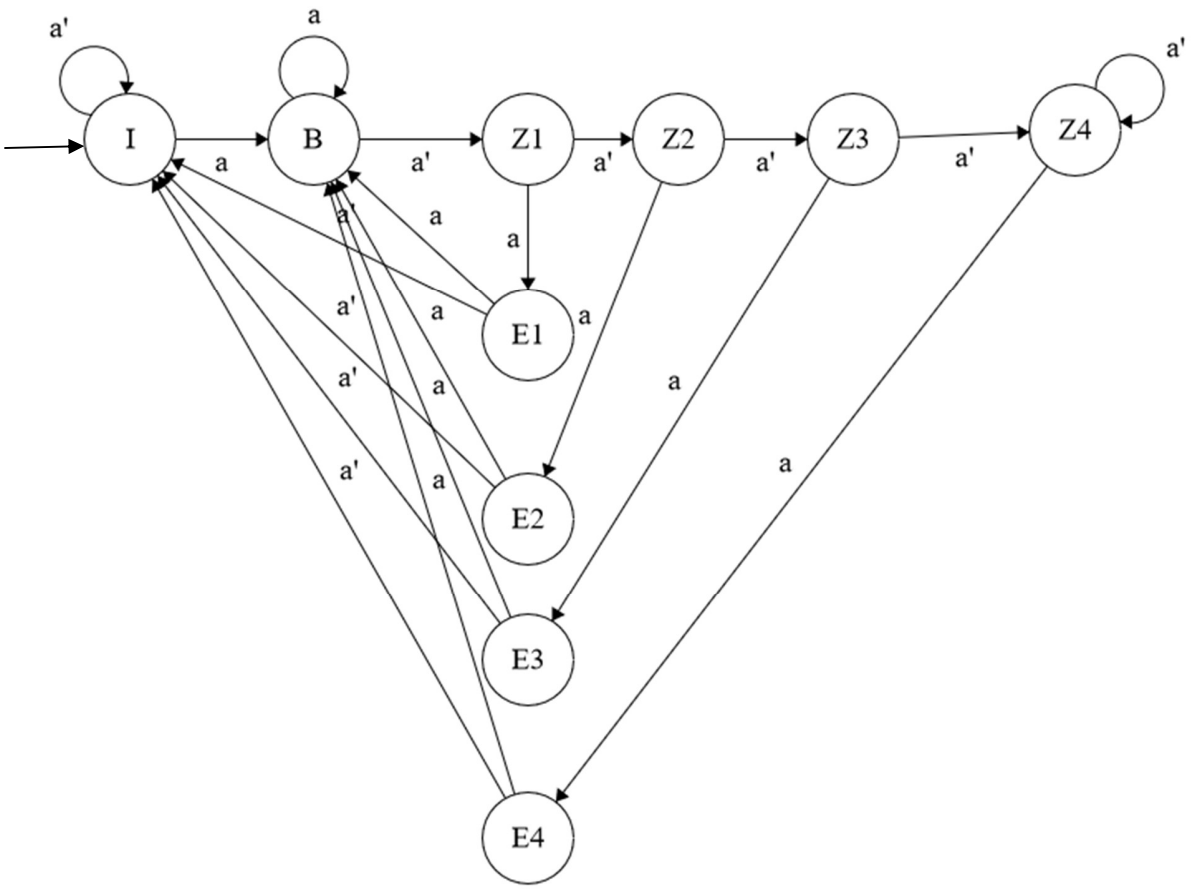
Student Names: Emilcan Arıcan, Muhammet Mustafa Küçük
Student IDs: 2016400231, 2016400111
Group ID: 21
Session: 2

CMPE 240 2019 Experiment 4 Preliminary Work

Step 1: Capture the FSM:



