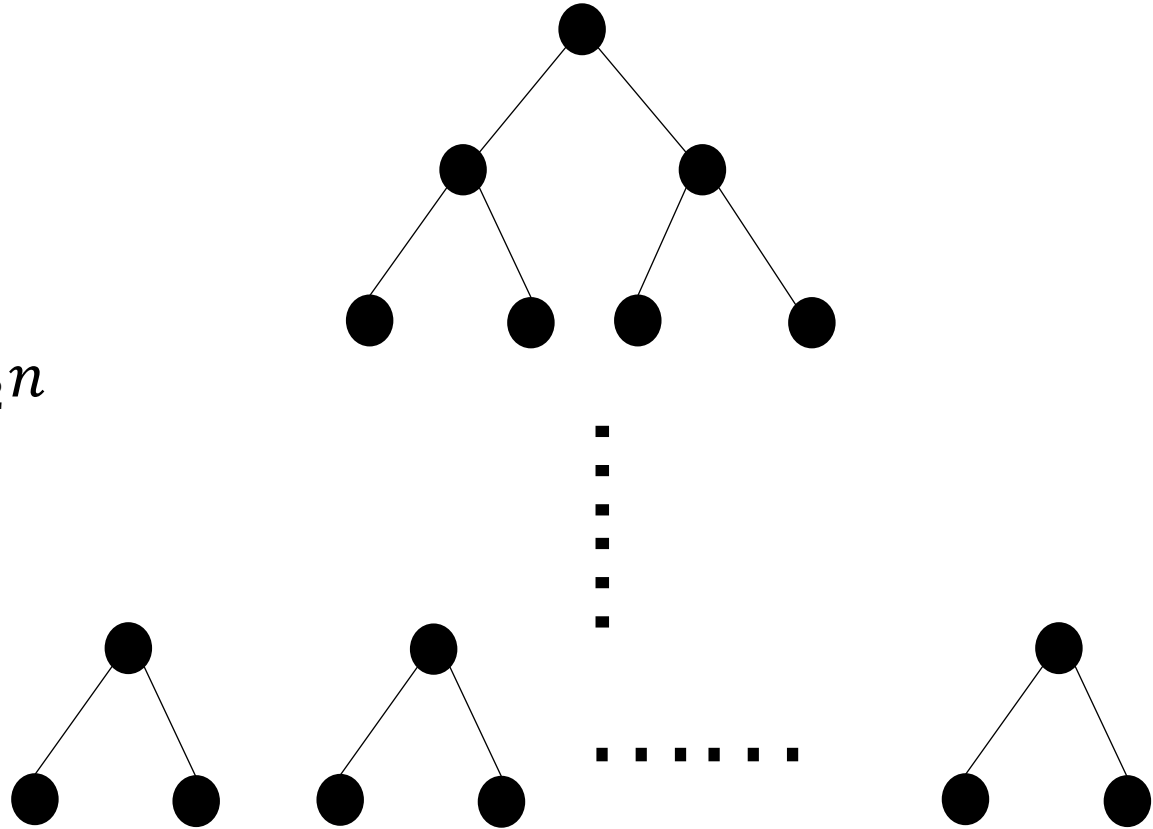


# Recurrence Tree T(n)

↑  
Depth  $\log_2 n$   
↓



Level

Computation

Level 1  $O(n * \log(n))$

Level 2  $2 * O(\left(\frac{n}{2}\right) * \log\left(\frac{n}{2}\right))$

Level 3  $4 * O(\left(\frac{n}{4}\right) * \log\left(\frac{n}{4}\right))$

Totally  $k = \log_2 n + 1$  levels

Level k  $2^{k-1} * O\left(\left(\frac{n}{2^{k-1}}\right) * \log\left(\frac{n}{2^{k-1}}\right)\right)$