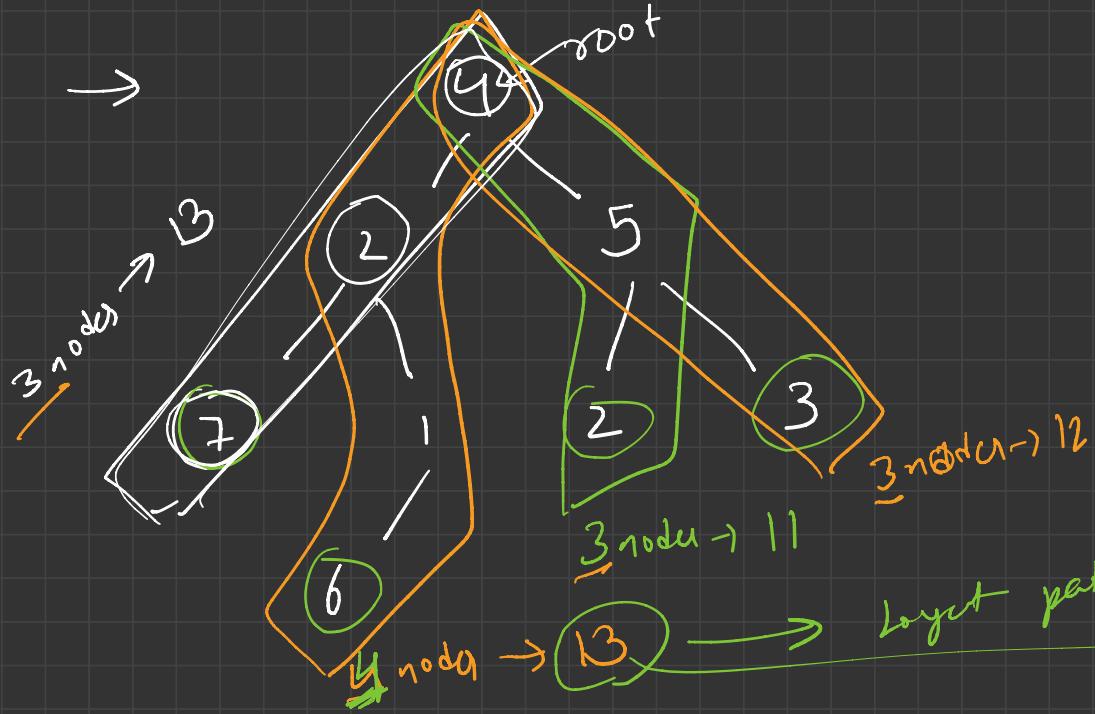


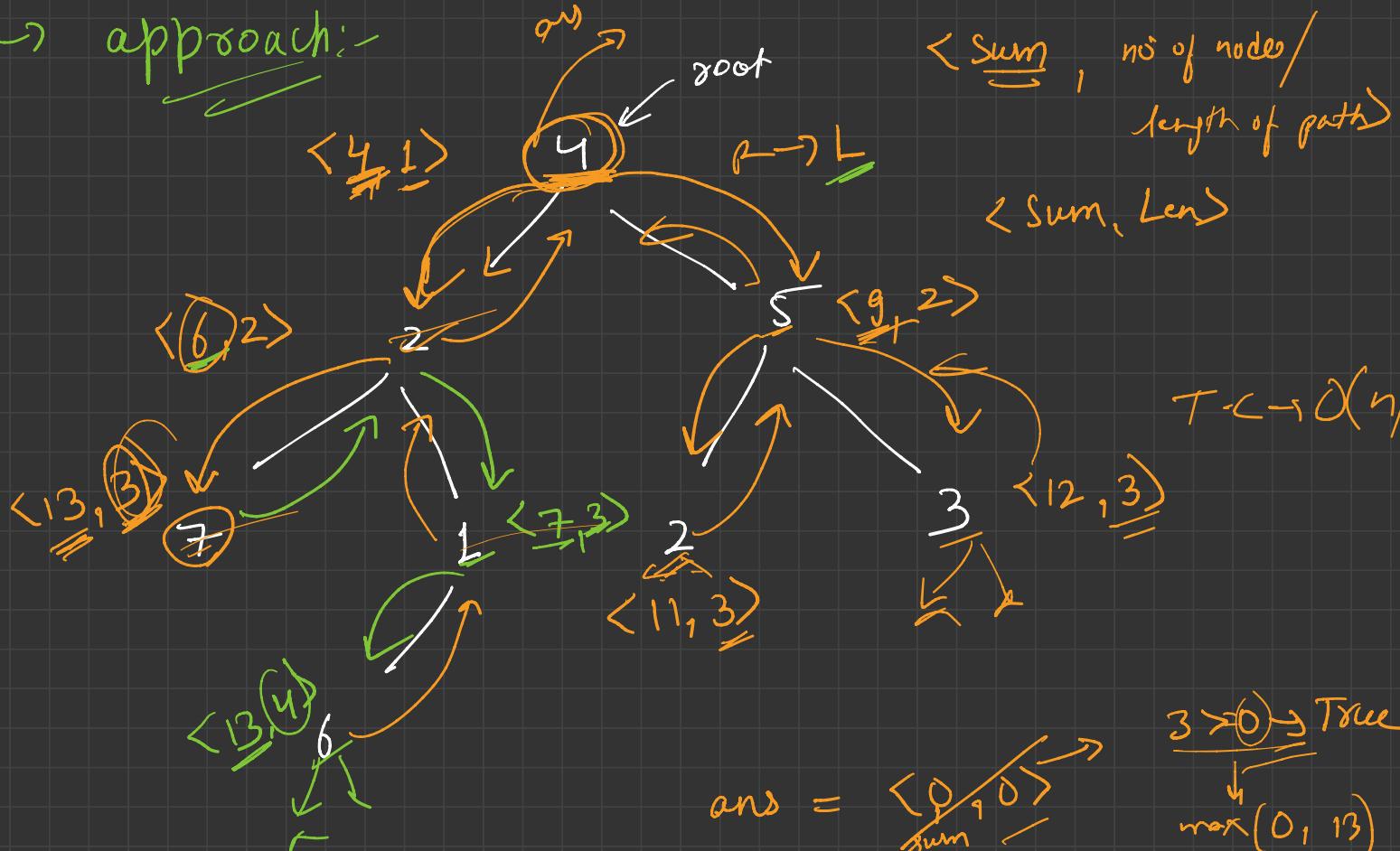

Trees



Sum of nodes
↓
Layer path
↓
Root → Leaf

Layer path
→ 13

→ approach:-

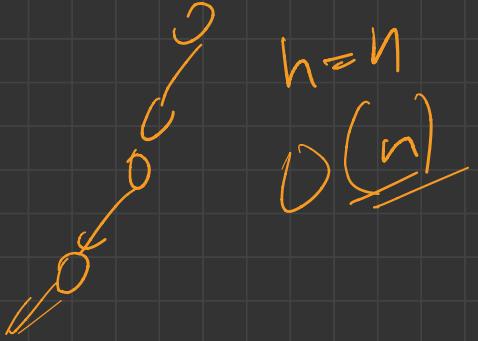


$$\text{ans} = \langle 0, 0 \rangle$$

$$\text{ans} = \langle 13, 3 \rangle$$

$$\begin{aligned} 3 > 0 &\Rightarrow \text{True} \\ \max(0, 13) &= 13 \end{aligned}$$

