Tutorial 4
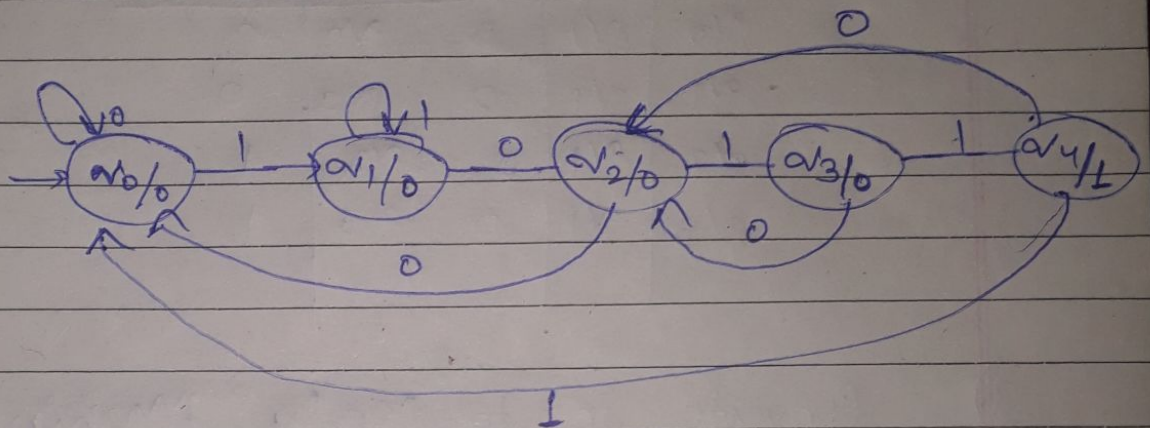
1) Design a moore Machine that function as a pattern Recognizer for " 1011" Your machine Should output a '1' whenever this pattern matches the last four output inputs, and there has been no overlap, otherwise output a 'o'
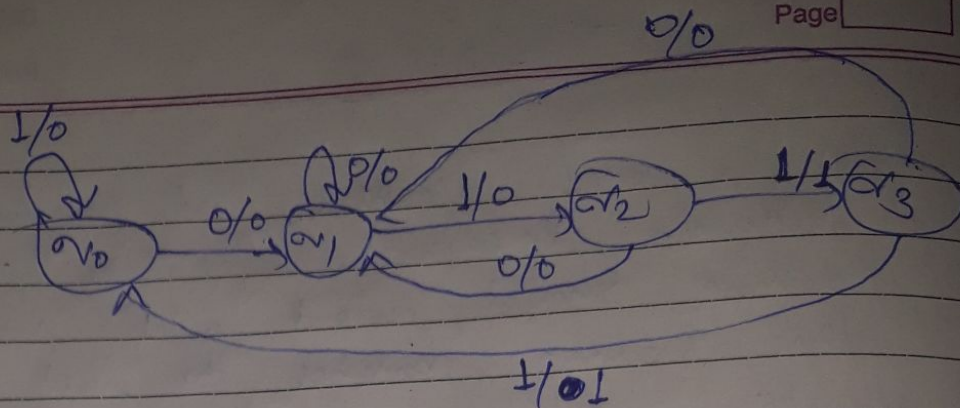
Ans

	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.

0/0

	Input 0		Input 1	
	State	out	State	out
ν_0	ν_1	0	ν_0	0
ν_1	ν_1	0	ν_2	0
ν_2	ν_1	0	ν_3	1
ν_3	ν_1	0	ν_0	1

3) Convert in to Mealy Machine.

Ans

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

4) Convert in to Moore machine.

Ans

Mealy →

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

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        B                        C
   ┌─────────┐              ┌─────────┐
   │         │              │         │
  B0        B1             C0        C1
Out → 0      1              0         1
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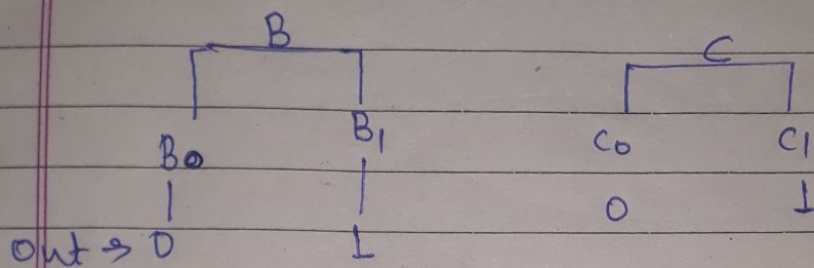
	0	out	1	output
A	A	1	B_0	0
B_0	D	0	D	0
B_1	D	1	D	1
C_0	B_1	1	C_1	1
C_1	B_1	1	C_1	1
D	C_0	0	A	1

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