Computational Logic Circuits (Lab 2)

Boolean Algebra & Logic Circuits

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OBJECTIVES

- To understand how to simplify Boolean expressions.
- To understand how to effectively create Logic Circuits.
- To understand how to implement different gates into other gates.

DESIGN

Experiment

- There were three parts in this lab. First, we asked to read from chapter 1.8 in our zyBooks until the end of the chapter. Then, we had to simplify 4 Boolean expressions. Finally, we had to create two logic circuits. The expression given was F(A,B,C) = ABC' + AB + BC. The first circuit was created using standard gates (1 7404 inverter, 1 7408 quad 2 input AND and 1 7432 quad 2 input OR chips). The second circuit was created using only NAND gates (3 7400 chips).

SCHEMATICS

Schematics from the Experiment

The schematics for the two logic circuits are on the attached loose-leaf.

QUESTIONS

Questions from the Experiment

The questions and answers are on the attached loose-leaf.