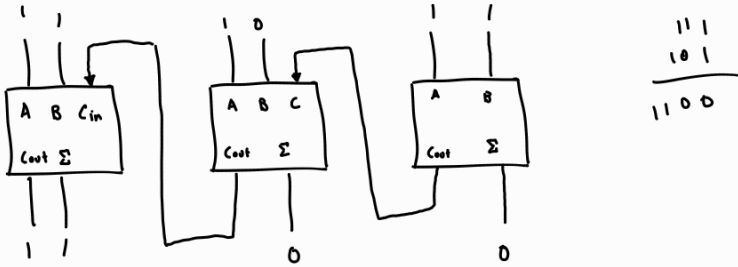


2. b)  $A=1, B=0, C_{in}=0$  or  $A=0, B=1, C_{in}=0$  or  $A=0, B=0, C_{in}=1$

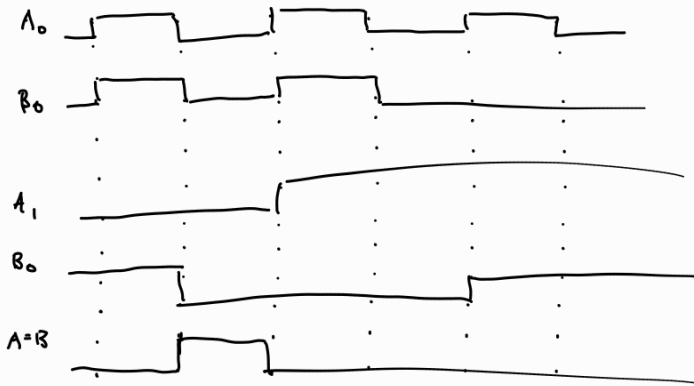
c)  $A=1, B=1, C_{in}=1$

4.



11  $t_p(\text{tot}) = 40\text{ns} + 6(25\text{ns}) + 35\text{ns}$   
 $= 225\text{ns}$

13.  $A=B$  output is HIGH when  $A_0=B_0$  and  $A_1=B_1$



15.

a)  $A>B: 1, A=B: 0, A<B: 0$

b)  $A>B: 0, A=B: 0, A<B: 1$

c)  $A>B: 0, A=B: 1, A<B: 0$

19.  $x = \bar{A}_3 \bar{A}_2 \bar{A}_1 0 + A_3 \bar{A}_2 A_1 \bar{A}_0 + A_3 \bar{A}_2 A_1 A_0$

$A_1 A_0$					
$A_3 A_2$	0	1	0	0	
	0	0	0	0	
	1	0	0	0	
	0	0	1	1	

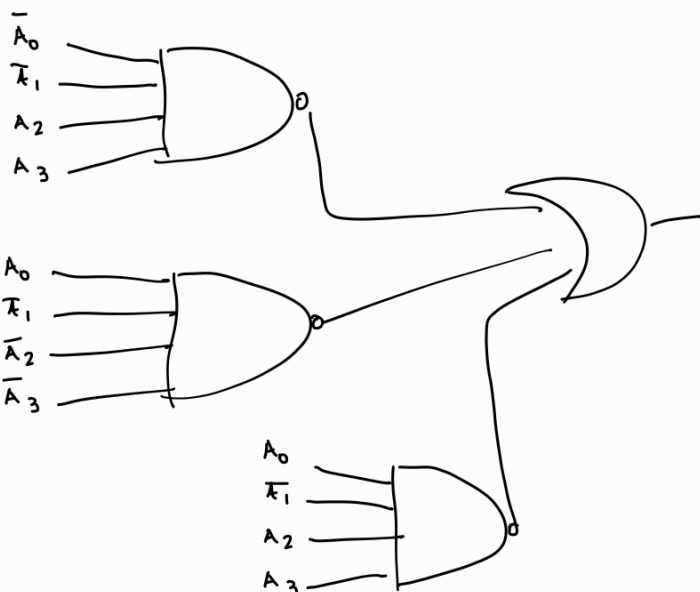
16.

