Homework Turnin

Email:	rgalanos@fcps.edu
Section:	6G
Course:	TJHSST APCS 2016-17
Assignment:	02-02
Receipt ID:	814ef69b7ccf5a04c373ea570ce442e2

Turnin Successful!

The following file(s) were received:

Fibonacci.java (1322 bytes)

```
//Author:
//Date:
import java.util.Scanner;
public class Fibonacci
{
   public static void main(String[] args)
   {
      long start, end, fib;
      int[] fibNumber = {1, 5, 10, 20, 30, 40, 41, 42};
      System.out.println("\tFibonacci\tBy Iteration\tTime\tby Recursion\t Time");
      for(int n = fibNumber[0]; n <= fibNumber[fibNumber.length - 1]; n++)
      {
         start = System.nanoTime();
         fib = fibIterate(n);
         end = System.nanoTime();
         System.out.print("\t\t" + n + "\t\t" + fib + "\t" + (end-start)/1000.);
         start = System.nanoTime();
         fib = fibRecur(n);
         end = System.nanoTime();
         System.out.println("\t" + fib + "\t\t" + (end-start)/1000.);
      }
   }
   /**********************
   Calculates the nth Fibonacci number by iteration
   **********************/
   public static long fibIterate(int n)
   {
      int x=0;
      int y=1;
      int z=1;

      for(int i=0;i<n;i++)
      {
         x = y;
         y = z;
         z=x+y;
      }
      return x;
   }
   /**********************
   Calculates the nth Fibonacci number by recursion
   **********************/
   public static long fibRecur(int n)
   {
      if(n==1||n==2)
         return 1;
      else
         return fibRecur(n-1) + fibRecur (n-2);
   }
}
```