Shri G. S. Institute of Technology and Science
Department Of Computer Engineering
CO 3463: Design and Analysis of Algorithms
Lab Assignment # 02

Marks: 10 points

Submission Date: 5 February 2017@23:59

Demo Date: 6 February 2017 - 10 February 2017

Late Submission: Not allowed

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Note: For the each program, draw a graph between the size of inputs and computational time required by yours program.

Q. 11. Write a program and compare the listed below sorting algorithms on the basis of following points:

a) What is the best case input list?
b) What is worst case input list?
c) How many swapping required in worst case?
d) How many comparisons required in worst case?
e) How many swapping required in best case?
f) How many comparisons required in best case?

(i) Quick Sort
(ii) Merge Sort
(iii) Heap Sort using array
(iv) Bubble Sort
(v) Insertion Sort
(vi) Selection Sort
(vii) Shell Sort
(viii) Bucket Sort
(ix) Radix Sort
(x) Counting Sort

Q. 12. Also draw a graph (between time and number of elements) for the random input of size 1000 to 10000 integers for the above sorting algorithms.