

STRING

Problem – Valid Parentheses

Easy



LeetCode

leetcode.com/problems/valid-parentheses

Problem Statement

- Given a string ...

Solution – Valid Parentheses

Easy



LeetCode

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

- You are given an array of integers initialized with zeros (e.g. **[0,0,0,0]**)
- The goal is to reach some target (e.g. **[1, 2, 2, 3]**)
- The valid operations is to increment a subarray 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 (optimized)

```
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); });  
}
```