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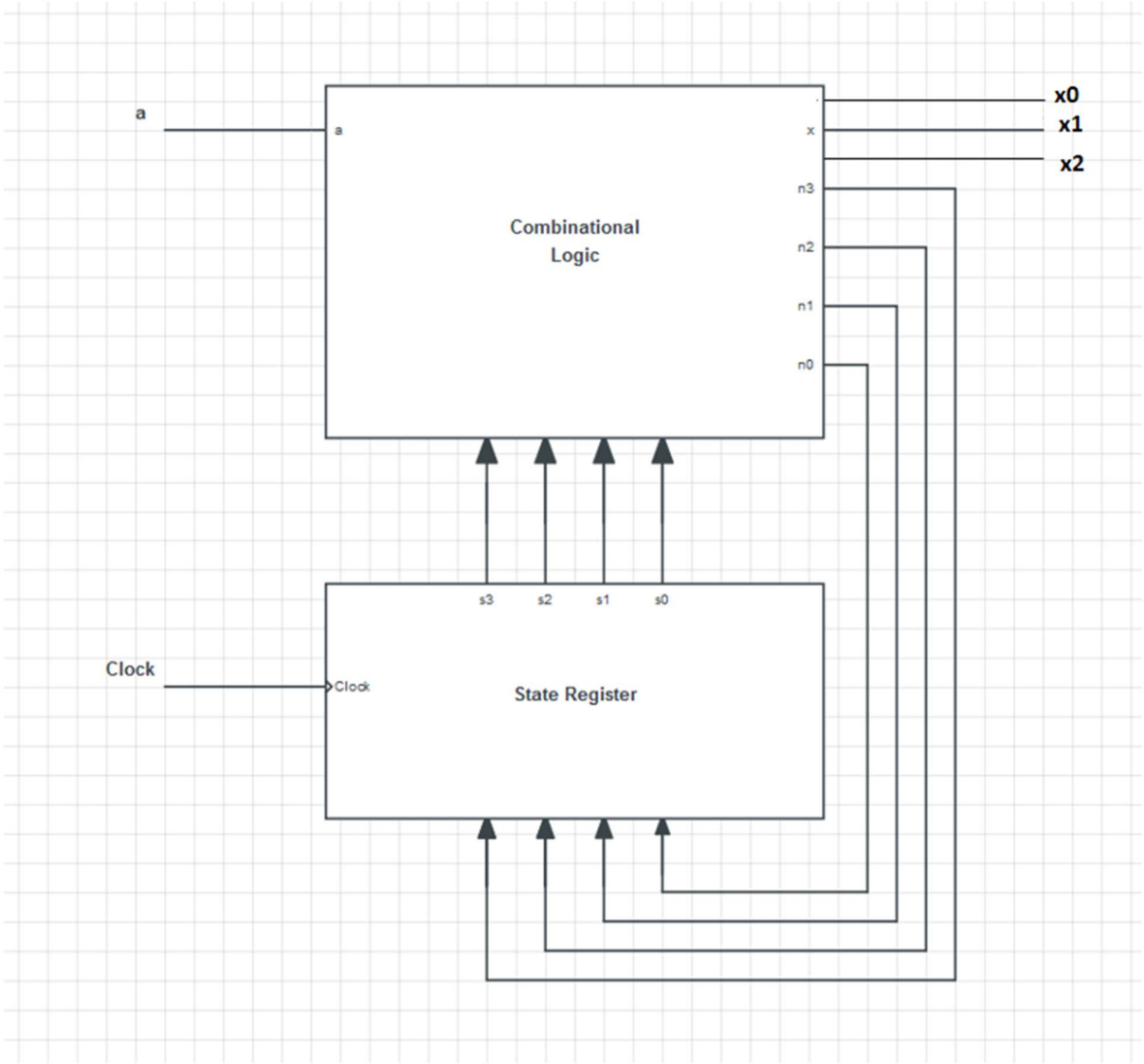
Step 2: Create the architecture:



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Step 3: Encode the states:

STATE NAME	ENCODING
I	0000
B	0001
Z1	0010
E1	0011
Z2	0100
E2	0101
Z3	0110
E3	0111
Z4	1000
E4	1001

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Step 4: Create the state table:

Inputs						Outputs							
Current State	s3	s2	s1	s0	a	Next State	n3	n2	n1	n0	x2	x1	x0
I	0	0	0	0	0	I	0	0	0	0	0	0	0
	0	0	0	0	1	B	0	0	0	1	0	0	0
B	0	0	0	1	0	Z1	0	0	1	0	0	0	0
	0	0	0	1	1	B	0	0	0	1	0	0	0
Z1	0	0	1	0	0	Z2	0	1	0	0	0	0	0
	0	0	1	0	1	E1	0	0	1	1	0	0	0
E1	0	0	1	1	0	I	0	0	0	0	0	0	1
	0	0	1	1	1	B	0	0	0	1	0	0	1
Z2	0	1	0	0	0	Z3	0	1	1	0	0	0	0
	0	1	0	0	1	E2	0	1	0	1	0	0	0
E2	0	1	0	1	0	I	0	0	0	0	0	1	0
	0	1	0	1	1	B	0	0	0	1	0	1	0
Z3	0	1	1	0	0	Z4	1	0	0	0	0	0	0
	0	1	1	0	1	E3	0	1	1	1	0	0	0
E3	0	1	1	1	0	I	0	0	0	0	0	1	1
	0	1	1	1	1	B	0	0	0	1	0	1	1
Z4	1	0	0	0	0	Z4	1	0	0	0	0	0	0
	1	0	0	0	1	E4	1	0	0	1	0	0	0
E4	1	0	0	1	0	I	0	0	0	0	1	1	1
	1	0	0	1	1	B	0	0	0	1	1	1	1

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Step 5: Draw the combinational logic: