

Solution 1

```
1 // Copyright © 2020 AlgoExpert, LLC. All rights reserved.
2
3 #include <vector>
4 using namespace std;
5
6 class LinkedList {
7 public:
8     int value;
9     LinkedList *next;
10
11     LinkedList(int value);
12 };
13
14 // O(n) time | O(1) space
15 LinkedList *findLoop(LinkedList *head) {
16     LinkedList *first = head->next;
17     LinkedList *second = head->next->next;
18     while (first != second) {
19         first = first->next;
20         second = second->next->next;
21     }
22     first = head;
23     while (first != second) {
24         first = first->next;
25         second = second->next;
26     }
27     return first;
28 }
29
```