

*Note: Late HW is **not** accepted! Put your “last name, first name,” the course number (3701), and the HW number in the top right hand corner of the first page of all HW assignments. Also for all homework, use file name **HWx.pdf**. Do **NOT** put your social security number or your UF ID number on your HW.*

1. The contents of a 4-bit register is initially 0000. The register is shifted eight times to the left, with the sequence 00101011 as the serial input. The leftmost bit of the sequence is applied first. What is the content of the register after each shift?
2. Roth textbook problems:  
5<sup>th</sup>, 6<sup>th</sup> and 7<sup>th</sup> edition: 12.2, 12.7a, 12.7b, 12.7 but use a J-K FF for Q<sub>2</sub>, a T FF for Q<sub>1</sub>, and a D FF for Q<sub>0</sub>, 12.9
3. From the Lam book problems:  
5.20  
5.28 (a) Instead of (a) as given, make a Next State Truth Table with Q<sub>1</sub> and Q<sub>0</sub> the counter bits  
(b) As in book, but also write the logic equations.