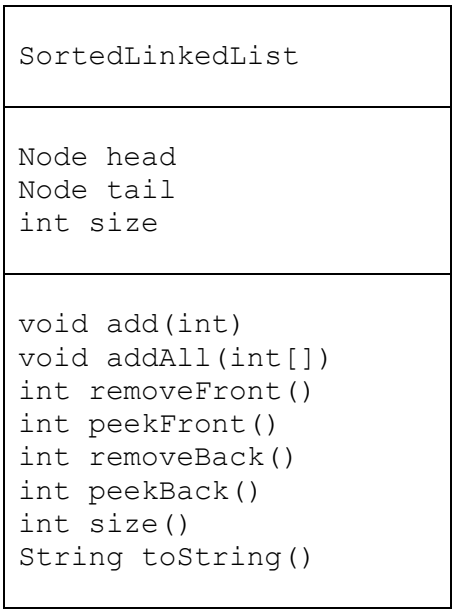
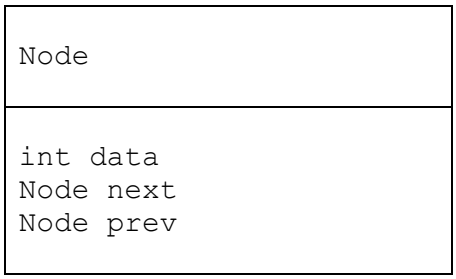
Computer Science 3 **Linked Lists Lab #1 – Sorted Doubly Linked List**

Create a doubly linked list class, `SortedLinkedList`





- The `add`() method adds items so that the values in the list are kept in ascending order
- removeFront() removes from the front of the linked list
- peekFront() gets the value at the front, but doesn't remove the node
- removeBack() removes from the end of the linked list
- peekBack() gets the value at the back, but doesn't remove the node

All of the peek and remove methods should throw `NoSuchElementException` if the list is empty. Note: This is **different** from peek's behavior in the Java LinkedList implementation – it returns null. Why can't ours return null?

Write `Sorted.java` that reads in all of the lines from the file `sorted.dat`. Each line consists of integers separated by spaces. For each line, your program should print out the smallest 5 numbers (in ascending order), followed by the largest 5 numbers (in descending order), separated by spaces.

Each line has at least 10 integers.