Moldovan Vasilica-Andreea, Group 935/1 – Laboratory 4

Github link: https://github.com/VasilicaMoldovan/FLCD

The FA instance has the following attributes:

- self. states = which represents the list of states(a list)
- self. alphabet = which represents the alphabet of the finite automata(a list)
- self. finalStates = which represents the set of final states(a list)
- self. inititialState = which represents the initial state (a string)
- self. transitions = which represents the transition function (a dictionary in which evey state(the key) has associate one or more productions)

readFromFile(filename) – method called in the __init__ method of FA

- it reads the file line by line and constructs the FA. The file should be constructed in the following order:
  - First line has the form: Q={q0, q1, …, qn}
    - Row1 = “Q” “=” “{“ arrayOfStates “}”
      - arrayOfStates = {state}
      - state = q positive_integer
      - positive_integer = 0 | non_zero_digit {positive_integer}
      - non_zero_digit = 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9

    Second line has the form: E={a,b,…}
    - “E” “=” “{“ arrayOfElems “}”
    - elem = a | b | .. | z | 0 | 1 | .. | 9
    - arrayOfElems = {elem}

    Third line has the form: F={q0,q1,…}
    - “F” “=” “{“ arrayOfStates “}”

    Fourth line has the form: Q0={q0,..}
    - “Q0” “=” state
  - The next lines contain productions, and every line has the following form: d(q0, a) = q1
    - prod = “d” “(“ state elem “)” “=” state
    - elem = a | .. | z | A | .. | Z | 0 | .. | 9

The UML for the FA class is: