

i) For the song graphs, there was a minor difference in the compression percent except for the song called Gout. That song had more unique characters than Through the Fire and Everlong. It had the second longest length of the songs. From the graph it showed the compression percent to be about 47% while the other two songs were basically the same at a compression percent of 52%. There seems to be a relationship between the number of unique characters and the compression percent. The larger the number of unique characters means a decrease in the compression percent. I would expect the same type of relationship when it involves the length of the message but that has no significant relationship. The longest song was Through the Fire but it had the same compression percentage as the lowest length song which was Everlong. The height of the Huffman Tree is influenced by the number of unique characters in the message. The balanced-ness of the Huffman Tree is influenced by the frequencies of the letter and if the characters are close to each other in frequency. The longer the length of the message the longer it is to search.

ii) For the mantra graphs, there was no difference in the compression percent between the three of the mantras. All three of the mantras had a compression percentage of about 50%. There wasn't a massive difference in the number of unique characters in the three mantras but the mantra from Life of PI was significantly longer than the other two mantras. My observation from above supports this fact that the length of the message doesn't result in lower compression percent.