108. Convert Sorted Array to Binary Search Tree

Description | Hints | Submissions | Discuss | Solution

Pick One

Given an array where elements are sorted in ascending order, convert it to a height balanced BST.

For this problem, a height-balanced binary tree is defined as a binary tree in which the depth of the two subtrees of *every* node never differ by more than 1.

Example:

```
Given the sorted array: [-10,-3,0,5,9],

One possible answer is: [0,-3,9,-10,null,5], which represents the following height balanced BST:

      0
     / \
   -3   9
   /   /
 -10  5
```

```java
public class L108 {
      public class TreeNode {
              int val;
              TreeNode left;
              TreeNode right;
              TreeNode(int x) { val = x; }
          }

      public TreeNode buildTree(int [] nums, int left, int right) {
          if(left > right) {
              return null;
          }

          int mid = (left + right) / 2;
          TreeNode node = new TreeNode(nums[mid]);

          node.left = buildTree(nums, left, mid - 1);
          node.right = buildTree(nums, left + 1, right);

          return node;

      }


      public TreeNode sortedArrayToBST(int[] nums) {

          return buildTree(nums, 0, nums.length - 1);

       }

}
```