

Assignment 1

CS 213: Data Structures and Algorithms

Prove the following:

1. $1000n = \mathcal{O}(n^2 + 5n)$, but $n^2 + 5n \neq \mathcal{O}(1000n)$.
2. $n |\sin n| = \mathcal{O}(n)$, but $n \neq \mathcal{O}(n |\sin n|)$.