CS 46B
Introduction to Data Structures

Summer Semester 2015

Department of Computer Science
San José State University
Instructor: Ron Mak

Homework #9
Linked Lists

Assigned:	Tuesday, July 21
Draft due:	Friday, July 24 at 11:59 PM
Codecheck URL:	http://codecheck.it/codecheck/files/15072108363747y0fo08ar6knsd11a5wjak
Canvas:	Homework 9 Draft
Points:	20 points max
Final due:	Monday, July 27 at 11:59 PM
Codecheck URL:	http://codecheck.it/codecheck/files/1507210846ccvdhl3kluu0qfmolsx1y2h1i
Canvas:	Homework 9 Final
Points:	20 points max

This assignment gives you practice with a simplified implementation of linked lists. Reverse the elements of a singly linked list using an <u>iterative</u> method and a <u>recursive</u> method.

You must reverse the linked list in place. You may <u>not</u> copy the elements to an array or an array list.

In Codecheck, you are given a linked list class **AbbreviatedLinkedList** that has a private inner **Node** class, a private field **first**, and a public method **addFirst()**. There is no iterator class.

Draft

You will add the iterative `reverse()` method:

```
public void reverse()
```

Sample output:

```
        Original list: [A B C D]
Iteratively reversed: [D C B A]
```

Codecheck URL:
http://codecheck.it/codecheck/files/15072108363747y0fo08ar6knsd11a5wjak

Canvas: **Homework 9 Draft**
Due: Monday, July 20 at 11:59 PM

Final

Replace your iterative method with your recursive method:

```
private Node reverse(Node p)
```

where parameter `p` refers to the starting node of the list where reversal is to begin. There is a public driver method for the recursive `reverse()` method:

```
public void reverseRecursive()
{
    first = reverse(first);
}
```

Sample output:

```
        Original list: [A B C D]
Recursively reversed: [D C B A]
```

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