Computational Logic Circuits (Lab 3)

zyBooks & subtractor circuit

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OBJECTIVES

- To understand the topics covered in zyBooks for this week's lab.
- To understand how to use a 4-bit Full Adder IC to perform a subtraction operation.
- To understand how to effectively create Logic Circuits.

DESIGN

Experiment

- There were two parts in this lab. First, we asked to read from chapter 2.1, 2.2 and 3.1-3.5 in our zyBooks. Then, we had to compare two four-bit signed numbers, X = x3x2x1x0 and Y = y3y2y1y0 by using a subtractor circuit. The subtractor circuit was built using a 4-bit full adder IC (74LS83) to perform the operation X - Y. Finally, we had to determine the cases X=Y, X<Y, X<=Y, X>Y and X>=Y.

SCHEMATICS

Schematics from the Experiment

The schematic for the subtractor logic-circuit is on the attached loose-leaf.

QUESTIONS

Questions from the Experiment

There are no questions that were asked for this lab.