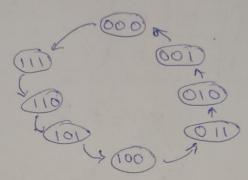
3-Bit Synchronous down Counter Using JK-Flipflop

Number of required flipflops: 25 = 8 = 32

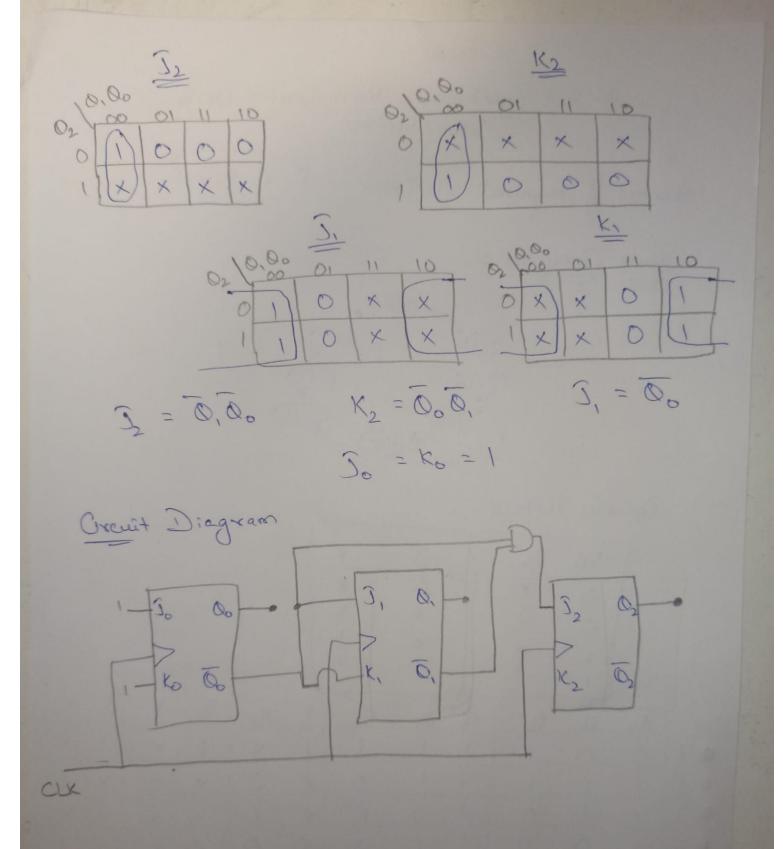
State Diagram:



Exitation Pable:

