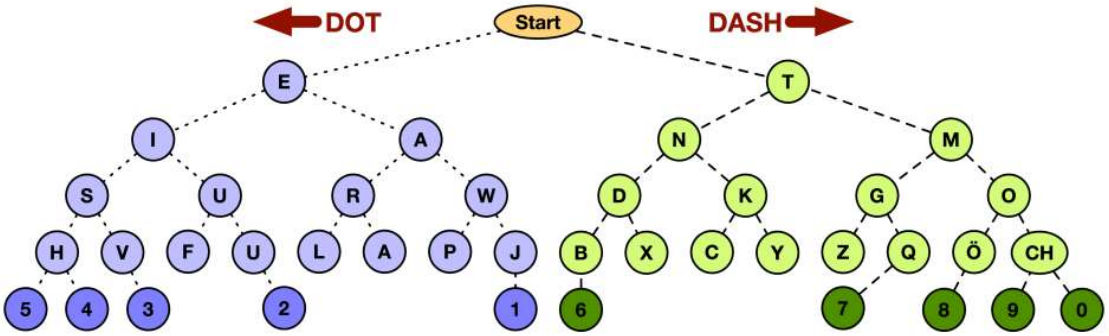
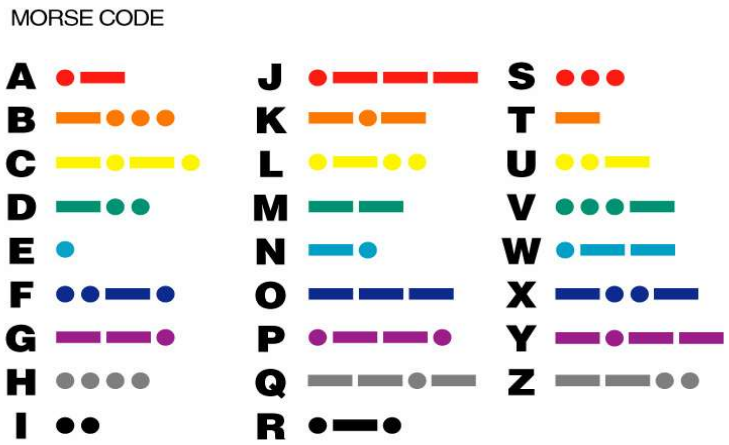
The purpose of this java application is to read in .txt files and translate them into morse code. The morse tree was done using a binary tree.



If a file was inserted using the “Browse…” button and the “Encode” button is clicked, the java application will break down the file into characters. Each character triggers the “assignKey” method which checks the character and assigns a node key to each character, the key number is based on the above diagram meaning 5 had the smallest key node value and 0 had the highest key node value. During this key assigning, the colour panel on the left of the GUI would change colour depending on what the character was, I used the diagram below to determine which character would get which colour. (Ö/Ch = Pink, Numerals = White, Unknown characters = Light grey).

Diagram found via Google Image search.



After being assigned a node key, the application will then “search” for this node in the binary tree. This search is being tracked, each time the binary search takes a left, a dot is inserted into a string variable and each time the binary search takes a right, a dash is inserted into a string, encoding the file. When the binary search finds the node it was searching for, a space is added into the string.

The application repeats this process until it surpasses the final character in the .txt file, the application will then display the encoded string in the GUI.

This application cannot decode. When decode is clicked, the application simply reads and displays the .txt files’ contents into the GUI.