

From memory, can you write down what the symbols represent ?

\neg

\wedge

\vee

∇

\Rightarrow

\Leftrightarrow

•

From memory, can you write down what the symbol represents ?

\neg

negation

\wedge

conjunction (and)

\vee

Disjunction (or)

∇

or, but not both

\Rightarrow

Implication (If... then...)

\Leftrightarrow

Equivalence (If and only if)

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WARM UP

①

Now try the process in reverse with these different propositions.

- a: I am going to France
 b: I passed my exams
 c: I worked hard

Symbols	Words
$c \wedge b$	I worked hard and passed my exams
$b \vee a$	I passed my exams or I am going to France
$\neg c \rightarrow \neg b$	If I didn't work hard I didn't pass my exams
$a \rightarrow (b \vee c)$	If I am going to France then I either I passed my exams or I worked hard
$a \leftrightarrow b$	I am going to France if and only if I passed my exams
$c \downarrow \neg b$	I worked hard or didn't pass my exams but not both

should have "then"

p: I'm a duck
q: It is raining
r: I run.

Symbols	Words
$p \wedge q$	I'm a duck and it's raining
$p \Rightarrow q$	If I'm a Duck, then it's raining
$(r \wedge q) \Rightarrow p$	If I run and it's raining then I'm a Duck
$r \vee q$	I run or it's raining
$\neg q \Rightarrow r$	If it's not raining then I run
$(\neg p \wedge r) \Rightarrow \neg q$	If I'm not a duck and I run then it's not raining

Agenda

Construct truth Tables

(will help us to prove if two logical statements are equivalent)

Logic Day

pick up the handout

Goal: Make truth tables

BB

Assignment 2:
Handout