Postlab for Lab 1

Pranjit Kumar Kalita (mg75)

9.1 Truth table for the Sensor Error Detector:-

I4 (Lowest Priority with I3)	I3 (Lowest Priority with I4)	I2 (Second low priority)	I1 (High priority)	Output (F)
0	0	0	0	0
0	1	0	0	0
1	0	0	0	0
1	1	0	0	0
0	0	1	0	0
1	0	1	0	1
0	1	1	0	1
1	1	1	0	1
X	X	X	1	1

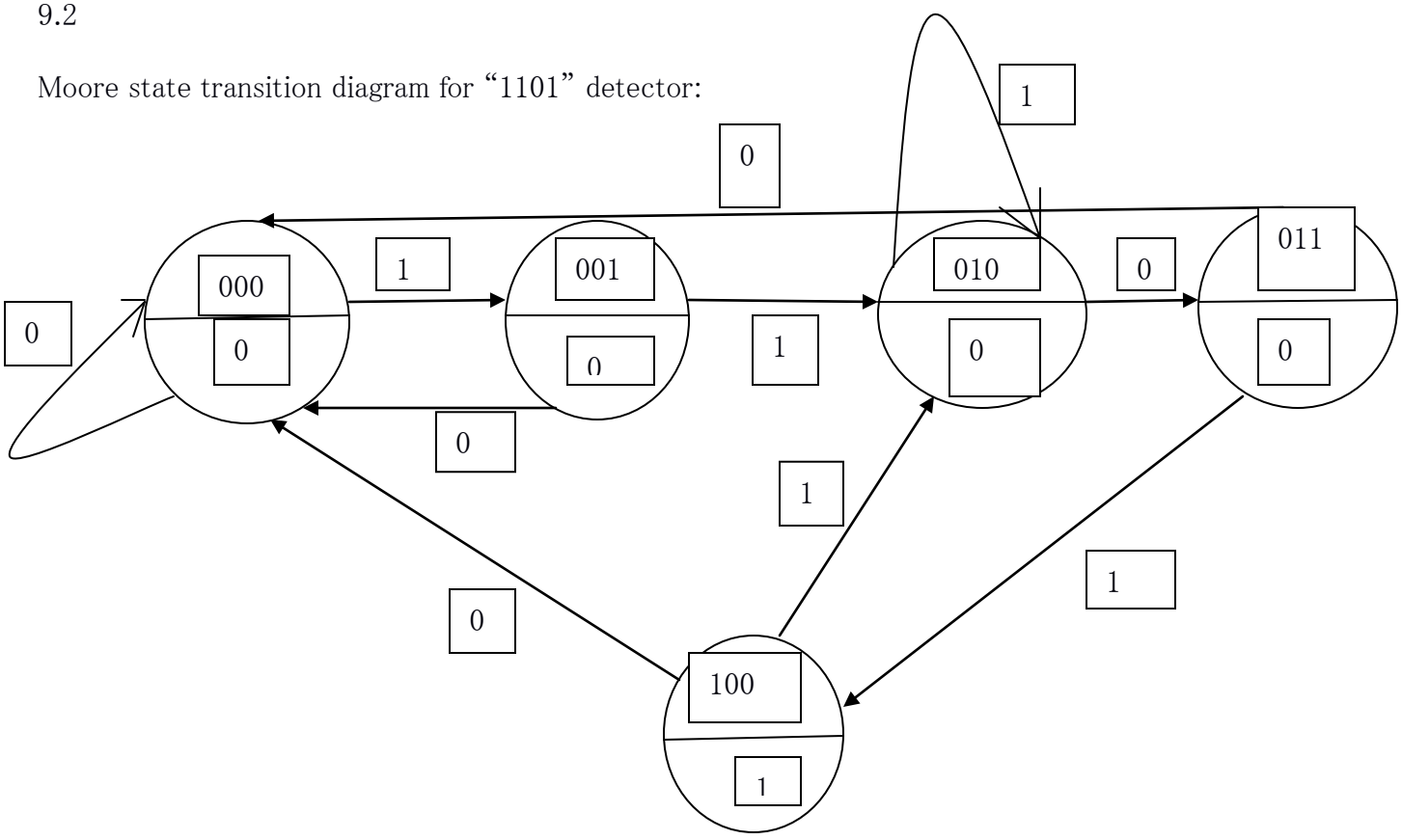
K-map:

