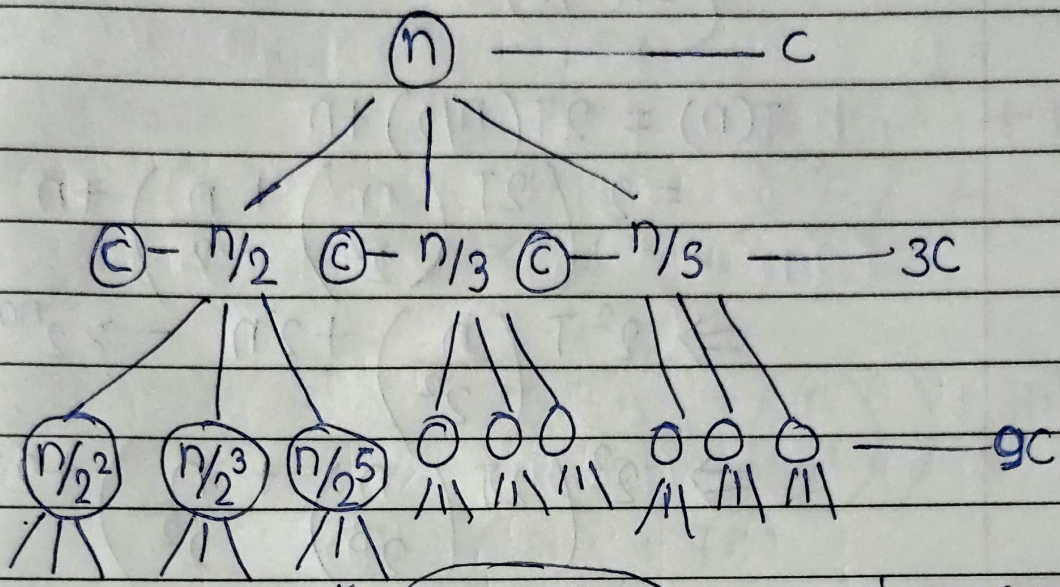
* Recursive tree Approach Assignment problem:

1) $T(n) = T(n/2) + T(n/3) + T(n/5) + c$



$\frac{n}{2^k} = 1 \quad n = 2^k \quad (k = \log_2 n) \rightarrow$ * Higher value

$\frac{n}{3^k} = 1 \quad (k = \log_3 n)$

$\frac{n}{5^k} = 1 \quad (k = \log_5 n)$

$(3)^0 c + (3)^1 c + (3)^2 c + \ldots + (3)^k c$

$c\left((3)^0 + (3)^1 + (3)^2 + \ldots + (3)^{\log_2 n}\right)$

↳ GP series

$r = 3 \quad r > 1$

$a = 1$

$S = \frac{a(r^n - 1)}{r - 1} = c\left(\frac{1(3^{\log_2 n} - 1)}{3 - 1}\right)$

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

$\Rightarrow O(n^{1.5})$