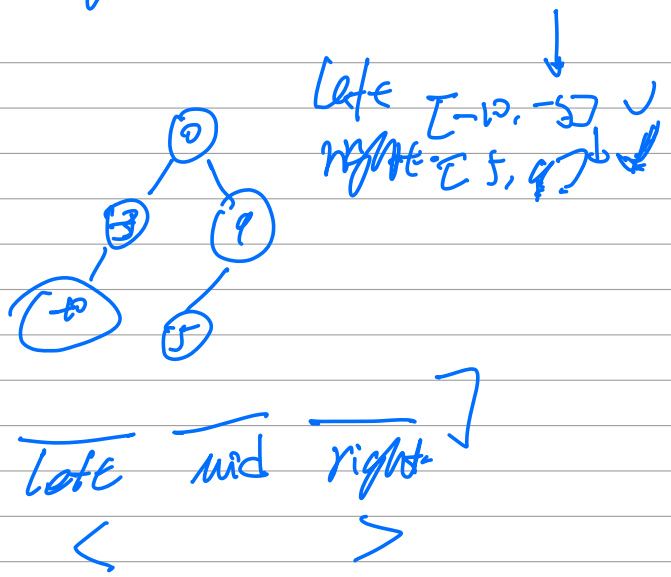
leetcode 108 [-10, -3, 0, 5, 9]

convert array to a height balanced tree.



(1) convert the entire array into a h-b-t

(2) convert the right side of the array to be a tree with only left branch

(3) how to

(3.1) find mid element

```
Mid = Math.floor(nums.length / 2)
Node = newTreeNode(nums[mid])
node.left = fun(nums.slice(0, mid))
node.right = fun(nums.slice(mid+1, len))
```

space ↑
time ↓ $\log_2 n$

```
var sortedArrayToBST = function (nums) {
    if (!nums) {
        return null;
    }
    const len = nums.length;
    const midIndex = Math.floor(len/2);
    const node = new TreeNode(nums[midIndex]);
    const leftEles = nums.slice(0, midIndex);
    const rightEles = nums.slice(mid+1, len);
    node.left = sortedArrayToBST(leftEles)
    node.right = sortedArrayToBST(rightEles)
    return node
};
```