t40_qc_lang4 (TMdZa-JgHs1Tk5kYvAbmNaJBcaCqD2BpVjYJ)

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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 $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2\_qc\_lang4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ 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 $k8\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5\_numbers : \iota$ be given. Let $k3\_qc\_lang4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4\_qc\_lang4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(m1\_qc\_lang1\ X0) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (k9\_qc\_lang1\ X0)) \Rightarrow (\forall X2.(m1\_qc\_lang4\ X2\ X0\ X1) \Rightarrow (\forall X3.(m1\_qc\_lang4\ X3\ X0\ X1) \Rightarrow (\forall X4.(m2\_qc\_lang4\ X4\ X0\ X1\ X2) \Rightarrow (\forall X5.(m1\_trees\_1\ X5\ (k9\_xtuple\_0\ (k2\_qc\_lang4\ X0\ X2))) \Rightarrow ((X5 \in k3\_qc\_lang4\ X0\ X2\ X3) \Rightarrow (m2\_qc\_lang4\ (k8\_finseq\_1\ k5\_numbers\ X4\ X5)\ X0\ X1\ X3)))))))) \tag{1}$$

Assume the following.

$$\forall X0.(m1\_qc\_lang1\ X0) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (k9\_qc\_lang1\ X0)) \Rightarrow (\forall X2.(m1\_qc\_lang4\ X2\ X0\ X1) \Rightarrow (\forall X3.(m2\_qc\_lang4\ X3\ X0\ X1\ X2) \Rightarrow (X3 \in k4\_qc\_lang4\ X0\ X1\ X2)))) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.(r1\_tarski\ X0\ X1) \Leftrightarrow (\forall X2.(X2 \in X0) \Rightarrow (X2 \in X1)) \tag{3}$$

Theorem 1

$$\forall X0.(m1\_qc\_lang1\ X0) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (k9\_qc\_lang1\ X0)) \Rightarrow (\forall X2.(m1\_qc\_lang4\ X2\ X0\ X1) \Rightarrow (\forall X3.(m1\_qc\_lang4\ X3\ X0\ X1) \Rightarrow (r1\_tarski\ (ReplSep2\ (toset\ (\lambda X4 : \iota.m2\_qc\_lang4\ X4\ X0\ X1\ X2))\ (\lambda X4 : \iota.toset\ (\lambda X5 : \iota.m1\_trees\_1\ X5\ (k9\_xtuple\_0\ (k2\_qc\_lang4\ X0\ X2))))\ (\lambda X4 : \iota.\lambda X5 : \iota.X5 \in k3\_qc\_lang4\ X0\ X2\ X3)\ (\lambda X4 : \iota.\lambda X5 : \iota.k8\_finseq\_1\ k5\_numbers\ X4\ X5))\ (k4\_qc\_lang4\ X0\ X1\ X3)))))$$