

# Theoretical Computer Science, Spring 2017

## University Innopolis

### Assignment 1: FSA Simulator

Group: BS3-2

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My solution contains files:

`__init__.py` - common logic, creation of objects of other types and transferring info between them.

`InputReader.py` - class for getting input info from file and formation it for Automaton (description and tests).

`Automaton.py` - class with the main logic: it gets description info and parse it in inner fields and also it checks test strings.

`OutputWriter.py` - writes results in output file.

`input.txt` - input file with Automaton descriptions and with test cases.

`output.txt` - output file with results.

I have choose idea with matrix of transitions between states. On the intersections we have alphabet elements for making transitions.

For example matrix for the second automata:

		where I want to get			
		q <sub>0</sub>	q <sub>1</sub>	q <sub>2</sub>	q <sub>3</sub>
current state	q <sub>0</sub>	bc	a		
	q <sub>1</sub>	bc		a	
	q <sub>2</sub>	c		a	b
	q <sub>3</sub>				abc

Class *Automaton* in method *parse\_transitions\_to\_matrix* fills inner matrix.

Description of testing process: I have used test cases provided in input file.