Syntax

Propositional logic

Relational logic

First-order logic

Truth-functional logic

Intuitionistic logic

Temporal logic

Modal logic

WHAT IS A LOGIC ANYWAY?

Function from FMLA → Boolean

FMLA (input) → Boolean

valuations

assignments

instances

worlds

models

eval (i, F) =

Examples

(x = true, eval F)

x₀ :: x₁

x₁ = true;

x₂ = false

x₃ = false

if (x₁ and not x₂)

Instance is a

Function Uav → Bool

eval (i, F) =

if F is a variable,

eval (i, v) = i (v)

if F is

if F is a variable

not eval (i, f_2)

if F is (F₁ or F₂)

eval (i, F) = eval (i, F₁) and eval (i, F₂)

if F is (F₁ and F₂)

eval (i, F) = eval (i, F₁) or eval (i, F₂)


<table>
<thead>
<tr>
<th>X₁</th>
<th>X₂</th>
<th>X₁ and X₂</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
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</tr>
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<td>1</td>
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</tbody>
</table>

Got

P P → q

→ q

Got