



# Asymptotic notation

$O$ -notation (upper bounds):

We write  $f(n) = O(g(n))$  if there exist constants  $c > 0$ ,  $n_0 > 0$  such that  $0 \leq f(n) \leq cg(n)$  for all  $n \geq n_0$ .

**EXAMPLE:**  $2n^2 = O(n^3)$  ( $c = 1$ ,  $n_0 = 2$ )

*functions,  
not values*