ICSI213 Data Structures

Notice that students are expected to start the lab as soon as the description is available and seek feedback during the lab. Labs are contiguous study of the lecture or used as stepping-stones for the projects. Skipping lab activities would impact the learning significantly.

Lab 06 Implementing Sorting and Searching Algorithms

For this lab, you will implement the sorting and searching algorithms in a Java program. Javadoc style comments are required. All algorithms must be implemented using recursions. You will also write main to implement the following:

Given the following list of string objects,

```
{"Jujube", "Orange", "Logan", "Pomegranate", "Raspberry", "Cantaloupe", "Carambola",
"Date palm", "Coconut"}
```

- Sort the list by the quick sort algorithm. You may choose any element as the pivot.
- Sort the list again by the merge sort algorithm.
- In the sorted list, search "Logan" using the binary search algorithm.
- In the sorted list, search "Apple" using the sequential search algorithm.

Submit the program on Duifene on time.

Quick sort with sufficient Javadoc style comments	10 points
Merge sort with sufficient Javadoc style comments	10 points
Binary search with sufficient Javadoc style comments	10 points
Sequential search with sufficient Javadoc style comments	10 points
main with sufficient Javadoc style comments	10 points
Total/ 50	50 points
Total/ 5	5 points