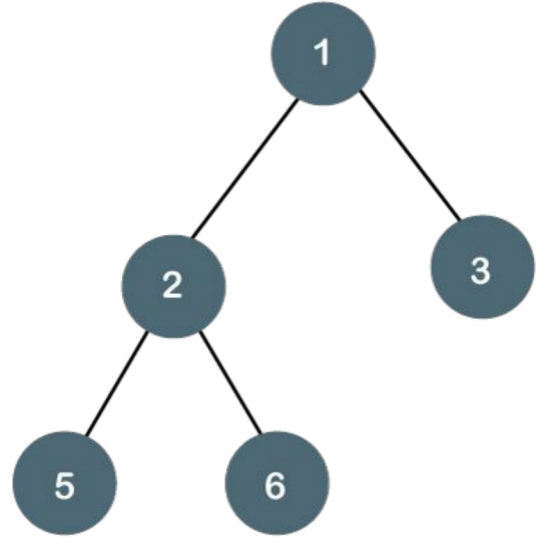


Interview Problems

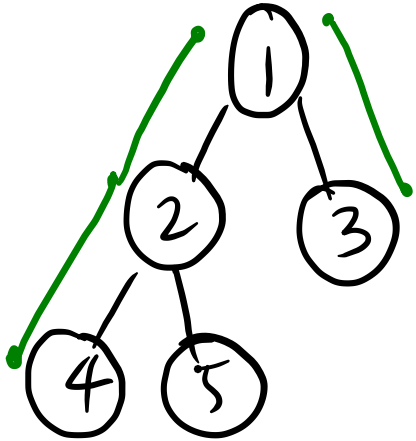
TREES

By Gladden Rumao

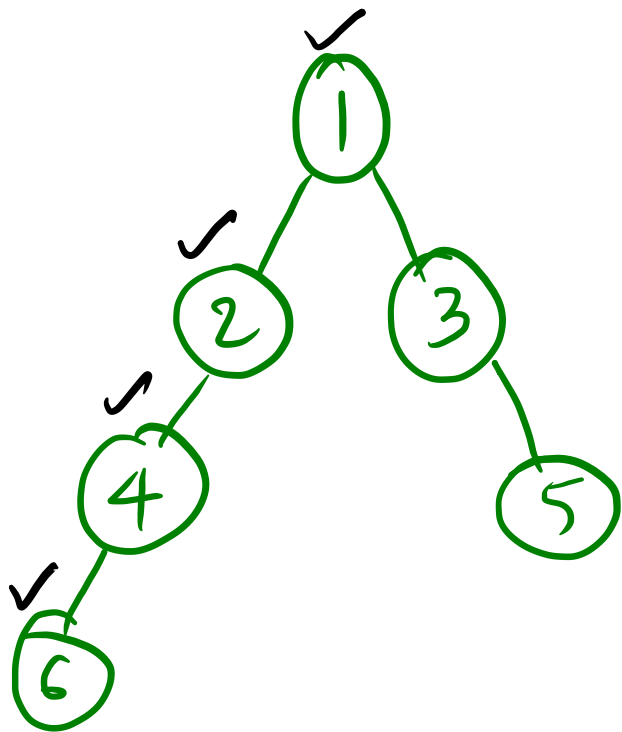


1.) Height of Tree

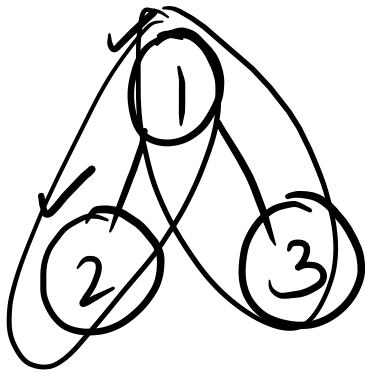
(maximum depth of Binary Tree)



