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Interview Question for Software Engineer / Developers

0 of 0 votes

Given preorder traversal , is it sufficient to reconstruct unique BST

(/question?id=10405174) - getjar.com/todotasklist my android app (/user?id=10347875)
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1 of 1 vote

Preorder traversal is sufficient to construct a BST.
Preorder + Inorder or Postorder + Inorder or Levelorder + Inorder are required for constructing a BT.
Inorder is a must for constructing a BT. However in case of BST you can get the inorder sequence by arranging the numbers in increasing order. So given an Preorder traversal, you can sort them to get Inorder traversal. With the combination of these traversals you can construct your tree.
Google's Question: Write code to construct binary tree using Levelorder and Inorder.

- Kishore Jinka 4 years ago (August 30, 2011) | Flag (/flagcomment?id=10445214) Reply

0 of 0 vote

No.
However, we can construct a unique Binary Tree using:
1. Inorder & Preorder traversals.
2. Inorder & Postorder traversals.

- Guest123 4 years ago (August 29, 2011) | Flag (/flagcomment?id=10446792) Reply

Guest123,

0 of 0 votes

You didn't read the problem statement correctly. It's a Binary Search Tree (BST) not just a Binary Tree (BT). If it is a BST then you can reconstruct the unique BST with just the preorder traversal.

You are correct for a BT, with one caveat. The nodes need to be uniquely labeled, so you can't have any duplicate labels. If you have duplicate labels, you can't reconstruct the unique BT with any combination of preorder, inorder or postorder traversals.

It's possible to reconstruct the BT when it has duplicate labels, but you need additional data in order to be able to discriminate the duplicate labels correctly.

- Developer (/user?id=4680719) 4 years ago (August 30, 2011) | Flag (/flagcomment?id=10442195)

0 of 0 vote

I dont disagree , but I am not able to prove the "need" of inorder.
I have made an algo which is able to build a unique BST using preorder and postorder sequence. Can you please give an example to prove me wrong ?

- abg 4 years ago (August 29, 2011) | Flag (/flagcomment?id=10405216) Reply

0 of 0

In fact I was right, preorder (and postorder) traversal outputs are sufficient for unique BST construction . In case of BST inorder output in anyway redundant. its normal binary tree for which we need inorder traversal output along with pre/post order

vote - abg 4 years ago (August 29, 2011) | Flag (/flagcomment?id=10442987) Reply

No you were wrong. 0 of 0 votes

```
1
  /
 2


and
   1
    \
     2
```

have same pre and post order.

SEe this: w w w. cmi. ac. in/ ~ madhavan/ courses/ programming06/ lecture12-21sep2006.txt

- Anonymous 4 years ago (August 29, 2011) | Flag (/flagcomment?id=10441999)

It looks like you didn't acknowledge the problem statement correctly. The problem statement says it is a BST, not a binary tree. In fact the sample you give is incorrect with this constraint because the first tree is not a BST. 0 of 0 votes

ABG is correct, you can rebuild a BST with just a preorder or postorder traversal, assuming the ordering is implicit in the traversal,i.e., integers or characters. Plus you use a consistent rule for duplicates, if they are allowed.

- Developer (/user?id=4680719) 4 years ago (August 30, 2011) | Flag (/flagcomment?id=10351056)

Right. It is BST not BT. 0 of 0 votes

- Anonymous 4 years ago (August 30, 2011) | Flag (/flagcomment?id=10442081)

0 of 0 vote To convert a preorder traversal to BST, following are the conditions:
1.First element will be root.
2.LeftChild=nearest element less than root
3. RightChild=nearest element greater than root

- rash 4 years ago (August 31, 2011) | Flag (/flagcomment?id=10447393) Reply

0 of 0 vote This is duplicate question, was seen soooooooo many times in amazon/MS question. What's wrong with this guy?

People should refrain from replying to posts that look like spamming or HOMEWORK!

- anonymous 4 years ago (September 02, 2011) | Flag (/flagcomment?id=10338920) Reply

visit the nodes and put them in the tree..thats it!! 0 of 0 votes

- amit 4 years ago (February 11, 2012) | Flag (/flagcomment?id=12656665)

0 of 0 vote With only Preorder, one can derive an algo to construct BST.

- Manish 4 years ago (September 03, 2011) | Flag (/flagcomment?id=10497746) Reply

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autoboli said Given unsigned integer 'x', write an algorithm thet returns unsigned ...

MehrdadAP up-voted june.pravin's comment: 1) Let P1 ...

MehrdadAP up-voted june.pravin's comment: 1) Let P1 ...

Mehrdad said int firstOne = (x & -x); int i = log(firstOne)/log(2.0 ...

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