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Deliverable Five

What was easy about this assignment?

The easiest part of this assignment was the first deliverable, which was similar to the algorithm layed out in the textbook and could be implemented by following the pseudocode provided with minor adjustments. Additionally, the functions of the program which take input from the user were relatively simple to implement.

What was challenging about this assignment, or parts that you couldn't get working correctly?

While our team was able to implement all deliverables asked for in the project rubric, there were difficult parts of the assignment, such as getting the code for the third deliverable to work, as this required significant changes to our language recognition algorithm. Deliverable three required us to debug our code and test it on various edge cases that we came up with.

What did you like about this assignment?

This assignment asked us to take a previously theoretical concept of finite state automata, and implement it into a real world program. By doing so, we were able to strengthen our understanding of this concept, as well as strengthen our understanding of language recognition algorithms. We also liked deliverables two and three because they expanded upon the pseudo code provided and had us come up with a clever solution to them. The assignment required us to come up with our own test cases so we would consider ones that could potentially break our code and we would come up with how to improve our code to handle it.

What did you dislike about this assignment?

Our team would have liked it if an example had been provided which provides a starting point for developing our program, and an idea about how to lay out our data files. This would have simplified the process of determining how to layout the data files and what the content would look like.

Team functioning:

Contribution:

Luke Kurlandski: Created unit tests to test code against and create outline of code layout
Matt Hannum: Lead implementation of deliverable two and three
Ben Lifshey: Lead implementation of deliverable one
Robert Helck: Implemented file reading and user input

Communication:

Our team used GroupMe as our primary form of communication. We would discuss progress achieved and plan on when to meet up. We met in person in order to work together on the project

Development & Design:

Our team chose to use Python as our programming language for the assignment. We all had prior experience with it and believed its capabilities would meet the demands of the assignment, and allowed us to make use of some of Python's libraries in our code. We used GitHub for version control to manage all of our work. We began by determining how to solve the problem and what data structures would be best used to store the input information. We then created a skeleton outline of the code and then began implementing the different methods. We wrote test cases to use to efficiently determine if it was working as expected.

What did you learn from this assignment?

The main thing we all learned from the assignment was how FSAs work and can be programmed. From Discrete Structures we had all learned about FSAs and tracing them. For this project we wrote our own FSAs and observed their operations. Deliverable three had us consider the process of finding matches within a string of characters, as opposed to that of making a match with a string itself.