561. Array Partition

Description

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

Example 1:

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

Example 2:

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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.
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Constraints:

- 1 <= n <= 10 ⁴
- nums.length == 2 * n
- $-10^4 <= nums[i] <= 10^4$