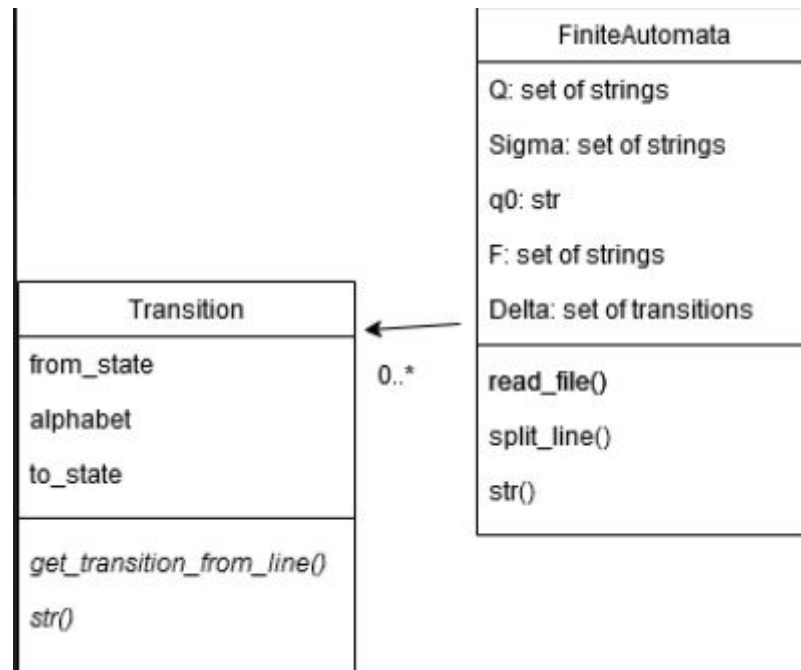


Laboratory 4

Finite Automata

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The finite automata is structured as a class of 5 fields, fields that are sets with the exception of *q0* representing the following:

Q: set of states

Sigma: alphabet

q0: initial state

F: set of final states

Delta: transition functions

The *Delta* set will contain objects of class **Transition** that contain 3 strings which represent the (*from_state*, *alphabet_symbol*) -> *to_state*

In the **FiniteAutomata** class, I have a function *read_file* that reads the first 4 lines (which are fixed in the input file) and splits them into according class fields.

The file has the following structure:

Line 0 - states separated: *q1 q2 q3*

Line 1 - alphabet symbols: *a b*

Line 2 - initial state: *q1*

Line 3 - final states: *q2 q3*

Starting from line 4, we have a non-fixed number of lines, each representing a transition:

q1 b q2
q1 a q1
q1 a q2
q1 a q3
q1 b q3

I use space for separating the data in the files.