AlgoExpert   Quad Layout   Swift   12px   Sublime   Monokai   00:00:00

Prompt   Scratchpad   Our Solution(s)   Video Explanation   Run Code

Solution 1   Solution 2

```swift
// Copyright © 2020 AlgoExpert, LLC. All rights reserved.

class Program {
    class LinkedList {
        var value: Int
        var next: LinkedList?

        init(value: Int) {
            self.value = value
        }
    }

    // O(n + m) time | O(1) space - where n is the number of nodes in the first
    // Linked List and m is the number of nodes in the second Linked List
    func mergeLinkedLists(_ headOne: LinkedList, _ headTwo: LinkedList) -> LinkedList {
        recursiveMerge(headOne, headTwo, nil)
        if headOne.value < headTwo.value {
            return headOne
        }
        return headTwo
    }

    func recursiveMerge(_ p1: LinkedList?, _ p2: LinkedList?, _ p1Prev: LinkedList?) {
        if p1 == nil {
            p1Prev!.next = p2
            return
        }

        if p2 == nil {
            return
        }

        if p1!.value < p2!.value {
            recursiveMerge(p1!.next, p2, p1)
            return
        }

        if p1Prev != nil {
            p1Prev!.next = p2
        }

        let newP2 = p2!.next
        p2!.next = p1
        recursiveMerge(p1, newP2, p2)
    }
}
```