**Assignment 1**

Q.1 .Write a Algorithm FIND(DATA,N,LOC1,LOC2) which finds the location LOC1 of the largest element and the location LOC2 of the second largest element in an array DATA with n>1 elements.

Q.2 Write a program to insert a new element in the given unsorted at Kth position.

Q.3 .Write a Algorithm to multiply to matrices of size N\*N each. Also prove that complexity of this algorithm is O(N2).

Q.4 What do you understand by complexity of a Algorithm? Explain Big O, Omega Ω and Theta Ѳ Notations with Example

Q.5 what is Data structure .differentiate Data and Information. Also explain Types of data structures with example.

Q.6. Explain different Operations can be performed on Data Structures.

Q.7. Let A be an n x n square matrix array. Write a module which

(a) Finds the number NUM of nonzero elements in A.

(b) Finds the SUM of the elements above the diagonal, i.e. elements A [I,J] where I < J

(c) Finds the product PROD of the diagonal elements (a11, a22, .....ann)