

Definition

We define $P \implies Q$ to be the proposition that is true unless P is true and Q is false, namely:

P	Q	$P \implies Q$
T	T	T
T	F	F
F	T	T
F	F	T

We typically read this as “if P , then Q ”, but can also read it as

- “ Q if P ”;
- “ P only if Q ”;
- “ P is sufficient for Q ”;
- “ Q is necessary for P ”.

Note: $(P \implies Q)$ is **logically** equivalent to $(\neg P \vee Q)$ (Check!!).