Programming Exercise

Use any of your favourite programming language.

1. Implement the Straightforward algorithm to count number of inversions in a given array of n numbers. Also print the inversions.

2. Implement the divide and conquer algorithm to count the number of inversions in a given array. Also, print the inversions.

3. You are given a one dimensional array that may contain both positive and negative integers, find the sum of the contiguous subarray of numbers which has the largest sum. For example, if the given array is {-2, -5, 6, -2, -3, 1, 5, -6}, then the maximum subarray sum is 7 and the contiguous subarray is (6,-2,-3,1,5). Implement bruteforce approach for solving the problem. Also implement divide and conquer approach to solve this problem.