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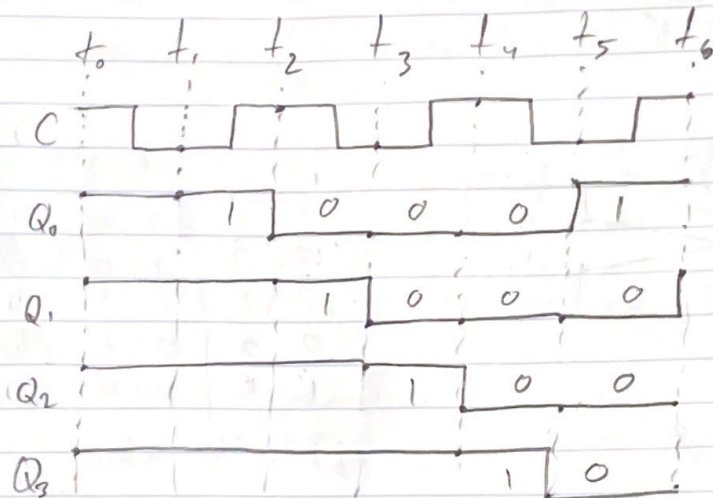
SIE370 HW 4 - Written

3/3/23

1. Shift Right

Data In: 11110001

Edge Triggered: Negative Edge



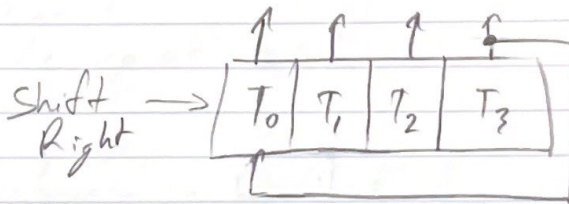
2. Ring Counter Data Movement. Assume the following:

$$T_0 = 0$$

$$T_1 = 0$$

$$T_2 = 0$$

$$T_3 = 1$$



clock pulse	Contents			
	T ₀	T ₁	T ₂	T ₃
0	0	0	0	1
1	0	0	1	0
2	0	1	0	0
3	1	0	0	0
4	0	0	0	1
5	0	0	1	0

3. Shift Registers w/ Binary Conversions (unsigned register)

a) Register contains binary eq. of 50_{10} .

i) SHR 2

Before								After							
0	0	1	1	0	0	1	0	0	0	0	1	1	0	0	0
d_7	d_6	d_5	d_4	d_3	d_2	d_1	d_0	d_7	d_6	d_5	d_4	d_3	d_2	d_1	d_0

ii) What is the decimal eq. after?
12

b) Register contains binary eq. of 50_{10} .

i) SHL 2

Before								After							
0	0	1	1	0	0	1	0	1	1	0	0	1	0	0	0
d_7	d_6	d_5	d_4	d_3	d_2	d_1	d_0	d_7	d_6	d_5	d_4	d_3	d_2	d_1	d_0

ii) What's the decimal eq. after?
200