In-Class Activity #7

Name #1: ___________________________  Section Leader: ______________
Name #2: ___________________________  Section Leader: ______________
Name #3: ___________________________  Section Leader: ______________

Directions: In groups of 2 or 3, using at most one computer, answer the following questions to the best of your combined abilities. When appropriate, show your work, to help us understand your thought process. ICAs (In-Class Activities) count toward your grade; please take them seriously.  Week 9 (2016/10/19)

The parts of this week’s ICA refer to this linked-list method. Assume that head is an existing instance variable of type Node<E> that is referencing the first node of this list of integers:

```
Node 5 1 3 8
```

```java
public int addThemUp ()
{
    Node<E> temp = head;
    int sum = head.getData();
    while (temp.getNext() != null) {
        sum = sum + temp.getData();
        temp = temp.getNext();
    }
    return sum;
}
```

1. Trace the execution of this method on the list shown. What is the value the method returns? If you think that the program will crash during the execution, explain why.

2. Trace the execution of this method again, but this time assume that head contains null. What is the value the method returns? If you think that the program will crash during the execution, explain why.

3. Hopefully, your tracings uncovered two problems with this method. Suggest one or more fixes that will allow the repaired method to return the correct answer in both of the above situations.

When your group is satisfied with your answers, or time is up, hand this to one of the class staff. We’ll review the correct answers after time is up.