

ASSIGNMENT-10

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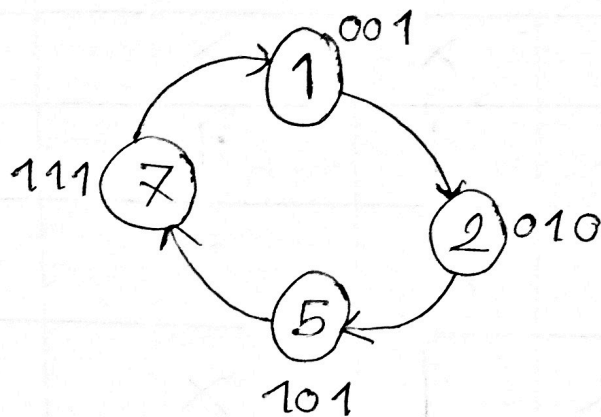
Course : CSE231

Section : 10

Submitted to : Dr. Mohammad Monirujjaman Khan.

Date : 03-05-2021

(1).



Count No.	Present State			Next State		
	Q_2	Q_1	Q_0	Q_2	Q_1	Q_0
1	0	0	1	0	1	0
2	0	1	0	1	0	1
5	1	0	1	1	1	1
7	1	1	1	0	0	1

Transition table for J-K Flip Flop.

		Flip-Flop Inputs	
Q_N	Q_{N+1}	J	K
0	→ 0	0	X
0	→ 1	1	X
1	→ 0	X	1
1	→ 1	X	0

\overline{J}_2	k_2	\overline{J}_1	k_1	\overline{J}_0	k_0
0	x	1	x	x	1
1	x	x	1	1	x
x	0	1	x	x	0
x	1	x	1	x	0

