Programming Questions:

1) (50 points) Maximum Subarray Sum: Implement each of the following algorithms to return the maximum subarray sum **as well** as the indices of the first and last elements in the maximal subarray. Then write code to test each of the algorithms.

(a) (10 points) Brute algorithm that runs in $O(n^2)$.

(b) (20 points) Divide and conquer algorithm that runs in $O(nlgn)$

(c) (20 points) Kadane's algorithm described in the slides that runs in $O(n)$. Note that you will need modify the pseudocode of this algorithm to return the indices of the first and last element in the subarray

Deliverables:

- Implementation of the tree algorithms
- Main program that tests the three algorithms. You do not need runtime experimental results.