

Conjunction, Disjunction, and Negation... What About Implication?

Extending V for Implication

For **equivalence** \leftrightarrow

φ	\leftrightarrow	ψ
1	1	1
1	0	0
0	0	1
0	1	0

Extending V for Implication

For **equivalence** \leftrightarrow

φ	\leftrightarrow	ψ
1	1	1
1	0	0
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For **implication** \rightarrow

φ	\rightarrow	ψ
1	1	1
1	0	0
0	1	1
0	1	0

Let's Look at the Table for Implication More Closely

φ	\rightarrow	ψ
1	1	1
1	0	0
0	1	1
0	1	0

Why is it that whenever the antecedent is false, the **if...then** statement is always true regardless of the truth value of the consequent?

We are working with a particular kind of implication, called **material implication**

Does the *if...then* statement "If it rains, the soil gets wet" contain a material implication?