

What was done?

- Fixed generation of prefix codes
- Fixed tree merging
- Flattened Huffman tree to create file header
- Created binary files which have appropriate file sizes for the expected compression ratio
- Verified output files using a hex editor (GHex on GNU/LINUX) and verbose console output

What got in the way?

- File I/O did not work as expected initially due to incorrect tree merging with larger files
 - this resulting in inappropriate output file sizes
- Files contained the wrong 32-bit integers for some files because they were signed and overflowed into the negatives
 - this was fixed by changing relevant variables to unsigned int
- Ran into a strange (as of yet unresolved) bug wherein if there is no output sent to the console after writing the header or encoded text to the file, then a `length_error` exception is thrown and the program terminates unexpectedly.
 - For now, the `cout` statements have been left in and the bug will be resolved later

What is planned for the following week?

- File decompression
 - read in header and reconstruct Huffman tree
 - regenerate prefix codes
 - decode text and write it to a new plain-text file
- Try to resolve the string `length_error`.