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0.1 Semantic consequence

A formula, A, semantically implies another, B, if for every interpretation of A, B is true.

We show this with:

$A \vDash B$

Formula B is satisfisable if there is some A where this is true.

For example: $A \wedge B \vDash A$

Formula B is a tautology if this is true for any A. We can also write this as $\vDash B$.

0.2 Logical equivalence

If $A \vDash B$ and $B \vDash A$ we say that A and B are logically equivalent.

This is shown as $A \Leftrightarrow B$.