**Experiment 2 – Product of Sums and Sum of Products**

**CSCI 220 – Section 1**

**Due 2/5/2016**

Report By:

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On my honor I have neither received nor given aid on this report.

Signed: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Part I  
Objective of the Experiment**

The objective was to create three circuits. The first used equation xy + xz' + x'z. The second used the product of sums and the third used the sum of products.

**Part II  
Equipment/components necessary for the Experiment**

1 7404 NOT chip

1 7432 2-input OR chip

1 7408 2-input AND chip

**Part III  
Description of the followed procedure**

**(Truth table, Circuit design, etc.)**

For all three equations we wired and tested them against the truth table. The expressions used to create the circuits were xy + yz' + x'z, the product of sums for that expresison: (x' + y)(z + y), and the sum of products for that expression: x'z + y.

Truth Table:



Gate diagram for expression xy + yz' + x'z:



Gate diagram for expression (x' + y)(z + y):



Gate diagram for expression x'z + y:



**Part IV  
Conclusion**

In conclusion a cicuit can be made more efficiently if the expression used is simplified. The three circuits we built worked fine and when tested against the truth table all cases were correct.