Theorema 2.0: A First Tour

Tma2tex-parsing Info/Legend

- Yellow: Represents entry points to parsing.
- Red: Matches unspecified cells or generic content.
- Blue: Represents lists of specific content.
- Purple: Used for lists of generic cells.
- Green: Represents grouped data cells.

1 Proving

We want to prove

$$(\underset{x}{\forall}(P[x] \lor Q[x])) \land (\underset{y}{\forall}(P[y] \Rightarrow Q[y])) \Leftrightarrow (\underset{x}{\forall}Q[x]).$$

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

Proposition : First Test, 2014

$$((\forall x\ (P[x] \lor Q[x]) \land \forall y\ (P[y] \to Q[y]))\ \Longleftrightarrow\ \forall x\, Q[x])$$

2 Computing

2.1 [?]

$\forall ab\ (LessTM_{lex}\,(a)\,b :\Longleftrightarrow\ \exists\,(a_i < b_i \wedge \forall\, a_j = b_j))$

■

2.2 [?]

$\forall Km2\ \big(Mon[K]_{TimesTM}\,(m1, m2) := \big(K_{TimesTM}\,(m1_1, m2_1)\,,_{[,\,PlusTM](m1_{2i}, m2_{2i})}\big)\big)$

2.3 [?]

$\forall Km2\ (Mon[K]_{LessTM}\,(m1, m2) :\Longleftrightarrow\ LessTM_{lex}\,(m1_2)\,m2_2)$

■

3 Set Theory

3.1 [?]

$\forall xy\ (x \subseteq y := \forall z\ (zx \to zy))$

■ **Proposition :** TRANSITIVITY OF

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