$\mathcal{O}(n)$



$ans = \langle 13, 13 \rangle$

$= \langle 13, 4 \rangle$

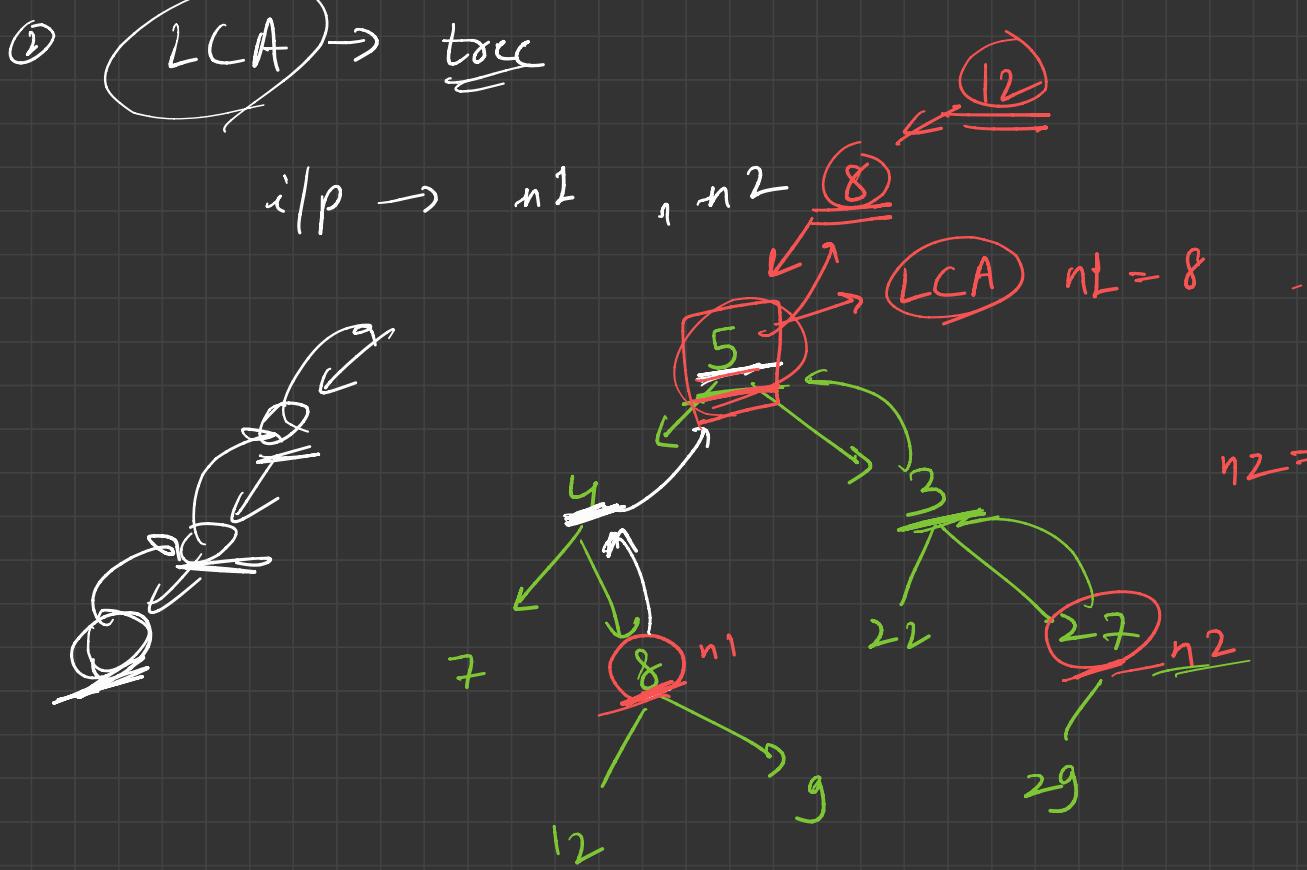
sum
Len

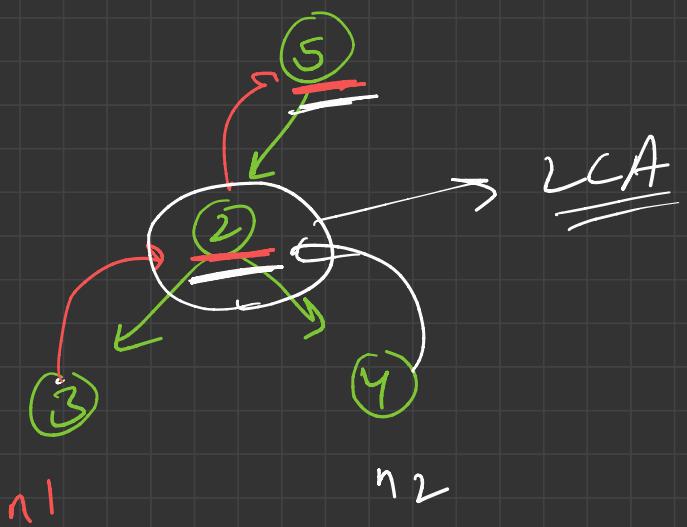
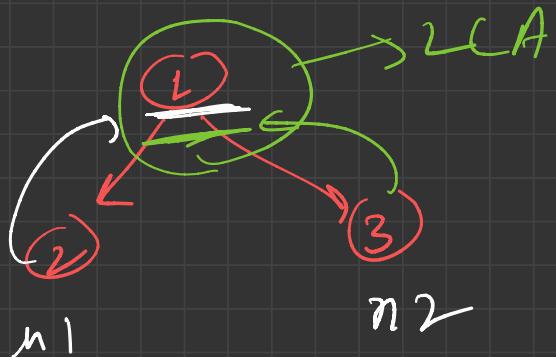
$4 >= 3 \rightarrow \text{TRUE}$

