

Solution 1	Solution 2	Solution 3
<pre>1 // Copyright © 2020 AlgoExpert, LLC. All rights reserved. 2 3 ▾ class Program { 4 // O(nlog(n)) time O(n) space - where n is the length of the array 5 ▾ static func minHeightBST(_ array: [Int]) -> BST? { 6 return constructMinHeightBst(array, nil, 0, array.count - 1) 7 } 8 9 ▾ static func constructMinHeightBst(_ array: [Int], _ bst: BST?, _ startIdx: Int, _ endIdx: Int) -> BST? { 10 ▾ if endIdx < startIdx { 11 return nil 12 } 13 14 var tree = bst 15 var midIdx = (startIdx + endIdx) / 2 16 var valueToAdd = array[midIdx] 17 ▾ if let t = tree { 18 t.insert(value: valueToAdd) 19 ▾ } else { 20 tree = BST(value: valueToAdd) 21 } 22 23 constructMinHeightBst(array, tree, startIdx, midIdx - 1) 24 constructMinHeightBst(array, tree, midIdx + 1, endIdx) 25 return tree 26 } 27 28 ▾ class BST { 29 var value: Int 30 var left: BST? 31 var right: BST? 32 33 ▾ init(value: Int) { 34 self.value = value 35 } 36 37 ▾ func insert(value: Int) { 38 ▾ if value < self.value { 39 ▾ if let left = self.left { 40 left.insert(value: value) 41 ▾ } else { 42 left = BST(value: value) 43 } 44 ▾ } else { 45 ▾ if let right = self.right { 46 right.insert(value: value) 47 ▾ } else { 48 right = BST(value: value) 49 } 50 } 51 } 52 } 53 } 54 }</pre>		

