CSCI 230 Data Structures and Algorithms
Project 3 - Huffman Encoding Report
Jonathan Limpus

Program Design

The underlying data structure in this program is the HuffTree. It uses a linked list to store nodes as defined in Node. This tree, along with the encoding algorithm defined in HuffEncode, are used in HuffProcessor to compress files. HuffProcessor is then called by HuffViewer to generate a GUI for the user to select files to be compressed.

Discussion

This project was quite challenging. Working with my classmates Daniel Bickle, Ethan Bayer, and John O'Leary, we tried for many days to get this to work. I attribute this to the lengthy debugging process involved, at least in my case. However, I definitely learned a lot in this process. At one point, my program encountered a *significant* memory leak, in which it grew to 4.3 gigabytes in memory, as reported by my computer's system monitor. While I didn't use it in my final code, I learned about Java's System.gc(), more importantly, I learned the importance of dereferencing large objects. I also learned about the importance in organization in terms of a larger project such as this one.