Logical Notation

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Name	Meaning	Symbol	Some Variants	"Polish"
Conjunction	φ and ψ	$\varphi \wedge \psi$	$\varphi \,\&\, \psi$ $\quad \varphi\psi$ $\quad \varphi \cdot \psi$	$K\varphi\psi$
Disjunction	Either φ or ψ	$\varphi \vee \psi$	$\varphi + \psi$	$A\varphi\psi$
Negation	It is not the case that φ	$\neg\varphi$	$-\varphi$ $\quad \sim\varphi$ $\quad \overline{\varphi}$	$N\varphi$
Material Conditional	If φ then ψ	$\varphi \rightarrow \psi$	$\varphi \supset \psi$	$C\varphi\psi$
Biconditional	φ if and only if ψ	$\varphi \leftrightarrow \psi$	$\varphi \equiv \psi$	$E\varphi\psi$
The True	[A sentence that is true on all interpretations]	$\top$		
The False	[A sentence that is false on all interpretations]	$\bot$		
Universal Quantifier	For all x, Fx	$\forall x\, Fx$	$(x)\, Fx$ $\quad \bigwedge x\, Fx$ $\quad \Pi x\, Fx$	
Existential Quantifier	There is an x such that Fx	$\exists x\, Fx$	$Ex\, Fx$ $\quad \bigvee x\, Fx$ $\quad \Sigma x\, Fx$	
Necessity	It is necessary that φ	$\Box\varphi$		$L\varphi$
Possibility	It is possible that φ	$\Diamond\varphi$		$M\varphi$
Counterfactual Conditional	If φ were the case, ψ would be the case	$\varphi \,\Box\!\!\rightarrow \psi$	$\varphi \rightarrow \psi$	
Strict Conditional	ψ is a logical consequence of φ	$\varphi \prec \psi$	$\varphi \rightarrow \psi$	
Logical Consequence	ψ is a logical consequence of $\varphi_1, \varphi_2, \ldots, \varphi_n$	$\varphi_1, \varphi_2, \ldots, \varphi_n \models \psi$	$\varphi_1, \ldots, \varphi_n \Rightarrow \psi$	
Derivability	ψ is derivable from $\varphi_1, \varphi_2, \ldots, \varphi_n$ in proof system S	$\varphi_1, \ldots, \varphi_n \vdash_S \psi$		

Polish Notation, which was invented by the Polish logician Jan Łukasiewicz, is a prefix notation that always puts the logical constant in front. It has the advantage of not requiring any parentheses, but tends to be rather difficult to read.