CPSC 439-01 (Spring 2022) Project 2: Lambda Calculus

Group Members:

- **Bradley Diep**
- **John Dinh**
- **Jason Duong**
- **Omid Nikjoo**

GitHub Link: https://github.com/duong-jason/CPSC-439-Project-2-Lambda-Calculus

This is how the Lambda Calculus Program works to simulate a DFA:
The program (lambda.py) is based on the DFA we made from Project 1. It reads in input files with set strings in them. Those strings are then separated and placed as elements in a list. The list is then called as an argument (input_string) into the initial state (state_q0). The list has its first element removed to create a new list called new_string, which shows that the state has read that character. The new list is used in the lambda function alongside the input_string that was called in as the argument of the function. The lambda function has the first element of the input_string read. If the first element is 0, it transitions to a DFA simulation of Figure 6.4. If the first element is 1, it transitions to a DFA simulation of Figure 6.3. The binary string will continue to go through different states and create new lists without the first element until input_string is empty. If the string is empty on each state (except the initial state), the program will return a 0 or 1. If the output is 0, the string is rejected. If the output is 1, then the string is accepted.