UCS415 – Design and Analysis of Algorithms

Lab Assignment 1

Write a program to implement the following algorithms using divide and conquer approach:

- Consider an array arr[] = {2, 5, 8, 12, 16, 23, 38, 56, 72, 91}, using Binary Search find the target 23.
- Implement Merge sort for the given array int arr[] = { 12, 11, 13, 5, 6, 7 }
- Implement Quick Sort for arr[n] = { 4, 2, 6, 9, 2 }
- You are given a one dimensional array that may contain both positive and negative integers, find the sum of 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

Additional Questions:

- https://www.hackerearth.com/practice/algorithms/searching/binary-search/tutorial/
- https://www.hackerearth.com/practice/algorithms/sorting/merge-sort/tutorial/
- https://www.codechef.com/problems/MYSITM
- https://www.hackerearth.com/practice/algorithms/sorting/merge-sort/practice-problems/algorithm/median-game-june-easy-19-3722be60/
- https://www.hackerearth.com/practice/algorithms/sorting/quick-sort/practice-problems/algorithm/lex-finds-beauty-0d0bc1b6/