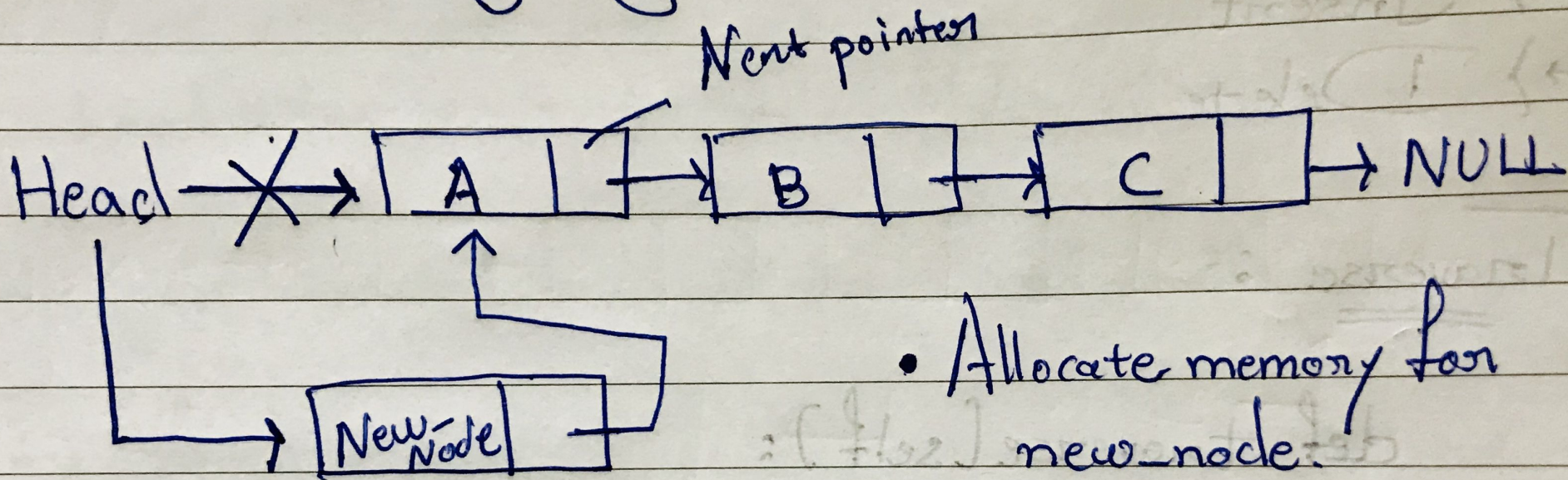
Insert :-

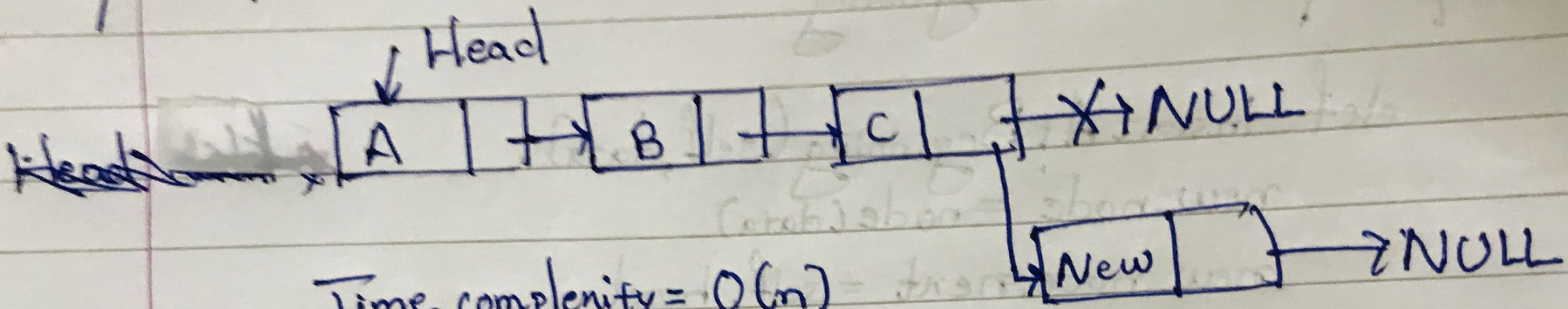
Add to the beginning :-



- Allocate memory for new_node.
- Store data
- Change next of new node to point to head
- Change head to point new node.

