算法设计上机题

1、 Given an integer array with no duplicates. A maximum tree building on this array is defined as follow:

- The root is the maximum number in the array.
- The left subtree is the maximum tree constructed from left part subarray divided by the maximum number.
- The right subtree is the maximum tree constructed from right part subarray divided by the maximum number.

Construct the maximum tree by the given array and output the root node of this tree.

Example 1:

```
Input: [3,2,1,6,0,5]

Output: return the tree root node representing the
following tree:

      6
    /   \
   3     5
    \   /
     2 0
      \
       1
```

2、 Given a binary tree, find its maximum depth.
The maximum depth is the number of nodes along
the longest path from the root node down to the
farthest leaf node.

Note: A leaf is a node with no children.

Example:

Given binary tree `[3,9,20,null,null,15,7]`,

```
    3
   / \
  9   20
     /  \
    15    7
```

return its depth = 3.