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\* Definition for a binary tree node.

\* public class TreeNode {

\* int val;

\* TreeNode left;

\* TreeNode right;

\* TreeNode(int x) { val = x; }

\* }

\*/

public class Codec {

public String serialize(TreeNode root) {

if (root == null) return "#";

return root.val + "," + serialize(root.left) + "," + serialize(root.right);

}

public TreeNode deserialize(String data) {

Queue<String> queue = new LinkedList<>(Arrays.asList(data.split(",")));

return helper(queue);

}

private TreeNode helper(Queue<String> queue) {

String s = queue.poll();

if (s.equals("#")) return null;

TreeNode root = new TreeNode(Integer.valueOf(s));

root.left = helper(queue);

root.right = helper(queue);

return root;

}

}