

# 561. Array Partition

## Description

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.  $(1, 4), (2, 3) \rightarrow \min(1, 4) + \min(2, 3) = 1 + 2 = 3$
2.  $(1, 3), (2, 4) \rightarrow \min(1, 3) + \min(2, 4) = 1 + 2 = 3$
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`
- $-10^4 \leq \text{nums}[i] \leq 10^4$

