

Queue & Binary Tree – Spot Question

Create Least Height Binary Search Tree:

Given an array A containing 'n' unique integers, write a function (createLeastHeightTree) to create a binary search tree of the least height with all the integers in A .

Function Declaration: struct TreeNode * createLeastHeightTree(int A[], int n);

Sample:

Input: $A = \{5, 1, 0, 2, 7, 3, 4, 9, 8\}$, $n = 9$

Output: any binary tree with inorder traversal of 0, 1, 2, 3, 4, 5, 7, 8, 9 and height = 4

Input: $A = \{2, 3, 1, 5, 0, 6, 7\}$, $n = 7$

Output: any binary tree with inorder traversal of 0, 1, 2, 3, 5, 6, 7 and height = 3

Input: $A = \{10, 8\}$, $n = 2$

Output: any binary tree with inorder traversal of 8, 10 and height = 2

Input: $A = \{20\}$, $n = 1$

Output: any binary tree with inorder traversal of 20 and height = 1

Input: $A = \{\}$, $n = 0$

Output: NULL