

t1_amistd_4
(TMPZ2xwQk5e6Q23NUocvNm6t5dgtanG8zSY)

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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 $v3_amistd_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1_extpro_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_compos_1 : \iota \Rightarrow \iota$ 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 $k4_memstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v4_amistd_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_struct_0 : \iota \Rightarrow \iota$ be given. Let $k5_memstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_extpro_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_amistd_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_funct_7 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1_memstr_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1_compos_1 : \iota \Rightarrow o$ be given. Let $k1_ordinal1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (\forall X1. \forall X2. \\ & \forall X3.(X2 \neq X3) \Rightarrow (k1_funct_1 (k2_funct_7 X0 X2 X1) X3 = k1_funct_1 \\ & \quad X0 X3)) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. ((\neg v1_setfam_1 \\ & X0) \wedge (((\neg v2_struct_0 X1) \wedge (v2_memstr_0 X1 X0) \wedge (v3_memstr_0 \\ & X1 X0) \wedge (l1_extpro_1 X1 X0)))) \wedge (((v1_relat_1 X2) \wedge (v4_relat_1 \\ & X2 (u1_struct_0 X1)) \wedge (v1_funct_1 X2) \wedge (v5_funct_1 X2 (k2_memstr_0 \\ & X0 X1)) \wedge (v1_partfun1 X2 (u1_struct_0 X1)))))) \wedge ((m1_subset_1 \\ & X3 (u1_struct_0 X1)) \wedge (m1_subset_1 X4 (k4_memstr_0 X0 X1 X3)))) \Rightarrow \\ & (k1_amistd_4 X0 X1 X2 X3 X4 = k2_funct_7 X2 X3 X4) \end{aligned} \tag{2}$$

Assume the following.

$$\forall X0. \forall X1. (l1_extpro_1 X1 X0) \Rightarrow ((l1_memstr_0 X1 X0) \wedge (l1_compos_1 X1)) \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. \forall X3. ((\neg v1_setfam_1 X0) \wedge \\
& (((v2_memstr_0 X1 X0) \wedge (l1_extpro_1 X1 X0)) \wedge ((m1_subset_1 X2 (\\
& u1_compos_1 X1)) \wedge ((v1_relat_1 X3) \wedge ((v4_relat_1 X3 (u1_struct_0 \\
& X1)) \wedge ((v1_funct_1 X3) \wedge ((v5_funct_1 X3 (k2_memstr_0 X0 X1)) \wedge (\\
& v1_partfun1 X3 (u1_struct_0 X1)))))))) \Rightarrow ((v1_relat_1 (k2_extpro_1 \\
& X0 X1 X2 X3)) \wedge ((v4_relat_1 (k2_extpro_1 X0 X1 X2 X3) (u1_struct_0 \\
& X1)) \wedge ((v1_funct_1 (k2_extpro_1 X0 X1 X2 X3)) \wedge ((v5_funct_1 (k2_extpro_1 \\
& X0 X1 X2 X3) (k2_memstr_0 X0 X1)) \wedge (v1_partfun1 (k2_extpro_1 X0 X1 \\
& X2 X3) (u1_struct_0 X1))))))
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. ((\neg v1_setfam_1 \\
& X0) \wedge (((\neg v2_struct_0 X1) \wedge ((v2_memstr_0 X1 X0) \wedge ((v3_memstr_0 \\
& X1 X0) \wedge (l1_extpro_1 X1 X0)))) \wedge (((v1_relat_1 X2) \wedge ((v4_relat_1 \\
& X2 (u1_struct_0 X1)) \wedge ((v1_funct_1 X2) \wedge ((v5_funct_1 X2 (k2_memstr_0 \\
& X0 X1)) \wedge (v1_partfun1 X2 (u1_struct_0 X1)))))) \wedge ((m1_subset_1 \\
& X3 (u1_struct_0 X1)) \wedge (m1_subset_1 X4 (k4_memstr_0 X0 X1 X3)))))) \Rightarrow \\
& ((v1_relat_1 (k1_amistd_4 X0 X1 X2 X3 X4)) \wedge ((v4_relat_1 (k1_amistd_4 \\
& X0 X1 X2 X3 X4) (u1_struct_0 X1)) \wedge ((v1_funct_1 (k1_amistd_4 X0 X1 \\
& X2 X3 X4)) \wedge ((v5_funct_1 (k1_amistd_4 X0 X1 X2 X3 X4) (k2_memstr_0 \\
& X0 X1)) \wedge (v1_partfun1 (k1_amistd_4 X0 X1 X2 X3 X4) (u1_struct_0 X1))))))
\end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned}
& \forall X0. (\neg v1_setfam_1 X0) \Rightarrow (\forall X1. ((\neg v2_struct_0 X1) \wedge \\
& ((v2_memstr_0 X1 X0) \wedge ((v3_memstr_0 X1 X0) \wedge (l1_extpro_1 X1 X0)))) \Rightarrow \\
& (\forall X2. (m1_subset_1 X2 (u1_compos_1 X1)) \Rightarrow ((v4_amistd_1 \\
& X2 X0 X1) \Leftrightarrow (\forall X3. ((v1_relat_1 X3) \wedge ((v4_relat_1 X3 (u1_struct_0 \\
& X1)) \wedge ((v1_funct_1 X3) \wedge ((v5_funct_1 X3 (k2_memstr_0 X0 X1)) \wedge (\\
& v1_partfun1 X3 (u1_struct_0 X1)))))) \Rightarrow (k1_funct_1 (k2_extpro_1 \\
& X0 X1 X2 X3) (k4_struct_0 X1) = k1_ordinal1 (k5_memstr_0 X0 X1 X3))))))
\end{aligned} \tag{6}$$

