FSM Simulator

1.0 About

This is an application which can generate final state machines for given definitions and simulate them.

2.0 Running the Application

2.1 Pre-Requirements

- Linux
- python 2.7
- pySide
- pyQt

Python, pyside and pyqt canbe installed using synaptic package manager in Linux or using terminal window.

2.2 Inputs

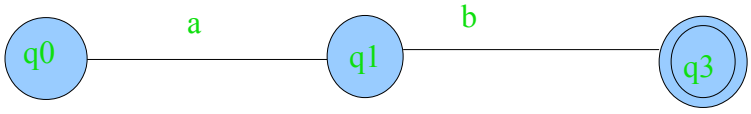
To run use,

python fsm_simulator.py

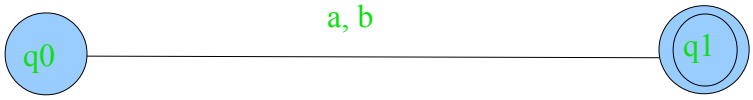
command.

Then add all the definitions you want to construct in to the definitions text box. When adding definitions use following examples.

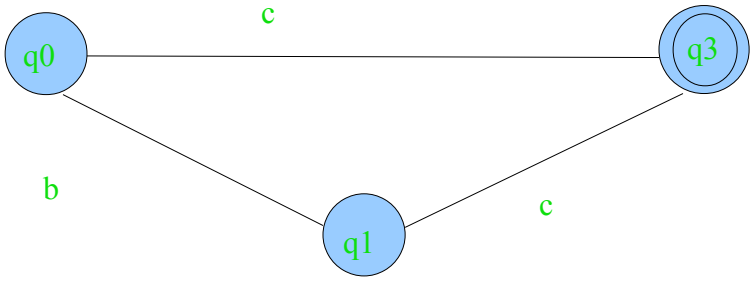
Ex 1: a=b(c)



ex 2: a=b|c



ex 3: a=[b]c (optional)



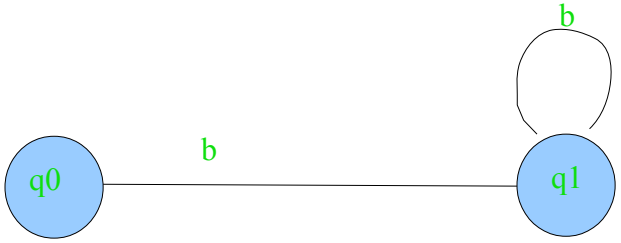
ex 4: (the first definition will be the main definition. State the other definitions according to there use)

floatnumber=pointfloat|exponentfloat

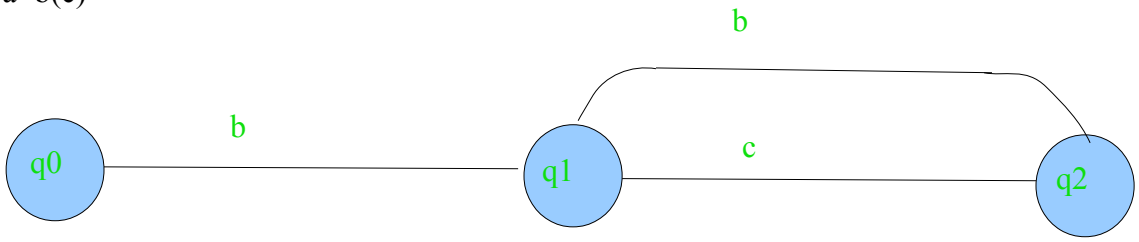
exponentfloat=(intpart|pointfloat)exponent
pointfloat=[intpart]fraction|intpart(.)
fraction=.((digit)+)
exponent=(e|E)[_+|-]((digit)+)
intpart=(digit)+
digit=0|1|2|3|4|5|6|7|8|9

no 'digit' don't have any non terminal inputs and 'intpart', 'exponent' and 'fraction' uses 'digit'. And 'pointfloat' uses 'intpart' and 'fraction'. And 'exponentfloat', uses 'intpart' , 'exponent', and 'pointfloat'. The 'floatnumber' is the main definition and it uses 'pointfloat' and 'exponentfloat'.

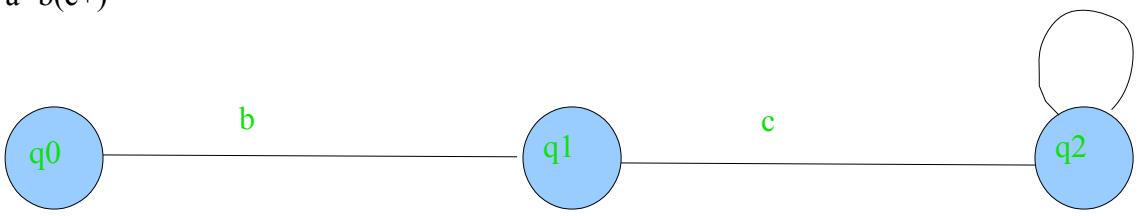
ex 5: a=(b)+



ex 6: a=b(c)+



ex 7: a=b(c+)



ex 8 : ('(', ')', '[', ']', '|' and '+' cannot be used as character symbols (they give another meanings in definitions). Use another character to represent them or use '_' with that characters).

exponent=(e|E)[_+|-]((digit)+)

After adding definitions press 'Generate'. Then you can give a complete string into the 'test string' text box and check if it's accepted by the FSM. And you can input character by character in to the 'Char' text box and travel in the FSM step by step. The current state and the next possible states of the FSM is also shown in the bottom of the application window. To go to the start state of the FSM press reset (use when input is given as characters).

3.0 Issues

1. This cannot implement inputs with '*'.
2. Definition must not containing 2 or more '[' bracket sets one after another. (ex; a=[b|c][d|e]f cannot be used. But a=[b|c]d[e|f]g can be used)
3. Definitions cannot have '+' in the middle of it. (ex : a=b+c cannot be used)
4. Definitions cannot end with ']'.
5. Definition must contain more than one symbols in its right hand side.

4.0 More Information

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5.0 Licenses

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