

Date: 09/04/19

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## CMPE 240 Experiment 5 Preliminary Work

1. State Register Inputs:

$$n1 = (s1.x) + x'$$

$$n0 = (s0+x).(s1+x).(s1.x) = s0.s1.x + x.s1$$

2. State Register Outputs:

$$s1, s0$$

3. Combinational Block Inputs:

$$s1, s0, x$$

4. Combinational Block Outputs:

$$n1 = (s1.x) + x'$$

$$n0 = (s0+x).(s1+x).(s1.x) = s0.s1.x + x.s1$$

$$y1 = x' + (s0)' + (s1)'$$

$$y0 = (s1.s0) + (n1)' = s1.s0 + s1'.x$$

5. Obtain the truth table.

<u>s1</u>	<u>s0</u>	<u>x</u>	<u>n1</u>	<u>n0</u>	<u>y1</u>	<u>y0</u>
0	0	0	1	0	1	0
0	0	1	0	0	1	1
0	1	0	1	0	1	0
0	1	1	0	0	1	1
1	0	0	1	0	1	0
1	0	1	1	1	1	0
1	1	0	1	0	1	1
1	1	1	1	1	0	1

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6. Is this a Moore or Mealy Machine? (No explanation, only short answer)

Mealy Machine

7. Draw the finite state machine.

