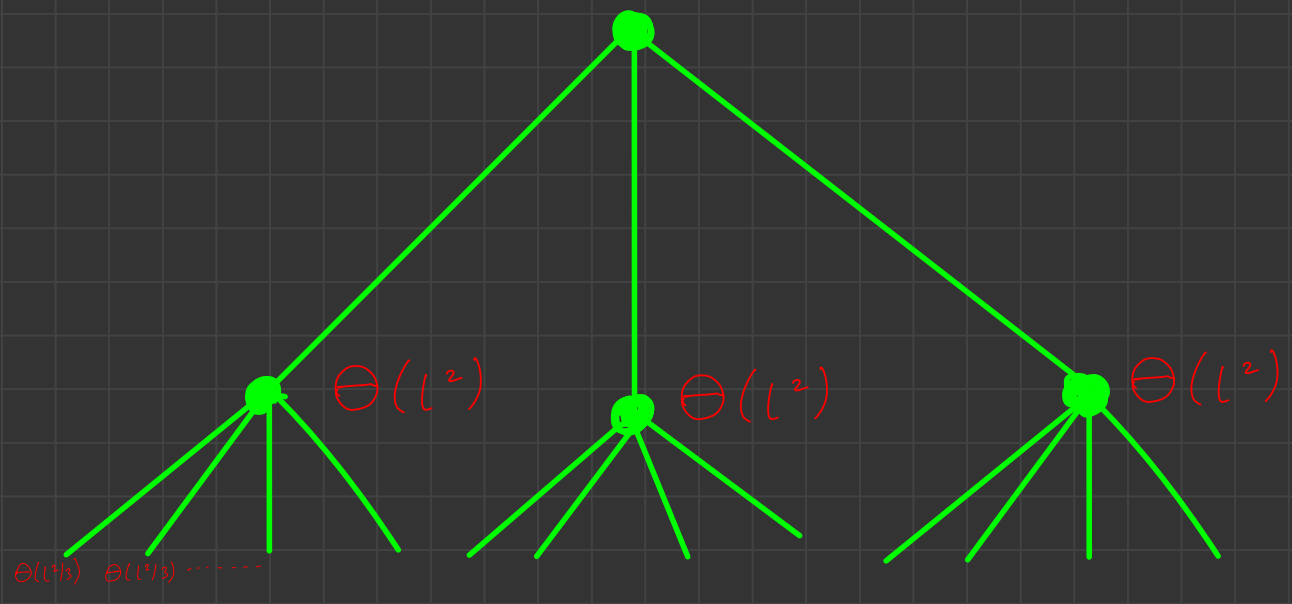
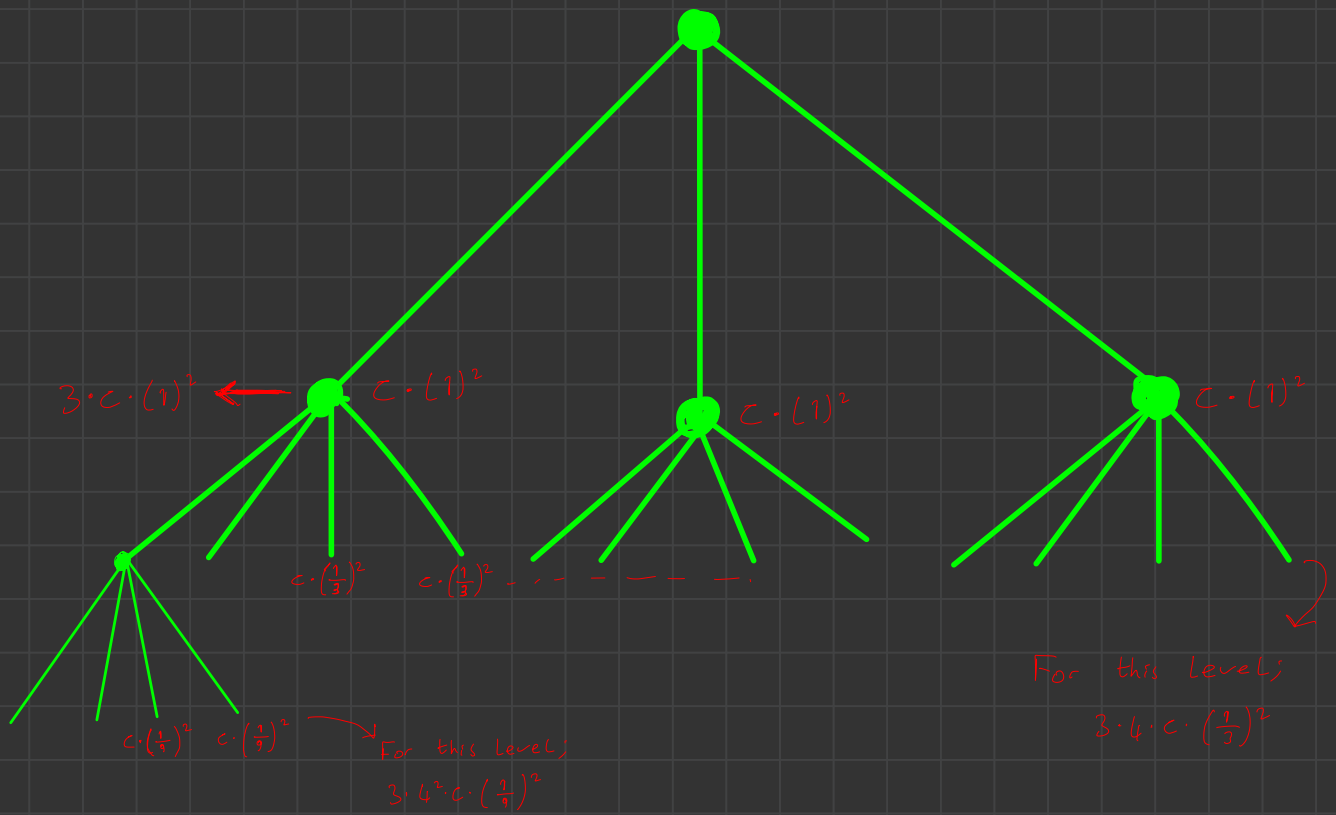
Proof for PSET2 - Problem 2-1 / t



Intuitively, triangles on the Koch snowflake don't overlap and sum of their areas equal to the area of the snowflake which is const. => O(1)



By looking the pattern in Figure 2, we can deduce the following eqn.;

$$3 \cdot c \cdot \sum_{i=0}^{\wedge} 4^i \cdot \left(\frac{1}{9}\right)^i \quad \text{(for levels } 0 \leq i \leq n\text{)}$$

which equals to

$$\frac{27c}{5} \Rightarrow \Theta(1)$$