CSE 332: Data Abstractions

QuickCheck: Asymptotics Solutions (due Thursday, October 8)

0. $\mathcal{O}$ My God!

Recall the definition of $f \in \Omega(g)$ is as follows:

$$\exists (c, n_0 > 0). \ \forall (n \geq n_0). \ f(n) \geq cg(n)$$

Prove that $4n^2 + n^5 \in \Omega(n)$.

Solution:

Choose $c = \frac{1}{500}$ and $n_0 = 1$.

Then, since $n \geq 1$, $4n^2 + n^5 \geq \frac{4n}{500} + \frac{n}{500} = \frac{n}{100}$.