2025-02-25 - To develop program for data structure using built in functions in python

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-> Recursive Approach :

~ class

def abc(self):
    pass

class
Recursion
Wrapper

-> Wrappers : Recursive Wrappers

-> Reversing LL ~ Recursively

=> Inserting exactly at middle :

-> 1 -> 2 -> 3 -> 4 -> None

(5) [-> 1 -> 2 -> 5 -> 3 -> 4 -> None]

=> Double Traversals & Single Traversals

L> Double Traversal :

L> Calculate length of LL.

L> Find middle of LL

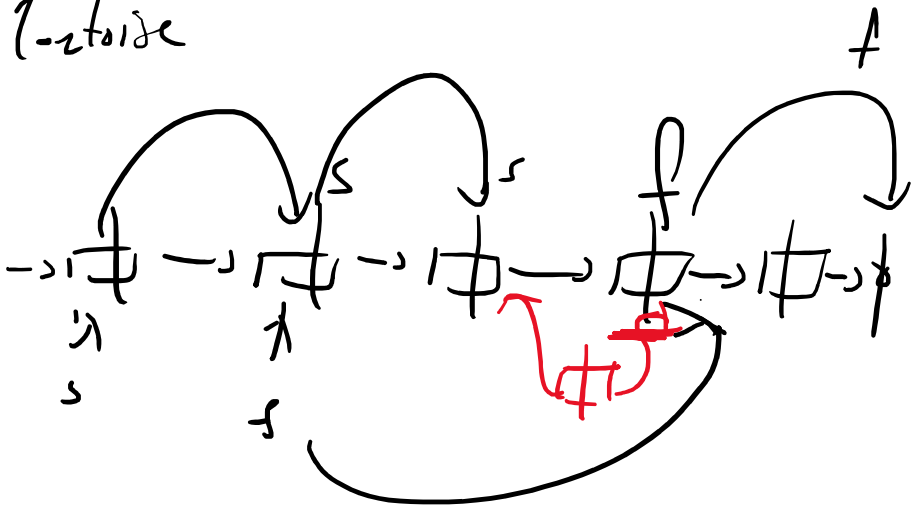
L> Move to middle

. 1 L & make adjustments.

↳ Insert & make adjustments.

↳ Single Traversal:

↳ Hare & Tortoise




```
def middleInsertion (self, element):
    if self.head is None:
        return
    else:
        newNode = Node (element)
        slow, fast = self.head, self.head.next

    while fast and fast.next:
        slow = slow.next
        fast = fast.next.next

    newNode.next = slow.next
    slow.next = newNode
    return
```

⇒ Inserting at user defined location.

↳ Initialize a variable, say curr points to head & allocate to new Node.

↳ If curr next is not null then next pointer of the new node points to the next of curr.

↳ The next pointer of current node points to the new Node

Ls Return head of LC .