Time complexity = O(1)

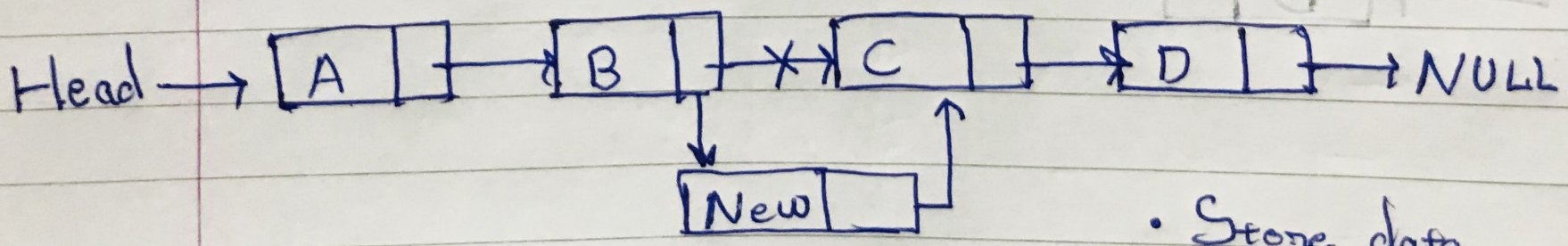
ii) Add to the End :-



Time complexity = O(n)

- Allocate memory & store data
- Traverse to last node
- Change next of last to new node.

iii) Add to the Middle :-

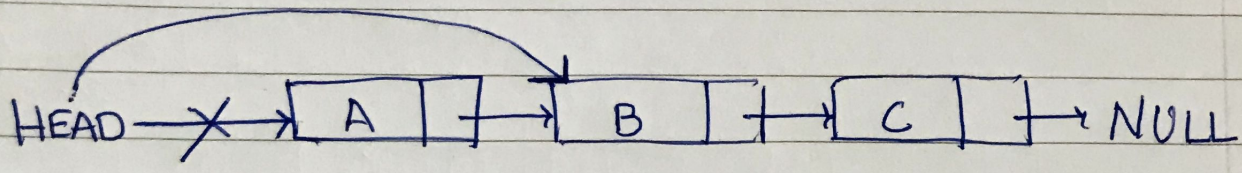


Time complexity = O(1)

- Store data
- Traverse to the position
- Chang next to new node.

1 Deleting a node :-

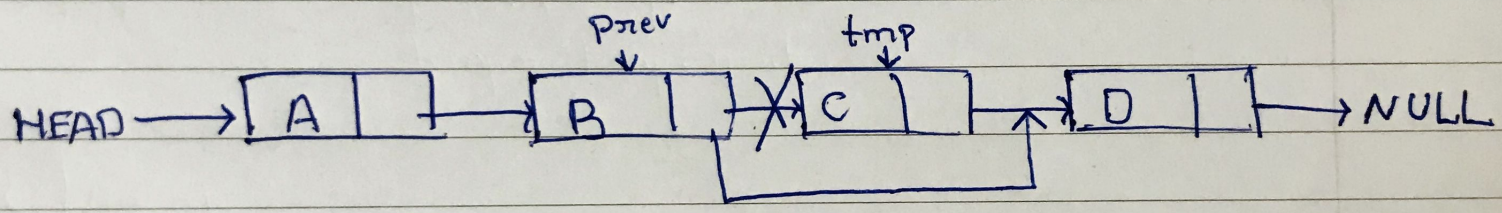
i) Delete from beginning



- Point head to the second node

Time complexity - O(1)

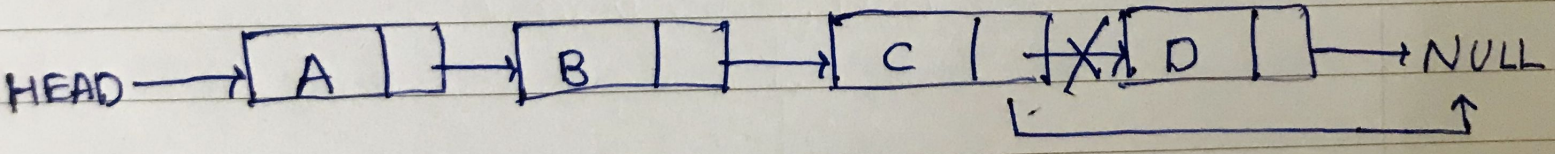
ii) Delete from middle :-



Time complexity - O(n)

- Traverse to element before the element to be deleted
- Change next pointer to exclude the node from the chain.

iii) Delete from end :



- Traverse to second last element
- Change its next pointer to null

Time complexity = O(n)