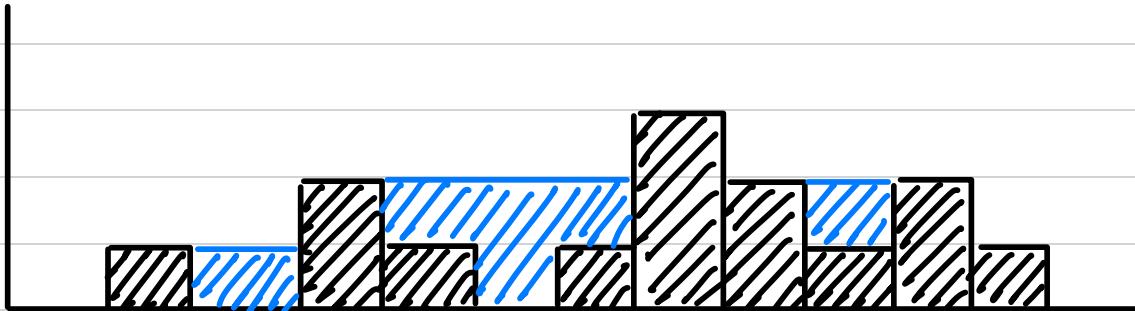


42 - Trapping Rain Water

$[0, 1, 0, 2, 1, 0, 1, 3, 2, 1, 2, 1]$



Approach 1: Start L, R at 0, 1, and while the right wall is shorter than the left wall, we keep moving the right wall over ($R += 1$). As soon as we find a wall as tall or taller than the left wall, we calculate the volume of water caught b/w the left and right walls and add it to the total. We then move L, R over to be $R, R + 1$ (start the search for the next "well"). X

Issue: After L being set to be the tallest wall, we won't find an end wall for that

"well", so we will fail to account for all "sub-wells" after that point.

Approach 2 : Traverse from left to right up till the tallest wall, and then from right to left from the end to the tallest wall. ✓

This approach ensures that, in each part of the traversal, we always find endpoints for our "wells" and account for all spaces where water might collect, thereby overcoming the shortcoming of Approach 1.