

Solution 1

```
1 // Copyright © 2020 AlgoExpert, LLC. All rights reserved.
2
3 #include <vector>
4 using namespace std;
5
6 class BinaryTree {
7 public:
8     int value;
9     BinaryTree *left = NULL;
10    BinaryTree *right = NULL;
11
12    BinaryTree(int value);
13 };
14
15 void mutate(BinaryTree *node, BinaryTree *parent, bool isLeftChild);
16
17 // O(n) time | O(d) space - where n is the number of nodes in the Binary Tree
18 // and d is the depth (height) of the Binary Tree
19 BinaryTree *rightSiblingTree(BinaryTree *root) {
20     mutate(root, NULL, false);
21     return root;
22 }
23
24 void mutate(BinaryTree *node, BinaryTree *parent, bool isLeftChild) {
25     if (node == NULL)
26         return;
27
28     auto left = node->left;
29     auto right = node->right;
30     mutate(left, node, true);
31     if (parent == NULL) {
32         node->right = NULL;
33     } else if (isLeftChild) {
34         node->right = parent->right;
35     } else {
36         if (parent->right == NULL) {
37             node->right = NULL;
38         } else {
39             node->right = parent->right->left;
40         }
41     }
42     mutate(right, node, false);
43 }
44
```

