

With Video
Tutorial

Leetcode Daily Challenge

27-07-2022



problem

Flatten Binary Tree to
Linked List

topics

Recursion, Tree

difficulty
Medium

est. time
10-15 min

Let's Build

Intuition

40%
Accuracy

Statement

Description

- Given the root of a binary tree, flatten the tree into a "linked list":
- The "linked list" should use the same `TreeNode` class where the right child pointer points to the next node in the list and the left child pointer is always null.
- The "linked list" should be in the same order as a pre-order traversal of the binary tree.

Constraint

- The number of nodes in the tree is in the range $[0, 2000]$.
- $-100 \leq \text{Node.val} \leq 100$

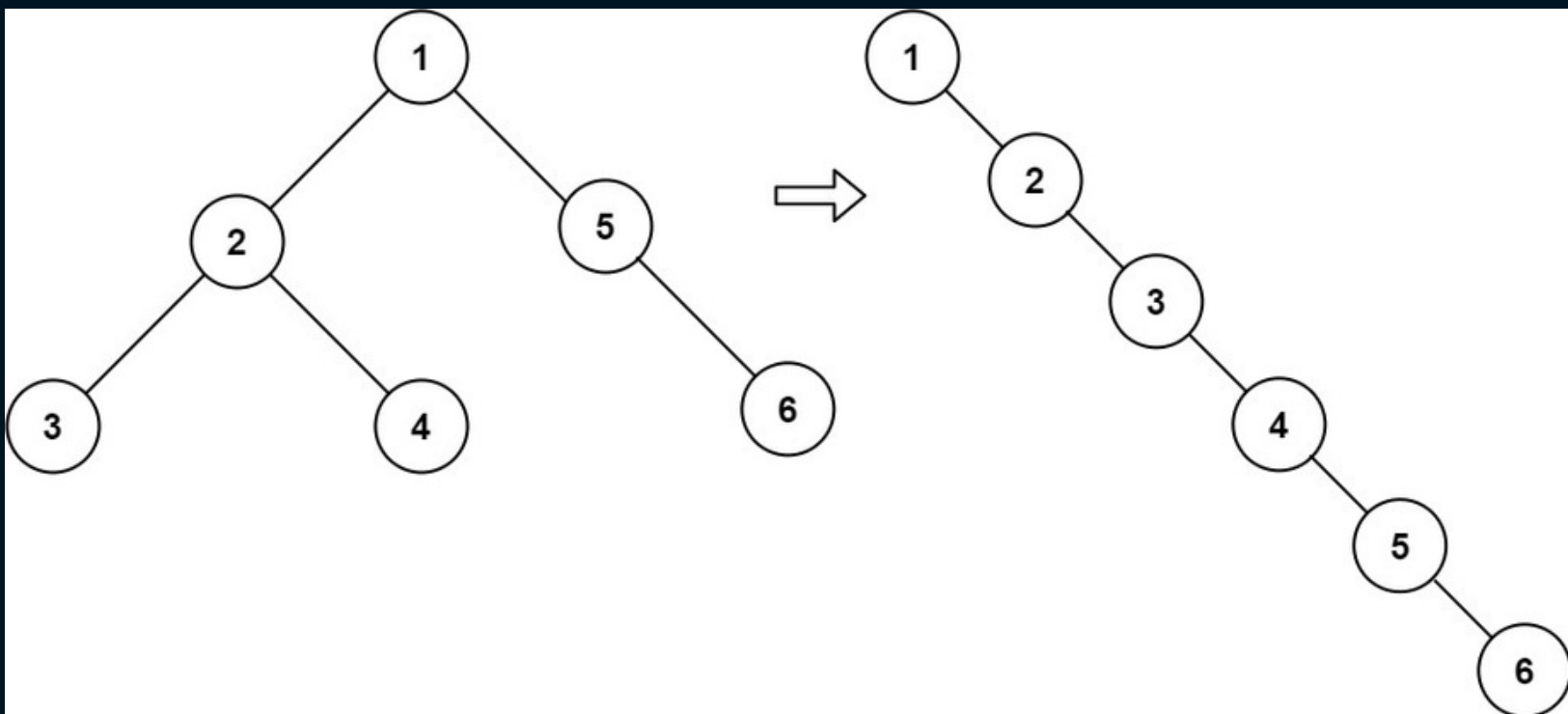
Statement

i/p

root = [1,2,5,3,4,null,6]

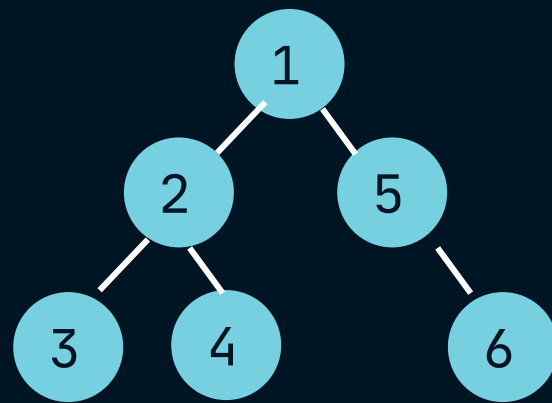
o/p

[1,null,2,null,3,null,4,null,5,null,6]



