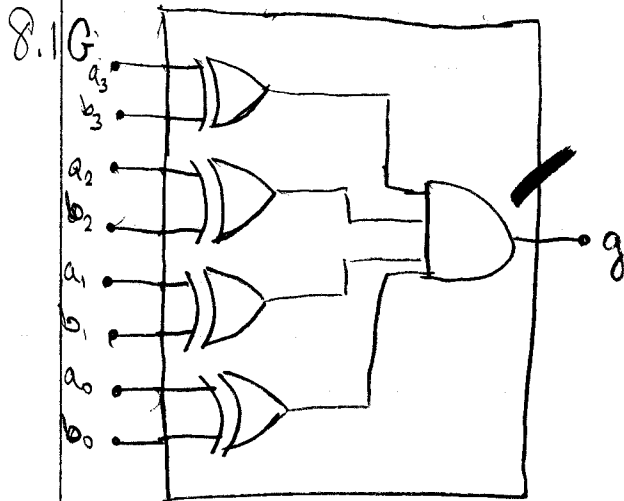Chapter 8 - HW 07
8.1, 8.3, 8.4

Jesse Lai
10/27/99

8.1 G:

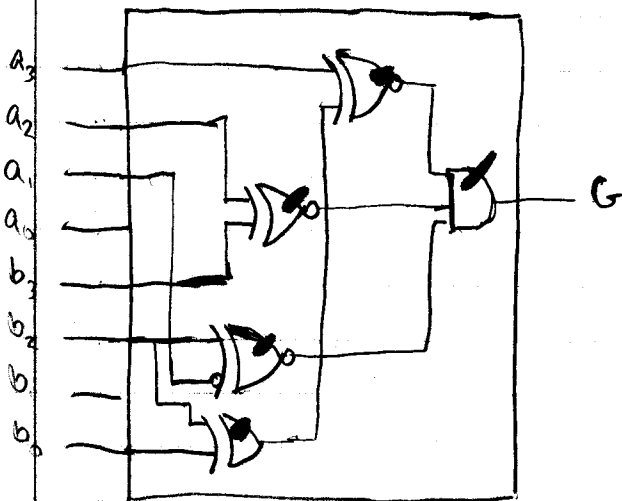

$$g(ab) = (a_3 \oplus b_3)(a_2 \oplus b_2)(a_1 \oplus b_1)(a_0 \oplus b_0)$$

8.3 G: two four bit words
F: design component output $G=1$ $\overline{a_1} = b_2$, $a_2 = b_3$
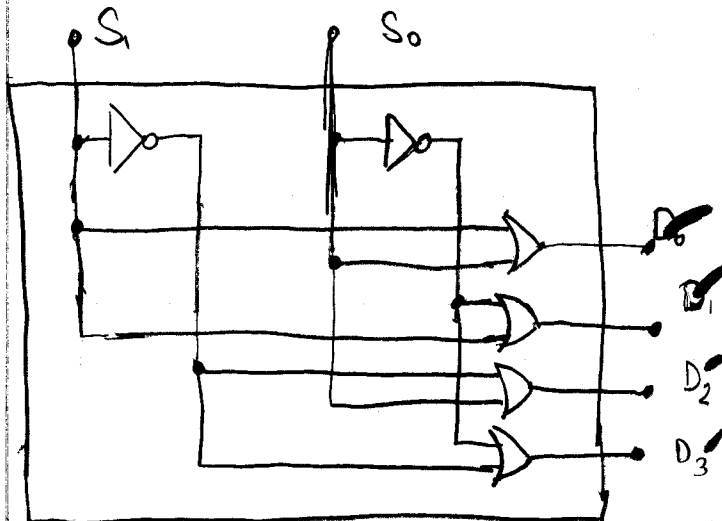$a_3 = b_0 \oplus b_2$

$$G\left(\overline{a_1 \oplus b_2}\right)\left(\overline{a_2 \oplus b_3}\right)\left(\overline{b_0 \oplus b_2 \oplus a_3}\right)$$

8.4 G: Use or gates active low 2/4 decoder
F: active-low 2/4 decoder
S:

$S_1 S_0$	D_3	D_2	D_1	D_0
0 0	1	1	1	0
0 1	1	1	0	1
1 0	0	0	1	1
1 1	0	1	1	1

$$D_0 = S_1 + S_0$$
$$D_1 = S_1 + \overline{S_0}$$
$$D_2 = \overline{S_1} + S_0$$
$$D_3 = \overline{S_1} + \overline{S_0}$$