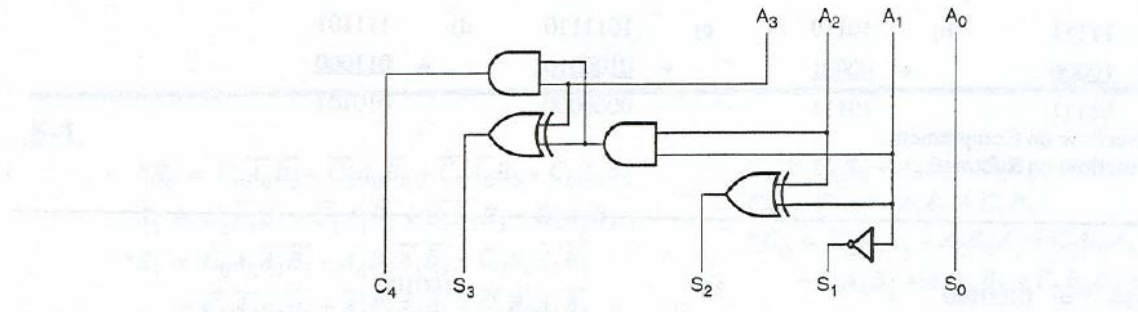


ELEC 204
HW#6 Solutions

5-9.



5-12.

Proceeding from MSB to LSB: $A < B$ if $A_i < B_i$ ($\bar{A}_i B_i = 1$) and for all $j > i$, $A_j = B_j$ ($A_j B_j + \bar{A}_j \bar{B}_j = 1$)
Based on the above,

$$X = \bar{A}_3 B_3 + (A_3 B_3 + \bar{A}_3 \bar{B}_3) \bar{A}_2 B_2 + (A_3 B_3 + \bar{A}_3 \bar{B}_3) (A_2 B_2 + \bar{A}_2 \bar{B}_2) \bar{A}_1 B_1 \\ + (A_3 B_3 + \bar{A}_3 \bar{B}_3) (A_2 B_2 + \bar{A}_2 \bar{B}_2) (A_1 B_1 + \bar{A}_1 \bar{B}_1) \bar{A}_0 B_0$$