

Problem 3.1 Asymptotic Analysis

- a) $f(n)$ grows much slower than $g(n)$, this means that $f(n)$ is asymptotically smaller than $g(n)$.

$$f(n) \in O(g(n))$$

$$f(n) \in o(g(n))$$

- b) $f(n)$ grows faster than $g(n)$ with the dominant term of $9n^{0.8}$ since the square root of n is $n^{0.5}$.

$$f(n) \in \Omega(g(n))$$

$$f(n) \in \omega(g(n))$$

- c) $f(n)$ grows faster than $g(n)$

$$f(n) \in \Omega(g(n))$$

$$f(n) \in \omega(g(n))$$

- d) $f(n)$ grows faster than $g(n)$ since $\log(3n)^3$ is larger than $9\log(n)$

$$f(n) \in \Omega(g(n))$$

$$f(n) \in \omega(g(n))$$

Redon Jashari

RJASHARI@constructor.university