Course: Algorithm
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Homework: Lab 8

I used the source code for singly linked list here: https://gist.github.com/es20641/1208340/06d598126d53b048058bc243cbc4e4dd7db9a23a

1. *Implement a recursive algorithm to count the number of nodes.*

```
public int count() {
	return this.recursiveCount(head, 0);
}

private int recursiveCount(Node node, int count) {
	if(node == null) {
		return count;
	}

	return this.recursiveCount(node.next, count + 1);
}
```

2. *Implement a recursive algorithm to reverse the list*

```
public void reverse() {
	recursiveReverse(null, head);
}

private void recursiveReverse(Node prev, Node current) {
	if(current == null) {
		return;
	}

	Node next = current.next;
	current.next = prev;
	prev = current;

	if(next == null) {
		head = current;
	}

	recursiveReverse(prev, next);
}
```