

Throughout the project in terms of decisions when developing the transducers, the final states were chosen carefully so it would resort to backtracking if it didn't end in the proper state, whenever there were cases in which a letter changed when followed by or between specific letters, we created different states to distinguish those cases from others, finally, we added weight to grammar rules so we could ensure a deterministic result.

The solution is viable and useful in terms of applying the required Metaphone algorithm. It is deterministic, so every input with the correct symbols returns an output tape, and applies every rule following their order.

Regarding the inverted Metaphone, if the idea was to revert back to their original state words that had been "metaphoned", it is not a useful tool.

For each letter it grabs the first rule it can find that "fits" and applies it in reverse. In this case it turns out that rule was the one for dropping duplicate letters. This means the only thing it does is applying this rule in reverse: it duplicates letters.

Because there is no weight priority in terms of trying to apply the latter steps first, it will always unfold each letter one by one.