1. Draw the linked list diagram for a list of ints that contains 10, 7, 8, 4, 12, 1.

2. Show how the linked list diagram from question 1 changes when the method Q0_2 in the IntList class (shown on the accompanying page) is called on the list in question 1.
3. Implement the method avgI in the IntList class. Your implementation must be *iterative*. Assume a list has been created and values have been inserted.

4. Implement the private method avgR in the IntList class. Your implementation must be *recursive*. Assume a list has been created and values have been inserted.
```java
import java.io.*;
import java.util.*;

public class IntList {
    //Implements a singly linked list of ints

    private class Node {
        private int data;
        private Node next;
        private Node(int d, Node n) {
            data = d;
            next = n;
        }
    }

    private Node head;

    public IntList() {
        head = null; //no sentinel node
    }

    public boolean empty() {
        return head == null;
    }

    //Assume the insert methods have been implemented

    public void Q0_2() {
        if (head != null) {
            Node temp = head;
            Q0_2(head);
            temp.next = null;
        }
    }

    private void Q0_2(Node h) {
        if (h.next == null) head = h;
        else {
            Q0_2(h.next);
            h.next.next = h;
        }
    }
}
```
```java
public double avgI() {
    //PRE: !empty
    //return the average (mean) of the ints in the list
    //your implementation must be iterative

}

public double avgR() {
    //PRE: !empty
    //return the average (mean) of the ints in the list
    return avgR(head);
}

private double avgR(Node h) {
    //PRE: h != null
    //return the average (mean) of the ints in the node
    //referenced by h and in the nodes reachable from h
    //your implementation must be recursive

}