Algorithm Lab

Week 4: Maximum Subarray and Variation

Graphical user interface, text, application

Description automatically generated

Graphical user interface, text, application, email

Description automatically generated

2.0 Algorithm Analysis

2.1 Space Complexity

* The space complexity of this algorithm is O(N)

2.2 Time Complexity in best case

* O (1) =>this occurs when there are two or three points in the array. Complexity will be constant time.

2.3 Time Complexity in worst case

* We divide the points into 2 sub-arrays and then find the closest points based on the bounds calculated, placed into an array: O(n)
* Sorts new array: O(nlogn²)
* Find closest points: O(n)

Total = O(nlogn)