

CS208/204: Data Structures & Abstractions  
Mahidol University International College

## Assignment 5: Performance Characterization

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# Asymptotics

## 1.1 Formal:

$T(n) = n$  is  $O(f(n))$  iff s.t for some constants  $c$  and  $n \geq n_0$   $T(n) \leq c \cdot f(n)$

$T(n) = n$  is  $\Omega(f(n))$  iff s.t for some constants  $c$  and  $n \geq n_0$   $T(n) \geq c \cdot f(n)$

$T(n) = n$  is  $\Theta(f(n))$  iff s.t for some constants  $c$  and  $n \geq n_0$   $T(n)$  is  $\Omega(f(n))$  and  $O(f(n))$