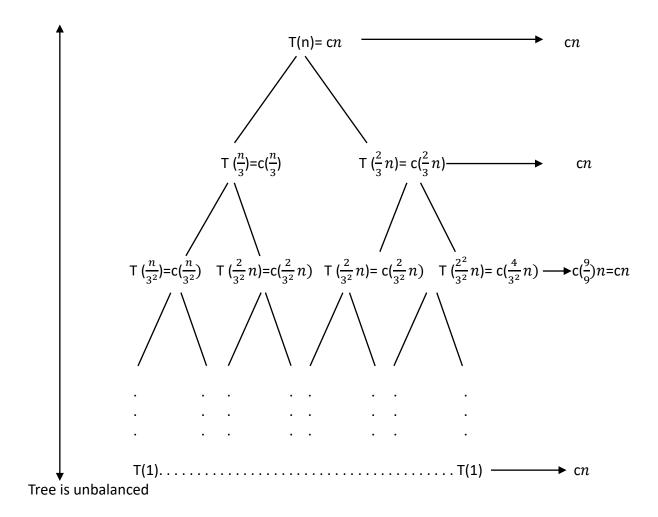
$$T(n)=T(\frac{n}{3})+T(\frac{2}{3}n)+cn$$



- Shortest path \rightarrow T(1)= T $(\frac{n}{3^i}) \rightarrow n=3^i \rightarrow i=\log_3 n$
- Longest path \rightarrow T(1)=T($(\frac{2}{3})^i n$) $\rightarrow n = (\frac{3}{2})^i \rightarrow i = \log_{\frac{3}{2}} n$
- To find big O → consider longest path

$$\rightarrow$$
Sum= $cn*log_{\frac{3}{2}}n \rightarrow O(n log n)$