

First-Order Logic (FOL)

aka. predicate calculus

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Syntax

- User defines these primitives:
 - **Constant symbols** (i.e., the "individuals" in the world)
E.g., Mary, 3
 - **Function symbols** (mapping individuals to individuals)
E.g., father-of(Mary) = John, color-of(Sky) = Blue
 - **Predicate symbols** (mapping from individuals to truth values)
E.g., greater(5,3), green(Grass), color(Grass, Green)

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Syntax...

- FOL supplies these primitives:
 - **Variable symbols.** E.g., x, y
 - **Connectives.** Same as in PL: not (\sim), and (\wedge), or (\vee), implies (\Rightarrow), if and only if (\Leftrightarrow)
 - **Quantifiers:** Universal (\forall) and Existential (\exists)