

| | | | |
|-----------------|----------|----------------|----------|
| Our Solution(s) | Run Code | Your Solutions | Run Code |
|-----------------|----------|----------------|----------|

Solution 1

```
1 // Copyright © 2020 AlgoExpert, LLC. All rights reserved.
2
3 class Program {
4     class BST {
5         var value: Int
6         var left: BST?
7         var right: BST?
8
9         init(value: Int) {
10             self.value = value
11         }
12     }
13
14     // O(n) time | O(n) space - where n is the number of nodes in the Binary Tree
15     func branchSums(root: BST) -> [Int] {
16         var sums = [Int]()
17         calculateBranchSums(node: root, runningSum: 0, sums: &sums)
18         return sums
19     }
20
21     func calculateBranchSums(node: BST?, runningSum: Int, sums: inout [Int]) {
22         if let n = node {
23             let newRunningSum = runningSum + n.value
24             if n.left == nil, n.right == nil {
25                 sums.append(newRunningSum)
26                 return
27             }
28             calculateBranchSums(node: n.left, runningSum: newRunningSum, sums: &sums)
29             calculateBranchSums(node: n.right, runningSum: newRunningSum, sums: &sums)
30         }
31     }
32 }
33
```

Solution 1

Solution 2

Solution 3

```
1 class Program {
2     class BST {
3         var value: Int
4         var left: BST?
5         var right: BST?
6
7         init(value: Int) {
8             self.value = value
9         }
10    }
11
12    func branchSums(root: BST) -> [Int] {
13        // Write your code here.
14        return []
15    }
16 }
17
```

Run or submit code when you're ready.