

Problem

You have **60 minutes** to implement the equation $Y = \neg(A \cdot B + C)$

- Y is **active-low**
- You may choose activation levels for the inputs, but you must minimize the number of gates.
- You cannot simplify the equation.
- You may only use one chip.

Instructions

1. Draw the circuit.
 - a. Label activation levels.
 - b. Label pin numbers.
 - c. Label intermediate equations.
2. Produce a complete truth table.
3. Produce an appropriate voltage table.
4. Simulate the design in Quartus.
5. Implement the circuit on your breadboard.
6. Produce switch and LED legends.

Submit to Lab – Quiz 1 – Generic:

1. Screenshot of Quartus BDF.
2. Screenshot of simulation output (no need to annotate).
3. Your quartus .qar file.

Submit to Lab – Quiz 1 – Phone

1. A scan of your breadboard and scratch paper (truth tables, voltage tables, etc.) all in a single pdf.