**RECURSION**

Print and complete the Fibonacci and Factorial worksheet. *Show your work* for the time projection problems. Also provide source code and executables (on USB) and printouts of source code for all programs used.

Complete the palindrome program as described in the worksheet. Provide source code and executable (on USB) and a printout of your source code.

Complete the Tower of Hanoi problem (we usually get this one done in class). Provide source code and executable (on USB) and a printout of the source code. Add a timer to this code and run the program for several input values. Accumulate sufficient data to demonstrate that the asymptotic performance of the program is ** (2*n*). *Provide your data and show your work*. Note that since displaying text on the console is slow the run times become large with fairly small values. Given your data, project how long it will take your program to complete puzzles with 10, 100, 1000, 10,000, 100,000 and 1,000,000 disks. Also determine the problem sizes that could be completed in 1 hour, 1 day, 1 month, 1 year, 1 century, 1 millennium, and 1 million years.