Lab Exercise 1 | Week 1-2

1. Implement ***Bubble/Selection*** and ***Insertion*** Sort algorithm.
    a. *Input: N* = 100, 1000, 10000 for unsorted, sorted and random numbers, where *N* is the size of the input.
    b. Analyze and compare the algorithms for the above cases considering the number of iterations in a loop. Write a conclusion with asymptotic notations.
2. Implement *divide and conquer technique* for sorting the numbers using ***Merge*** and ***Quick*** Sort.
    a. *Input:* consider worst, average and best cases of Input.
    b. Analyze the algorithms by Substitution, Recurrence tree method.
3. Implement and demonstrate why implementation of ***Fibonacci*** series using recursion takes ***O (2^n).*** Find the alternative solution to reduce the complexity of the same.

Write the solutions to the above problems in observation book and get signed by TA and course instructor.

Dates:

1. Last date for Execution: 9th January 2017.
2. Sign by Course Instructor: 12th January 2017.

Course Instructor Mentor