

Our Solution(s)	Run Code	Your Solutions	Run Code
<div>Solution 1</div> <pre>1 // Copyright © 2020 AlgoExpert, LLC. All rights reserved. 2 3 class Program { 4 // O(d) time O(1) space - where d is the depth (height) of the tree 5 public static AncestralTree getYoungestCommonAncestor(6 AncestralTree topAncestor, AncestralTree descendantOne, AncestralTree descendantTwo) { 7 int depthOne = getDescendantDepth(descendantOne, topAncestor); 8 int depthTwo = getDescendantDepth(descendantTwo, topAncestor); 9 if (depthOne > depthTwo) { 10 return backtrackAncestralTree(descendantOne, descendantTwo); 11 } else { 12 return backtrackAncestralTree(descendantTwo, descendantOne); 13 } 14 } 15 16 public static int getDescendantDepth(AncestralTree descendant, AncestralTree ancestor) { 17 int depth = 0; 18 while (descendant != topAncestor) { 19 depth++; 20 descendant = descendant.ancestor; 21 } 22 return depth; 23 } 24 25 public static AncestralTree backtrackAncestralTree(26 AncestralTree lowerDescendant, AncestralTree higherDescendant) { 27 while (diff > 0) { 28 lowerDescendant = lowerDescendant.ancestor; 29 diff--; 30 } 31 while (lowerDescendant != higherDescendant) { 32 lowerDescendant = lowerDescendant.ancestor; 33 higherDescendant = higherDescendant.ancestor; 34 } 35 return lowerDescendant; 36 } 37 38 static class AncestralTree { 39 public char name; 40 public AncestralTree ancestor; 41 42 AncestralTree(char name) { 43 this.name = name; 44 this.ancestor = null; 45 } 46 47 // This method is for testing only. 48 void addAsAncestor(AncestralTree[] descendants) {</pre>		<div>Solution 1 Solution 2 Solution 3</div> <pre>1 class Program { 2 public static AncestralTree getYoungestCommonAncestor(3 AncestralTree topAncestor, AncestralTree descendantOne, AncestralTree descendantTwo) { 4 // Write your code here. 5 return null; 6 } 7 8 static class AncestralTree { 9 public char name; 10 public AncestralTree ancestor; 11 12 AncestralTree(char name) { 13 this.name = name; 14 this.ancestor = null; 15 } 16 17 // This method is for testing only. 18 void addAsAncestor(AncestralTree[] descendants) { 19 for (AncestralTree descendant : descendants) { 20 descendant.ancestor = this; 21 } 22 } 23 } 24 } 25</pre>	
		<div>Custom Output</div> <div>Submit Code</div>	

Run or submit code when you're ready.