	I1'.I2'	I1.I2'	I1.I2	I1.I2'
I3'.I4'	0	0	1	1
I3'.I4	0	1	1	1
I3.I4	0	1	1	1
I3.I4'	0	1	1	1

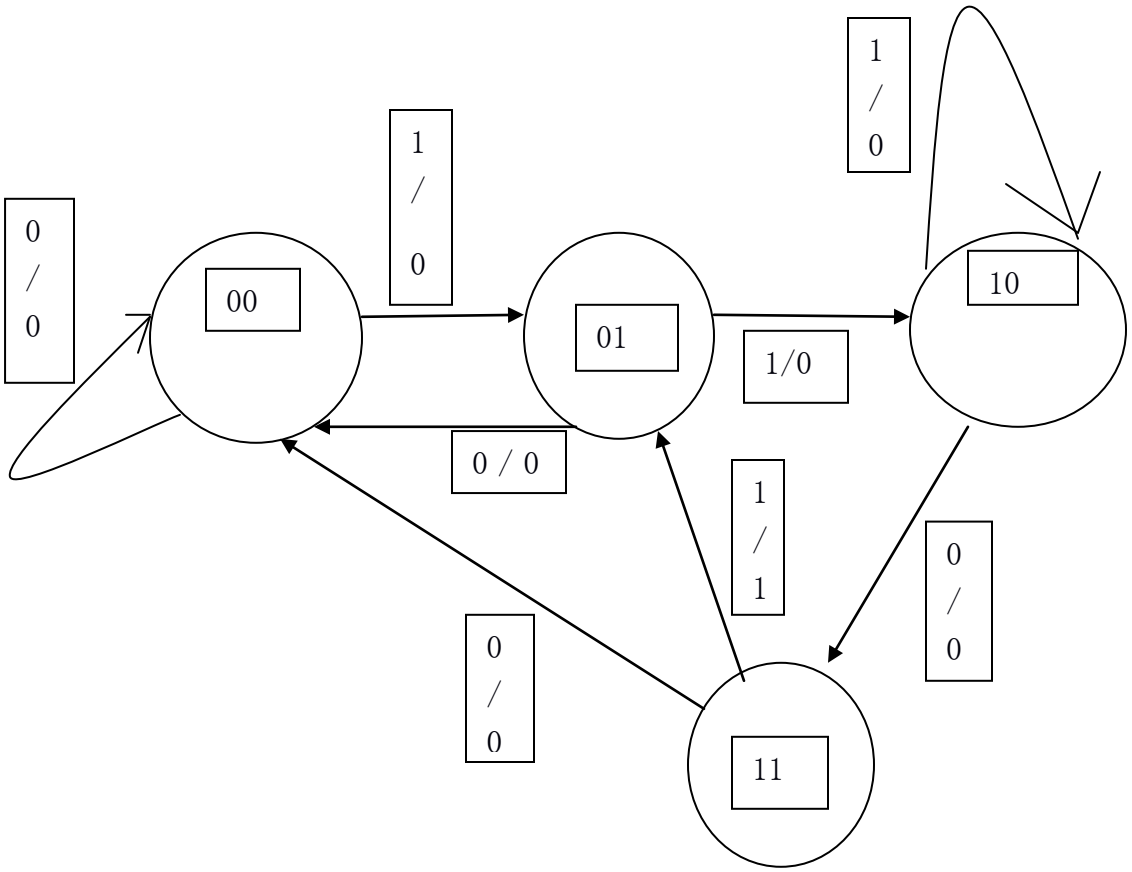
Sum of Products realization of F (Sensor Error Detector): F(I1,I2,I3,I4) = I1 + (I2 . I3) + (I2 . I4)

