

Lecture # 11

$$\# \quad - \quad (\underline{101} \cdot 10)$$

$$01100101 \cdot 0001$$

$$10011010 \cdot 1110 \rightarrow 1's \text{ Comp}$$

$$+ 1$$

$$10011010 \cdot 1111$$

$$2 \mid 101 \mid 1$$

$$2 \mid 50 \mid 0$$

$$2 \mid 25 \mid 1$$

$$2 \mid 12 \mid 0$$

$$2 \mid 6 \mid 0$$

$$2 \mid 3 \mid 1$$

$$1$$

$$.1 \times 2 = 0.2$$

$$0.2 \times 2 = 0.4$$

$$0.4 \times 2 = 0.8$$

$$0.8 \times 2 = 1.6$$

②

$$- 0235 \rightarrow$$

$$\uparrow$$

$$9999$$

$$- 0235$$

$$9764$$

$$+ 1$$

$$(9765)$$

$$1001$$

$$9$$

$$0111$$

$$7$$

$$0100$$

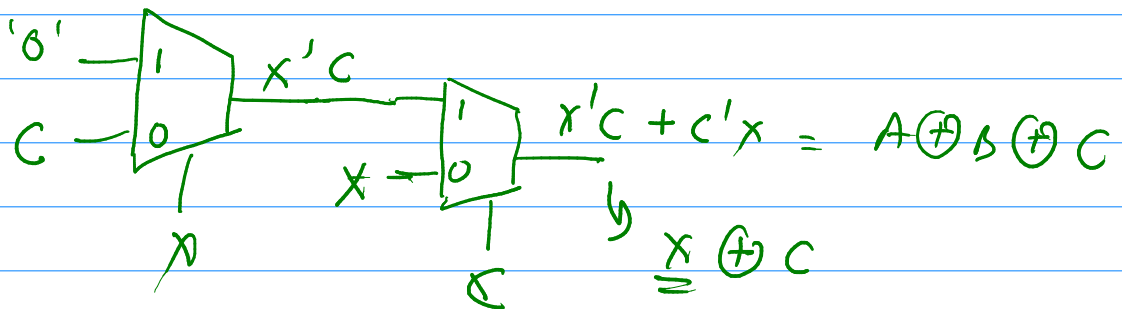
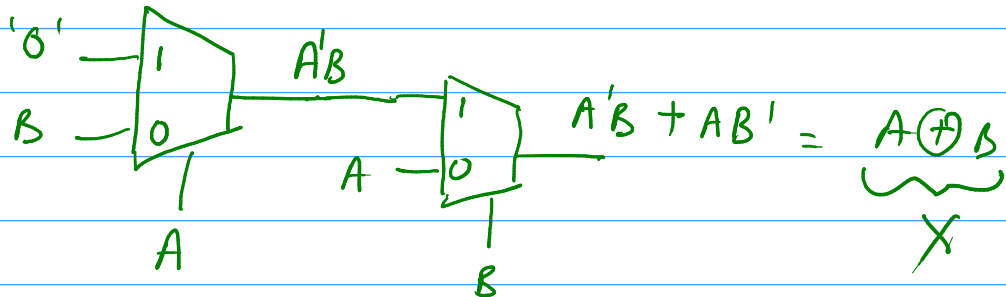
$$6$$