Observation

Bhaiyaa: See the below tree and we will quickly build an intuition and a beautiful solution

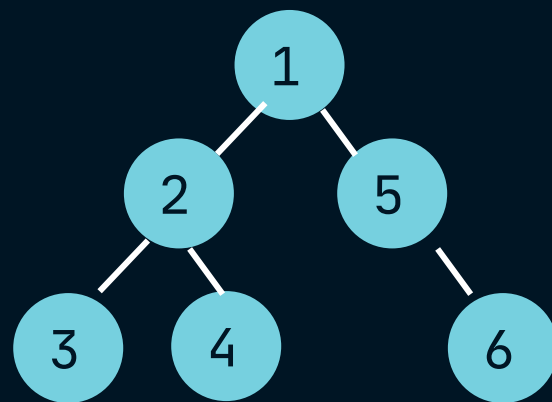


Suppose in above tree you need to rearrange nodes as per the problem statement, how will do it?

Ruyank: There are many solutions possible but this time I'll tell you a recursive one

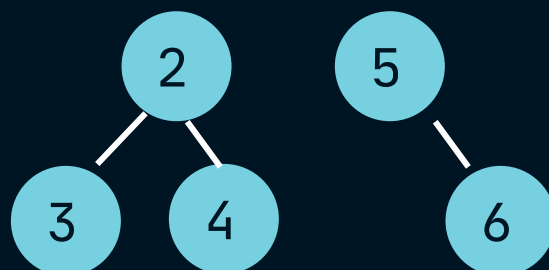
Observation

Ruyank: Let's say I build a function `flatten(Node* root)` which takes root of a tree , flattens the tree and returns root of flattened tree



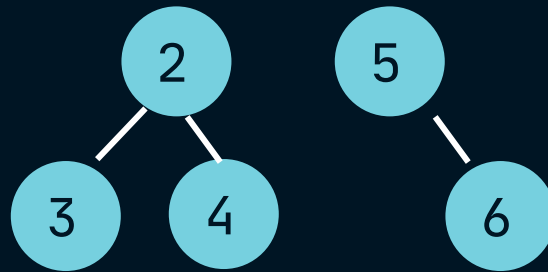
Bhaiyaa: Wait, how you even got the idea that you can use recursion here ??

Ruyank: You gave me root node to flatten the tree, now consider I take away root so I'm left with 2 new trees left subtree & right subtree



Observation

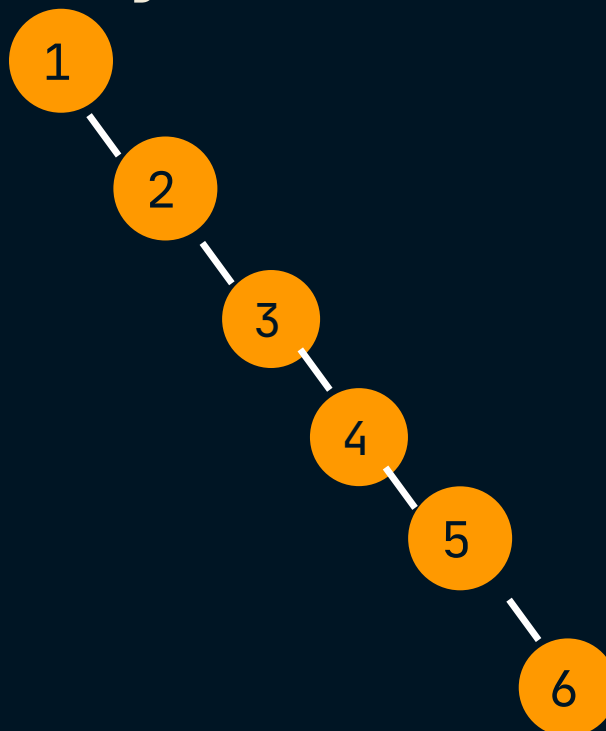
Ruyank: You need to flatten these subtrees as well... right?



Let's call flatten for both these trees



Now these subtrees are also flattened so let's just rearrange root and these trees to get our answer



Observation

Ruyank: Seems like something is wrong with my explanation today ???

As promised, restarted my Youtube channel, uploaded a detailed video of today's Leetcode problem

You will surely love the way I teach recursion


Just show the support and you are gonna witness something which will make you fall in love with DSA

ps-> Initial few videos will be in 'Hindi' since it's been very long I made a video, so just to be comfortable... but don't worry after a couple of videos things will back in a language you all can understand (English)

Observation

Channel name -> placement prep by mayank

Links will be in comment as well



The thumbnail features a yellow background with a red banner at the top right that reads "RECURSION STEP BY STEP" in white. Below this, the word "HINDI" is written in black. The main title "Flatten Binary Tree into Linked List" is in black, with a black box containing the duration "16:43" at the end. On the left, a diagram shows a binary tree being flattened into a linked list, with labels "Flatten(root)", "Flatten(left)", and "Flatten(right)".

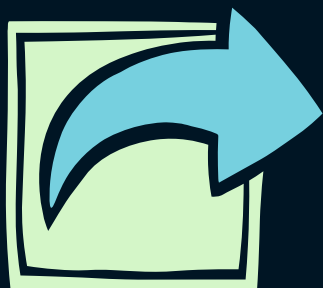
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