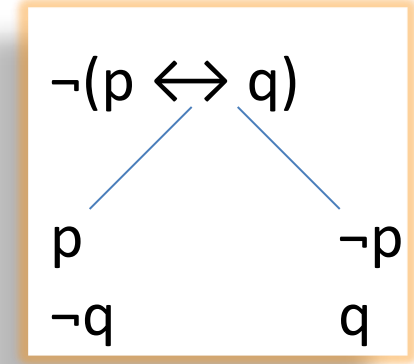
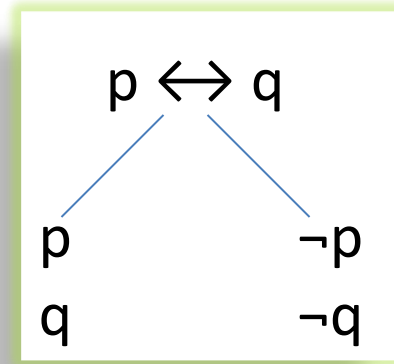
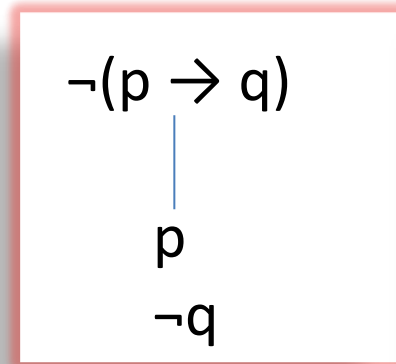
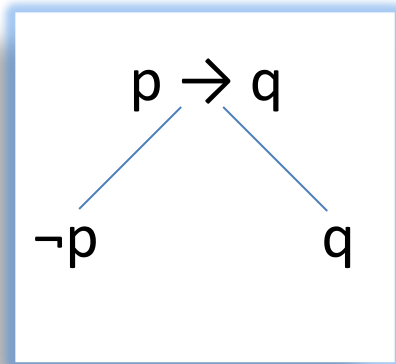


Truth trees



Logic and proofs

$$\begin{aligned} p \rightarrow q &\equiv \neg p \vee q \\ p \leftrightarrow q &\equiv (p \rightarrow q) \wedge (q \rightarrow p) \\ p \leftrightarrow q &\equiv (\neg p \vee q) \wedge (p \vee \neg q) \end{aligned}$$

$A \models B$: states that B is a consequence of A

Always negate when trying to prove a tautology, so if this is not satisfied, negate again to state that it is.

Tautologies are when all values are true. In truth trees, if all values are closed and there is a contradiction, it is a tautology.

XOR / +: true when only one is true

NAND / | (Sheffer Stroke): true if at least one is false