

Theorema 2.0: A First Tour

NB reached List of cells reached CellGroupData reached List of cells reached
NullCell reached

We consider “proving”, “computing”, and “solving” as the three basic mathematical activities.

CellGroupData reached List of cells reached

1 Proving

We want to prove

$$(\forall_x (P[x] \vee Q[x])) \wedge (\forall_y (P[y] \Rightarrow Q[y])) \Leftrightarrow (\forall_x Q[x]).$$

To prove a formula like the above, we need to enter it in the context of a Theorema environment.

1.1 Proposition (First Test, 2014)

$$((\forall x (P[x] \vee Q[x]) \wedge \forall y (P[y] \rightarrow Q[y])) \iff \forall x Q[x])$$

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reached Cell reached Cell reached Cell reached Cell reached Cell reached Cell
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cells reached

2 Computing

CellGroupData reached List of cells reached Cell reached

2.0.1 Global Declaration

\forall
 a, b
 $a = b$

2.1 [?]

$\forall ab \text{ def } (LessTM$
 $(a) b \iff \exists (ai < bi \wedge \forall aj = bj)$

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2.1.1 Global Declaration

\forall
 K

2.1.2 Global Declaration

$Mon[K] := \Delta_M$

2.1.3 Global Declaration

\forall
 $m1, m2$

2.2 [?]

$\forall Km2 \text{ def } (Mon[K]_{TimesTM} (m1, m2) = (K_{TimesTM} (m11, m21), [PlusTM]_{(m12i, m22i)}))$

2.3 [?]

$\forall Km2 \text{ def } (Mon[K]_{LessTM} (m1, m2) \iff LessTM$
 $(m12) m22$

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GroupData reached List of cells reached Cell reached Cell reached CellGroup-
Data reached List of cells reached

3 Set Theory

CellGroupData reached List of cells reached Cell reached

3.0.1 Global Declaration

\forall
 x,y

3.1 [?]

$\forall xy \text{ def } (x \subseteq y = \forall z (zx \rightarrow zy))$

■Cell reached

3.2 Proposition (transitivity of \subseteq)

$\forall ac ((a \subseteq b \wedge b \subseteq c) \rightarrow a \subseteq c)$

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