Problem 1B

1. The algorithm chosen is stable because it is able to keep values that are the same in order.

2. The best-case time complexity of this algorithm is O(NlogN). This is because it is recursive and keeps on dividing the array in half and organizes in smaller arrays and gradually merges each array, sorting it as it merges.

3. The worst-case time complexity of this algorithm is O(NlogN). This is the same as the best case time complexity because it still goes through, dividing the array in halves and sorting the values in the divided arrays, as well as when it merges.