Lab 4

Link: https://github.com/912-Cret-Valentina-Andreea/Formal-Languages-and-Compiler-Design

Finite Automata

First I need to read the data from the file which is in the format:

- States – list of strings
- Alphabet – list of strings
- InitialState – a string
- FinalState – list of strings
- Transitions – list of transitions (which has an initial state, a final state and a value)

After I read all the data I will print a menu which will let the user choose between those 6 options (display elements + verify if a sequence is accepted).

After we verify if the FA is deterministic we will check if the sequence is accepted.

When checking if the sequence introduced by the user is accepted by the FA we need to consider that if the sequence is empty, the initial state must be one of the final states as well, and otherwise, I will parse every transition and see if there is one that has the initial state equals to the first state in the FA with the value that is first in the sequence and if yes, move forward with the final state now being the initial one.

<file> = <states> <alphabet> <initial_state> <final_state> <transitions>

<states> = <state> | <state>,<states>

<state> = p | q | r | s | t | u |…

<alphabet> = <symbol> | <symbol>,<alphabet>

<symbol> = a|b|c|d|…|0|1|2|….

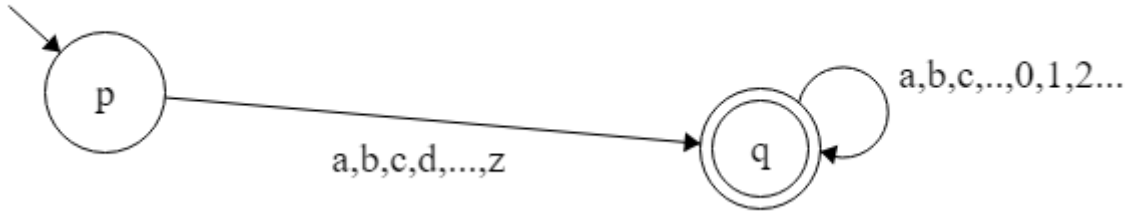
<initial_state> = <state>

<final_state> = <state> | <state>,<final_state>

<transitions> = <transition> | <transition>,<transitions>

<transition> = <state>,<symbol>,<state>

Identifier:



Integer constant: