Section Activity #9: Two Recursive Methods

Your Names: ____________________________

Directions: In groups of two (or three, if need be), complete the following activity. This section activity will be graded; all students in the group will receive the same score. Make sure that the names of all group members are on the page you submit to your section leader.

Task: Write recursive implementations of the following two methods.

1. Write a recursive method named threeToTheN that accepts a non-negative integer value n and returns a string of pound signs (‘#’) of length equal to 3^n. For example, if n = 2, a string of 3^2 = 9 pound signs will be returned. Note that n = 0 is legal, because 3^0 = 1. If n is less than 0, throw an IllegalArgumentException.

   ```java
   public String threeToTheN (int n) {
   }
   ```

(The second method is on the back side . . .)
2. In math, a series is the sum of a sequence of values. For example, the series $4 + 5 + 6 + 7$ represents the sum of the sequence of integers starting at 4 and ending with 7; that is, the sequence $4, 5, 6, 7$.

Write a recursive method named `displaySeries()` that accepts two integers $a$ and $b$ and prints to the screen a representation of the series of the integers starting at $a$ and ending with $b$. Using the above example, `series(4,7)` should display $4 + 5 + 6 + 7$ (including the separating spaces). If $b < a$, throw an IllegalArgumentException.

```java
public void displaySeries(int a, int b) {
    // Method implementation
}
```