

CS 340 Fall 2020 Quiz 9

Name: _____

1. Implement the private method `longestPath` in the `BinaryTree` class. Your implementation must be **recursive**. See the example on the accompany page.

```

public class BinaryTree {
//Implements a binary tree of chars
    private class Node {
        private Node left;
        private char data;
        private Node right;
        private Node(Node L, char d, Node R) {
            left = L;
            data = d;
            right = R;
        }
    }

    private Node root; //In a empty tree root is null

    //ASSUME VALUES HAVE BEEN PUT IN THE TREE

    public String longestPath() {
//if the tree is empty return the empty string
//otherwise return a string of the chars in the longest
//path from the root to a leaf
        return longestPath(root);
    }

    private String longestPath(Node r) {
//if r == null return the empty string
//otherwise return a string of the chars in the longest
//path from r (including r.data) to a leaf
    }
}

```

For the tree shown below the function longestPath should return the string
YENGV

