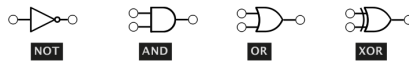# Assignment #1 - Logic
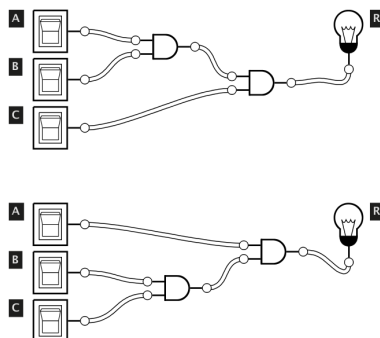# Discrete Mathematics

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Fall 2018

1   Equivalence laws

In digital electronics the following gates implements logical statements:

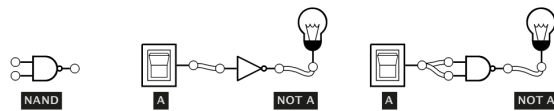Write a diagram for each of the laws of equivalence, ie.:

$$(a \wedge b) \wedge c \equiv a \wedge (b \wedge c)$$

2   Nand

The simplest logic circuit to create is a nand gate. It has the following trush
table and is equivalent to $\neg(a \wedge b)$:

a	b	$\neg(a \wedge b)$
f	f	t
f	t	t
t	f	t
t	t	f

Nand has the special property, that any other binar operator can be build
from NAND, here the NAND gate is shown and the implementation of `not`:

Build the operators `and`, `or`, `xor`, and `implies` with NAND gates alone.

Hand in

In groups on Peergrade by Thursday September 6th

http://logic.ly