

Day – 7 Linked List & Arrays

Problem 1: Given the head of a [linked list](#), rotate the list to the right by k places.

```
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
```

```
    length = 1
```

```
    tail = head
```

```
    while tail.next:
```

```
        tail = tail.next
```

```
        length += 1
```

```
    rotation_index = k % length
```

```
    if rotation_index == 0:
```

```
        return head
```

```
    new_tail = head
```

```
    for _ in range(length - rotation_index - 1):
```

```
        new_tail = new_tail.next
```

```
new_head = new_tail.next
```

```
new_tail.next = None
```

```
tail.next = head
```

```
return new_head
```

```
head = ListNode(1)
```

```
head.next = ListNode(2)
```

```
head.next.next = ListNode(3)
```

```
head.next.next.next = ListNode(4)
```

```
head.next.next.next.next = ListNode(5)
```

```
k = 2
```

```
rotated_head = rotateRight(head, k)
```

```
result = []
```

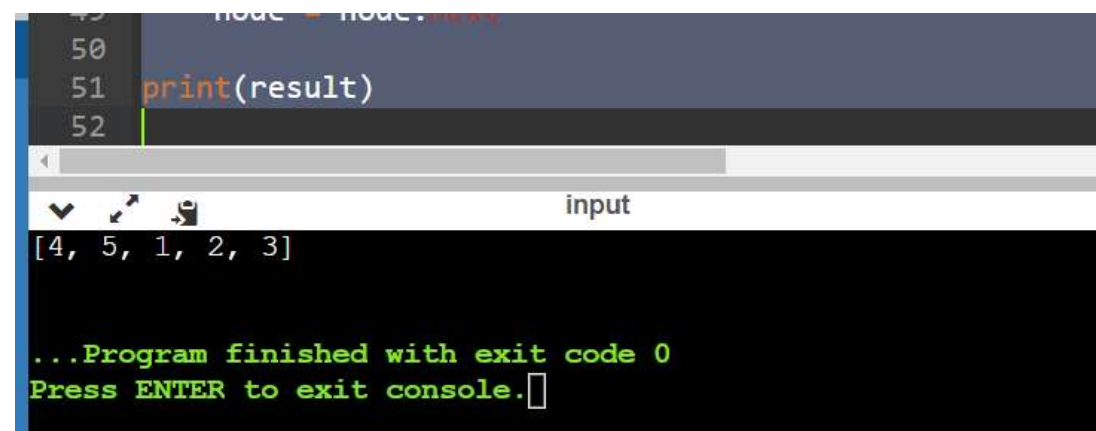
```
node = rotated_head
```

```
while node:
```

```
    result.append(node.val)
```

```
    node = node.next
```

```
print(result)
```



The screenshot shows a code editor with a dark theme. The code is as follows:

```
49 node = node.next
50
51 print(result)
52
```

Below the code editor is a terminal window. The terminal has a title bar with a dropdown arrow, a maximize button, and a close button. The title is "input". The terminal output is:

```
[4, 5, 1, 2, 3]
```

At the bottom of the terminal, there is a green message:

```
...Program finished with exit code 0
Press ENTER to exit console.
```