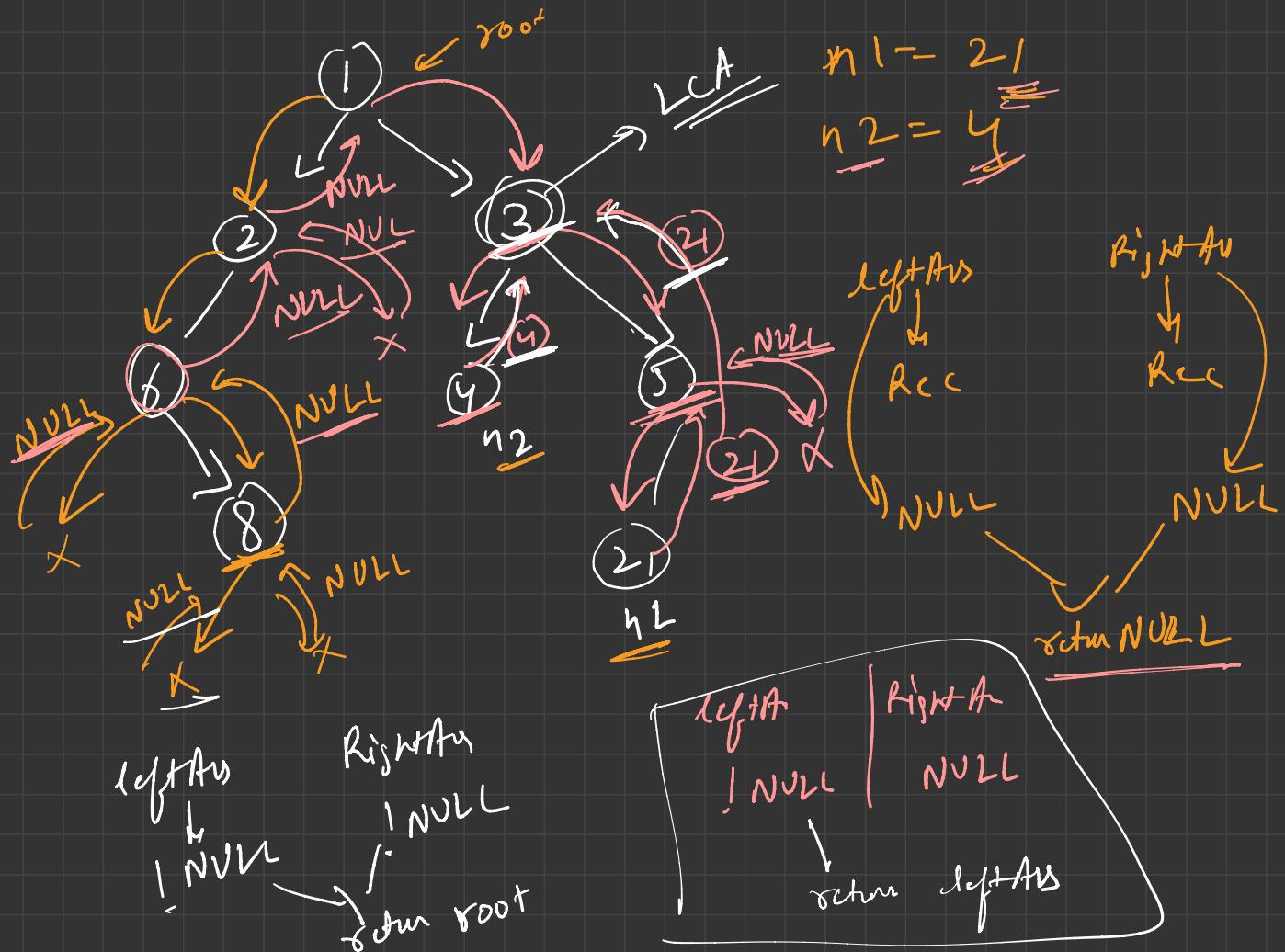
$$\max(13, 13) = 13$$

$3 >= 4 \rightarrow \text{False}$

$3 >= 7 \rightarrow \text{False}$



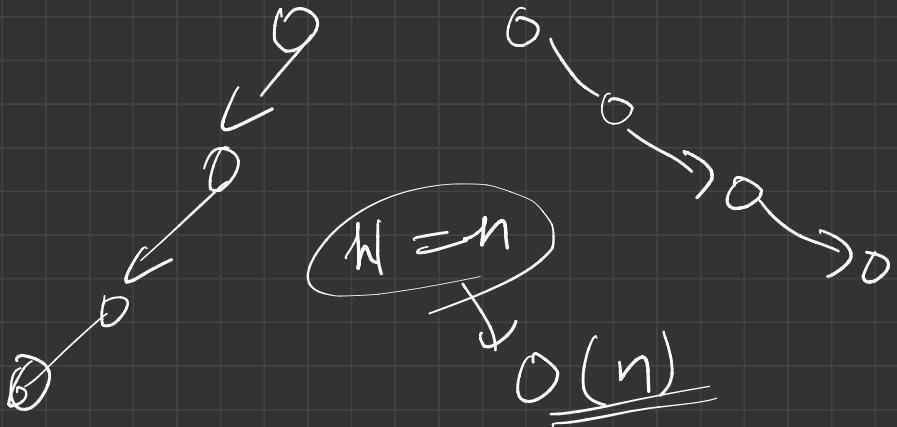