Assume the following.

$$\begin{aligned}
& \forall X0. (\neg v1_setfam_1 X0) \Rightarrow (\forall X1. ((\neg v2_struct_0 X1) \wedge \\
& ((v2_memstr_0 X1 X0) \wedge ((v3_memstr_0 X1 X0) \wedge (l1_memstr_0 X1 X0)))) \Rightarrow \\
& (\forall X2. ((v1_relat_1 X2) \wedge ((v4_relat_1 X2 (u1_struct_0 X1)) \wedge \\
& ((v1_funct_1 X2) \wedge ((v5_funct_1 X2 (k2_memstr_0 X0 X1))))) \Rightarrow (k5_memstr_0 \\
& X0 X1 X2 = k1_funct_1 X2 (k4_struct_0 X1)))
\end{aligned} \tag{7}$$

Theorem 1

$$\begin{aligned} & \forall X0.(\neg v1_setfam_1 X0) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge \\ & ((v2_memstr_0 X1 X0) \wedge (v3_memstr_0 X1 X0) \wedge (v3_amistd_1 X1 X0) \wedge \\ & (l1_extpro_1 X1 X0)))) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_compos_1 \\ & X1)) \Rightarrow (\forall X3.((v1_relat_1 X3) \wedge (v4_relat_1 X3 (u1_struct_0 \\ & X1)) \wedge (v1_funct_1 X3) \wedge (v5_funct_1 X3 (k2_memstr_0 X0 X1)) \wedge (\\ & v1_partfun1 X3 (u1_struct_0 X1)))))) \Rightarrow (\forall X4.(m1_subset_1 \\ & X4 (u1_struct_0 X1)) \Rightarrow (\forall X5.(m1_subset_1 X5 (k4_memstr_0 \\ & X0 X1 X4)) \Rightarrow ((v4_amistd_1 X2 X0 X1) \Rightarrow ((X4 = k4_struct_0 X1) \vee (k5_memstr_0 \\ & X0 X1 (k2_extpro_1 X0 X1 X2 X3) = k5_memstr_0 X0 X1 (k2_extpro_1 X0 \\ & X1 X2 (k1_amistd_4 X0 X1 X3 X4 X5)))))))))) \end{aligned}$$