

t21_sublemma

(TMYH7kSxktRd88QZP7YHgDM1DggDE1yj9qY)

October 27, 2020

Let $m1_qc_lang1 : \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k16_subst1 : \iota \Rightarrow \iota$ be given. Let $k38_subst1 : \iota \Rightarrow \iota$ be given. Let $k19_subst1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_sublemma : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_sublemma : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_cqc_lang : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m2_subset_1 X1 (k16_subst1 \\ & X0) (k38_subst1 X0)) \Rightarrow (\forall X2.(m2_subset_1 X2 (k16_subst1 \\ & X0) (k38_subst1 X0)) \Rightarrow ((k19_subst1 X0 X1 = k19_subst1 X0 X2) \Rightarrow \\ & ((k2_sublemma X0 (k6_sublemma X0 X1 X2) = k7_cqc_lang X0 (k2_sublemma \\ & X0 X1) (k2_sublemma X0 X2)) \wedge (k19_subst1 X0 (k6_sublemma X0 X1 \\ & X2) = k19_subst1 X0 X1)))))) \end{aligned} \tag{1}$$

Theorem 1

$$\begin{aligned} & \forall X0.(m1_qc_lang1 X0) \Rightarrow (\forall X1.(m2_subset_1 X1 (k16_subst1 \\ & X0) (k38_subst1 X0)) \Rightarrow (\forall X2.(m2_subset_1 X2 (k16_subst1 \\ & X0) (k38_subst1 X0)) \Rightarrow ((k19_subst1 X0 X1 = k19_subst1 X0 X2) \Rightarrow \\ & (k19_subst1 X0 (k6_sublemma X0 X1 X2) = k19_subst1 X0 X1)))) \end{aligned}$$