Lab 5
Karnaugh Map Reduction

Due before your lab period on October 5–7

- Determine the canonical SOP equation for f

$$f(a, b, c) = \sum m\,(0, 2, 3, 4, 6)$$

- Generate the truth table for f
- Determine the number of gates required to implement the canonical SOP equation for f. Gates can have any number of inputs.
- Simplify f using a Karnaugh Map and generate the simplified equation
- Implement the simplified version of f using ICs and verify it using your truth table
  - Use only the 7408, 7432, and 7404 ICs
  - Use switches for inputs and the bar LEDs as outputs
- Demonstrate your circuit to your lab TA

The report for this lab should include the following sections:

1. Description/Objectives
2. Procedure, which must include
   (a) Canonical SOP equation for f
   (b) Truth table for f
   (c) Karnaugh Map reduction of f
3. Observations
4. Conclusions