

LEET CODE: 108

By

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TO CONVERT A SORTED ARRAY TO A BST:

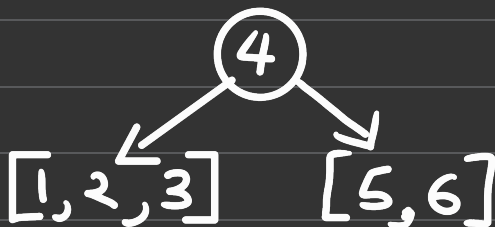
[1, 2, 3, 4, 5, 6]

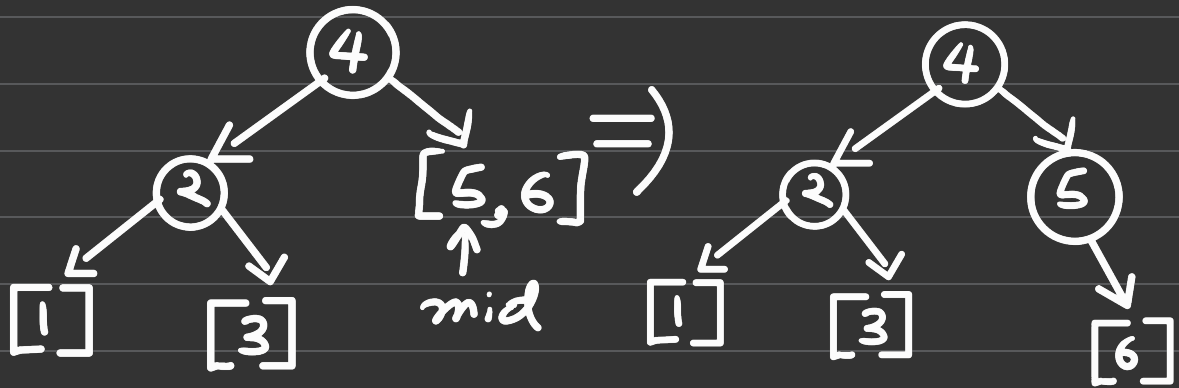
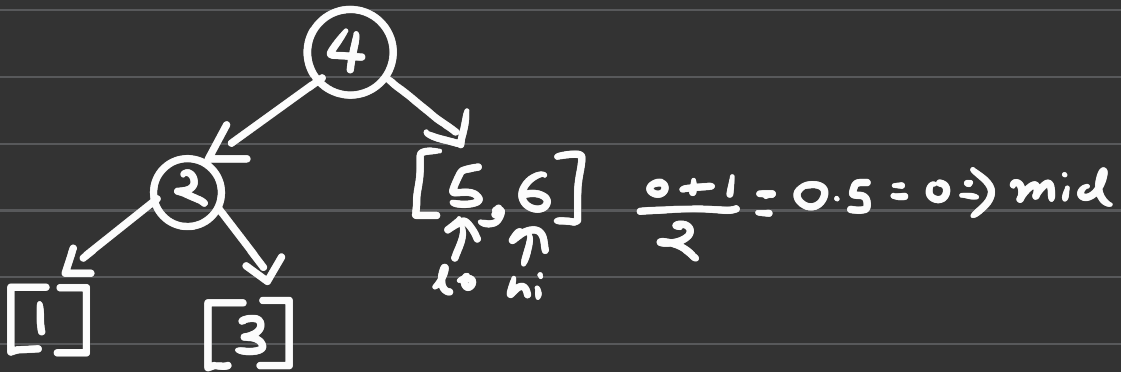
Algorithm:

We would use Binary Search concept:

[1, 2, 3, 4, 5, 6]
↑ ↑ ↑
lo mid hi

We would make mid **root** in each call





Base is if ($lo > hi$)
return NULL;

if ($lo == hi$) return
root;

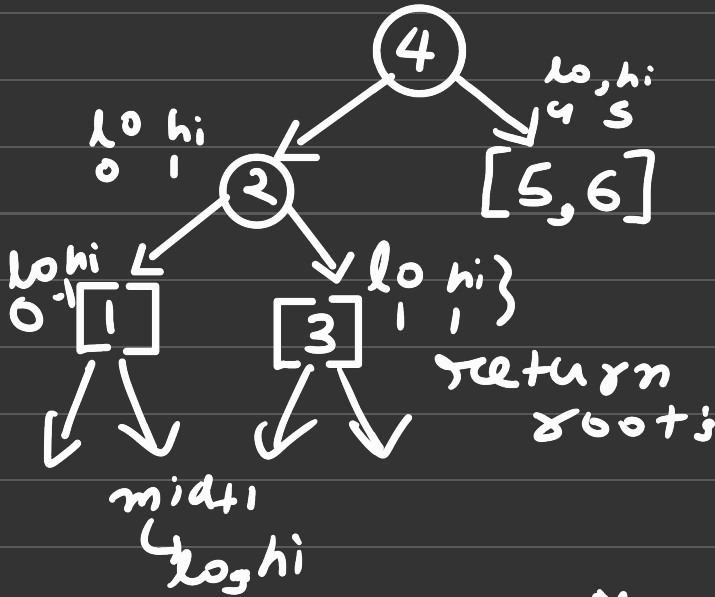
CODE IMPLEMENTATION :

```
class Solution {
public:
    TreeNode* construct(vector<int>& nums,int lo,int hi){
        int mid = lo + (hi-lo)/2;
        TreeNode* root = new TreeNode(nums[mid]);
        if(lo > hi) return NULL;
        else if(lo == hi) return root;
        root->left = construct(nums,lo,mid-1);
        root->right = construct(nums,mid+1,hi);
        return root;
    }
    TreeNode* sortedArrayToBST(vector<int>& nums) {
        return construct(nums,0,nums.size()-1);
    }
};
```

code works on same logic as mentioned Above;

1 2 3 4 5 6
0 1 2 3 4 5

(Rough)



$[-10, -3, 0, 5, 9]$

