

t37_qc_lang4 (TMVvE- crAeH9ZVgqnz8aGC8YK7UsSh558Mv9)

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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 $m2_qc_lang4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ 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 $k3_qc_lang4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_finseq_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_numbers : \iota$ be given. Let $k4_qc_lang4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k9_qc_lang1 \\ X0)) \Rightarrow (\forall X2.(m1_qc_lang4 X2 X0 X1) \Rightarrow (k4_qc_lang4 X0 X1 X2 = \\ ReplSep (toset (\lambda X3 : \iota.m2_qc_lang4 X3 X0 X1 X2)) (\lambda X3 : \iota. \\ X3 = X3) (\lambda X3 : \iota.X3)))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k9_qc_lang1 \\ X0)) \Rightarrow (\forall X2.(m1_qc_lang4 X2 X0 X1) \Rightarrow (\forall X3.(m2_qc_lang4 \\ X3 X0 X1 X2) \Rightarrow (X3 \in k4_qc_lang4 X0 X1 X2)))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k9_qc_lang1 \\ X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (k9_qc_lang1 X0)) \Rightarrow (\forall X3. \\ (m1_subset_1 X3 (k9_qc_lang1 X0)) \Rightarrow (\forall X4.(m1_trees_1 X4 \\ (k9_xtuple_0 (k2_qc_lang4 X0 X1))) \Rightarrow (\forall X5.(m1_trees_1 X5 \\ (k9_xtuple_0 (k2_qc_lang4 X0 X2))) \Rightarrow (((X4 \in k3_qc_lang4 X0 X1 X2) \wedge \\ (X5 \in k3_qc_lang4 X0 X2 X3)) \Rightarrow (k8_finseq_1 k5_numbers X4 X5 \in k3_qc_lang4 \\ X0 X1 X3)))))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.((m1_qc_lang1 X0) \wedge ((m1_subset_1 \\ X1 (k9_qc_lang1 X0)) \wedge (m1_qc_lang4 X2 X0 X1))) \Rightarrow (\forall X3.(m2_qc_lang4 \\ X3 X0 X1 X2) \Rightarrow (m1_trees_1 X3 (k9_xtuple_0 (k2_qc_lang4 X0 X1)))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.((m1_qc_lang1\ X0)\wedge(m1_subset_1\ X1\ (k9_qc_lang1\ X0)))\Rightarrow(\forall X2.(m1_qc_lang4\ X2\ X0\ X1)\Rightarrow(m1_subset_1\ X2\ (k9_qc_lang1\ X0))) \quad (5)$$

Assume the following.

$$\forall X0.(m1_qc_lang1\ X0)\Rightarrow(\forall X1.(m1_subset_1\ X1\ (k9_qc_lang1\ X0))\Rightarrow(\forall X2.(m1_qc_lang4\ X2\ X0\ X1)\Rightarrow(k4_qc_lang4\ X0\ X1\ X2 = k3_qc_lang4\ X0\ X1\ X2))) \quad (6)$$

Theorem 1

$$\forall X0.(m1_qc_lang1\ X0)\Rightarrow(\forall X1.(m1_subset_1\ X1\ (k9_qc_lang1\ X0))\Rightarrow(\forall X2.(m1_qc_lang4\ X2\ X0\ X1)\Rightarrow(\forall X3.(m1_qc_lang4\ X3\ X0\ X1)\Rightarrow(\forall X4.(m2_qc_lang4\ X4\ X0\ X1\ X2)\Rightarrow(\forall X5.(m1_trees_1\ X5\ (k9_xtuple_0\ (k2_qc_lang4\ X0\ X2))\Rightarrow((X5 \in k3_qc_lang4\ X0\ X2\ X3)\Rightarrow(m2_qc_lang4\ (k8_finseq_1\ k5_numbers\ X4\ X5)\ X0\ X1\ X3))))))))))$$