

Solution 1Solution 2

```
1 // Copyright © 2020 AlgoExpert, LLC. All rights reserved.
2
3 #include <vector>
4
5 using namespace std;
6
7 class LinkedList {
8 public:
9     int value;
10    LinkedList *next;
11
12    LinkedList(int value) {
13        this->value = value;
14        this->next = NULL;
15    }
16 };
17
18 // O(n + m) time | O(1) space - where n is the number of nodes in the first
19 // Linked List and m is the number of nodes in the second Linked List
20 LinkedList *mergeLinkedLists(LinkedList *headOne, LinkedList *headTwo) {
21     LinkedList *p1 = headOne;
22     LinkedList *p1Prev = NULL;
23     LinkedList *p2 = headTwo;
24     while (p1 != NULL && p2 != NULL) {
25         if (p1->value < p2->value) {
26             p1Prev = p1;
27             p1 = p1->next;
28         } else {
29             if (p1Prev != NULL)
30                 p1Prev->next = p2;
31             p1Prev = p2;
32             p2 = p2->next;
33             p1Prev->next = p1;
34         }
35     }
36     if (p1 == NULL)
37         p1Prev->next = p2;
38     return headOne->value < headTwo->value ? headOne : headTwo;
39 }
40
```