# 42. Trapping Rain Water

## SOLUTION IN JAVA

class Solution {

public int trap(int[] height) {

final int n = height.length;

int ans = 0;

int[] l = new int[n]; // l[i] := max(height[0..i])

int[] r = new int[n]; // r[i] := max(height[i..n))

for (int i = 0; i < n; ++i)

l[i] = i == 0 ? height[i] : Math.max(height[i], l[i - 1]);

for (int i = n - 1; i >= 0; --i)

r[i] = i == n - 1 ? height[i] : Math.max(height[i], r[i + 1]);

for (int i = 0; i < n; ++i)

ans += Math.min(l[i], r[i]) - height[i];

return ans;

}

}