259. 3Sum Smaller

Medium 1069 112 Add to List Share

Given an array of `n` integers `nums` and an integer `target`, find the number of index triplets `i`, `j`, `k` with `0 <= i < j < k < n` that satisfy the condition `nums[i] + nums[j] + nums[k] < target`.

Example 1:

```
Input: nums = [-2,0,1,3], target = 2
Output: 2
Explanation: Because there are two triplets which sums are less than 2:
[-2,0,1]
[-2,0,3]
```

Example 2:

```
Input: nums = [], target = 0
Output: 0
```

Example 3:

```
Input: nums = [0], target = 0
Output: 0
```

Constraints:

- `n == nums.length`
- `0 <= n <= 3500`
- `-100 <= nums[i] <= 100`
- `-100 <= target <= 100`

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Java Autocomplete

```java
class Solution {
    public int threeSumSmaller(int[] nums, int target) {
        Arrays.sort(nums);
        int sum = 0;
        for (int i = 0; i < nums.length - 2; i++) {
            sum += twoSumSmaller(nums, i + 1, target - nums[i]);
        }
        return sum;
    }

    private int twoSumSmaller(int[] nums, int startIndex, int target) {
        int sum = 0;
        int left = startIndex;
        int right = nums.length - 1;
        while (left < right) {
            if (nums[left] + nums[right] < target) {
                sum += right - left;
                left++;
            } else {
                right--;
            }
        }
        return sum;
    }
}
```