BJP4 Exercise 16.5: countDuplicates

Language/Type: Java implementing Linked Lists LinkedIntList
Related Links: LinkedIntList.java
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Write a method `countDuplicates` that returns the number of duplicates in a sorted list. The list will be in sorted order, so all of the duplicates will be grouped together. For example, if a variable `list` stores the sequence of values below, the call of `list.countDuplicates()` should return 7 because there are 2 duplicates of 1, 1 duplicate of 3, 1 duplicate of 15, 2 duplicates of 23 and 1 duplicate of 40:

```
[1, 1, 1, 3, 3, 6, 9, 15, 15, 23, 23, 23, 40, 40]
```

Remember that you may assume that the list is in sorted order, so any duplicates would occur consecutively.

Assume that you are adding this method to the `LinkedIntList` class as defined below:

```
public class LinkedIntList {
    private ListNode front;   // null for an empty list
    ...
}
```

Type your solution here:

```
1  /*
2  public int countDuplicates() {
3      int sum = 0;
4      ListNode current = front;
5
6      if (front == null) {
7          return 0;
8      }
9
10     while (current.next != null) {
11         if (current.data == current.next.data) {
12             sum++;
13         }
14         current = current.next;
```

```
    }

    return sum;
}*/
public int countDuplicates() {
    return countDuplicates(front, 0);
}
public int countDuplicates(ListNode current, int sum) {
    if(current == null) {
        return sum;
    }
    if(current.next == null){
        return sum;
    }
    if(current.data == current.next.data){
        return countDuplicates(current.next, sum + 1);
    }
    return countDuplicates(current.next, sum);
}
```

This is a **partial class problem.** Submit code that will become part of an existing Java class as described. You do not need to write the complete class, just the portion described in the problem.

4 Indent

Sound F/X

Highlighting

Submit

You passed 5 of 5 tests.

Go to the next problem: hasTwoConsecutive

test #1:	`easy: [2, 2]`
console output:	`1`
result:	pass
test #2:	`harder: [-1, 2, 2, 3, 3]`
console output:	`2`
result:	pass
test #3:	`example: [1, 1, 1, 3, 3, 6, 9, 15, 15, 23, 23, 23, 40, 40]`
console output:	`7`
result:	pass
test #4:	`one element: [50]`
console output:	`0`

result:	pass

test #5:	`empty: []`
console output:	`0`
result:	pass

If you do not understand how to solve a problem or why your solution doesn't work, please contact your TA or instructor.
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