



If $T(n) = aT(\frac{n}{b}) + O(n^k \log^p n)$ then:

1. If $a > b^k$ then $T(n) = O(n^{\log_b a})$
2. If $a = b^k$ then:
 - (a) If $p > -1$ then $T(n) = O(n^{\log_b a} \log^{p+1} n)$
 - (b) If $p = -1$ then $T(n) = O(n^{\log_b a} \log \log n)$
 - (c) If $p < -1$ then $T(n) = O(n^{\log_b a})$
3. If $a < b^k$ then:
 - (a) If $p \geq 0$ then $T(n) = O(n^k \log^p n)$
 - (b) If $p < 0$ then $T(n) = O(n^k)$