\[ C_n = \binom{2n}{n} = \frac{(2n)!}{n! \cdot n!} \]

\[ \log_2 C_n = \frac{\log(n)}{2n} \]

Postorder: a b c
Preorder: b a c

# of binary trees with n nodes

Regarding binary trees, postorder traversal reveals the left subtree before the right subtree. Preorder traversal reveals the root node first, followed by the left subtree, and finally the right subtree.

`log(n)` is the lower bound for sorting.
non-binary search tree
multiway node

ex 12.4-2
Sample AVL

not valid AVL
AVL Insertion

insert 6

critical

\[ \downarrow \text{single right (LL)} \]