Algorthims Lab exercise 15/02/2021

1. Given two sorted arrays nums1 and nums2 of size m and n respectively, return the median of the two sorted arrays.

   Follow up: The overall run time complexity should be O(log (m+n)).

   Example 1:

   ```
   Input: nums1 = [1,3], nums2 = [2]
   Output: 2.00000
   Explanation: merged array = [1,2,3] and median is 2.
   ```

   Example 2:

   ```
   Input: nums1 = [1,2], nums2 = [3,4]
   Output: 2.50000
   Explanation: merged array = [1,2,3,4] and median is (2 + 3) / 2
   = 2.5.
   ```

2. You are given an integer array nums and you have to return a new counts array. The counts array has the property where counts[i] is the number of smaller elements to the right of nums[i].

   Example 1:

   ```
   Input: nums = [5,2,6,1]
   Output: [2,1,1,0]
   Explanation:
   To the right of 5 there are 2 smaller elements (2 and 1).
   To the right of 2 there is only 1 smaller element (1).
   To the right of 6 there is 1 smaller element (1).
   To the right of 1 there is 0 smaller element.
   ```