Date

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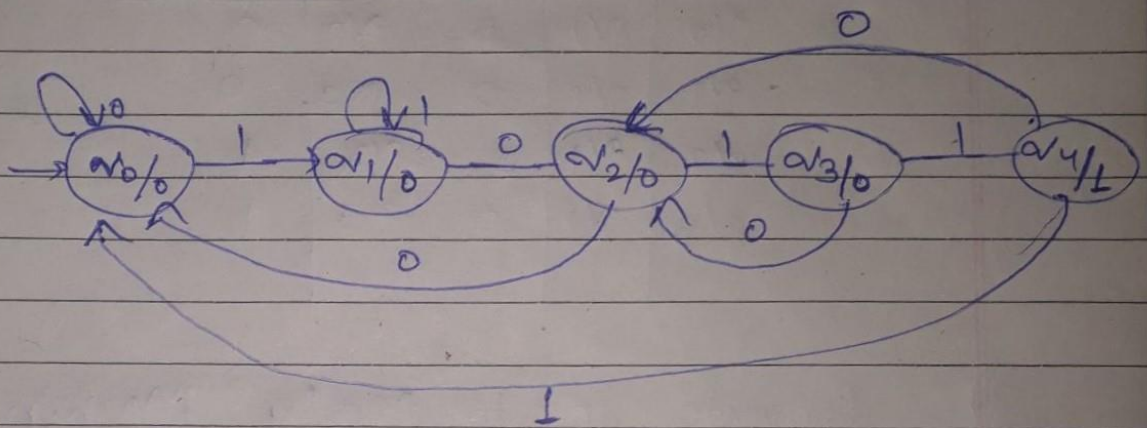
Tutorial 4

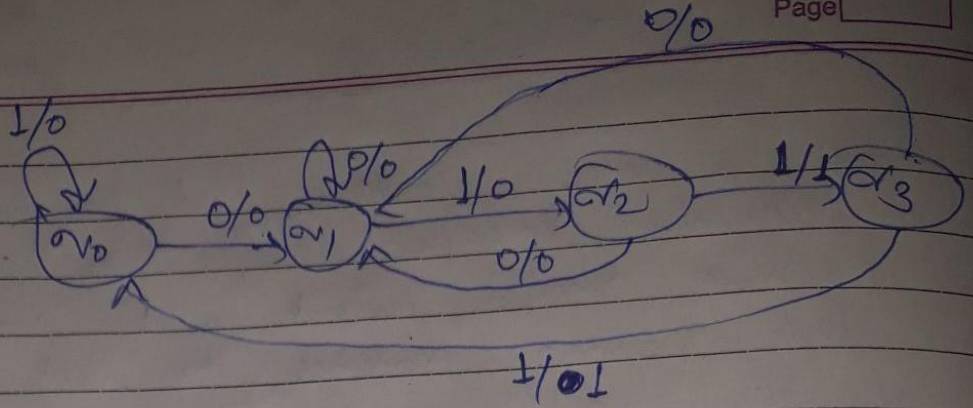
1) Design a Moore Machine that function as a pattern Recognizer for "1011" Your machine Should output a '1' whenever this pattern matches the last four ~~output~~ inputs, and there has been no overlap, otherwise output a '0'

Ans



	0	1	output
a_0	a_0	a_1	0
a_1	a_2	a_1	0
a_2	a_0	a_3	0
a_3	a_2	a_4	0
a_4	a_2	a_0	1

2) Construct a Melay machine for a Simple Sequence detector for the Sequence 011 Include three output that indicate how many bits have been Received in the Correct Sequence.



	Input 0		Input 1	
	State	out	State	out
q_0	q_1	0	q_0	0
q_1	q_1	0	q_2	0
q_2	q_1	0	q_3	1
q_3	q_1	0	q_0	1

3) Convert in to Mealy Machine.

Moore :

	a	b	out
→ A	C	D	1
B	D	C	0
C	B	C	1
D	C	B	1

Mealy :

	a	out	b	out
→ A	C	1	D	1
B	D	1	C	1
C	B	0	C	1
D	C	1	B	0

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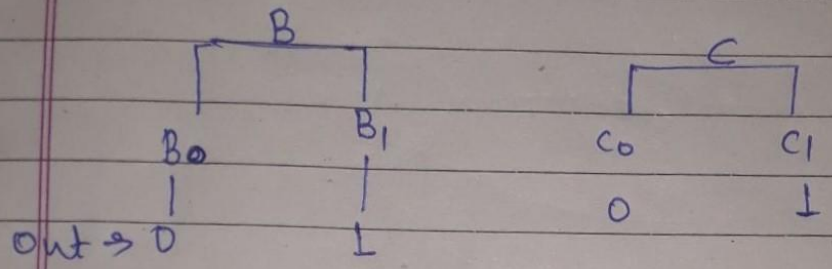
4) Convert in to Moore machine.

Ans

Mealy :

	0	out	1	out
→ A	A	1	B	0
B	D	1	D	1
C	B	1	C	1
D	C	0	A	1



	0	out	1	output
A	A	1	B_0	0
B_0	D	0	D	0
B_1	D	1	D	1
C_0	B_1	1	C_1	1
C_1	B_1	1	C_1	1
D	C_0	0	A	1

Moore machine

	0	1	Final output
A	A	B_0	1
B_0	D	D	0
B_1	D	D	1
C_0	B_1	C_1	0
C_1	B_1	C_1	1
D	C_0	A	1