The goal of assignment 5 was to create a morse code to English translator by implementing a binary tree. During this project I learned a lot about binary tree’s including how to access nodes, how to add nodes, build a tree, and insert new nodes into the tree. There was also a method that recursively printed a list of the tree’s data using in-order-traversal. This method in particular was very interesting for me, because at first I had no idea how to start to print using in-order-traversal, but after breaking it down into the base case and recursive cases I was able to visualize the algorithm in my head.

The two things I struggled most with was the insert/addNode methods as well as the in order traversal method. The insert method confused me because I was wondering what the difference was between adding a node and inserting a node, but I realized that inserting a node just treated the case that there is no root yet as a special case, and other than that calling the addNode method was the rest of it. The in order traversal method was hard for me to visualize at first and even understand how recursion could be used to solve the problem, but thinking about it in steps helped.

In the future, I would spend more time simply thinking about what methods are supposed to be doing and how they accomplish it, rather than writing and hoping it works. This is an issue with my coding style, as I’m more of a get something down, test it, and revise from there, but during this project, especially while writing the more difficult methods, I found myself talking through the algorithms and what they truly needed to do. This helped a lot and is an approach I will be taking more in the future.