

Master's Theorem Assignment

1) $T(n) = 8T(n/2) + 1000n^2$

$$\log_2 8 = 4 > k=2$$

$$T(n) \in \Theta(n^4)$$

2) $T(n) = 2T(n/2) + n^2$

$$\log_2 2 = 1 < k=2$$

$$T(n) \in \Theta(n^2)$$

3) $T(n) = 2T(n/2) + \log n$

$$\log_2 2 = 1 = k=1$$

$$T(n) \in \Theta(n \log n)$$