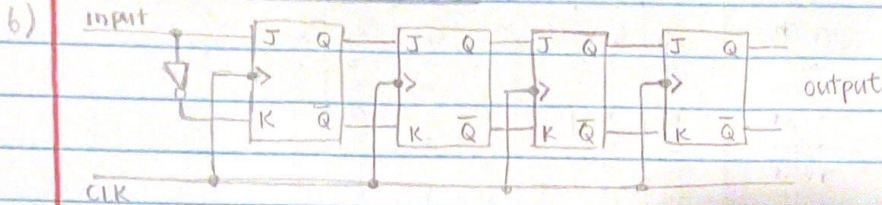


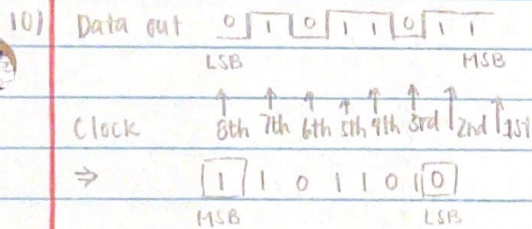
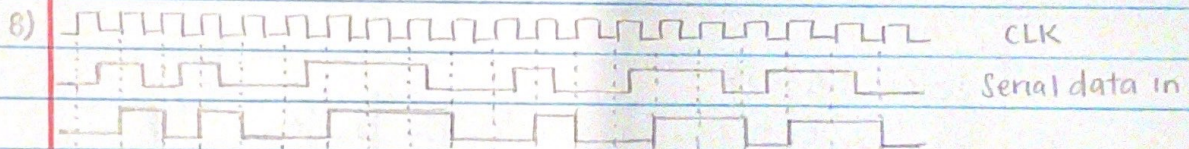
8-3 #21
8-4 #28

Homework #6

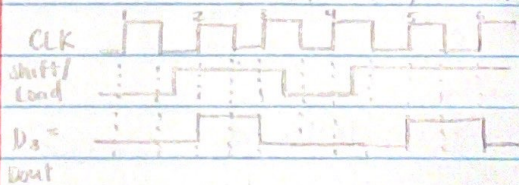
Section 8-2 #6, 8, 10, 14



The NOT gate makes $J \neq K$ start w/ their opposites. This waveform has 4 flip flops and can store 4 bits while 1 bit enters at a time. If $J=1 \neq K=0$, the flip flop is positive. When $J=0 \neq K=1$, the flip flop is also positive.



14) Serial data input = 0, $D_0=1$, $D_1=0$, $D_2=1$, $D_3=0$



Clock count	Shift/Load	D_0	D_1	D_2	D_3
1	0	1	0	1	0
2	1	0	1	0	1
3	1	0	0	1	0
4	0	0	0	1	0
5	1	0	0	0	1
6	1	0	0	0	0

Section 8-3 #21

21)	CLK	operation	Q ₇	Q ₆	Q ₅	Q ₄	Q ₃	Q ₂	Q ₁
	0	No	0	1	0	0	1	0	0
	1	left	1	0	0	1	0	0	0
	2	right	0	1	0	0	1	0	0
	3	right	0	0	1	0	1	1	0
	4	right	0	0	0	1	0	1	1
	5	left	0	0	1	0	1	1	0
	6	left	0	1	0	0	1	0	0
	7	right	0	0	1	0	1	1	0
	8	left	0	1	0	0	1	0	0
	9	right	0	0	1	0	1	1	0
	10	left	0	1	0	0	1	0	0
	11	left	1	0	0	1	0	0	0

Section 8-4 #28

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	0	0	0	0	1	0	0	0	0	0
		0	0	0	0	0	1	0	0	0	0

Repetition of the pattern is as followed:

0000100010