

Problem 42: Trapping Rain Water

Problem Information

Difficulty: Hard

Acceptance Rate: 66.22%

Paid Only: No

Tags: Array, Two Pointers, Dynamic Programming, Stack, Monotonic Stack

Problem Description

Given `n` non-negative integers representing an elevation map where the width of each bar is `1`, compute how much water it can trap after raining.

Example 1:



Input: height = [0,1,0,2,1,0,1,3,2,1,2,1] **Output:** 6 **Explanation:** The above elevation map (black section) is represented by array [0,1,0,2,1,0,1,3,2,1,2,1]. In this case, 6 units of rain water (blue section) are being trapped.

Example 2:

Input: height = [4,2,0,3,2,5] **Output:** 9

Constraints:

* `n == height.length` * `1 <= n <= 2 * 104` * `0 <= height[i] <= 105`

Code Snippets

C++:

```
class Solution {  
public:
```

```
int trap(vector<int>& height) {  
    }  
};
```

Java:

```
class Solution {  
public int trap(int[] height) {  
    }  
}
```

Python3:

```
class Solution:  
    def trap(self, height: List[int]) -> int:
```