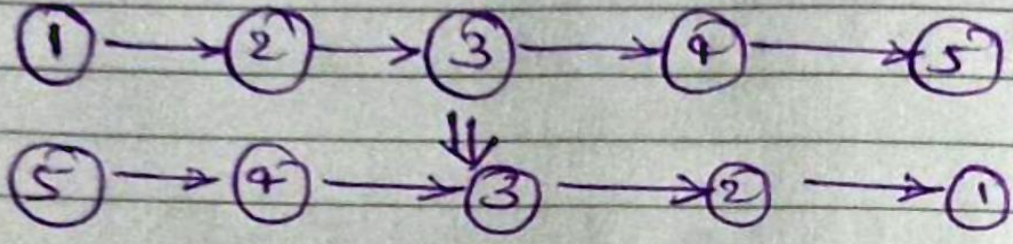
Date __/__/_____

Day - 4

Linked List

self

Problem-1: Reverse a linked list



// Just reverse the direction of pointer.

// take a cur node point towards head and another prev set to NULL.

// run loop when cur != NULL

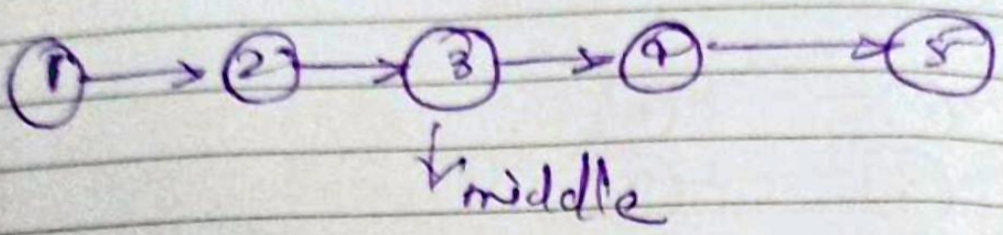
// Create a Node tmp indicate cur → next

Remarks

cur → next = prev
prev = cur
cur = tmp
return prev.

TC : O(N)
SC : O(1)

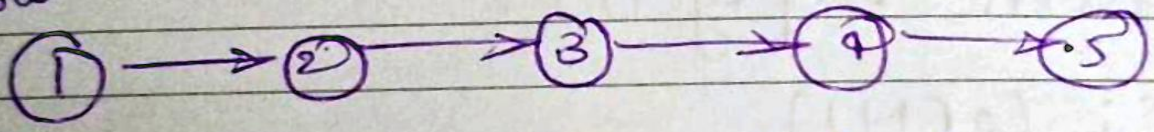
Problem-2: Middle of linked list



Read = [1,2,3,4,5] output = [3,4,5]

// For this we use slow and fast tortoise method.

// fast
slow



move slow one step and fast two step

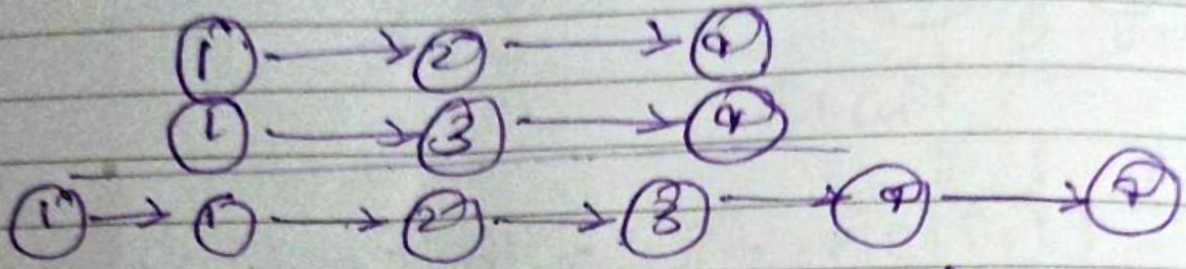
// return slow.

TC: O(N)
SC: O(1)

Remarks .....

Date__/__/_____ Note

Problem-3:
Merge two sorted linked list



// create another list that is empty

// by compare the value of both the list and put it in empty list.

// return empty list.

TC: O(N)
SC: O(N)

Optimal:

// If data of list1 > data of list2
swap(list1, list2)

// ListNode * res = l1; TC: O(N) SC: O(1)

Remarks

// loop till l1!=NULL and l2!=NULL
ListNode * tmp = NULL;

// temp = l1 // stored last sorted node.

// return res;