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# How do you convert a sorted array to a binary search tree?

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## How do you convert a sorted array to a binary search tree?

Following is a simple algorithm where we first find the middle node of list and make it root of the tree to be constructed. 1) Get the Middle of the array and make it root. 2) Recursively do same for left half and right half. a) Get the middle of left half and make it left child of the root created in step 1.

## How do you find the minimum height of a binary tree?

If you have N elements, the minimum height of a binary tree will be  $\log_2(N)+1$ . If my logn is coming 3.56.. then it means that till height 3 each level is fully consumed, last level is not completely filled.

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## What is the height of a balanced binary tree?

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 : Input : 1 / \ 2 3 Return : True or 1 Input 2 : 3 / 2 / 1 Return : False or 0 Because for the root node, left subtree has depth 2 and right subtree has depth 0.

## What is the minimum height of binary tree with n nodes?

In a binary tree, a node can have maximum two children. If there are n nodes in binary tree, maximum height of the binary tree is n-1 and minimum height is  $\text{floor}(\log_2 n)$ .

## Is a binary tree balanced?

A balanced binary tree is a binary tree structure in which the left and right subtrees of every node differ in height by no more than 1. One may also consider binary trees where no leaf is much farther away from the root than any other leaf. (Different balancing schemes allow different definitions of "much farther".)

## What is considered a balanced binary tree?

A balanced binary tree, also referred to as a height-balanced binary tree, is defined as a binary tree in which the height of the left and right subtree of any node differ by not more than 1. difference between the left and the right subtree for any node is not more than one. the left subtree is balanced.

## Are binary trees always sorted?

An in-order traversal of a binary search tree will always result in a sorted list of node items (numbers, strings or other comparable items). Every form of binary tree depth first traversal requires  $2 \times (n-1) \in O(n)$  time, since it visits every arc exactly twice (once down, once up) while visiting every node.

## What is the smallest number of levels required to store 100000 nodes in a binary tree?

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## What is the minimum height of a binary tree with 60 nodes?

What is the minimum height for a binary search tree with 60 nodes? Explanation: If there are  $k$  nodes in a binary tree, maximum height of that tree should be  $k-1$ , and minimum height should be  $\text{floor}(\log_2 k)$ . By using the formula, minimum height must be 2 when there are 60 nodes in a tree.

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