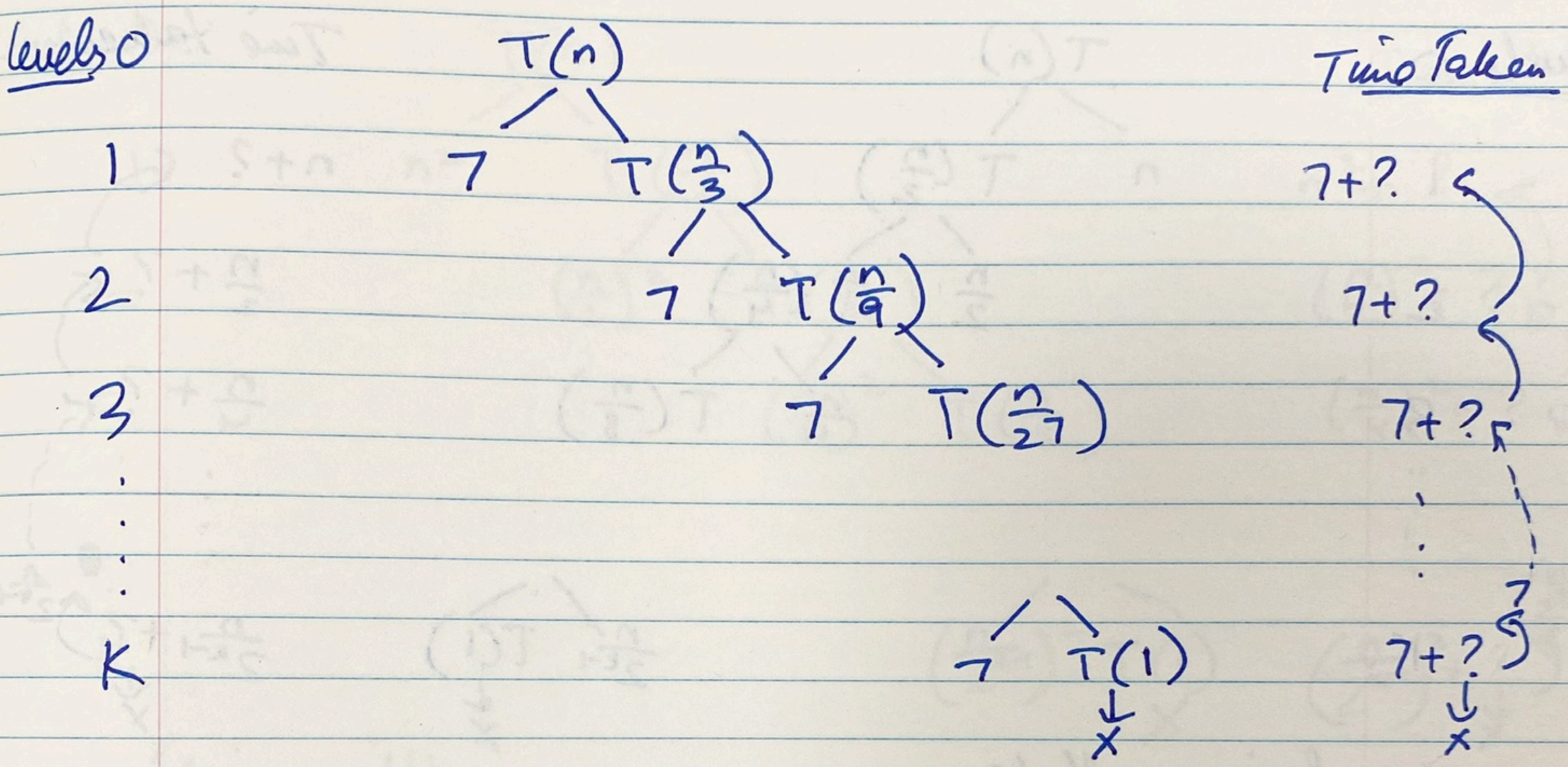
Eg) $T(n) = \begin{cases} T\left(\frac{n}{3}\right) + 7 & , \quad n > 1 \\ 1 & , \quad n = 1 \end{cases}$



Series will be: $\underbrace{7+7+7+\cdots+7}_{k \text{ times}} \Rightarrow 7k.$

Base cond. $T(1) = 1$ i.e. $\frac{n}{3^k} = 1 \Rightarrow k = \log_3 n.$

Sub in series $7(\log_3 n)$ ← Dominant term

$\therefore \boxed{O(\log_3 n)}$

Hilroy