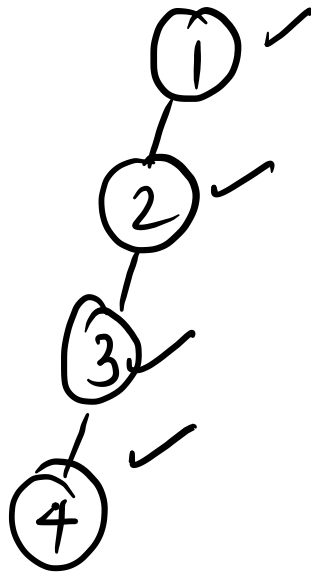
height = 3



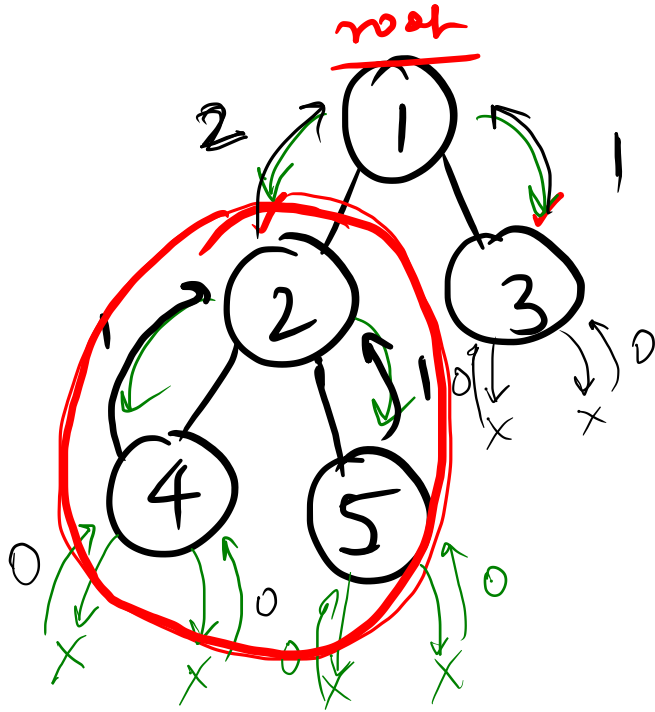
height = 4



height = 2

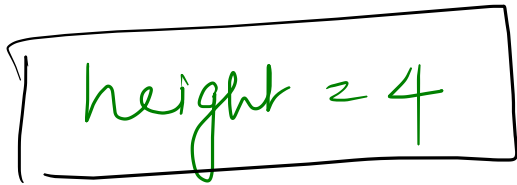


height = 4



$$1 + \max(2, 1)$$

$$= \underline{\underline{3}}$$



$$z \leq 4$$

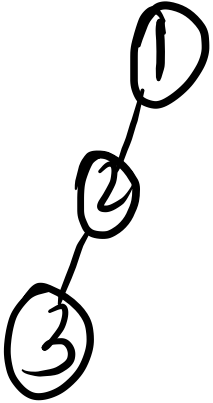
if (root == null)
return 0;

return 1 + max(height(root.left), height(root.right))

