

t35_qc_lang4 (TMPWkt- gbD8NuvMvGw38z2hhikoLGrPvWWwq)

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Let $m1_qc_lang1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9_qc_lang1 : \iota \Rightarrow \iota$ be given. Let $m1_qc_lang4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2_qc_lang4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_qc_lang4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_trees_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k2_qc_lang4 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m4_trees_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_qc_lang4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_trees_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. ((m1_qc_lang1 X0) \wedge ((m1_subset_1 X1 (k9_qc_lang1 X0)) \wedge (m1_qc_lang4 X2 X0 X1))) \Rightarrow (\forall X3. (m2_qc_lang4 X3 X0 X1 X2) \Rightarrow (m1_trees_1 X3 (k9_xtuple_0 (k2_qc_lang4 X0 X1)))) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. ((m1_qc_lang1 X0) \wedge (m1_subset_1 X1 (k9_qc_lang1 X0))) \Rightarrow (\forall X2. (m1_qc_lang4 X2 X0 X1) \Rightarrow (m1_subset_1 X2 (k9_qc_lang1 X0))) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((m1_qc_lang1 X0) \wedge ((m1_subset_1 X1 (k9_qc_lang1 X0)) \wedge (m1_subset_1 X2 (k9_qc_lang1 X0)))) \Rightarrow (m4_trees_1 (k3_qc_lang4 X0 X1 X2) (k9_xtuple_0 (k2_qc_lang4 X0 X1))) \quad (3)$$

Assume the following.

$$\forall X0. (m1_qc_lang1 X0) \Rightarrow (\forall X1. (m1_subset_1 X1 (k9_qc_lang1 X0)) \Rightarrow (\forall X2. (m1_qc_lang4 X2 X0 X1) \Rightarrow (k4_qc_lang4 X0 X1 X2 = k3_qc_lang4 X0 X1 X2))) \quad (4)$$

Assume the following.

$$\forall X0. (m1_qc_lang1 X0) \Rightarrow (\forall X1. (m1_subset_1 X1 (k9_qc_lang1 X0)) \Rightarrow (\forall X2. (m1_qc_lang4 X2 X0 X1) \Rightarrow (\forall X3. (m1_trees_1 X3 (k9_xtuple_0 (k2_qc_lang4 X0 X1))) \Rightarrow ((m2_qc_lang4 X3 X0 X1 X2) \Leftrightarrow (k3_trees_2 (k9_qc_lang1 X0) (k2_qc_lang4 X0 X1) X3 = X2)))))) \quad (5)$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m1_qc_lang1\ X0) \Rightarrow (\forall X1.(m1_subset_1\ X1\ (k9_qc_lang1 \\
& \quad X0)) \Rightarrow (\forall X2.(m1_subset_1\ X2\ (k9_qc_lang1\ X0)) \Rightarrow (\forall X3. \\
& (m4_trees_1\ X3\ (k9_xtuple_0\ (k2_qc_lang4\ X0\ X1))) \Rightarrow ((X3 = k3_qc_lang4 \\
& \quad X0\ X1\ X2) \Leftrightarrow (\forall X4.(m1_trees_1\ X4\ (k9_xtuple_0\ (k2_qc_lang4 \\
& \quad X0\ X1))) \Rightarrow ((X4 \in X3) \Leftrightarrow (k3_trees_2\ (k9_qc_lang1\ X0)\ (k2_qc_lang4 \\
& \quad X0\ X1)\ X4 = X2))))))
\end{aligned} \tag{6}$$

Theorem 1

$$\begin{aligned}
& \forall X0.(m1_qc_lang1\ X0) \Rightarrow (\forall X1.(m1_subset_1\ X1\ (k9_qc_lang1 \\
& \quad X0)) \Rightarrow (\forall X2.(m1_qc_lang4\ X2\ X0\ X1) \Rightarrow (\forall X3.(m2_qc_lang4 \\
& \quad X3\ X0\ X1\ X2) \Rightarrow (X3 \in k4_qc_lang4\ X0\ X1\ X2))))
\end{aligned}$$