**LAB REPORT**

**There are given 4 Lab reports. Make 4 Lab reports separately, then make one pdf combining all the four lab reports together. Add Screenshots of code and Console of every algorithm.**

1. Find the growth of runtime with increasing input size for the following Searching Algorithms:
   * 1. Linear Search
     2. Binary Search

Run the code for **5 inputs and 15 inputs** and show the runtime for both algorithms.

1. Compare the time complexity for the following sorting Algorithms:
2. Bubble Sort
3. Insertion Sort
4. Merge Sort
5. Quick Sort

Run the code for **10 and same inputs** and compare the runtime for all algorithms. Conclude with the best sorting algorithm for your inputs.

1. Solve the fractional knapsack problem with Greedy algorithm.
2. Solve the 0/1 knapsack problem with Dynamic algorithm.