

During this week, I've completed various different iterations of one of the compression algorithms that I am going to be working on (Huffman and Lempel-Ziv-Welch). The one that I worked on this week is the Huffman's algorithm and I have managed to come to a compression algorithm that compresses text files by about 48%. I noticed that depending on the type of encoding that you do, it really changes the compression efficiency of the final product. Initially all of the "compressed" outputs that I was getting were actually larger than the original file size, and I noticed that it had to do with the fact that each letter was being given multi digit value instead of single digit binary encoding. Also, the earlier iteration had no way of checking which letters were being used more often than others so it would indiscriminately give some better encoding values to some letters, whilst there were more frequent letters that could've used it for better compression. The latest iteration that I created, not only compressed letters into single digit or double digit placeholder, but it also compressed the most common letter to the lowest occupying placeholder. Essentially, each generation found a new and more effective way to compress and eventually reach a algorithm that actually resulted in a useful compression of the original file. However, other than a few iterations of one of the compression algorithms, I have not been able to do much else, mainly due to the fact that I have have a fever for the better part of the week and have not been able to much of anything. One of the biggest issues that I've been having this week in terms of things that I've actually working on is the testing environments in VScode and being able to create a working one. I still have to do a little bit of toying around with the testing environment in order to get everything to work. I would say that this week the progress of the project has been slow and I will have to do some catch-up from the next week, so in terms of what's next, completing both compression algorithms and working on a user interface should be my main focus.