



**Hard** **Codewriting** **5000**



Note: Your solution should have  $O(n)$  time complexity, where  $n$  is the number of elements in  $\ell$ , and  $O(1)$  additional space complexity, since this is what you would be asked to accomplish in an interview.



Given a linked list  $l$ , reverse its nodes  $k$  at a time and return the modified list.  $k$  is a positive integer that is less than or equal to the length of  $l$ . If the number of nodes in the linked list is not a multiple of  $k$ , then the nodes that are left out at the end should remain as-is.



You may not alter the values in the nodes - only the nodes themselves can be changed.

## Example

- For  $l = [1, 2, 3, 4, 5]$  and  $k = 2$ , the output should be `reverseNodesInKGroups(l, k) = [2, 1, 4, 3, 5]`;
- For  $l = [1, 2, 3, 4, 5]$  and  $k = 1$ , the output should be `reverseNodesInKGroups(l, k) = [1, 2, 3, 4, 5]`;
- For  $l = [1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11]$  and  $k = 3$ , the output should be `reverseNodesInKGroups(l, k) = [3, 2, 1, 6, 5, 4, 9, 8, 7, 10, 11]`.

## Input/Output

- [execution time limit] 20 seconds (scala)

- [input] linkedlist.integer l

A singly linked list of integers.

Guaranteed constraints:

$1 \leq \text{list size} \leq 10^4$ ,  
 $-10^9 \leq \text{element value} \leq 10^9$ .

- [input] integer k

The size of the groups of nodes that need to be reversed.

Guaranteed constraints:

$1 \leq k \leq l \text{ size}$ .

- [output] linkedlist.integer

The initial list, with reversed groups of  $k$  elements.

## [Scala] Syntax Tips

```
def helloWorld(name: String): String = {
  println("This prints to the console when you Run Tests")
  "Hello, " + name
}
```