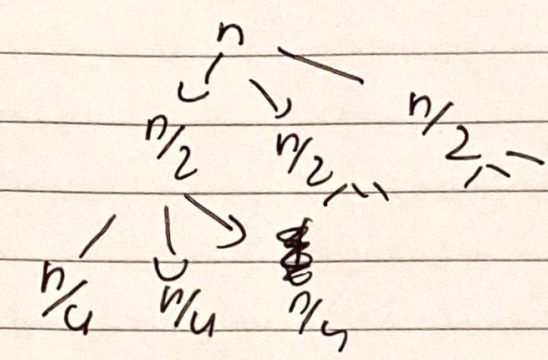
a)



$\rightarrow n$

$\rightarrow \frac{3}{2} n$

$\rightarrow \left(\frac{3}{2}\right)^2 \rightarrow n.$

$h = \log_2 n$

$$\therefore \sum_{k=0}^{h} \left(\frac{3}{2}\right)^k n.$$

$$n \sum_{k=0}^{\log_2 n} \left(\frac{3}{2}\right)^k$$

$$n \left[\frac{1\left(1 - \left(\frac{3}{2}\right)^{\log_2 n}\right)}{1 - \frac{3}{2}} \right]$$

$$= n \left[\frac{1 - n^{\log_2 \left(\frac{3}{2}\right)}}{-0.5} \right]$$

$$= n \left[\frac{n^{0.58} - 1}{0.5} \right]$$

$$= \frac{n^{1.58}}{0.5} - \frac{n}{0.5}$$

$$= 2n^{1.58} - 2n.$$

$\therefore T(n) = \Theta(n^{1.58})$