Lab 10 – Recursion

90% level

1. Implement and test a recursive method int calcFibonacci(int n) that returns the nth term of the Fibonacci sequence. Assume the sequence starts with 1's: 1,1,2,3,5,8,…
2. Implement and test a recursive method void reverse() that reverses a sentence.
   ("Hello There!" becomes "!erehT olleH")
3. Implement the reverse method as an iteration.
4. Implement and test a recursive method boolean isPalindrome(String s) checks to see if a word is a palindrome.
5. Extend problem 4 to check if a phrase is a palindrome, ignoring punctuation, spaces and capitalization.
6. A binary search is accomplished by starting with a sorted array. Find the middle element of the array. If that matches the target element, then you are done. Otherwise, compare the middle element of the array with the target element to determine which half of the array the target may be in. Repeat the process with the appropriate half of the array. Repeat until the target value is found or determined not to be in the array. Implement a binary search using recursion.

100% level

7. Implement the "Tower of Hanoi" recursively.