        if (target[i - 1] < target[i]) {
            totalOp += target[i] - target[i - 1];
        }
    }
    return totalOp;
}
```

Code [2] – Minimum Number of Increments on Subarrays

Hard



LeetCode

leetcode.com/problems/minimum-number-of-increments-on-subarrays-to-form-a-target-array

Code

```
int minNumberOperations(vector<int>& target) {  
    return target[0] +  
        inner_product(target.begin() + 1, target.end(),  
            target.begin(), 0,  
            plus<int>(),  
            [](int curr, int prev) { return max(curr - prev, 0); });  
}
```