

Solution 1	Solution 2	Solution 3
<pre>1  # Copyright © 2020 AlgoExpert, LLC. All rights reserved. 2 3  # Average case: when the created BST is balanced 4  # O(nlog(n)) time   O(n) space - where n is the length of the array 5  # --- 6  # Worst case: when the the created BST is like a linked list 7  # O(n^2) time   O(n) space 8  ▾ def rightSmallerThan(array): 9  ▾     if len(array) == 0: 10         return [] 11 12     rightSmallerCounts = array[:] 13     lastIdx = len(array) - 1 14     bst = SpecialBST(array[lastIdx]) 15     rightSmallerCounts[lastIdx] = 0 16  ▾     for i in reversed(range(len(array) - 1)): 17         bst.insert(array[i], i, rightSmallerCounts) 18 19     return rightSmallerCounts 20 21 22  ▾ class SpecialBST: 23  ▾     def __init__(self, value): 24         self.value = value 25         self.leftSubtreeSize = 0 26         self.left = None 27         self.right = None 28 29  ▾     def insert(self, value, idx, rightSmallerCounts, numSmallerAtInsertTime=0): 30  ▾         if value &lt; self.value: 31             self.leftSubtreeSize += 1 32  ▾             if self.left is None: 33                 self.left = SpecialBST(value) 34                 rightSmallerCounts[idx] = numSmallerAtInsertTime 35  ▾             else: 36                 self.left.insert(value, idx, rightSmallerCounts, numSmallerAtInsertTime) 37  ▾         else: 38             numSmallerAtInsertTime += self.leftSubtreeSize 39  ▾         if value &gt; self.value: 40             numSmallerAtInsertTime += 1 41  ▾         if self.right is None: 42             self.right = SpecialBST(value) 43             rightSmallerCounts[idx] = numSmallerAtInsertTime 44  ▾         else: 45             self.right.insert(value, idx, rightSmallerCounts, numSmallerAtInsertTime) 46</pre>		