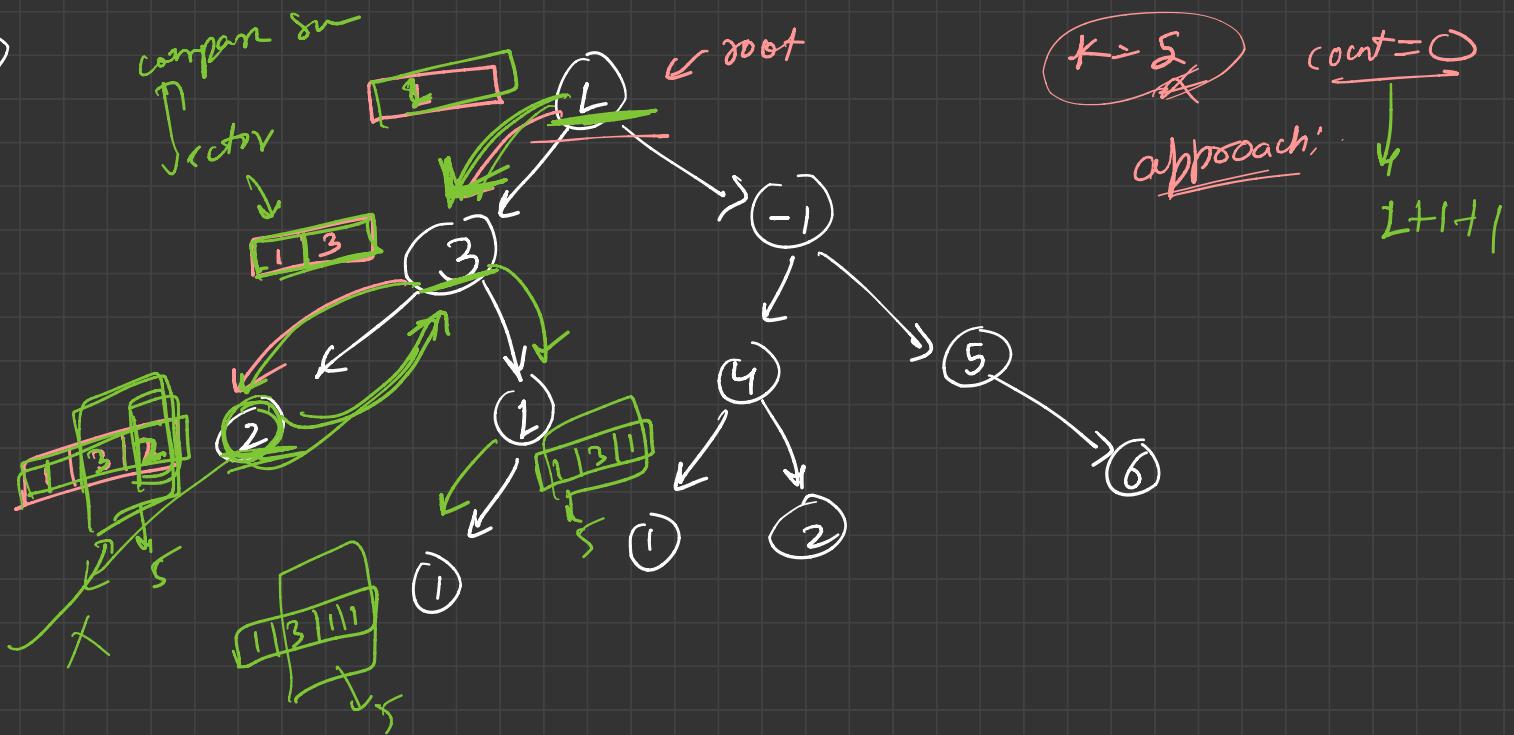
$T \cdot C \rightarrow O(N)$

$S \cdot C \rightarrow \underline{\underline{O(n)}}$

left
NVL
right
!NVL
return sign roots



③

