Name: Shuqing Ye UCI NET ID: shuqiny2 Test cases (including the edge cases): time complexity: O(n) (traverse the tree) Input: [10, 5, 15, 3, 7, 13, 18, 1, null, 6, null] Output: 7 Input: [10, 5, 15, 3, 7, 13, 18, 1, 2, 6, 4, 8, 9, 11, 14], space complexity: O(1) + call stack output: 55 Input: [1, 2, null, 3, null, null, null, 4, null], output: 4 Input: [null], Output: 0 Input: [1], output: 1 int maxSum = 0; // global variable, stores the sum of deepest leaves int maxHeight = 0; // global variable, stores the height of tree that has been traversed // Implementation of the desired method public int sumDeepestLeaves(Node root) { recursiveSum(root, 0); return maxSum; // helper method // recursively traverse the tree and get the current sum of deepest leaves private void recursiveSum(Node root, int height) { if (root == null)return; if (height > maxHeight) { maxHeight = height; maxSum = root.key; else if (height == maxHeight) { maxSum += root.key; } recursiveSum(root.left, height + 1);

recursiveSum(root.right, height + 1);

}