



# Examples

**Ex.**  $T(n) = 4T(n/2) + n$   
 $a = 4, b = 2 \Rightarrow n^{\log_b a} = n^2; f(n) = n.$   
**CASE 1:**  $f(n) = O(n^{2-\varepsilon})$  for  $\varepsilon = 1$ .  
 $\therefore T(n) = \Theta(n^2).$