

### Exercise 3

Design the one input and one output sequential circuit that implements the following state transition and output tables.

**State Transition Table**

State	Input	
	0	1
S1	S2	S3
S2	S2	S3
S3	S3	S1

**Output Table**

State	Input	
	0	1
S1	0	0
S2	1	0
S3	0	1

You can use flip-flops from the breadboard (i.e. 7474, 7476) and NAND gates only. The output of the circuit and the output of each used flip-flop have to be connected to LED bar. Validate if the circuit behaves according to state transition and output tables.

Before the classes research the technical details and usage of flip-flops from the breadboard (i.e. 7474, 7476) including the truth table for D and JK flip-flops.