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1167. Minimum Cost to Connect Sticks

Medium

1098

148

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You have some number of sticks with positive integer lengths. These lengths are given as an array `sticks`, where `sticks[i]` is the length of the  $i^{\text{th}}$  stick.

You can connect any two sticks of lengths  $x$  and  $y$  into one stick by paying a cost of  $x + y$ . You must connect all the sticks until there is only one stick remaining.

Return the minimum cost of connecting all the given sticks into one stick in this way.

Example 1:

Input: `sticks = [2,4,3]`

Output: 14

Explanation: You start with sticks = [2,4,3].  
1. Combine sticks 2 and 3 for a cost of 2 + 3 = 5. Now you have sticks = [5,4].  
2. Combine sticks 5 and 4 for a cost of 5 + 4 = 9. Now you have sticks = [9].  
There is only one stick left, so you are done. The total cost is 5 + 9 = 14.

Example 2:

Input: `sticks = [1,8,3,5]`

Output: 30

Explanation: You start with sticks = [1,8,3,5].  
1. Combine sticks 1 and 3 for a cost of 1 + 3 = 4. Now you have sticks = [4,8,5].  
2. Combine sticks 4 and 5 for a cost of 4 + 5 = 9. Now you have sticks = [9,8].  
3. Combine sticks 9 and 8 for a cost of 9 + 8 = 17. Now you have sticks = [17].  
There is only one stick left, so you are done. The total cost is 4 + 9 + 17 = 30.

Example 3:

Input: `sticks = [5]`

Output: 0

Explanation: There is only one stick, so you don't need to do anything. The total cost is 0.

Constraints:

- $1 \leq \text{sticks.length} \leq 10^4$
- $1 \leq \text{sticks}[i] \leq 10^4$

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class Solution {

public int connectSticks(int[] sticks) {

}

}

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