

UNIVERSITY OF NORTH CAROLINA AT CHARLOTTE

Department of Electrical Engineering

Lamp Ping-Pong

INTRODUCTION

Today's logic designer must work with logic equations, circuits implemented by interconnecting basic logic gates, and complete logic circuits in IC module form. No matter what logic elements are used, many problems in logic design can be solved by working out the solution in equation form first and then making circuits to match the equations. In addition to a practical working knowledge of logical equations (sometimes called logical algebra), the designer must be familiar with the symbols used in logic circuits, the binary number system, the basic logic circuit forms, mapping of logic circuits, and certain problems common to all logic design.

ASSIGNMENT

The student is to design and construct a circuit that allows two people to play ping-pong using twelve indicator lamps (LEDs) in a row to display the moving ball and using two push-button switches for paddles. Additional instructions are attached.

REFERENCES

1. References on reserve in the library.
2. Textbooks on the subject of digital logic design.
3. Faculty with expertise in the area of digital logic design.

EXPECTED RESULTS(as a minimum)

1. A completed, breadboarded circuit of the lamp ping-pong for demonstration to a faculty member (2 wks).
2. An additional assignment would be a completed, breadboarded circuit of the lamp ping-pong with scoreboards for demonstration to a faculty member (3 wks).