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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}
    - "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 "}"
    - arrayOfElems = a | b | .. | z | 0 | 1 | .. | 9
  - 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
    - "d" "(" state elem ")" "=" state
    - elem = a | .. | z | A | .. | Z

The UML for the FA class is:

FA
-states: list -alphabet: list -finalStates: list -initialState: string -transitions: dictionary
+readFromFile(filename: string) +get_set_of_states() +get_alphabet() +get_final_states() +get_initial_state() +get_transition_function()