9.2

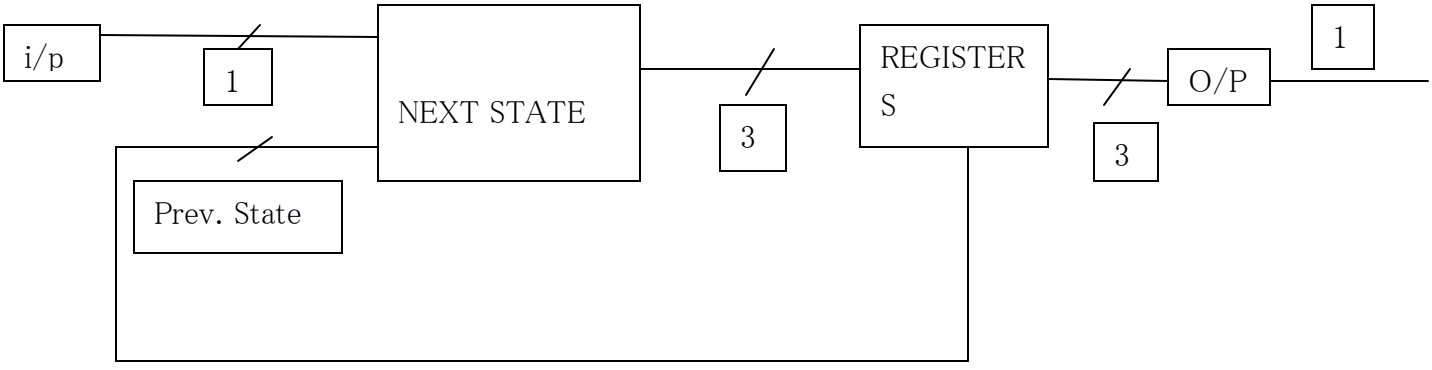
Moore state transition diagram for "1101" detector:



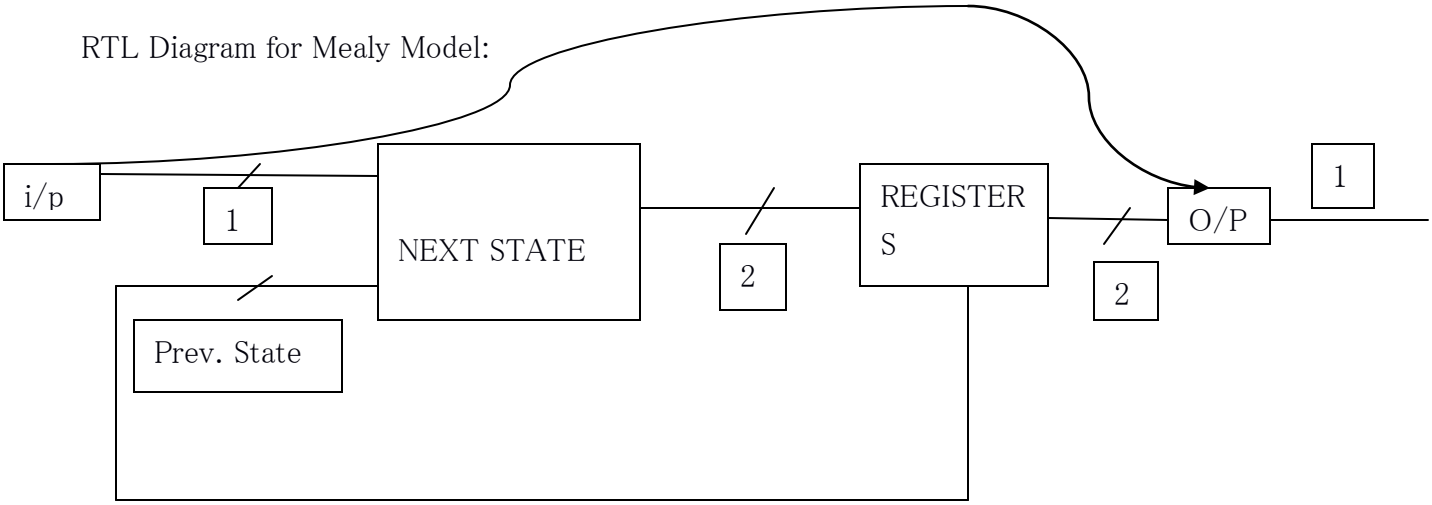
Moore state transition diagram for “1101” detector:



RTL Diagram for Moore Model:

