

Tutorial: Data Structures III – Trees

1. Consider binary trees that have single characters stored at each internal node. Draw a binary tree that will spell out EXAMFUN upon a *Pre Order traversal* and MAFXUEN upon an *In Order traversal*.
2. Let T be a binary tree. If T has seven nodes:
 - a. What is its minimum height?
 - b. What is its maximum height?
 - c. Draw two trees with seven nodes that achieve the minimum and maximum height, respectively
3. Download the `LinkedListBinaryTree.zip` file and using the class `TreeNode` provided together with the skeleton class called `LinkedListBinaryTree` do the following:
 - a. Create a method to print the tree using In Order traversal.
 - b. Create a method to print the tree using Pre Order traversal.
 - c. Create a method to print the tree using Post Order traversal.
 - d. Create a method that uses the In Order traversal to print out the tree as a parenthesised expression.
 - e. Create a method that uses the Post Order traversal to evaluate the tree as an arithmetic expression.
 - f. Create a method to find the depth of a given node.