CSE 311: Foundations of Computing I
Assignment #5
May 3, 2010
due: Monday, May 10, 1:30 p.m.

1. Section 4.1, exercise 14.
2. Use mathematical induction to prove that $n! < n^n$ whenever n is an integer greater than 1.
3. Section 4.1, exercise 34.
4. Section 4.1, exercise 56.
5. Define the Fibonacci numbers as follows: $f(0) = 0$, $f(1) = 1$, and $f(n) = f(n-2) + f(n-1)$ for all integers $n \geq 2$. Prove by induction that, for all integers $n \geq 2$, the number of iterations used by Euclid's algorithm to compute $\gcd(f(n+1), f(n))$ is $n-1$.