DATE:  April 4, 2007
TO:  CENG 244 Students
FROM: Elaine Linde
SUBJECT: Homework Set #6 – Chapter 6

The following problems are due Friday, April 13th.

(1) Design a counter with the repeated sequence of 0, 2, 3, 5, 6, 7, 4, 1 using:
   a. D Flip-Flops
   b. T Flip-Flops
   c. JK Flip-Flops
   A complete solution will include logic expressions for the inputs to the flip-flops.

(2) Design a counter using T flip-flops that goes through the repeated sequence of 3, 1, 0, 6, 4, 2. Show that when 111 and 101 are taken as “don’t cares” the circuit may not operate properly. Find a way to correct the design.

(3) The contents of a 4-bit register are initially 1101. Show the contents of the register after each shift when:
   a. The register is shifted 5 times to the right with the serial input being 110101.
   b. The register is shifted 5 times to the left with the serial input being 110101.

(4) Problem 6-7 of the textbook.
(5) Problem 6-16 of the textbook.
(6) Problem 6-18 of the textbook.
(7) Problem 6-29 of the textbook.

Answers or partial answers for many of these are in the back of the book and in files. However, you need to show all your work in order to receive credit and please be advised that original quiz/test problems are much easier to do if you have slogged your way through the homework problems.