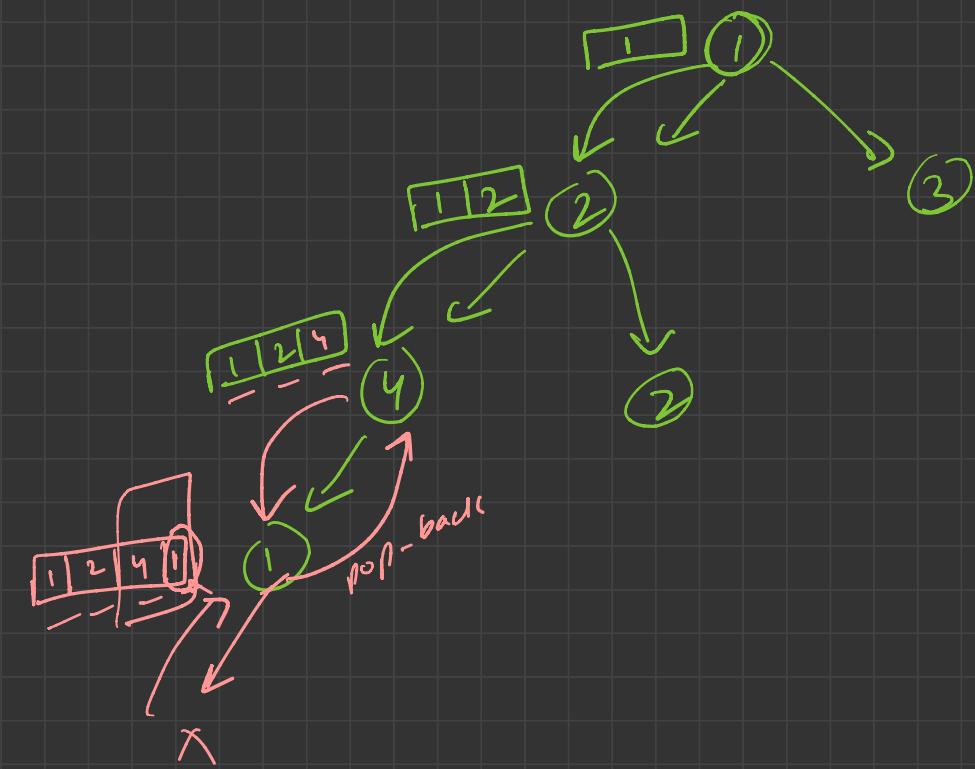


~~$k = 5$~~

~~count = 0~~

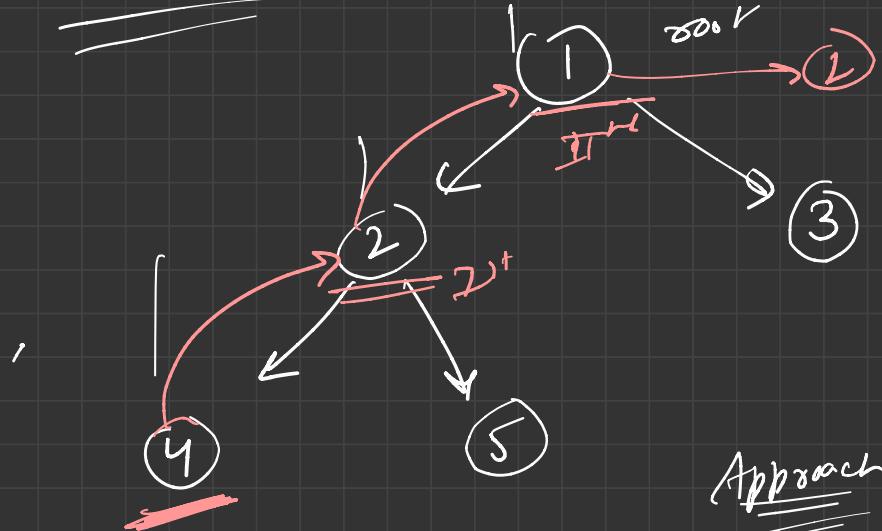
approach:

$1+1+1$



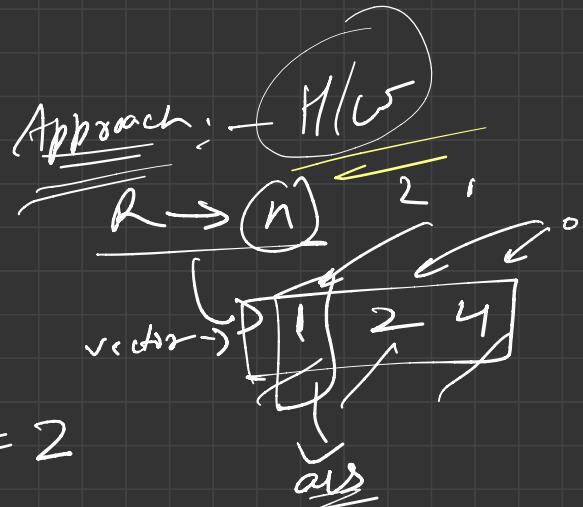
