Homework Assignment IV


1. Use Boolean algebra to prove the following identity
   \[ ABC + AB\overline{C} + A\overline{B} \overline{C} + \overline{A}{\overline{B}}{C} = A. \]
   Construct a truth table to confirm your algebra.

2. Construct truth tables to prove the following equalities
   (a) \[ A(B + C) = AB + AC \]
   (b) \[ ABC = \overline{A + B + C} \]

3. Design a CMOS 2-input AND gate and a CMOS 2-input OR gate.

Due date: October 8 in class