

startOfFile

TreeNode class implementation:

```
int val
TreeNode left
TreeNode right
```

In the TreeNode constructor (int x)

```
set val equals x
```

End constructor

In main method

```
arrayToBST arrayToBST = new arrayToBST
TreeNode root
int array = {//sample array};
```

```
set root equals to arrayToBST method (array)
print out "Preorder traversal of constructed BST "
call Preorder method (root)
```

End main method

END TreeNode implementation

arrayToBST class implementation:

In method -type-TreeNode arrayToBST(int array)

```
if array length equals 0
    return Null
```

Else

```
return treeFromArray(array, 0, array.length - 1)
```

END arrayToBST method

In method -type-TreeNode treeFromArray(int array, firstIndex, lastIndex)

```
if firstIndex > lastIndex
    return Null
```

Else

```
int midpoint = firstIndex + (lastIndex-firstIndex) / 2
-type-TreeNode node = new TreeNode(array[midpoint])
node.left equals recursive call treeFromArray(arr,firstIndex,midpoint-1)
node.right equals recursive call treeFromArray(arr,midpoint+1, lastIndex)
return node
```

END treeFromArray method

```
In Preorder method (-type-TreeNode node )
    if node equals Null
        return

    print out node.val + " "
    recursive call Preorder(node.left)
    recursive call Preorder(node.right)
END Preorder method
END arrayToBST implementation
endOfFile
```