

UCS-406 (Data Structure)
Lab Assignment-1 (2 weeks)

Implement the following programs in C/C++/Python/Java using functions

- a) Insertion Sort
- b) Bubble Sort
- c) Selection Sort
- d) Linear Search
- e) Binary Search
- f) Shell sort

Q 1. Display the total number of comparisons and swappings made by each searching/sorting function for the given input N.

Q 2. Create a structure/class for a group of 50 students holding data for their Regn no., Name, Branch, CGPA

- a) Call linear search function to display data of student with a particular Regn no..
- b) Call bubble sort function to arrange data of students according to Regn no.
- c) Apply binary search on the above output (part b) to display data of a student with a particular Regn no.
- d) Use and modify Insertion sort logic to arrange data of students in descending order of CGPA.