# CS 1181 - Computer Science II

## Practice Problem: Next-to-Last

Purpose: To become familiar with linked lists.

## Part A:

Download the file Next_to_Last_starter_code.zip and import it into VS-Code.

Your task is to write two additional methods for the LinkedList class: `getFirst()` and `getLast()`. As you might have guessed, `getFirst()` returns the first item in the list and `getLast()` returns the last item. Both methods should return null if the list is empty.

Your main method should:

1. Create a LinkedList and add some items to it
2. Print the list
3. Print the first item
4. Print the last item

**Part A example output:**

```
Full List:
Falcons
Bears
Titans
Eagles
Panthers
Cowboys
Steelers
49ers
Vikings
Saints
Seahawks

First item: Falcons
Last item: Seahawks
```

## Part B:

Add another method, called getPenultimate, to your LinkedList class. Penultimate means next-to-last, so this method should return the item right before the tail item in the linked list. If the list has zero or one items, there is no next-to-last item, so the method should return null in those cases.

Modify your main routine to also print the penultimate item in the list.

**Part B example output:**

```
Full List:
Falcons
Bears
Titans
Eagles
Panthers
Cowboys
Steelers
49ers
Vikings
Saints
Seahawks


First item: Falcons
Last item: Seahawks
Penultimate item: Saints
```