Week 11- Day 4 : Coding Challenge

(Maximum marks -15)

Q-1) Dry run the recursive function "`reverse_LL_rec(head prev)`" from the code given below, take input provided in the code:
(5 marks)

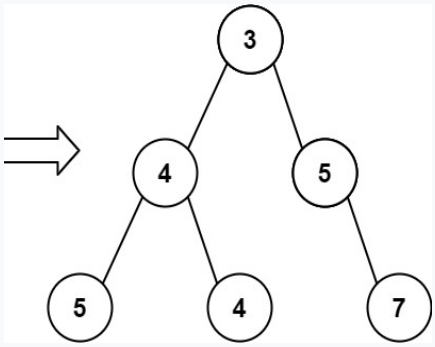
(Super Easy)

```
class Node:
    def __init__(self,x):
        self.data = x
        self.next = None


def printList(head):
    cur = head
    while cur!=None:
        print(cur.data, end = " ")
        cur = cur.next


new_head = None
def reverse_LL_rec(head,prev):
    global new_head
    if head is None:
        return
    if head.next is None:
        head.next = prev
        return head

    new_head = reverse_LL_rec(head.next,head)
    head.next = prev

    return new_head



if __name__ == "__main__":
```

```
head = Node(5)
head.next = Node(15)
head.next.next = Node(25)
head.next.next.next = Node(35)

printList(head)
print()
head_rev = reverse_LL_rec(head,None)
printList(head_rev)
```

Q-2) Write postorder and inorder traversal function for the tree given below, including declaring classes, providing input and perform the dry run also. (5 marks)

(Lengthy but easy)



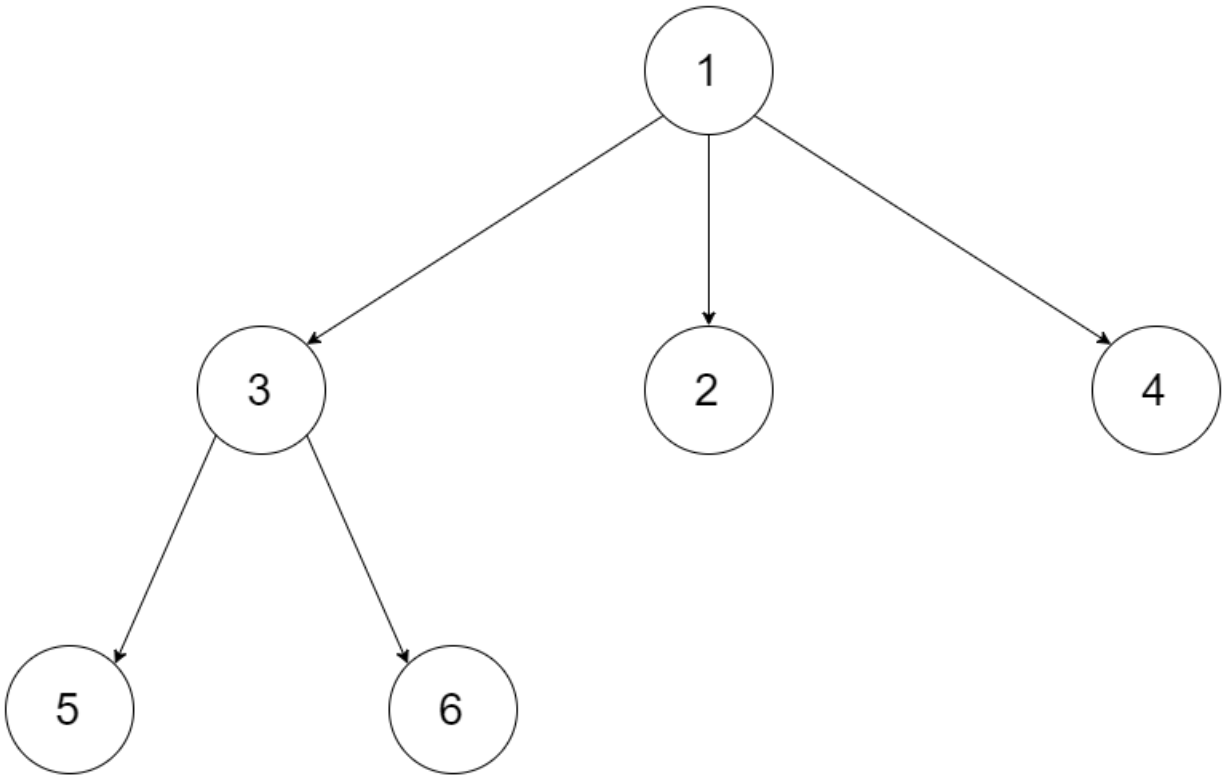
Q-3) N-ary Tree Preorder Traversal (5 marks)

https://leetcode.com/problems/n-ary-tree-preorder-traversal/

Given the root of an n-ary tree, return *the preorder traversal of its nodes' values*.

pay attention, n is not defined. Write a code that can traverse a tree for any value of "n" in "n-ary".

Example 1:



Input: root = [1,null,3,2,4,null,5,6]
Output: [1,3,5,6,2,4]

explanation:

Input is top to bottom, left to right fashion.

first element root, will be followed by null.

3,2,4 are children of 1, followed by null means, children of 1 are over.

then 5,6 are children of 3.

Marks distribution:
Question 1,2 and 3 carry 5 marks each.