- 1. Eugene Choi
- 2. A good two days' worth of work was put into this project.
- 3. I worked on my local machine and had no problem since I was a one-woman team.
- 4. I used C because I thought I'd implement it to Arduino (mistakes were made although I did brush up on it a lot so it's still a win). I included stdio.h, stdlib.h, assert.h, ctype.h, and string.h.
- 5. I declared struct machine and struct str_input to hold information about the machine and the input string. I used a lot of char * arrays and not much of other data structures.
- 6. The logic of implementation was simple, but C was just hard to use because it was getting rusty in my memory. Also, as a note, when I used the .txt files downloaded straight from the test files given to us by the professor as the machine definition files, my program did not work. However, when I copied and pasted to another .txt file of my own without editing, it worked with my program.
- 7. The program ouptuts the input strings and the corresponding transition steps it took as well as the result (rejected or accepted) into the output.txt file. I also print this out as the program is running.
- 8. I used fst_echoi7.txt to define the machine and fst_echoi7_input.txt as the input. fst_echoi7.txt takes +,-,* as the input and the English alphabet as the output. There is one state for each character. The start state is qa, and the accept states are qa, qe, qi, qo, and qu. The input + transitions current state to the next alphabet's state. The input transitions current state to the previous alphabet's state. The input * multiplies the position of the current state's alphabet by itself and transitions to the result position's alphabet state. Note that the states do not wrap around (so qz,+ would not transition to qa).

The input file has four lines, +, ++-+*+, ++-+*++, and ++-+*-+*+. + should return reject (final state is qb). ++-+*+ should return reject (final state is qj). ++-+*+++++ should return reject (final state is qn). ++-+*-+++ sould return reject (final state is trap state).