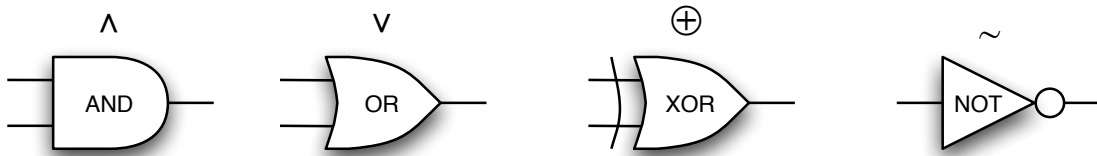


CmpSci 201

Homework 6

In this homework you'll get to do a little boolean algebra and convert algebraic expressions into gate diagrams and vice-versa. Hint: in order to do truth tables just treat each input like a binary digit and count from zero up. For instance, in an expression with 2 inputs, the possible values are 00, 01, 10, 11.

Remember, \wedge = AND, \vee = OR, \sim = NOT. Also, the following chart may be useful:



1. Given the boolean expression: $(A \wedge B) \vee C$

(a) Fill out a truth table for this expression

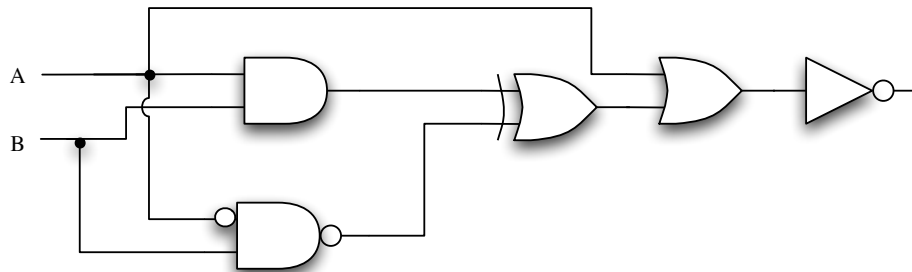
(b) Draw a gate diagram of this expression

2. Given the boolean expression: $(A \vee B) \wedge (B \wedge C)$

(a) Fill out a truth table for this expression

(b) Draw a gate diagram of this expression

3. Given the following gate diagram:



(a) Construct an equivalent boolean algebraic expression