CMPE 365 | Algorithms I

Lab 7 and 8 Submission

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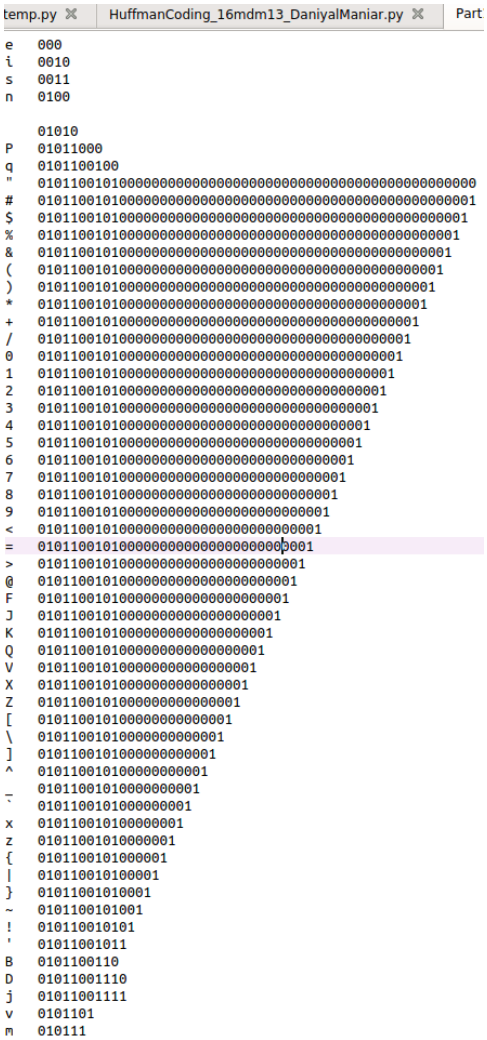
Part 1

The code-string dictionary generated is the following:



The above results and the decoded files can be seen in the “Part1” directory

Part 2

Based upon testing the best Canonical Collection to use to generate the codes is “Canonical Collection 3”. We can see that Collection 3 contains the most characters, thus getting the most accurate results for character frequency. This result makes sense since Huffman coding relies upon generating the smallest codes for the most used characters. If we do our best to see which characters are the most used, then we can get the best outcome by generating the shortest encoding.

The results of each of the Canonical Collection encoding/decoding can be seen in “Part2/Data/”. Additionally, the “HuffmanCoding_16mdm13_DaniyalManiar.py” script outputs the results with the minimum encoded bits.