# CODESHOWS MODULE - 6

TOPIC:- LINKED LIST

## THEORY

- 1. <u>Introduction-linked-lists</u>
- 2. Video Tutorials
- 3. Loop detection algorithms
- 4. Hare and Tortoise algorithm
- 5. <u>Doubly Linked List</u>
- 6. Why quicksort is preferred for arrays and merge sort for linked lists

## PROBLEMS

- 1. Find middle of linked list
- 2. <u>Intersection of 2 linked list</u>
- 3. Remove Duplicates from Sorted List
- 4. Reverse Linked List
- 5. <u>List Cycle</u>
- 6. Merge two sorted linked list
- 7. <u>Palindrome List</u>
- 8. Reverse Alternate K Nodes

### PROBLEMS

- 9. Remove Nth Node from List End
- 10. Implement a stack using singly linked list
- 11. Queue Linked List Implementation
- 12. Segregate even and odd positions
- 13. Sort linked list with 0,1 and 2
- 14. Add 2 numbers represented by linked list(<u>Set1|Set2</u>)
- 15. Multiply two numbers represented by Linked Lists

## PROBLEMS

- 16. Flattening of a linked list
- 17. Reverse linked list in groups
- 18. Clone a linked list with random and next pointer
- 19. Reverse a doubly linked list
- 20. Sort k-sorted doubly linked list
- 21. Rotate doubly linked list
- 22. Rotate doubly linked list in groups of given size