Problem Link:

<https://leetcode.com/problems/count-complete-tree-nodes/>

Solution:

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\* Definition for a binary tree node.

\* struct TreeNode {

\* int val;

\* TreeNode \*left;

\* TreeNode \*right;

\* TreeNode() : val(0), left(nullptr), right(nullptr) {}

\* TreeNode(int x) : val(x), left(nullptr), right(nullptr) {}

\* TreeNode(int x, TreeNode \*left, TreeNode \*right) : val(x), left(left), right(right) {}

\* };

\*/

class Solution {

public:

int getHeight(TreeNode\* root) {

int h = 0;

while(root)

{

h++;

root = root->left;

}

return h;

}

int countNodes(TreeNode\* root) {

if(!root)

{

return 0;

}

int l = getHeight(root->left);

int r = getHeight(root->right);

if(l == r)

{

return (1 << l) + countNodes(root->right);

}

else

{

return (1 << r) + countNodes(root->left);

}

}

};