Problem 3496: Maximize Score After Pair Deletions

Problem Information

Difficulty: Medium
Acceptance Rate: 52.36%
Paid Only: Yes
Tags: Array, Greedy

Problem Description

You are given an array of integers `nums`. You **must** repeatedly perform one of the following operations while the array has more than two elements:

* Remove the first two elements. * Remove the last two elements. * Remove the first and last element.

For each operation, add the sum of the removed elements to your total score.

Return the **maximum** possible score you can achieve.

Example 1:

Input: nums = [2,4,1]

Output: 6

Explanation:

The possible operations are:

* Remove the first two elements `(2 + 4) = 6`. The remaining array is `[1]`. * Remove the last two elements `(4 + 1) = 5`. The remaining array is `[2]`. * Remove the first and last elements `(2 + 1) = 3`. The remaining array is `[4]`.

The maximum score is obtained by removing the first two elements, resulting in a final score of 6.

Example 2:

Input: nums = [5,-1,4,2]

Output: 7

Explanation:

The possible operations are:

* Remove the first and last elements `(5 + 2) = 7`. The remaining array is `[-1, 4]`. * Remove the first two elements `(5 + -1) = 4`. The remaining array is `[4, 2]`. * Remove the last two elements `(4 + 2) = 6`. The remaining array is `[5, -1]`.

The maximum score is obtained by removing the first and last elements, resulting in a total score of 7.

Constraints:

* `1 <= nums.length <= 105` * `-104 <= nums[i] <= 104`

Code Snippets

C++:

```
class Solution {
public:
int maxScore(vector<int>& nums) {

}
};
```

Java:

```
class Solution {
public int maxScore(int[] nums) {
```

```
}
}
```

Python3:

```
class Solution:
def maxScore(self, nums: List[int]) -> int:
```