**Lab Evaluation 1**

**Q1.** Assume that you are given a linked list with an even number of nodes. Your task is to write a function in order to locate the middle of the list, and to subsequently insert two new elements in that middle position. Assume you have a linked list with six elements 43, 71, 82, 9, 37, 64. After inserting two new elements 91 and 5 at the middle, the list changes to 43, 71, 82, 91, 5, 9, 37, 64

**Q2.** You are given a linked list of integers which are in ascending order. However, there may be duplicates, which should be removed. Write a C/C++ code fragment that removes the duplicates and returns the number of distinct elements in the list.

**Q3.** Write C/C++ program statements for the following operations.

(a) Define a node of a circular linked list which contains a complex number.

(b) Assume that the head of the above circular list is pointed by a pointer named head. Write a function which takes the head of the list as argument and returns the sum of complex numbers in the list.

**Q4**. Write C/C++ program statements for the following operations.

1. Write a Program to Create two sorted singly LinkedList (List1 and List2)

2. Write a function to add new node in list.

3. Write a merge function which take two parameters, heads of two sorted linked lists list1 and list2. And return new head pointer of merged list.

4. Write a function to display the list