$$\begin{array}{l} K=5 \\ \hline \text{cnt}=8 \\ 1 \end{array}$$

\rightarrow K^{th} Ancator :-



$$\boxed{K=2}$$

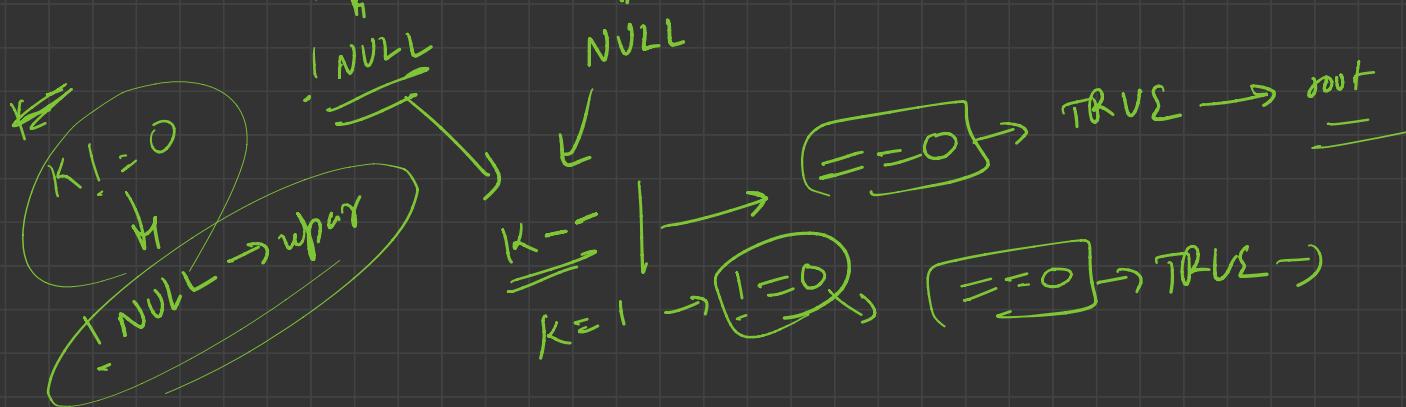
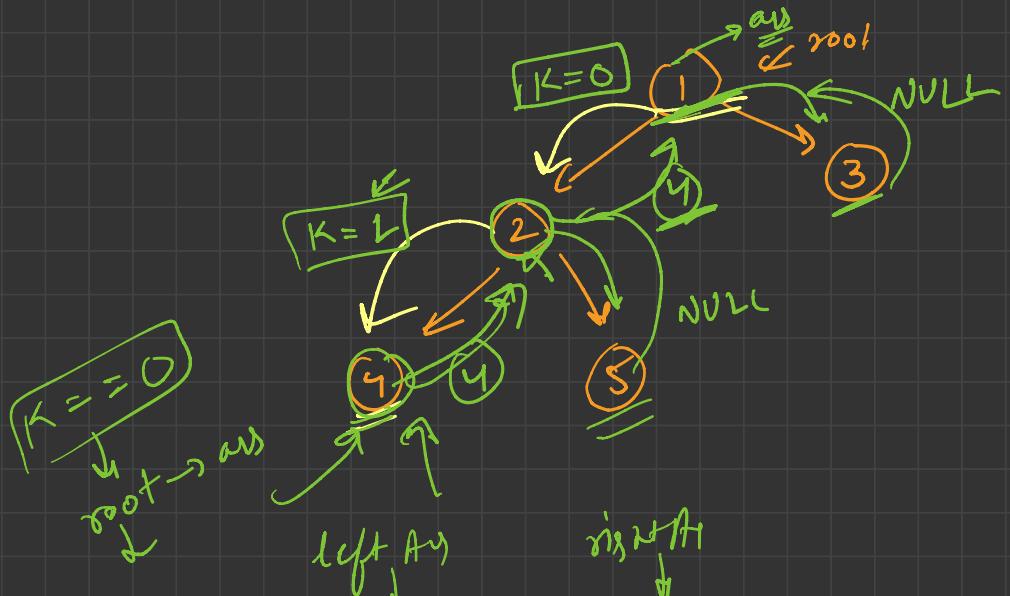
$$n = 4$$

