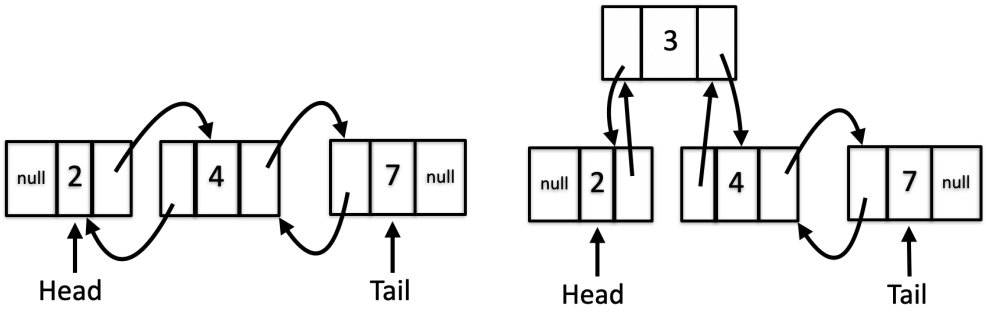
CS146: Quiz 1
Due Tuesday, January 31, at 7:00AM
10 points

For this quiz you will implement some methods on the SortedLinkedList class provided. This class contains a doubly linked list of integers where the integers are stored in ascending order (from smallest to largest). Please do not change any of the method signatures or other code given (including the package name). Your quiz will be run through an autograder that is expecting your program to have the given method signatures. Please implement the four methods described below. You are free to test your code however you prefer. These methods should be completed individually using any IDE you are comfortable with. If you have forgotten how to create a project in Eclipse and import a Java file, there are resources on Canvas to help you.. You are free to use the textbook, slides, class notes, and the Java API Documentation, but DO NOT consult any other resources. **Make sure to include your name in a comment at the top of the file.**

`public void insert(int i)`
This method inserts a Node containing data equal to i in the sorted linked list and maintains the property that the list is in sorted order from smallest to largest. The example below illustrates how the number 3 would be inserted into the given SortedLinkedList object.



`public boolean isSorted()`
This method returns true if the SortedLinkedList object is actually sorted in ascending order. You should think about how you could use this method to guarantee that your insert method is correct.

`public LinkedList<Integer> getAscending()`
This method returns a Java LinkedList object where the data in the LinkedList is in the same order as in the SortedLinkedList. For more information on the Java LinkedList class, see the Java documentation linked here.

`public LinkedList<Integer> getDescending()`
This method returns a Java LinkedList object where the data in the LinkedList is in the reverse order as in the SortedLinkedList (i.e. in descending order from largest to smallest). For more information on the Java LinkedList class, see the Java documentation linked here.

Submission

Please create a jar file of your project. It should include the java file (and only the java file) (**SortedLinkedList.java**) and submit it on Canvas. If your jar file includes class files or other extraneous files outside of the package folder and java files, you will receive an automatic one point deduction. It is important that you learn how to correctly create a jar file. Please see the instructions on Canvas for creating a jar file of your Java Project in Eclipse and always double check that your jar file has the correct files in it. If you are on the waitlist, please upload your jar file using this Google Form.