

# LOGIC 101

$$\neg(a \vee b) \equiv \neg a \wedge \neg b$$

$$\neg(a \wedge b) \equiv \neg a \vee \neg b$$

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

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

$$a \rightarrow b \equiv a \supset b \equiv \neg a \vee b$$

$$a_1 \wedge a_2 \rightarrow b \equiv \neg(a_1 \wedge a_2) \vee b$$

$$\equiv \neg a_1 \vee \neg a_2 \vee b$$

P	Q	$P \wedge Q$	$P \vee Q$	$\neg P \vee Q$	$P \rightarrow Q$
T	T	T	T	F	T
T	F	F	T	F	F
F	T	F	T	T	T
F	F	F	F	T	T