Problem 1330: Reverse Subarray To Maximize Array Value

Problem Information

Difficulty: Hard
Acceptance Rate: 43.36%
Paid Only: No
Tags: Array, Math, Greedy

Problem Description

You are given an integer array `nums`. The _value_ of this array is defined as the sum of `|nums[i] - nums[i + 1]|` for all `0 <= i < nums.length - 1`.

You are allowed to select any subarray of the given array and reverse it. You can perform this operation **only once**.

Find maximum possible value of the final array.

Example 1:

Input: nums = [2,3,1,5,4] **Output:** 10 **Explanation:** By reversing the subarray [3,1,5] the array becomes [2,5,1,3,4] whose value is 10.

Example 2:

Input: nums = [2,4,9,24,2,1,10] **Output:** 68

Constraints:

* `2 <= nums.length <= 3 * 104` * `-105 <= nums[i] <= 105` * The answer is guaranteed to fit in a 32-bit integer.

Code Snippets

C++:

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


}
};
```

Java:

```java
class Solution {
public int maxValueAfterReverse(int[] nums) {


}
}
```

Python3:

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