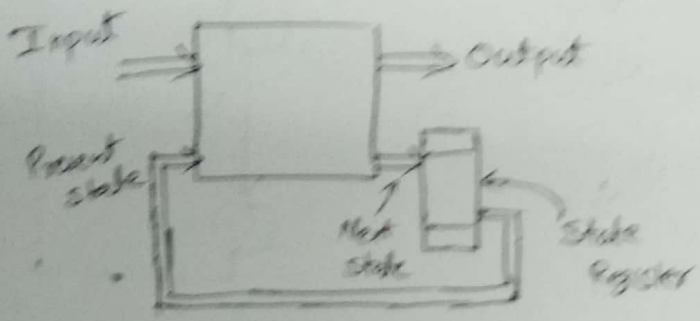
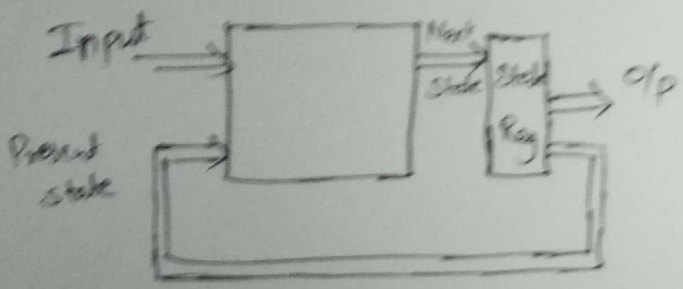
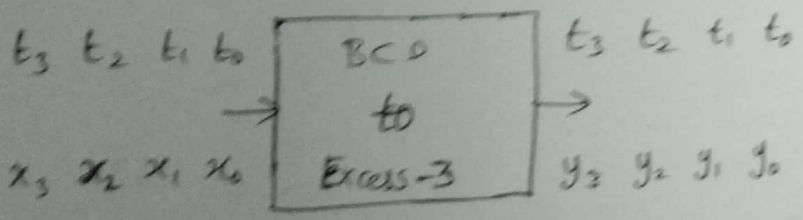
Mealy and Moore Machine



Mealy – o/p is a function of i/p and present state



Moore – o/p is a function of present state



Serial i/p & Serial o/p

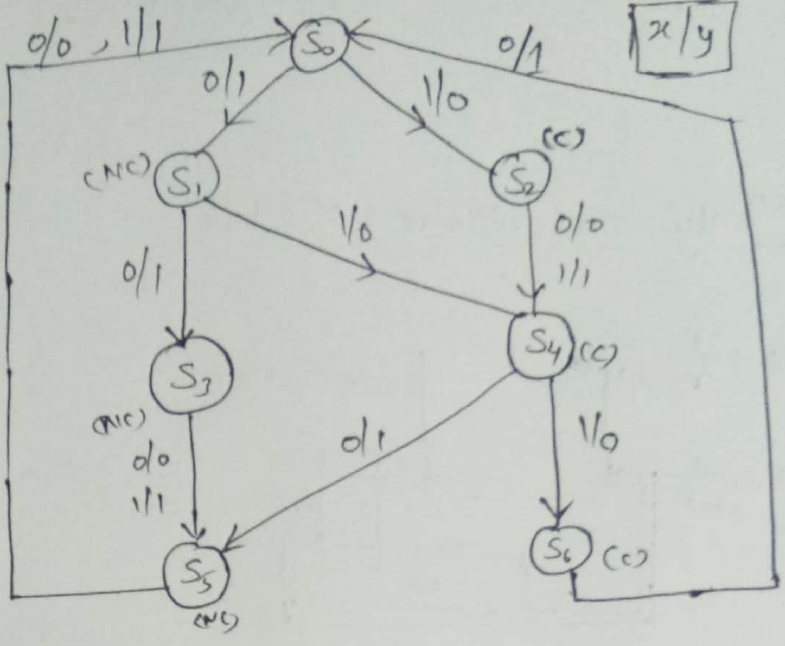
C_3 C_2 C_1 C_0 ← C_0

x_3 x_2 x_1 x_0

0 0 1 1

C_4 ← y_3 y_2 y_1 y_0

→ We have to remember the carry and at which stage we are in. (In the first & second stage 1 should be added)



S_0

Carry	0	0
x_0	0	1
bit to be added	1	1
	01	10 (C)
(NC)	↓ ↓ C_1 y_0	↓ ↓ C_1 y_0

S_1

Carry	0	0
x_1	0	1
bit to be added	1	1
	01	10
	(NC)	(C)

S_2

Carry	1	1
x_1	0	1
bit to be added	1	1
	100	11
(C)		(C)

S_3

Carry	0	0
x_2	0	1
bit	0	0
	00	01
	(NC)	(NC)

S_4

Carry	1	1
x_2	0	1
bit	0	0
	01	10
	(NC)	(C)

S_5

Carry	0	0
x_3	0	1
bit	0	0
	00	01
	(NC)	(NC)

S_6

Carry	1	1
x_3	0	1
bit	0	0
	01	10
	(NC)	(C)

This never happens when we are converting BCD to Excess-3