an Onti	I	K
00	0	×
	1	×
	×	1
	X	0

		1					1					
LK	0,	0,	Q.	0,	Q,	00	3	K2	2'	K,	5.	K.
	0	0	0	1	1	1	1	X	1	X	1	×
0 2	1	1	. 1	1	1	0	X	0	×	. 0	X	1
2 3	1	1	0	1	0	1	X	0	X	(1	X
64	١	0	1	1	0	0	X	0	0	×	X	1
05	1	0	0	0	1	-	X	1	(×	1	X
66	0	1	1	0	1	0	0	×	X	0	X	1
07	0	1	0	0	0	1	0	X	X	1	1	×
28	0	0	1	0	0	0	0	X	0	X	X	1
							1					
	0 1 0 2 0 3 0 4 0 5 0 6	0 1 0 0 2 1 0 3 1 0 4 1 0 5 1 0 6 0 0 7 0	0 1 0 0 0 2 1 1 0 3 1 1 0 4 1 0 0 6 0 1	0 1 0 0 0 0 2 1 1 1 0 3 1 1 0 0 4 1 0 1 0 5 1 0 0 0 6 0 1 1 0 7 0 1 0	1 0 0 0 1 • 2 1 1 1 1 • 3 1 1 0 1 • 4 1 0 1 1 • 5 1 0 0 0 • 6 0 1 1 0	1 0 0 0 1 1 • 2 1 1 1 1 1 1 • 3 1 1 0 1 0 • 4 1 0 1 1 0 • 5 1 0 0 0 1 • 6 0 1 1 0 1 • 7 0 1 0 0 0	01 0 0 0 1 1 1 02 1 1 1 1 1 0 03 1 1 0 1 0 1 04 1 0 1 1 0 0 05 1 0 0 0 1 1 06 0 1 1 0 1 0 07 0 1 0 0 0 1	1 0 0 0 1 1 1 1 1 0 X 2 1 1 1 1 1 0 X 3 1 1 0 1 0 1 X 6 1 0 0 0 1 1 X 6 0 1 1 0 1 0 0 7 0 1 0 0 0 1 0	01 0 0 0 1 1 1 1 X 02 1 1 1 1 1 0 X 0 03 1 1 0 1 0 1 X 0 04 1 0 1 1 0 0 X 0 05 1 0 0 0 1 1 X 1 06 0 1 1 0 1 0 0 X 07 0 1 0 0 0 1 0 X	0100001111X1 021111100X0X 031100101X0X 04101100100X00 051000011X11 06011000010XX	01 0 0 0 1 1 1 1 X 1 X 02 1 1 1 1 1 0 X 0 X 0 03 1 1 0 1 0 1 X 0 X 1 04 1 0 1 1 0 0 X 0 0 X 05 1 0 0 0 1 1 X 1 1 X 06 0 1 1 0 1 0 0 X X 0 07 0 1 0 0 0 1 0 X X 1	01 0 0 0 1 1 1 1 X 1 X 1 02 1 1 1 1 1 0 X 0 X 0 X 03 1 1 0 1 0 1 X 0 X 1 04 1 0 1 1 0 0 X 0 0 X X 05 1 0 0 0 1 1 X 1 X 1 06 0 1 1 0 1 0 0 X X 1 07 0 1 0 0 0 1 0 X X 1 1 0 1 0 0 0 1 0 X X 1 1 0 1 0 0 0 1 0 X X 1 1 0 1 0 0 0 1 0 X X 1 1 0 1 0 0 0 1 0 X X 1 1 0 0 0 0 1 0 X X 1 1 0 0 0 0 1 0 X X 1 1 0 0 0 0 1 0 X X 1 1 0 0 0 0 1 0 X X 1 1 0 0 0 0 1 0 X X 1 1 0 0 0 0 1 0 X X 1 1 0 0 0 0 1 0 X X 1 1 0 0 0 0 1 0 X X 1 1 0 0 0 0 1 0 X X 1 1 0 0 0 0 1 0 X X 1 1 0 0 0 0 1 0 X X 1 1 0 0 0 0 1 0 X X 1 1 0 0 0 0 0 1 0 X X 1 1 0 0 0 0 0 1 0 X X 1 1 0 0 0 0 0 1 0 X X 1 1 0 0 0 0 0 1 0 X X 1 1 0 0 0 0 0 1 0 X X 1 1 0 0 0 0 0 1 0 X X 1 1 0 0 0 0 0 1 0 X X 1 1 0 0 0 0 0 1 0 X X 1 1 0 0 0 0 0 1 0 X X 1 1 0 0 0 0 0 1 0 X X 1 1 0 0 0 0 0 1 0 X X 1 1 0 0 0 0 0 1 0 X X 1 1 0 0 0 0 0 1 0 X X 1 1 0 0 0 0 0 0 1 0 X X 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0



3-Bit Synchronous Down Counter Using D-flipflop

7-70:7-7111 = 3 flipflogs

State S		01) 200	Exitation Table On Onti D On On On On On On On On On On
$\begin{array}{c cccc} & O_{A} & O_{B} \\ \hline & 1 & 1 \\ \hline & 1 & 0 \\ \hline & 2 & 0 & 1 \\ \hline & 1 & 0 & 0 \\ \hline & 2 & 0 & 1 \\ \hline & 1 & 0 & 0 \\ \hline & 1 & 0 & 0 \\ \hline & 2 & 0 & 1 \\ \hline & 1 & 0 & 0 \\$	0,	1 1 0 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	HT. A. A.