$Q_2 Q_1$	Q_0	\overline{J}_0	Map ₁
00	0	1	x
01	2	1	x
11	6	x	x
10	4	x	x

$$\overline{J}_0 = 1$$

$Q_2 Q_1$	Q_0	k_0	Map ₁
00	0	1	1
01	2	x	x
11	6	x	0
10	4	x	0

$$k_0 = \overline{Q}_2$$

$Q_2 Q_1$	Q_0	\overline{J}_1	Map
00	0	1	1
01	2	x	x
11	6	x	x
10	4	x	1

$$\overline{J}_1 = 1$$

$Q_2 Q_1$	Q_0	k_1	Map ₁
00	0	1	x
01	2	1	x
11	6	x	1
10	4	x	x

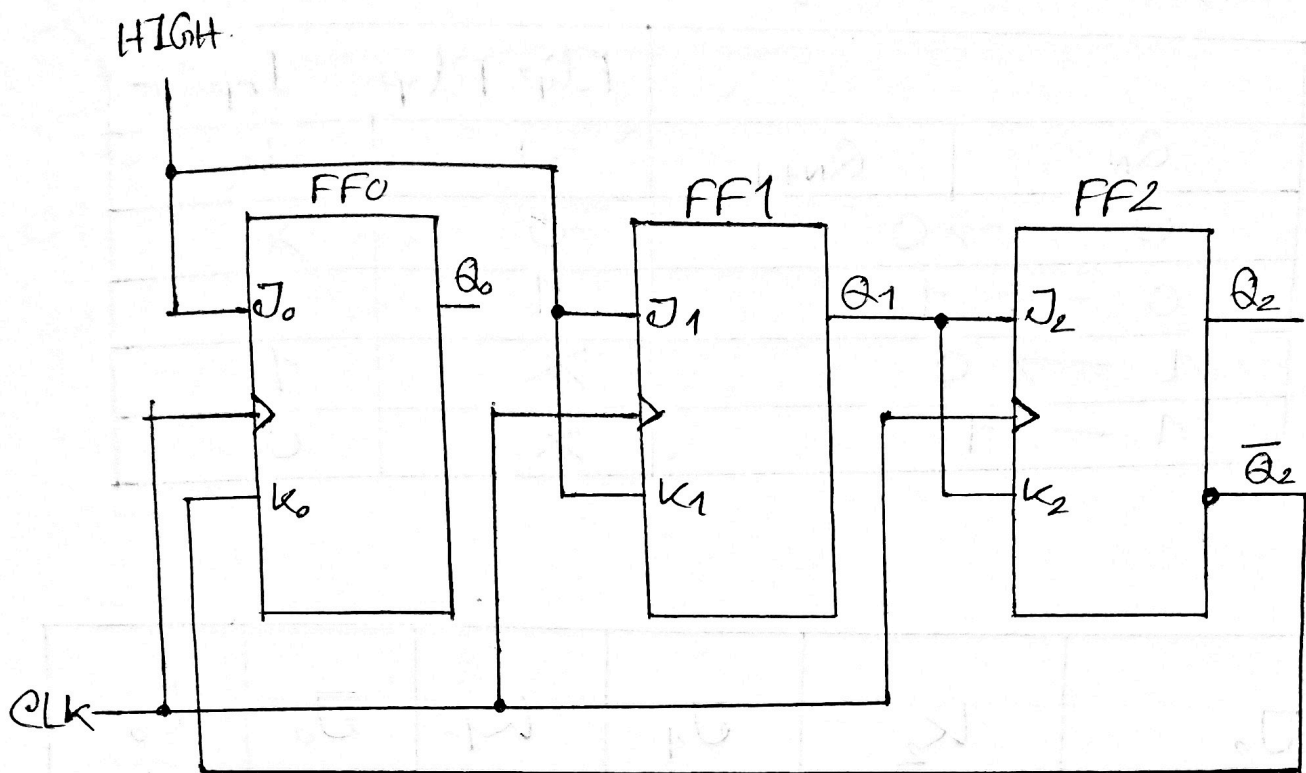
$$k_1 = 1.$$

$Q_2 Q_1$	Q_0	\overline{J}_2	Map
00	0	x	0
01	2	1	x
11	6	x	x
10	4	x	x

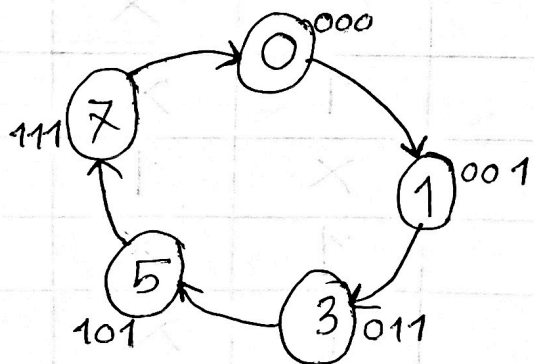
$$\overline{J}_2 = Q_1$$

$Q_2 Q_1$	Q_0	k_2	Map
00	0	x	x
01	2	x	x
11	6	x	1
10	4	x	0

$$k_2 = Q_1$$



(2).



Count No.	Present state			Next state		
	Q_2	Q_1	Q_0	Q_2	Q_1	Q_0
0	0	0	0	0	0	1
1	0	0	1	0	1	1
3	0	1	1	1	0	1
5	1	0	1	1	1	1
7	1	1	1	0	0	0

Transition table for J-K Flip Flop

		Flip Flop Inputs	
Q_N	Q_{N+1}	J	K
0	→ 0	0	X
0	→ 1	1	X
1	→ 0	X	1
1	→ 1	X	0

J_2	K_2	J_1	K_1	J_0	K_0
0	X	0	X	1	X
0	X	1	X	X	0
1	X	X	1	X	0
X	0	1	X	X	0
X	1	1	X	X	1

J_0 Map

$Q_2 Q_1$ \ Q_0	0	1
00	1	X
01	X	X
11	X	X
10	X	X

$J_0 = 1$

K_0 Map

$Q_2 Q_1$ \ Q_0	0	1
00	X	0
01	X	0
11	X	1
10	X	0

$K_0 = Q_2 Q_1$

J_1 Map

$Q_2 Q_1$ \ Q_0	0	1
00	0	1
01	X	X
11	X	1
10	X	1

$J_1 = Q_0$

