Door - Goat - Wolf

O'MacDonald (The famous Farmer) hires Daffy, a Not-To-Bright Farm Hand to watch over the bumper crop of corn in his barn. The barn has a Door that sometimes is left open. The Farmer also has a pet Goat named Billy. Billy is a pet who is free to roam around the farm and enter the barn whenever the Door is left open. Billy only gets in trouble when he goes into the barn and eats the corn.

Unfortunately for Billy, Waldo the Wolf, who truly loves Goat meat, lives on a nearby hill! O'MacDonald realizes Daffy is not to bright, so he wants to have a switch logic circuit to sound an alarm if a danger is present!

Three danger situations can occur. The first is when the Goat is present and the barn Door is open. The second is when the Wolf and the Goat are both present. The final danger is when the barn Door is open and the Wolf and Goat are both present.

Project Requirements

Cover Page
- Title
- prepared for
- by
- must be typed

Table of Contents
- title of each page with a page number

Problem Description
- see above (be creative if you wish)

Truth Table
- unsimplified Minterm expression
- what does each variable stand for (legend)

K-Map
- loops and simplified Minterm expression

Boolean Algebra Simplification & Schematics
- show steps for simplification use rules
- AND-OR logic schematic (template)
- NAND schematic (template)

Conclusion
- what's better & why (and-or, nand)

note: extra-credit for typing pages(all or nothing), including graphics,
            making it interesting, doing gate drawings with software