Lab 4
Minterms and Maxterms

Due before your lab period on September 28–30

- Determine the canonical SOP equation for f

$$f(x, y) = \sum m\,(0, 2)$$

- Implement f using your ICs and breadboard
  - Use only the 7408, 7432, and 7404 ICs
  - Use switches for inputs and the bar LEDs as outputs
  - Do not simplify the equation
- Record the output of your circuit in a truth table
- Determine the maxterm shorthand, $f(x, y) = \prod M(\ldots)$, and the canonical POS expression for f
- Implement the canonical POS version of f and verify it produces the same output as your other circuit
- Demonstrate both your circuits 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 POS and SOP implementation of f
   (c) Canonical POS and maxterm equation for f
3. Observations
4. Conclusions