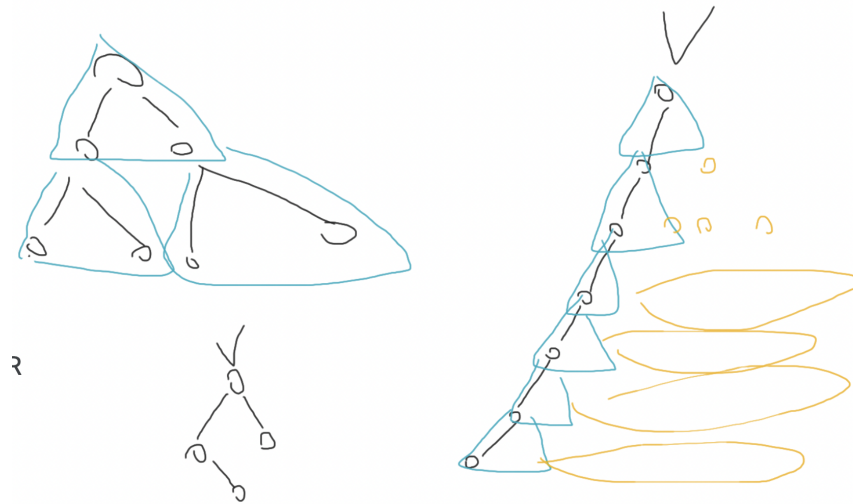


Phill-DS-0320

AVL tree - Adelson V L

高度平衡的二元搜尋樹 → efficiency (不能有空隙, 計算量會增加)



$$T \in AVL$$

$$T_L, T_R \in AVL$$

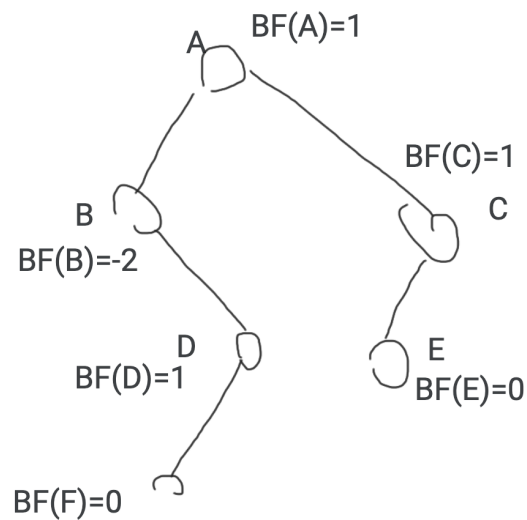
$$|h_L - h_R| \leq 1 \rightarrow \text{balanced}$$

$$T_L \quad T_R$$



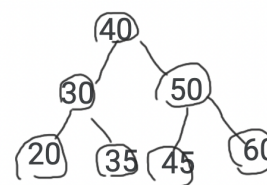
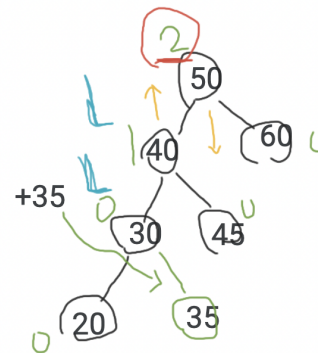
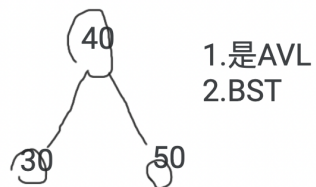
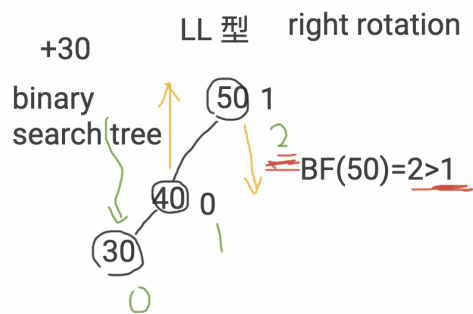
balance factor 平衡因子 BF → 針對某一個節點的高度計算結果 → $BF(n)$, $n \rightarrow \text{node}$

$$|BF(n)| \leq 1 \rightarrow -1, 0, 1$$



AVL tree 加入 node

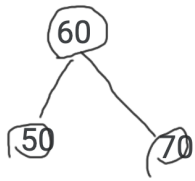
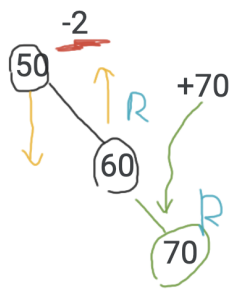
LL type



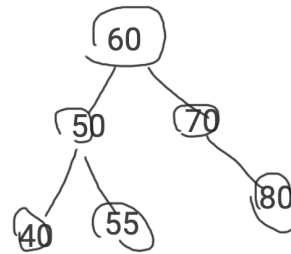
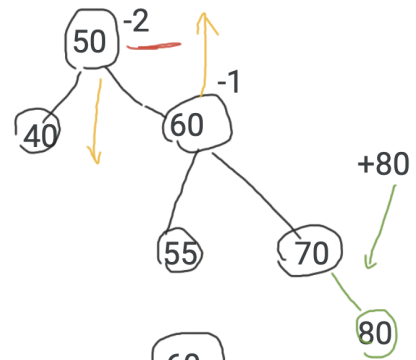
1. AVL -> Yes
2. BST -> Yes

RR type

RR 型



1.AVL -> Yes
2.BST -> Yes



1.AVL -> Yes
2.BST -> Yes