# 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:

