DATE: Feb 28, 2007  
TO: CENG 244 Students  
FROM: Elaine Linde  
SUBJECT: Homework Set #4 – Combinational Logic  

The following problems are due by the end of Wednesday, March 14th.

(1) Design a combinational circuit with four inputs, ABCD, and one output, X. If the (unsigned) binary value of ABCD is greater than or equal to three AND is less than or equal to ten, the output is 0. Otherwise the output is 1.
(2) Design a combinational circuit with three inputs, ABCD, and one output, X. If the number ABCD is odd then the output is 0. Otherwise the output is 1.
(3) Problem 4-5 of the text.
(4) Problem 4-6 of the text.
(5) Problem 4-9 of the text.
(6) Problem 4-10 of the text.
(7) Problem 4-25 of the text.
(8) Problem 4-29 of the text.
(9) Problem 4-33 of the text.
(10) Implement the following functions with a multiplexer
    a. $F(A, B, C, D) = \Sigma(0, 1, 4, 7, 13, 15)$
    b. $F(A, B, C, D) = \Pi(1, 4, 5, 9, 10, 15)$