# Logical Formulae

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|---|---|---|
| $P \wedge Q$ | *for* | '$P$ and $Q$' |
| $P \vee Q$ | *for* | '$P$ or $Q$' |
| $\neg P$ | *for* | 'not $P$' |
| $P \Rightarrow Q$ | *for* | '$P$ implies $Q$' |
| $P \Leftrightarrow Q$ | *for* | '$P$ if and only if $Q$' |
| $\forall\, x \in A\ (\, P(x)\,)$ | *for* | '$P(x)$ holds for all $x \in A$' |
| $\exists\, x \in A\ (\, P(x)\,)$ | *for* | 'there exists $x \in A$ such that $P(x)$ holds' |