

1 Adder

Leo, a diligent CS61B student, was trying to submit HW1 when his computer crashed. Upon re-booting, he discovered that some portions of his code had disappeared! Help Leo fix his homework so that he can turn it in on time.

```
public class Adder {  
  
    /** Adds the range of numbers from 1 to N recursively.  
     * @param N range of numbers being added  
     * @return sum of numbers in range  
     */  
    public static int addRange(int N) {  
        // Base case  
  
  
  
  
  
  
  
  
  
        // Recurse!  
  
  
  
  
  
  
  
  
  
    }  
}
```

2 Fibonacci Numbers

The next problem took Leo several days, but he only has an hour until his homework is due. Help him out! Note that you will need to write both the method header and body for the three methods below. The first method header is provided for you.

```
/** The Fibonacci sequence is 0, 1, 1, 2, 3, 5, 8, 13, 21, ... */
public class Fibonacci {

    /** fib1(N) is the  $N^{\text{th}}$  Fibonacci number, for  $N \geq 0$ . fib1(N)
     * is tree recursive. */
    public static int fib1(int N) {

    }

    /** fib2(N, K, F0, F1) is the  $N^{\text{th}}$  Fibonacci number, assuming
     * that F0 and F1 are the  $K-1^{\text{th}}$  and  $K^{\text{th}}$  Fibonacci numbers,
     *  $1 \leq K \leq N$ . Thus, fib2(N, 1, 0, 1) is simply the  $N^{\text{th}}$ 
     * Fibonacci number. */

    /** fib3(N) is the  $N^{\text{th}}$  Fibonacci number, for  $N \geq 0$ . fib3(N)
     * is iterative. */

}
```