Experiment No. 6

Aim: Implement a Singly Linked List.

Theory:

Like arrays, Linked List is a linear data structure. Unlike arrays, linked list elements are not stored at a contiguous location; the elements are linked using pointers.

Insertion in the Linked List

1. Insert at the beginning

   Allocate memory for new node
   Store data
   Change next of new node to point to head
   Change head to point to recently created node

2. Insert at the End

   Allocate memory for new node
   Store data
   Traverse to last node
   Change next of last node to recently created node

3. Insert at the Middle

   Allocate memory and store data for new node
   Traverse to node just before the required position of new node
   Change next pointers to include new node in between

Delete from a Linked List

You can delete either from the beginning, end or from a particular position.

Delete from beginning

- Point head to the second node

2. Delete from end

   Traverse to second last element
   Change its next pointer to null

3. Delete from middle

   Traverse to element before the element to be deleted
   Change next pointers to exclude the node from the chain

Conclusion: (Students write conclusion in your own words. U have to describe what u you understood from the experiment and the concept of the experiment. **Conclusion carry 4 marks out of 10**)