$$TC = O(n)$$

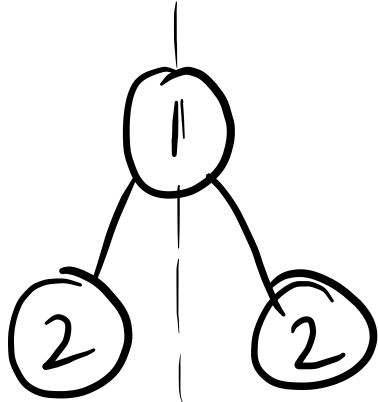
$$SC = O(h)$$

(recursive stack space)
 $\approx O(n)$

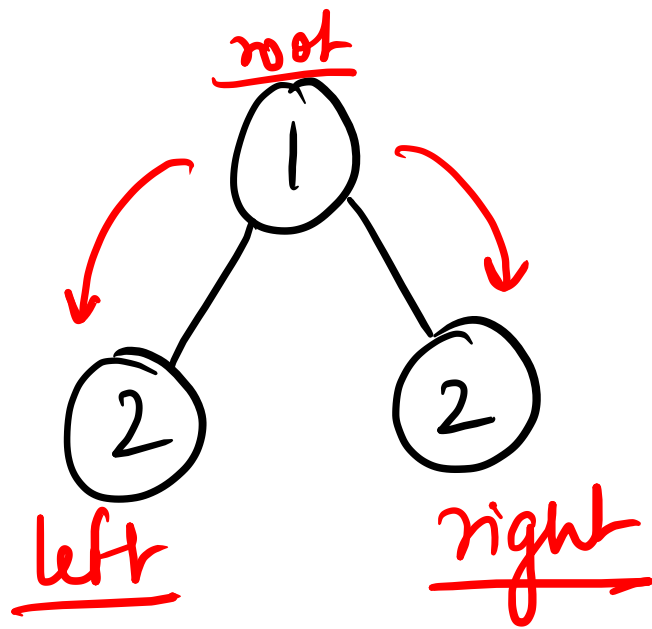


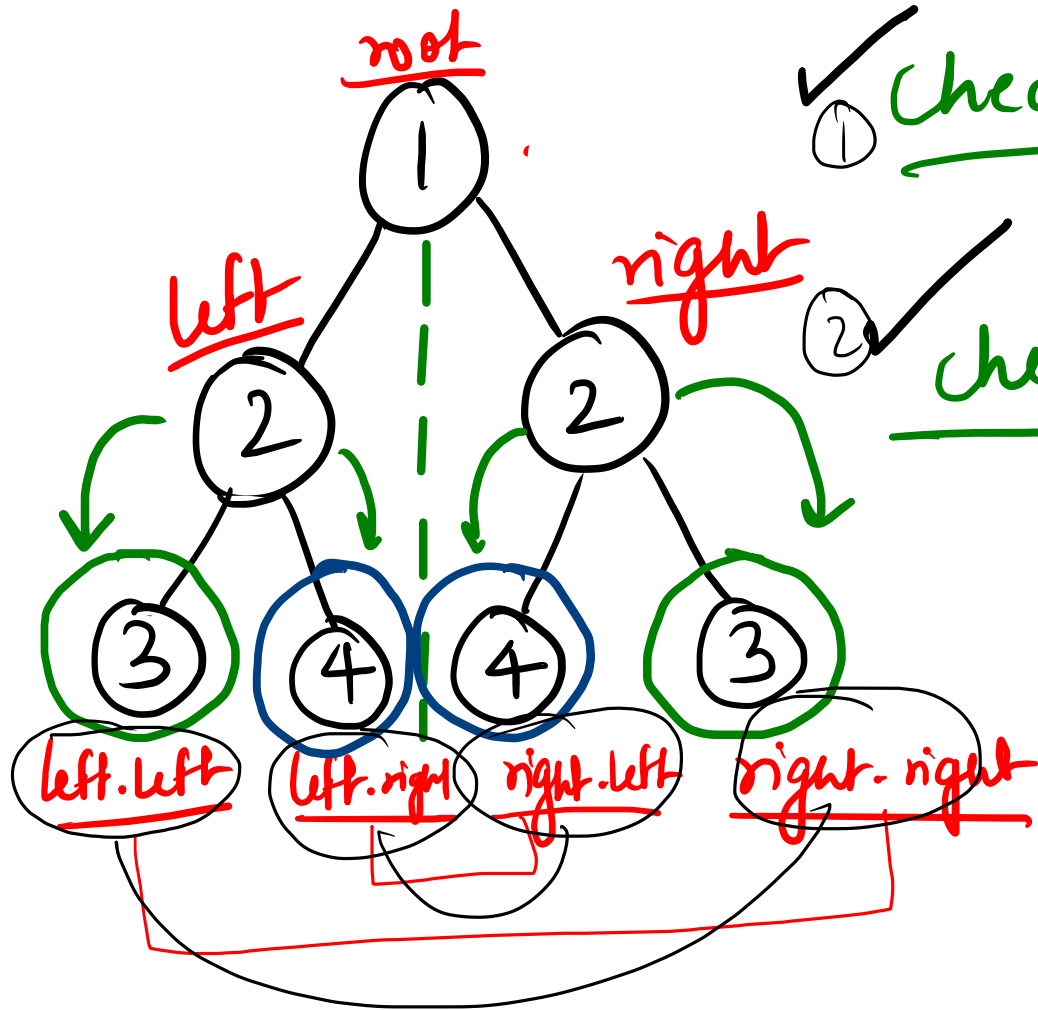
$$\underline{\underline{h = n}}$$

Symmetric Tree



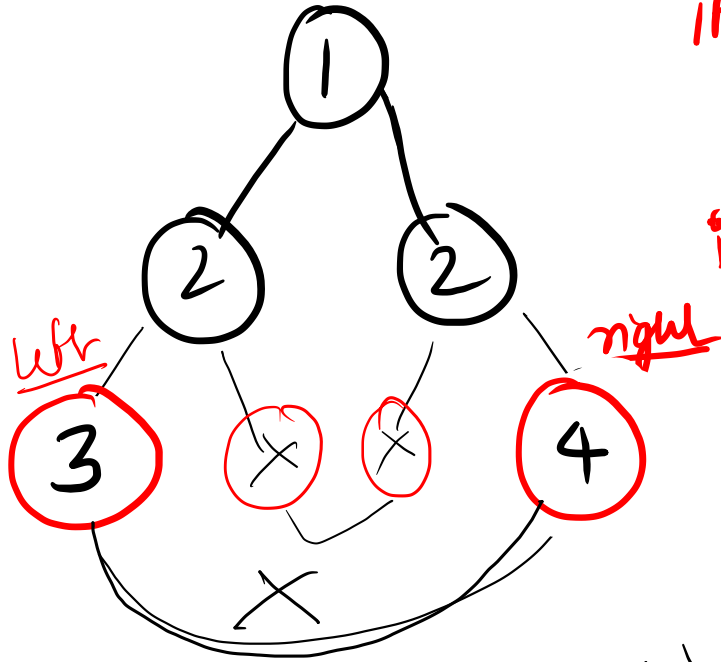
symmetric





✓ ① check (L.L = R.R) ✓

② ✓ 22
check (L.R = R.L)



if (left == null && right == null)
return true

if (left == null || right == null)
return false

if (left.val != right.val)
return false

$$TC = O(n)$$

$$SC = O(h) \quad (h \rightarrow \text{height of tree})$$

(recursive stack space)