

t78_memstr_0
(TMNyrnQnn4srDykTByDGRiCZqX8jK99DLoz)

October 27, 2020

Let $v1_setfam_1 : \iota \Rightarrow o$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v2_memstr_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3_memstr_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1_memstr_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v5_funct_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_memstr_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_memstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_memstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_struct_0 : \iota \Rightarrow \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k1_funct_4 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_memstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0. (\neg v1_setfam_1 X0) \Rightarrow (\forall X1. ((\neg v2_struct_0 X1) \wedge \\ & ((v2_memstr_0 X1 X0) \wedge (l1_memstr_0 X1 X0))) \Rightarrow (\forall X2. ((v1_relat_1 \\ & X2) \wedge ((v4_relat_1 X2 (u1_struct_0 X1)) \wedge ((v1_funct_1 X2) \wedge ((v5_funct_1 \\ & X2 (k2_memstr_0 X0 X1)) \wedge (v1_partfun1 X2 (u1_struct_0 X1)))))) \Rightarrow \\ & (k4_struct_0 X1 \in k9_xtuple_0 X2))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. (\neg v1_setfam_1 X0) \Rightarrow (\forall X1. ((\neg v2_struct_0 X1) \wedge \\ & ((v2_memstr_0 X1 X0) \wedge ((v3_memstr_0 X1 X0) \wedge (l1_memstr_0 X1 X0)))) \Rightarrow \\ & (\forall X2. ((v1_relat_1 X2) \wedge ((v4_relat_1 X2 (u1_struct_0 X1)) \wedge \\ & ((v1_funct_1 X2) \wedge (v5_funct_1 X2 (k2_memstr_0 X0 X1)))))) \Rightarrow ((k4_struct_0 \\ & X1 \in k9_xtuple_0 X2) \Rightarrow (X2 = k1_funct_4 (k7_memstr_0 X0 X1 (k5_memstr_0 \\ & X0 X1 X2)) (k6_memstr_0 X0 X1 X2)))) \end{aligned} \tag{2}$$

Theorem 1

$$\begin{aligned} & \forall X0.(\neg v1_setfam_1 X0) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge \\ & ((v2_memstr_0 X1 X0) \wedge (v3_memstr_0 X1 X0) \wedge (l1_memstr_0 X1 X0)))) \Rightarrow \\ & (\forall X2.((v1_relat_1 X2) \wedge ((v4_relat_1 X2 (u1_struct_0 X1)) \wedge \\ & ((v1_funct_1 X2) \wedge ((v5_funct_1 X2 (k2_memstr_0 X0 X1)) \wedge (v1_partfun1 \\ & X2 (u1_struct_0 X1)))))) \Rightarrow (\forall X3.((v1_relat_1 X3) \wedge ((v4_relat_1 \\ & X3 (u1_struct_0 X1)) \wedge ((v1_funct_1 X3) \wedge ((v5_funct_1 X3 (k2_memstr_0 \\ & X0 X1)) \wedge (v1_partfun1 X3 (u1_struct_0 X1)))))) \Rightarrow (((k5_memstr_0 \\ & X0 X1 X2 = k5_memstr_0 X0 X1 X3) \wedge (k6_memstr_0 X0 X1 X2 = k6_memstr_0 \\ & X0 X1 X3)) \Rightarrow (X2 = X3)))) \end{aligned}$$