CSCI 305, Homework # 2

YOUR NAME HERE

Due date: Tue, May 1, midnight

In all cases, we require that $f(n)$ and $g(n)$ be positive functions, *i.e.* $f(n) > 0$ and $g(n) > 0$ for all $n > 0$. Prove or disprove each of the following conjectures.

1. $f(n) = O((f(n))^2)$
2. $f(n) = \Theta(f(n/2))$.
3. $f(n) + o(f(n)) = \Theta(f(n))$
4. If $f(n) = O(g(n))$ then $f(n) + g(n) = O(f(n))$.