Problem 493: Reverse Pairs

Problem Information

Difficulty: Hard
Acceptance Rate: 33.16%
Paid Only: No
Tags: Array, Binary Search, Divide and Conquer, Binary Indexed Tree, Segment Tree, Merge Sort, Ordered Set

Problem Description

Given an integer array `nums`, return _the number of**reverse pairs** in the array_.

A **reverse pair** is a pair `(i, j)` where:

* `0 <= i < j < nums.length` and * `nums[i] > 2 * nums[j]`.

Example 1:

Input: nums = [1,3,2,3,1] **Output:** 2 **Explanation:** The reverse pairs are: (1, 4) --> nums[1] = 3, nums[4] = 1, 3 > 2 * 1 (3, 4) --> nums[3] = 3, nums[4] = 1, 3 > 2 * 1

Example 2:

Input: nums = [2,4,3,5,1] **Output:** 3 **Explanation:** The reverse pairs are: (1, 4) --> nums[1] = 4, nums[4] = 1, 4 > 2 * 1 (2, 4) --> nums[2] = 3, nums[4] = 1, 3 > 2 * 1 (3, 4) --> nums[3] = 5, nums[4] = 1, 5 > 2 * 1

Constraints:

* `1 <= nums.length <= 5 * 104` * `-231 <= nums[i] <= 231 - 1`

Code Snippets

C++:

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


}
};
```

Java:

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


}
}
```

Python3:

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