## LINKED LISTS : Guided Exercises

Develop the following algorithms on linked lists (LLs):

1. Build a linked list from n read data.

2. Compute the length of a linked list.

3. Find in a linked list the element which has the greatest number of occurrences.

4. Access by value in a linked list.

5. Access by position in a linked list.

6. Delete by value in a linked list.

7. Delete by position in a linked list.

8. Insert by position in a linked list.

9. Merge two ordered linked lists.

10. Split a linked list in two linked lists according to a given criterion.

11. Sort a linked list by the bubble method.

12. Implement the ADT on linked lists using the static representation.

13. A polynomial can be represented by a linked list. Say how. Write the following algorithms:

- Calculate the value of the polynomial at a given point x.

- Find the derivative of a polynomial.

- Calculate the sum of two polynomials.

- Calculate the product of two polynomials.

14. Study the algorithms for finding, inserting and deleting an element in an array. Compare them with the corresponding ones on the linked list.

15. Build a doubly linked list from n data.

16. Insert an element in a doubly linked list.

17. Delete an element from a doubly linked list.