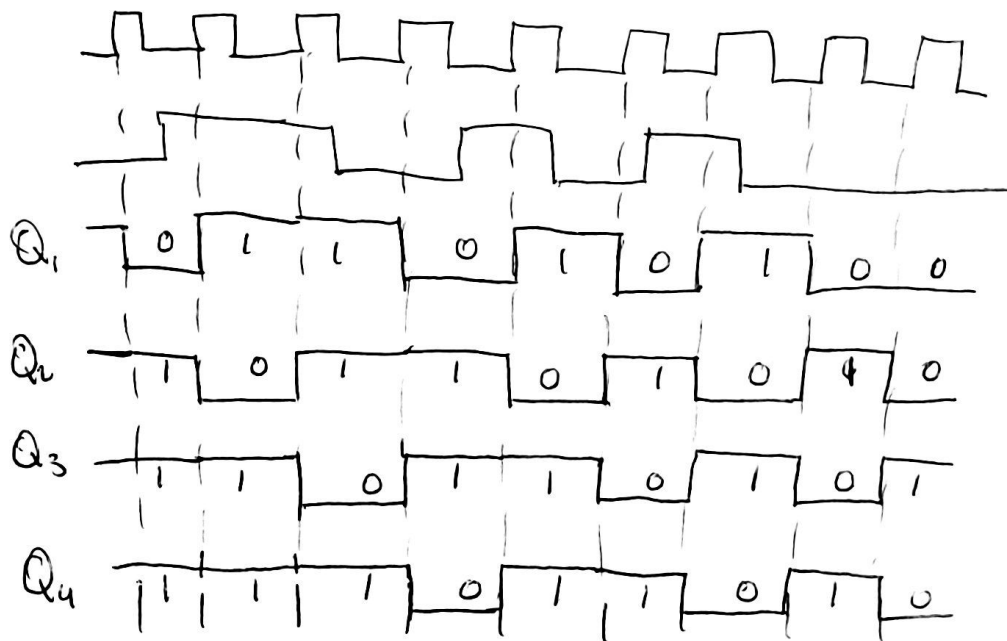
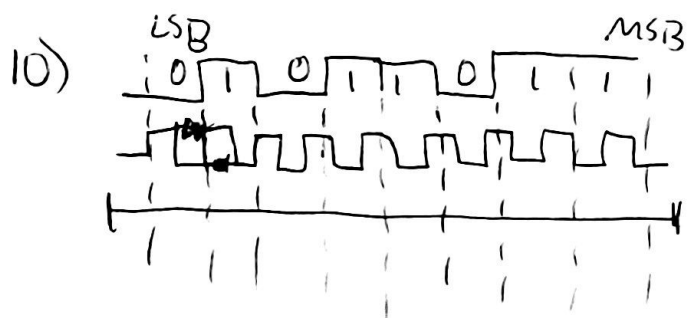
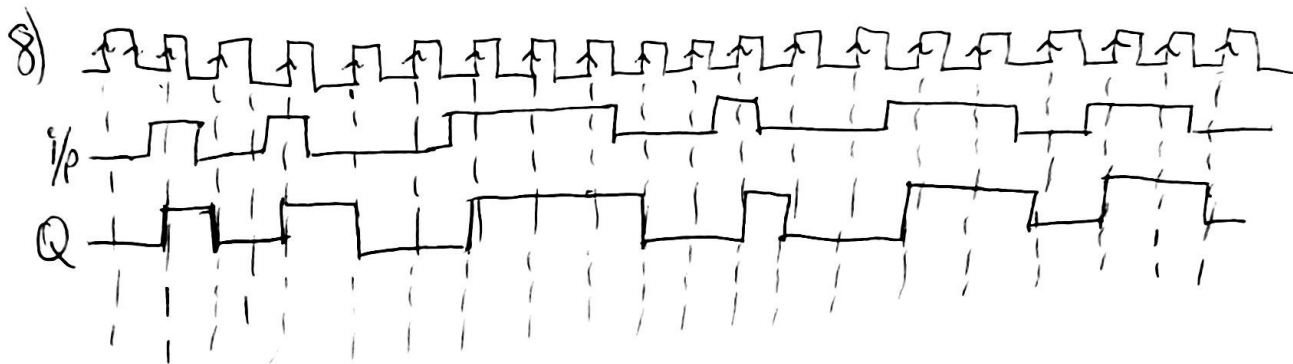


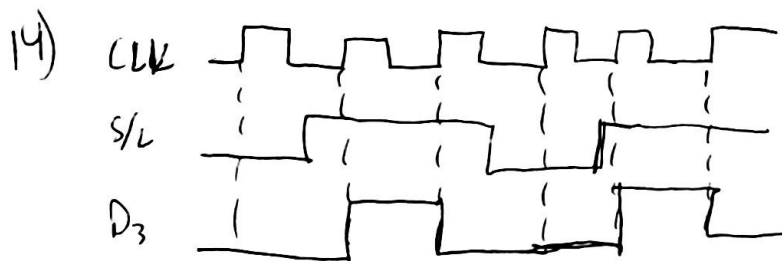
b)

\sqrt{p}	Q_1	Q_2	Q_3	Q_4
0	0			
0	1			
0	1			
1	0			
1	1			
1	1			
0	0			
0	0			
0				
1				
1				





1 1 0 1 1 0 1 0



21)

CLK	OPTN	Q ₀	Q ₁	Q ₂	Q ₃	Q ₄	Q ₅	Q ₆	Q ₇
0	—	0	0	0	1	0	0	0	0
1	L	0	0	0	1	0	0	0	0
2	R	0	0	0	1	0	0	0	0
3	R	0	1	0	0	0	0	0	0
4	R	1	1	0	0	0	0	0	0
5	L	0	0	1	0	0	0	0	0
6	L	0	0	1	0	0	0	0	0
7	R	0	0	1	0	0	0	0	0
8	L	0	0	1	0	0	0	0	0
9	R	0	0	1	0	0	0	0	0
10	L	0	0	1	0	0	0	0	0
11	L	0	0	0	1	0	0	0	0

28)

clk	Q ₀	Q ₁	Q ₂	Q ₃	Q ₄	Q ₅	Q ₆	Q ₇	Q ₈	Q ₉
0	0	0	0	0	1	0	0	0	1	0
1	0	0	0	0	0	1	0	0	0	1
2	1	0	0	0	0	0	1	0	0	0
3	0	1	0	0	0	0	0	1	0	0
4	0	0	1	0	0	0	0	0	1	0
5	0	0	0	1	0	0	0	0	0	1
6	1	0	0	0	1	0	0	0	0	0
7	0	1	0	0	0	1	0	0	0	0
8	0	0	1	0	0	0	1	0	0	0
9	0	0	0	1	0	0	0	1	0	0
10	0	0	0	0	1	0	0	0	1	0
11	0	0	0	0	0	1	0	0	0	1
12	1	0	0	0	0	0	1	0	0	0
13	0	1	0	0	0	0	0	1	0	0
14	0	0	1	0	0	0	0	0	1	0
15	0	0	0	1	0	0	0	0	0	1
16	1	0	0	0	1	0	0	0	0	0
	0	1	0	0	0	1	0	0	0	0

~~Reset~~ Reset vals. are 0000100010