Date :
Page :

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

$a = 8 \quad b = 2 \quad d = 2$

$a > b^d$

$T(n) = O(n^{\log_b a}) = O(n^3)$

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

$a < b^d$

$T(n) = O(n^d) = O(n^2)$

3) $T(n) = 2\,T(n/2) + 10n$

$a = b^d$

$T(n) = O(n^d \log n)$

$= O(n \log n)$