

Dr. Bill

04/1/22 Midterm Bonus Activity

1)

a) f

b) +

c) f

d) +

e) f

f) +

* g) f

h) f

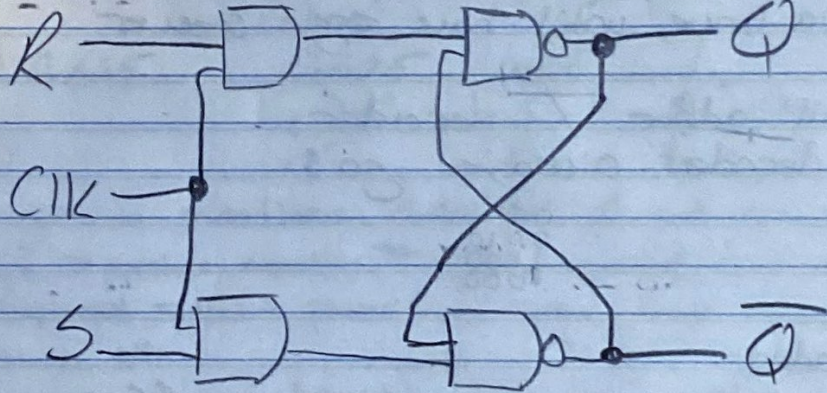
i) f

j) +

$$(0011 = -3 < 0010 = -2)$$

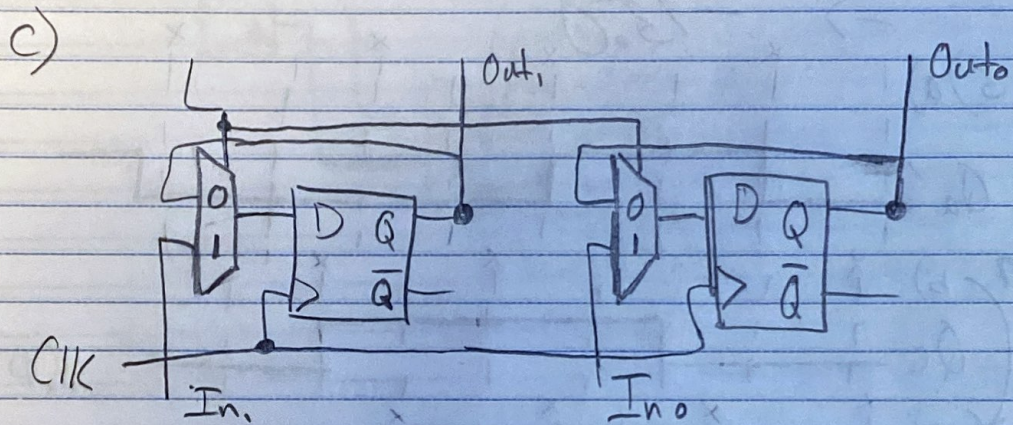
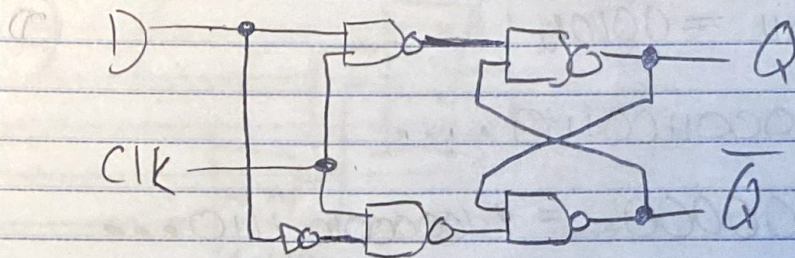
$$\begin{array}{r} 0011x \\ + 1011 \\ \hline 1110 \end{array}$$

2)



C	S	R	Q(+1)
0	0	0	Q(+)
0	0	1	↓
0	1	0	
0	1	1	
1	0	0	
1	0	1	0
1	1	0	1
1	1	1	undestrable

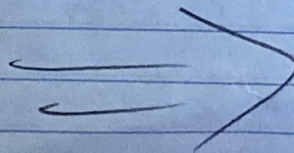
- b) • dealing w/ two inputs is messy
• can have an undesirable state



3) a) $00010 \Rightarrow \begin{array}{r} 11100x \\ 11110 \\ +00001 \\ \hline 00011 \end{array} = \text{no overflow}$

b) $-11 = 01011 = \begin{array}{r} 11101x \\ 10101 \\ +01100 \\ \hline 00001 \end{array} = \text{no overflow}$

c) $-15 = 01111 = \begin{array}{r} 101001x \\ 10001 \\ +01001 \\ \hline 01000 \end{array} = \text{overflow}$

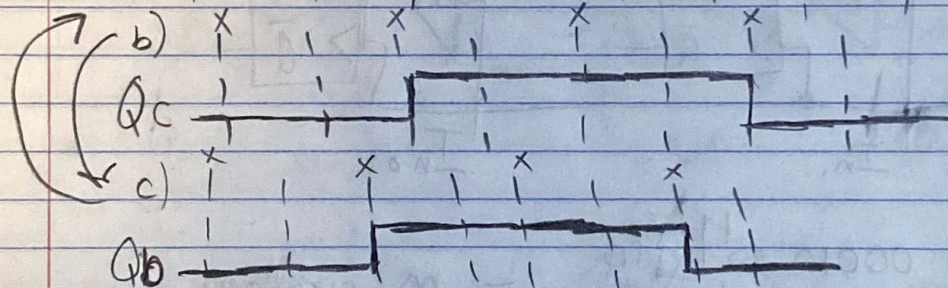
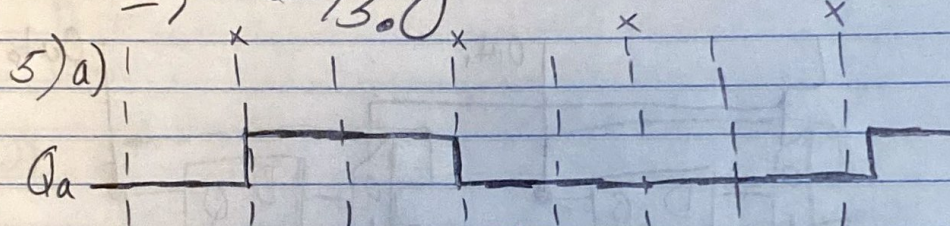


- 4) a) $\overset{16}{1} \overset{8}{1} \overset{2}{0} \overset{1}{1} = 27$
 ii) $\overset{16}{1} \overset{8}{1} \overset{2}{0} \overset{1}{1} = -11$
 iii) 00100_2
 iv) $11011 = 00101_2$

b) $110000001100110 \dots$

c) $C1700000_6 = 1100000101110 \dots$

$\Rightarrow -15.0$



6) a)

	\bar{B}	00	01	11	10
00	0	1	0	1	
01	0	0	1	0	
10	0	0	0	1	
11	1	1	1	0	

$= C\bar{D} + \bar{A}B\bar{D} + A\bar{B} + A\bar{C}D$

\Rightarrow NOT SURE

b) NOT SURE

7)