Problem 923: 3Sum With Multiplicity

Problem Information

Difficulty: Medium
Acceptance Rate: 46.03%
Paid Only: No
Tags: Array, Hash Table, Two Pointers, Sorting, Counting

Problem Description

Given an integer array `arr`, and an integer `target`, return the number of tuples `i, j, k` such that `i < j < k` and `arr[i] + arr[j] + arr[k] == target`.

As the answer can be very large, return it **modulo** `109 + 7`.

Example 1:

Input: arr = [1,1,2,2,3,3,4,4,5,5], target = 8 **Output:** 20 **Explanation:** Enumerating by the values (arr[i], arr[j], arr[k]): (1, 2, 5) occurs 8 times; (1, 3, 4) occurs 8 times; (2, 2, 4) occurs 2 times; (2, 3, 3) occurs 2 times.

Example 2:

Input: arr = [1,1,2,2,2,2], target = 5 **Output:** 12 **Explanation:** arr[i] = 1, arr[j] = arr[k] = 2 occurs 12 times: We choose one 1 from [1,1] in 2 ways, and two 2s from [2,2,2,2] in 6 ways.

Example 3:

Input: arr = [2,1,3], target = 6 **Output:** 1 **Explanation:** (1, 2, 3) occured one time in the array so we return 1.

Constraints:

* `3 <= arr.length <= 3000` * `0 <= arr[i] <= 100` * `0 <= target <= 300`

Code Snippets

C++:

```cpp
class Solution {
public:
int threeSumMulti(vector<int>& arr, int target) {


}
};
```

Java:

```java
class Solution {
public int threeSumMulti(int[] arr, int target) {


}
}
```

Python3:

```python
class Solution:
def threeSumMulti(self, arr: List[int], target: int) -> int:
```