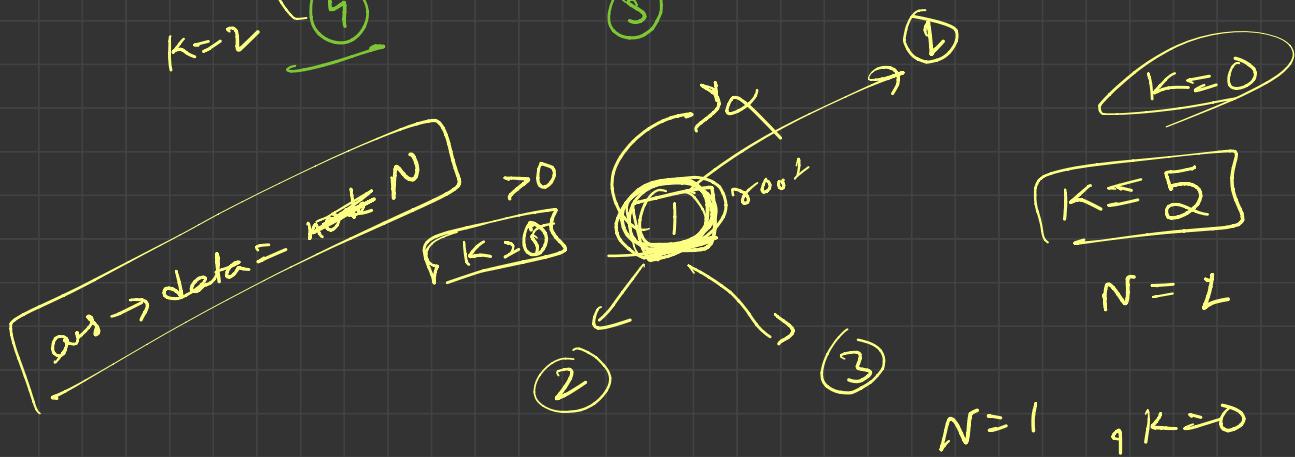
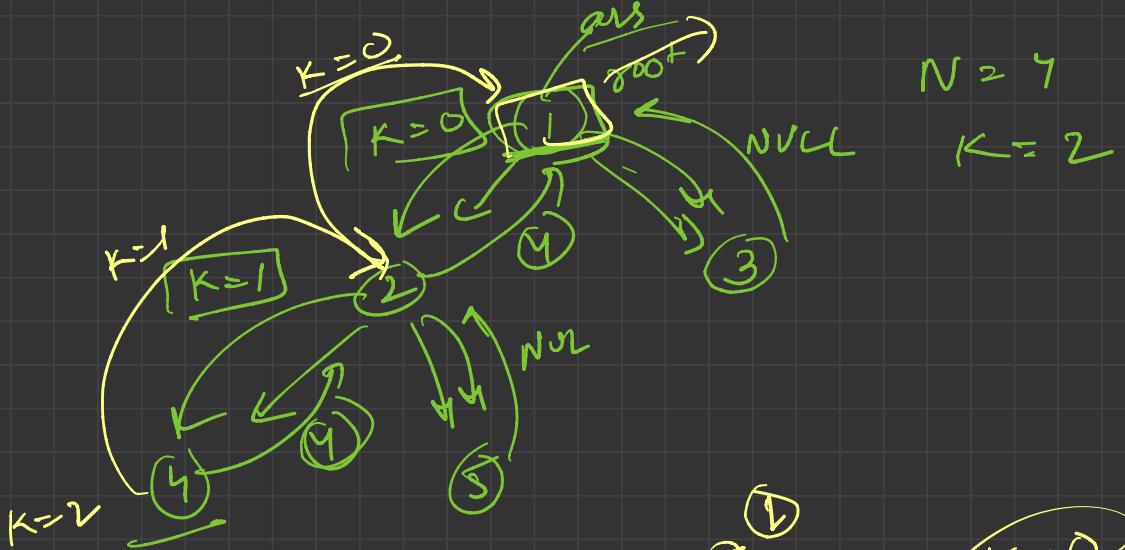


