

Master Method Summary

$$T(n) = aT(n/b) + f(n)$$

CASE 1: $f(n) = O(n^{\log_b a - \epsilon})$, constant $\epsilon > 0$

$$\Rightarrow T(n) = \Theta(n^{\log_b a}) .$$

CASE 2: $f(n) = \Theta(n^{\log_b a} \lg^k n)$, constant $k \geq 0$

$$\Rightarrow T(n) = \Theta(n^{\log_b a} \lg^{k+1} n) .$$

CASE 3: $f(n) = \Omega(n^{\log_b a + \epsilon})$, constant $\epsilon > 0$,
and regularity condition

$$\Rightarrow T(n) = \Theta(f(n)) .$$