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***ENROLL NO. : 21103262***

***BATCH : B11***

***Data Structure [15B11CI311]***

***Tutorial Sheet***

***Week 2***

***Q.1.*** *Given a head pointer, write pseudo code to reverse a singly linked list.*

***Solution:***

*node\*head;*

*node\*temp=head;*

*while(temp!=NUL)*

*temp=temp->next;*

*return tail*

***Q.2.*** *Given a head and tail pointer, write pseudo code to reverse a singly linked list.*

***Solution:***

*node\* pre=NULL*

*node\* temp=head*

*node\*nextnode=head->next*

*while(nextnode!=tail){*

*temp->next=pre*

*pre=temp*

*temp=nextnode*

*nextnode=nextnode->next*

***Q.3.*** *Given a head pointer, write pseudo code to find middle element of a linked list using a single traversal/loop.*

***Solution:***

*node \*slow = head*

*node \*fast = head*

*while(fast -> next != Null)*

*{*

*fast =fast ->next ->next*

*slow = slow ->next ->next*

*}*

*return slow*

***Q.4.*** *Given a head and tail pointer, write pseudo code to reverse a doubly linked list without swapping nodes.*

***Solution:***

*temp = head*

*pre = Null*

*nextnode = head->next*

*temp = head*

*while(head != tail->pre)*

*{*

*temp -> next = pre*

*temp -> pre =nextnode*

*pre = tempnode*

*temp = nextnode*

*nextnode = nextnode->next*

*}*

*return tail*

***Q.5.*** *Given a rear pointer to a circular LL, write pseudo code to find second last element.*

***Solution:***

*temp = rear*

*while(temp -> next != rear)*

*{*

*temp = temp ->next*

*}*

*return temp*