

Problem 3040: Maximum Number of Operations With the Same Score II

Problem Information

Difficulty: **Medium**

Acceptance Rate: 33.68%

Paid Only: No

Tags: Array, Dynamic Programming, Memoization

Problem Description

Given an array of integers called `nums`, you can perform **any** of the following operation while `nums` contains **at least** `2` elements:

- * Choose the first two elements of `nums` and delete them.
- * Choose the last two elements of `nums` and delete them.
- * Choose the first and the last elements of `nums` and delete them.

The **score** of the operation is the sum of the deleted elements.

Your task is to find the **maximum** number of operations that can be performed, such that **all operations have the same score**.

Return the **maximum** number of operations possible that satisfy the condition mentioned above.

Example 1:

Input: `nums = [3,2,1,2,3,4]` **Output:** `3` **Explanation:** We perform the following operations: - Delete the first two elements, with score $3 + 2 = 5$, `nums = [1,2,3,4]`. - Delete the first and the last elements, with score $1 + 4 = 5$, `nums = [2,3]`. - Delete the first and the last elements, with score $2 + 3 = 5$, `nums = []`. We are unable to perform any more operations as `nums` is empty.

Example 2:

****Input:**** nums = [3,2,6,1,4] ****Output:**** 2 ****Explanation:**** We perform the following operations: - Delete the first two elements, with score $3 + 2 = 5$, nums = [6,1,4]. - Delete the last two elements, with score $1 + 4 = 5$, nums = [6]. It can be proven that we can perform at most 2 operations.

****Constraints:****

$2 \leq \text{nums.length} \leq 2000$ $1 \leq \text{nums}[i] \leq 1000$

Code Snippets

C++:

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

    }
};
```

Java:

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

    }
}
```

Python3:

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