Asymptotic Notation

Complexity (Review)

$T(n)$ input size $n \geq 1$

$T(n) = O(f(n))$

n^2 n^3

exists c, n_0

so that $T(n) \leq c \cdot f(n)$

for all $n \geq n_0$

$n^2 + 3n^2 \log(n) = O(n^2 \log(n))$?

$n \log(n^2) = O(n \log(n))$?

$2n \log(n)$

Asymptotic error

$h < 1$ $\quad E(h)$

seek x_{corr}, compute x_{obs}

$$\frac{x_{corr} - x_{obs}}{x_{corr}} \leq E(h)$$

$E(h) = O(h^2)$ $\quad h \leq 1$

$O(h^3)$ $\quad h = 10^{-6}$