Problem | Editorial | Submissions

Count the number of possible triangles

Difficulty: **Medium** Accuracy: **28.53%** Submissions: **135K+** Points: **4**

Given an integer array **arr[]**. Find the number of triangles that can be formed with three different array elements as lengths of three sides of the triangle.

> A triangle with three given sides is only possible if sum of any two sides is always greater than the third side.

Examples:

Input: arr[] = [4, 6, 3, 7]
Output: 3
Explanation: There are three triangles possible [3, 4, 6], [4, 6, 7] and [3, 6, 7]. Note that [3, 4, 7] is not a possible triangle.

Input: arr[] = [10, 21, 22, 100, 101, 200, 300]
Output: 6
Explanation: There can be 6 possible triangles: [10, 21, 22], [21, 100, 101], [22, 100, 101], [10, 100, 101], [100, 101, 200] and [101, 200, 300]

Java (1.8) | Average Time: 15m | Start Timer

```
1  // } Driver Code Ends
22 class Solution {
23     static int countTriangles(int arr[]) {
24         int res=0;
25         Arrays.sort(arr);
26         for(int i = 2; i < arr.length; ++i){
27             int left = 0, right = i - 1;
28             while(left < right){
29                 if(arr[left] + arr[right] > arr[i]){
30                     res += right - left;
31                     right--;
32                 }else{
33                     left++;
34                 }
35             }
36         }
37         return res;
38     }
39 }
```

Custom Input | Compile & Run | Submit