

assignment-3-pp-cseds

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[2]: class ListNode:
    def __init__(self, val=0, next=None):
        self.val = val
        self.next = next

def rotateRight(head, k):
    if not head or not head.next or k == 0:
        return head

    # Find the length of the list
    length, tail = 1, head
    while tail.next:
        tail = tail.next
        length += 1

    # Effective rotations needed
    k = k % length
    if k == 0:
        return head

    # Find the new tail (length-k-1) and new head (length-k)
    new_tail = head
    for _ in range(length - k - 1):
        new_tail = new_tail.next

    new_head = new_tail.next
    new_tail.next = None
    tail.next = head # Connect old tail to old head

    return new_head

# Helper function to print list
def print_list(head):
    values = []
    while head:
        values.append(head.val)
        head = head.next
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print(values)

# Example usage
head = ListNode(1, ListNode(2, ListNode(3, ListNode(4, ListNode(5)))))
k = 2
new_head = rotateRight(head, k)
print_list(new_head)  # Output: [4,5,1,2,3]
```

[4, 5, 1, 2, 3]

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