

Date __/__/____

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Day-6

Problem-9: Reverse Nodes in k-group

head = [1, 2, 3, 4, 5]

k = 2

output : [2, 1, 4, 3, 5]

// Logic we will reverse the list according to value of k. For example k=2 will reverse two blocks. If k=3 then 3-3 and so on.

// Create three pointers pre, cur and next

- $cur \rightarrow next = next \rightarrow next$
- $next \rightarrow next = pre \rightarrow next$
- $pre \rightarrow next = next$
- $next = cur \rightarrow next$
- move pre to cur and reduce length by k.

Remarks

T.C: $O(N)$

S.C: $O(1)$



Problem-10: Linked list Cycle II

Input: head = [3, 2, 0, -4], pos = 1

Output: tail connects to node index 1

// logic we use tortoise method
 // take two pointers slow by one step and fast by two step.

// if slow == fast ; break

// create another point i.e. ~~slow~~ entry

// if slow != entry then move slow by one and entry by one

return entry point

Tc: $O(N)$

Sc: $O(1)$

Remarks