$$0101$$

$$5$$

$$Sum = \overbrace{A \oplus B}^{\text{X}} \oplus C$$

$$CY = AB + BC + CA$$



$$\# \quad CY = AB + BC + CA$$

$$CY =$$

$$[A \oplus B] C + AB$$

	CY	A	B	C
✓	0	0	0	0
-	0	0	0	1
-	0	0	1	0
✓	1	0	1	1
✓	0	1	0	0
-	1	1	0	1
✓	1	1	1	0
✓	1	1	1	1

CY =

$$\downarrow$$

$$\frac{[A \oplus B] \cdot C}{Z} + \frac{AB}{AB} =$$

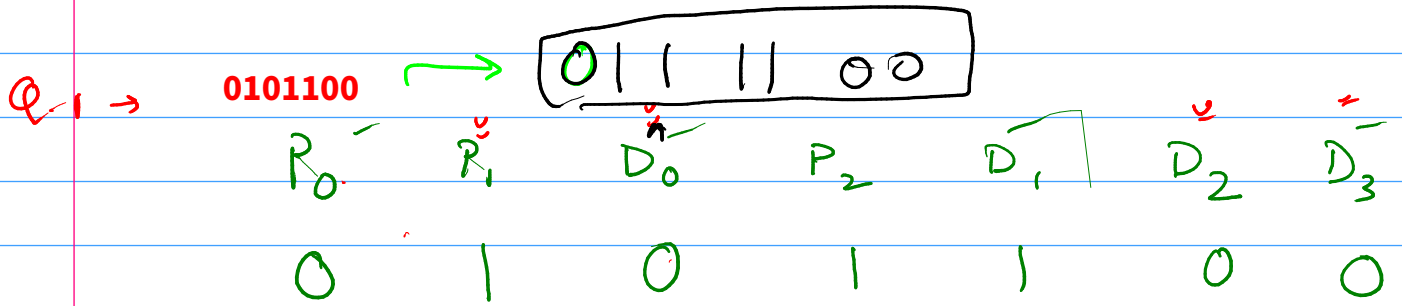
$$Z \cdot C + A \cdot B$$

(3) max

#

	A	B	C
0	0	0	0
1	0	0	0
2	1	1	0
3	0	0	0

Sol - T1



$C_0 = P_0, D_0, D_1, D_3$ ←
 $I = 0, 0, 1, 0$

$C_1 = P_1, D_0, D_2, D_3$
 $I = 1, 0, 0, 0$

$C_2 = P_2, D_1, D_2, D_3$
 $I = 1, 1, 0, 0$

D_0 is the Answer

$$(211)_x = (254)_6$$

$$\hookrightarrow 2x^2 + x + 1 = 36 \times 2 + 6 \times 5 + 4$$

$$2x^2 + x + 1 = 72 + 30 + 4$$

$$2x^2 + x - 105 = 0$$

$$x \Rightarrow 7$$

4.

$$2^{2^n}$$

$$\begin{array}{r}
 0723 \\
 9031 \\
 \hline
 \boxed{9754} \\
 \swarrow
 \end{array}$$

$$\begin{array}{r}
 9999 \\
 0969 \\
 \hline
 9030 \\
 + 1 \\
 \hline
 9031
 \end{array}$$

$\boxed{1001 \quad 0111 \quad 0101 \quad 0100}$ BCD

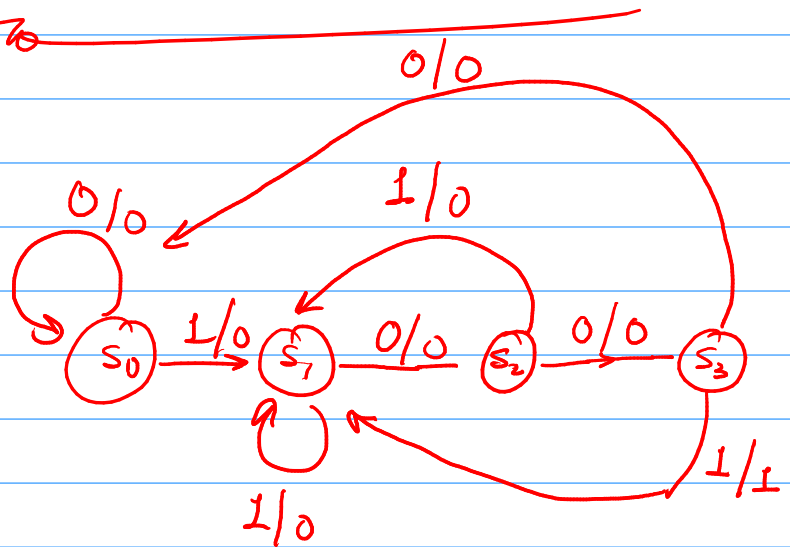
$$\begin{array}{r}
 9999 \\
 \leftarrow 9754 \\
 \hline
 0245 \\
 + 1 \\
 \hline
 0246
 \end{array}$$

2.1

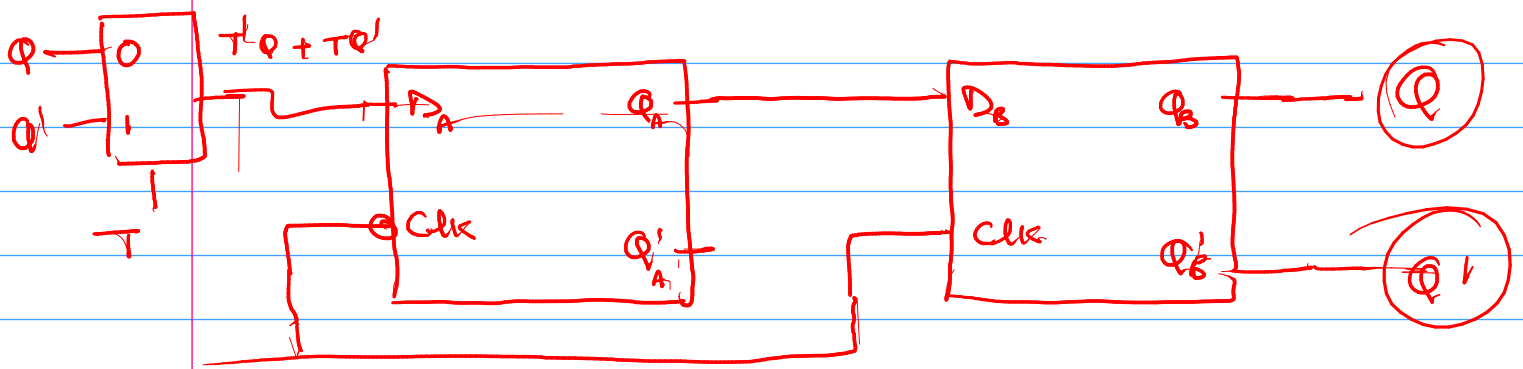
1001

$S_0 = 0$
 $S_1 = 1$
 $S_2 = 10$
 $S_3 = 100$

$\boxed{1000}$



$$Q_{n+1} = TQ' + T'Q$$



P-f

