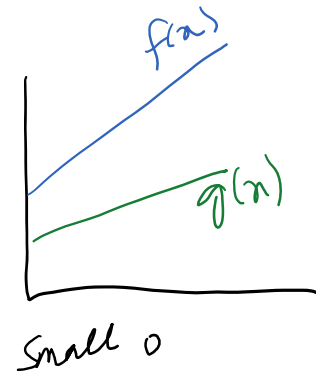
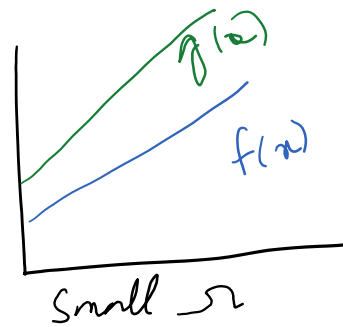
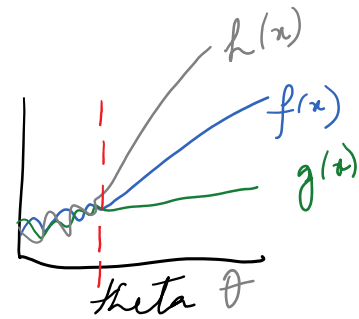
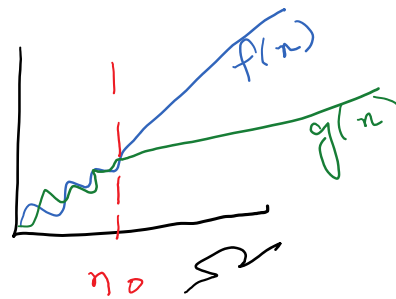
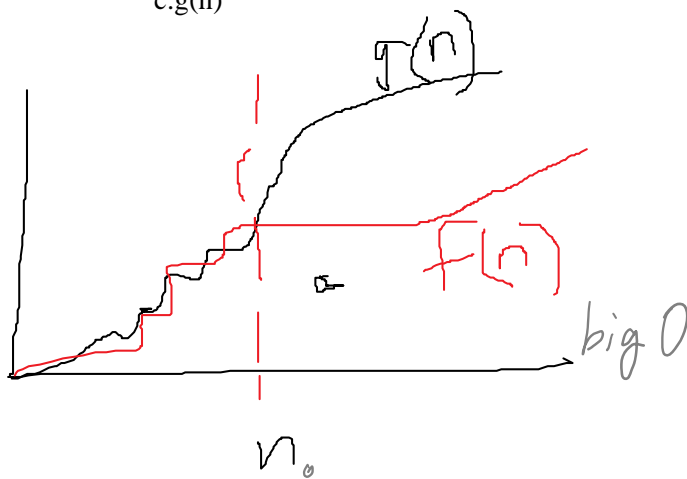


# Introduction

Sunday, January 31, 2021 8:01 AM

1. Algorithms
2. Asymptotic notations:
  - a.  $O$ : upper bound
    - $f(n) \in O(g(n))$  iff  $f(n) \leq c \cdot g(n)$
  - b.  $\Omega$ : lower bound
    - $f(n) \in \Omega(g(n))$  iff  $f(n) \geq c \cdot g(n)$
  - c. Theta: tight bound
    - ?
  - d. Small o: strict upper
    - $f(n) \in o(g(n))$  iff  $f(n) < c \cdot g(n)$
  - e. Small omega: strict lower
    - $f(n) \in \omega(g(n))$  iff  $f(n) > c \cdot g(n)$



$g(n)$  is the upper bound of  $f(n)$

- Binary search ( $\log(2)N \in O(N)$ )

3. Order of growth: