

## 493. Reverse Pairs

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

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

- $0 \leq i < j < \text{nums.length}$  and
- $\text{nums}[i] > 2 * \text{nums}[j]$ .

### Example 1:

**Input:** `nums = [1,3,2,3,1]`

**Output:** 2

**Explanation:** The reverse pairs are:

$(1, 4) \rightarrow \text{nums}[1] = 3, \text{nums}[4] = 1, 3 > 2 * 1$

$(3, 4) \rightarrow \text{nums}[3] = 3, \text{nums}[4] = 1, 3 > 2 * 1$

### Example 2:

**Input:** `nums = [2,4,3,5,1]`

**Output:** 3

**Explanation:** The reverse pairs are:

$(1, 4) \rightarrow \text{nums}[1] = 4, \text{nums}[4] = 1, 4 > 2 * 1$

$(2, 4) \rightarrow \text{nums}[2] = 3, \text{nums}[4] = 1, 3 > 2 * 1$

$(3, 4) \rightarrow \text{nums}[3] = 5, \text{nums}[4] = 1, 5 > 2 * 1$