*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.*

In this course (in homework, labs, exams, etc.), for all mixed-logic circuit diagrams, write the intermediate equations at the inputs of each gate.

1. Do the following **Roth** textbook problems:

   5th edition:
   - 2.1a, 2.1c, 2.3a, 2.3d, 2.4b, 2.7a, 2.13a
   - 3.6b, 3.9, 3.14a, 3.18b, 3.27 a-d
   - 4.1a, 4.1b, 4.6, 4.7a

   6th edition:
   - 2.1a, 2.1c, 2.3a, 2.3d, 2.4b, 2.7a, 2.13a
   - 3.6b, 3.9, 3.15a, 3.21b, 3.32 a-d
   - 4.1a, 4.1b, 4.6, 4.7a

   7th edition:
   - 2.1a, 2.1c, 2.3a, 2.3d, 2.4b, 2.7a, 2.13a
   - 3.6b, 3.9, 3.15a, 3.21b, 3.32 a-d
   - 4.1a, 4.1b, 4.6, 4.7a

2. Prove that:
   a) X xor 0 = X
   b) X xor 1 = /X

3. **Lam/O'Malley/Arroyo** textbook problems: (Get these problems from the class web site.)

   3.9 (use a pinout document from our web site or the other pinout web-site link),
   3.13, 3.14, 3.15, 3.16, 3.20, 3.23,
   3.26 a,c,e (do not attempt to simplify)

   Note that a bubble shown at an input is a redundant notation used in this book that indicates that a signal is active-low. This bubble does **NOT** do anything else.