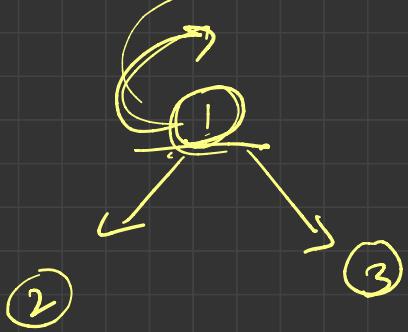
$$K = 2$$

$$\begin{array}{l} K = 2 \\ N = 4 \end{array}$$

$I \rightarrow$ find $\text{No. } 2$







$$N = L$$

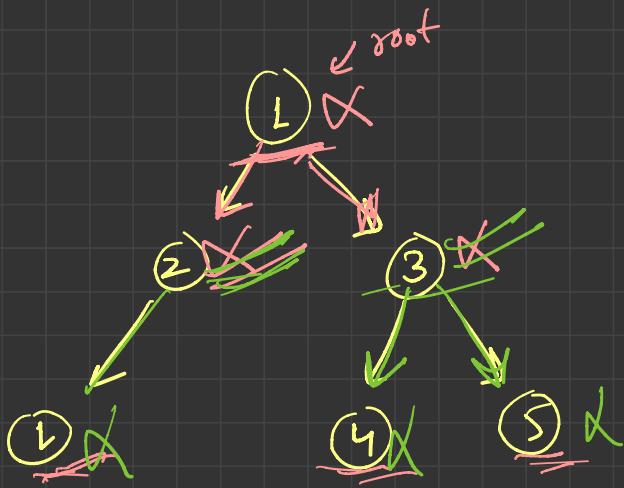
$$K = \alpha$$

$1 < K \leq \infty$

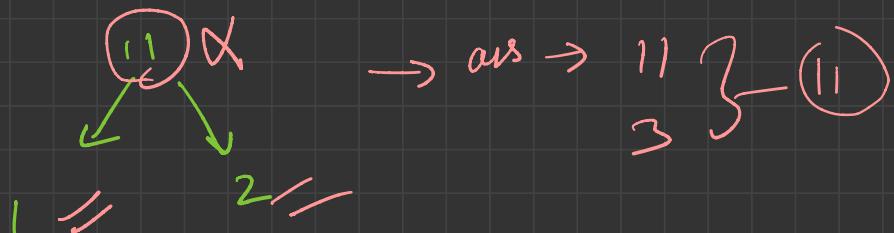
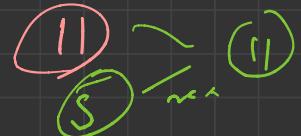
$$K \geq 1$$

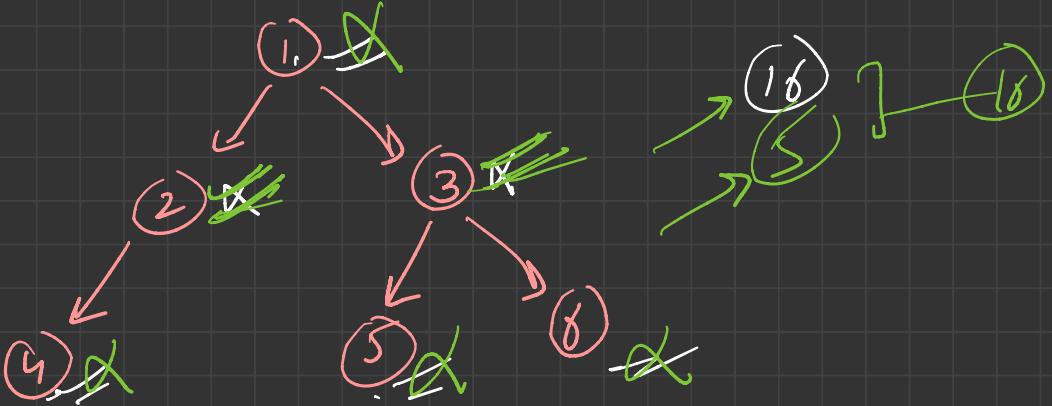
K

⑤ Max Sum of Non-Adj Nodes



maxSum





`pair<int, int>`

approach:

$\langle \underline{a}, \underline{b} \rangle$

$a \rightarrow$ maximum by including nodes at current level

$b \rightarrow$ maximum ~~excluding~~