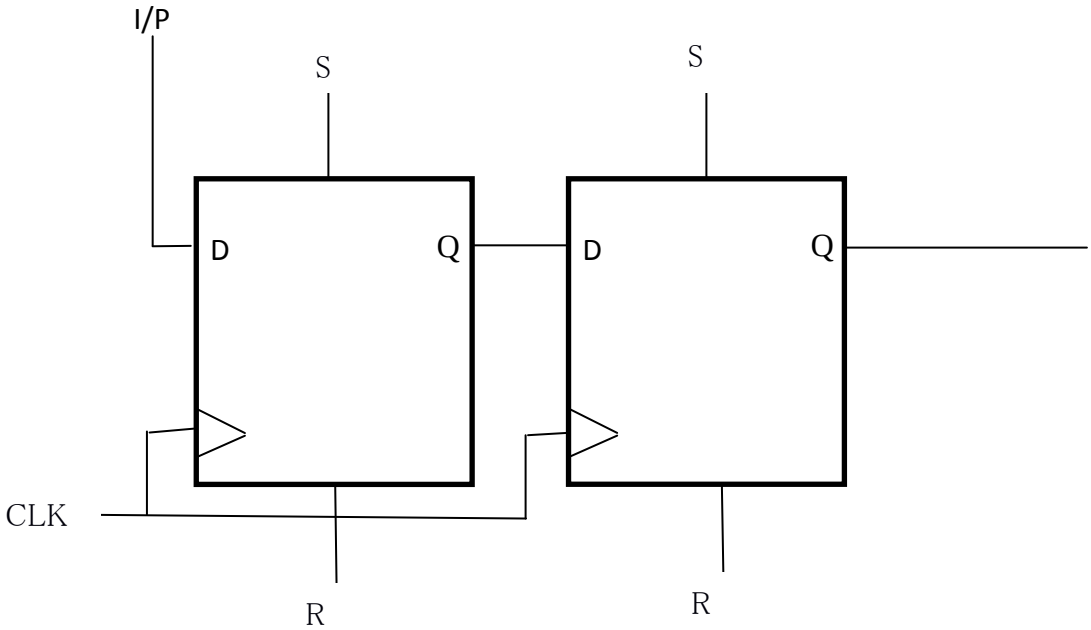


RTL Diagram for Mealy Model:

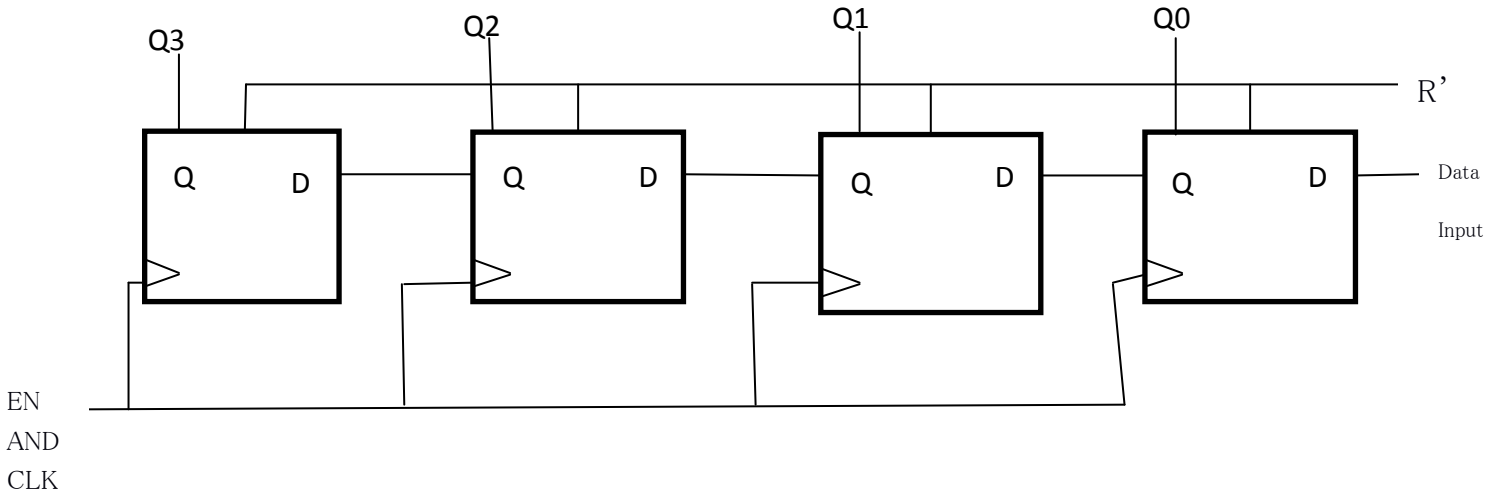


9.3

9.3.1 Synchronizer RTL



9.3.2 MSB SIPO-Register



9.3.2 MSB PISO-Register