

t56_memstr_0 (TMPRLfCNuQqQznK-
DoSPbo42rn4sSt6XtFRQ)

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Let $v7_ordinal1 : \iota \Rightarrow o$ be given. 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 $k4_struct_0 : \iota \Rightarrow \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k9_memstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_4 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_memstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_memstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_memstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0. (\neg v1_setfam_1 X0) \Rightarrow (\forall X1. ((\neg v2_struct_0 X1) \wedge \\
 & ((v2_memstr_0 X1 X0) \wedge (v3_memstr_0 X1 X0) \wedge (l1_memstr_0 X1 X0))) \Rightarrow \\
 & (\forall X2. ((v1_relat_1 X2) \wedge ((v4_relat_1 X2 (u1_struct_0 X1)) \wedge \\
 & ((v1_funct_1 X2) \wedge (v5_funct_1 X2 (k2_memstr_0 X0 X1)))))) \Rightarrow (\forall X3. \\
 & (v7_ordinal1 X3) \Rightarrow (k5_memstr_0 X0 X1 (k9_memstr_0 X0 X1 X2 X3) = k2_nat_1 \\
 & (k5_memstr_0 X0 X1 X2 X3))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
 & \forall X0. (\neg v1_setfam_1 X0) \Rightarrow (\forall X1. ((\neg v2_struct_0 X1) \wedge \\
 & ((v2_memstr_0 X1 X0) \wedge (v3_memstr_0 X1 X0) \wedge (l1_memstr_0 X1 X0))) \Rightarrow \\
 & (\forall X2. ((v1_relat_1 X2) \wedge ((v4_relat_1 X2 (u1_struct_0 X1)) \wedge \\
 & ((v1_funct_1 X2) \wedge (v5_funct_1 X2 (k2_memstr_0 X0 X1)))))) \Rightarrow (\forall X3. \\
 & (v7_ordinal1 X3) \Rightarrow (k4_struct_0 X1 \in k9_xtuple_0 (k9_memstr_0 X0 \\
 & X1 X2 X3))))
 \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(\neg v1_setfam_1 X0) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge \\
& ((v2_memstr_0 X1 X0) \wedge ((v3_memstr_0 X1 X0) \wedge (l1_memstr_0 X1 X0)))) \Rightarrow \\
& (\forall X2.((v1_relat_1 X2) \wedge ((v4_relat_1 X2 (u1_struct_0 X1)) \wedge \\
& ((v1_funct_1 X2) \wedge (v5_funct_1 X2 (k2_memstr_0 X0 X1)))))) \Rightarrow (\forall X3. \\
& (v7_ordinal1 X3) \Rightarrow (k6_memstr_0 X0 X1 (k9_memstr_0 X0 X1 X2 X3) = k6_memstr_0 \\
& X0 X1 X2)))
\end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(\neg v1_setfam_1 X0) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge \\
& ((v2_memstr_0 X1 X0) \wedge ((v3_memstr_0 X1 X0) \wedge (l1_memstr_0 X1 X0)))) \Rightarrow \\
& (\forall X2.((v1_relat_1 X2) \wedge ((v4_relat_1 X2 (u1_struct_0 X1)) \wedge \\
& ((v1_funct_1 X2) \wedge (v5_funct_1 X2 (k2_memstr_0 X0 X1)))))) \Rightarrow ((k4_struct_0 \\
& X1 \in k9_xtuple_0 X2) \Rightarrow (X2 = k1_funct_4 (k6_memstr_0 X0 X1 X2) (k7_memstr_0 \\
& X0 X1 (k5_memstr_0 X0 X1 X2))))))
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.\forall X3.((\neg v1_setfam_1 X0) \wedge \\
& (((\neg v2_struct_0 X1) \wedge ((v2_memstr_0 X1 X0) \wedge ((v3_memstr_0 X1 X0) \wedge \\
& (l1_memstr_0 X1 X0)))) \wedge ((v1_relat_1 X2) \wedge ((v4_relat_1 X2 (u1_struct_0 \\
& X1)) \wedge ((v1_funct_1 X2) \wedge (v5_funct_1 X2 (k2_memstr_0 X0 X1)))))) \wedge \\
& (v7_ordinal1 X3))) \Rightarrow ((v1_relat_1 (k9_memstr_0 X0 X1 X2 X3)) \wedge \\
& (v4_relat_1 (k9_memstr_0 X0 X1 X2 X3) (u1_struct_0 X1)) \wedge ((v1_funct_1 \\
& (k9_memstr_0 X0 X1 X2 X3)) \wedge (v5_funct_1 (k9_memstr_0 X0 X1 X2 X3) \\
& (k2_memstr_0 X0 X1))))))
\end{aligned} \tag{5}$$

Theorem 1

$$\begin{aligned}
& \forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.(\neg v1_setfam_1 X1) \Rightarrow (\\
& \forall X2.((\neg v2_struct_0 X2) \wedge ((v2_memstr_0 X2 X1) \wedge ((v3_memstr_0 \\
& X2 X1) \wedge (l1_memstr_0 X2 X1)))) \Rightarrow (\forall X3.((v1_relat_1 X3) \wedge \\
& (v4_relat_1 X3 (u1_struct_0 X2)) \wedge ((v1_funct_1 X3) \wedge (v5_funct_1 \\
& X3 (k2_memstr_0 X1 X2)))))) \Rightarrow ((k4_struct_0 X2 \in k9_xtuple_0 X3) \Rightarrow \\
& (k9_memstr_0 X1 X2 X3 X0 = k1_funct_4 (k6_memstr_0 X1 X2 X3) (k7_memstr_0 \\
& X1 X2 (k2_nat_1 (k5_memstr_0 X1 X2 X3) X0))))))
\end{aligned}$$