a)  $A_3 A_2 A_1 A_0 = 1110$

b)  $A_3 A_2 A_1 A_0 = 1100$

c)  $A_3 A_2 A_1 A_0 = 1111$

d)  $A_3 A_2 A_1 A_0 = 1000$



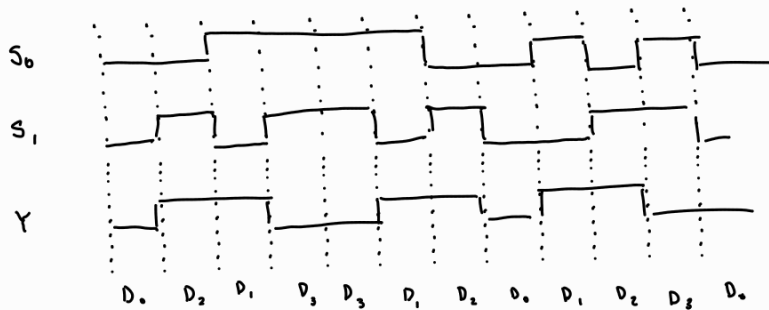
22. 0 1 6 9 4 4 4 8 0

23.  $A_3, A_1$  and  $A_0$  are HIGH.  $A_3 A_2 A_1 A_0 = 1011$ , which can't be a BCD code

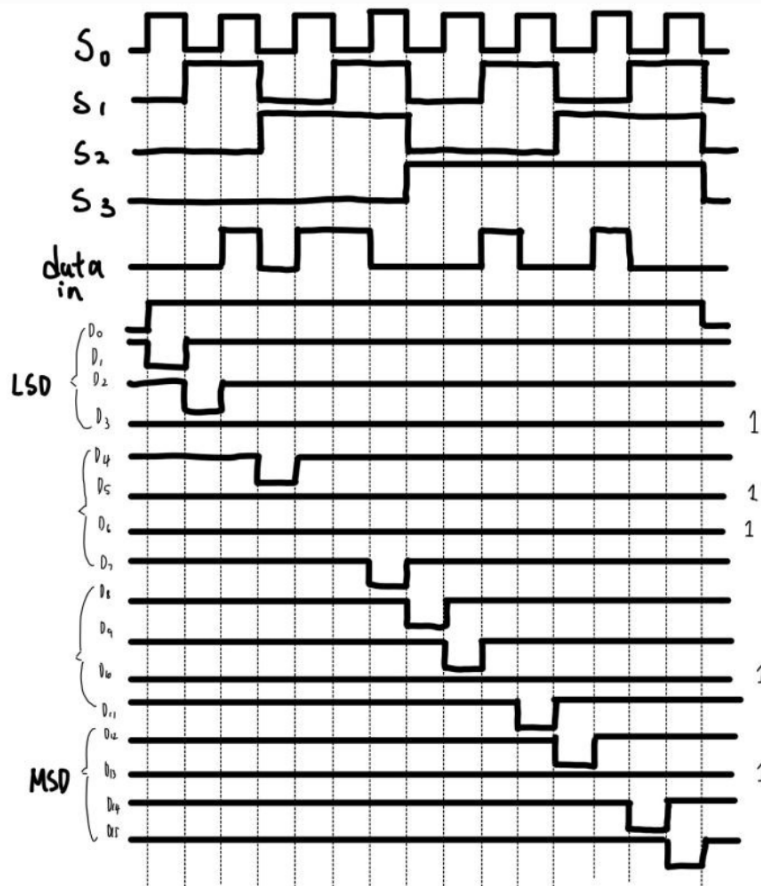
25. a) decimal = 2    BCD = 0010    Binary = 10  
 b) decimal = 8    BCD = 1000    Binary = 1000  
 c) decimal = 13    BCD = 0001 0011    Binary = 1101  
 d) decimal = 26    BCD = 0010 0110    Binary = 11010  
 e) decimal = 33    BCD = 0011 0011    Binary = 10001

28.  $\therefore S_1, S_0 = 01$  selects 0  
 $\therefore Y = 1$

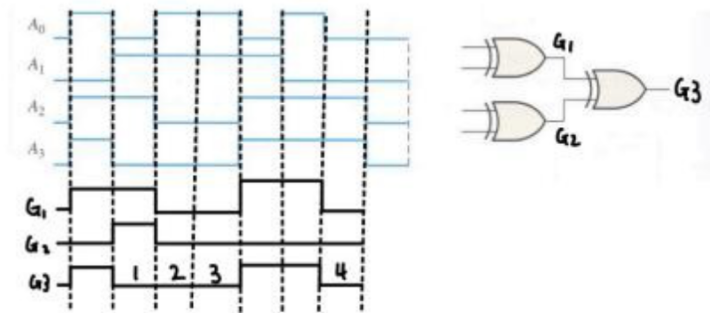
29.



31.



32.



33.

