493. Reverse Pairs

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 * 10`^{4}
- `-2`^{31} `<= nums[i] <= 2`^{31} `- 1`