

561. Array Partition

Given an integer array `nums` of $2n$ integers, group these integers into n pairs $(a_1, b_1), (a_2, b_2), \dots, (a_n, b_n)$ such that the sum of $\min(a_i, b_i)$ for all i is maximized. Return the maximized sum.

Example 1:

- **Input:** `nums = [1,4,3,2]`
- **Output:** 4
- **Explanation:** *All possible pairings (ignoring the ordering of elements) are:*
 - $(1, 4), (2, 3) \rightarrow \min(1, 4) + \min(2, 3) = 1 + 2 = 3$
 - $(1, 3), (2, 4) \rightarrow \min(1, 3) + \min(2, 4) = 1 + 2 = 3$
 - $(1, 2), (3, 4) \rightarrow \min(1, 2) + \min(3, 4) = 1 + 3 = 4$
 - So the maximum possible sum is 4.

Example 2:

- **Input:** `nums = [6,2,6,5,1,2]`
- **Output:** 9
- **Explanation:** The optimal pairing is $(2, 1), (2, 5), (6, 6)$. $\min(2, 1) + \min(2, 5) + \min(6, 6) = 1 + 2 + 6 = 9$.

Constraints:

- $1 \leq n \leq 10^4$
- `nums.length == 2 * n`
- $-10^4 \leq \text{nums}[i] \leq 10^4$