Homework 3

Due 09/02/16

August 30, 2016

Use the *formal definition* of Big-Oh to prove the following.

1. Prove that if $f(n) = n^x + an^y$, where a, x, and y are positive integers such that $x > y$, $f(n) = O(n^x)$.
2. Use induction to prove that $(n!)^2 = O((2n)!)$ using $c = 1$ and $n_0 = 1$.