

l9_ami_wstd

(TMU8bLgeBi9Exrg5tCoVtXMsYiL6MZP47XY)

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Let $v1_setfam_1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_compos_1 : \iota \Rightarrow \iota$ be given. Let $k4_amistd_1 : \iota \Rightarrow \iota$ 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 $k2_compos_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ 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 $k1_ordinal1 : \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_struct_0 : \iota \Rightarrow \iota$ be given. Let $v3_memstr_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_extpro_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2_memstr_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v8_struct_0 : \iota \Rightarrow o$ be given. Let $l1_extpro_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1_memstr_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1_compos_1 : \iota \Rightarrow o$ be given. Let $v4_amistd_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0. (\neg v1_setfam_1 X0) \Rightarrow (\forall X1. (m1_subset_1 X1 (u1_compos_1 \\
 & \quad (k4_amistd_1 X0))) \Rightarrow (\forall X2. ((v1_relat_1 X2) \wedge ((v4_relat_1 \\
 & \quad X2 (u1_struct_0 (k4_amistd_1 X0))) \wedge ((v1_funct_1 X2) \wedge ((v5_funct_1 \\
 & \quad X2 (k2_memstr_0 X0 (k4_amistd_1 X0))) \wedge (v1_partfun1 X2 (u1_struct_0 \\
 & \quad (k4_amistd_1 X0)))))) \Rightarrow ((k2_compos_0 (u1_compos_1 (k4_amistd_1 \\
 & \quad X0)) X1 = np_1) \Rightarrow (k1_funct_1 (k2_extpro_1 X0 (k4_amistd_1 X0) X1 \\
 & \quad X2) (k4_struct_0 (k4_amistd_1 X0)) = k1_ordinal1 (k5_memstr_0 \\
 & \quad X0 (k4_amistd_1 X0) X2))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. (\neg v1_setfam_1 X0) \Rightarrow ((v3_memstr_0 (k4_amistd_1 X0) X0) \wedge (v1_extpro_1 (k4_amistd_1 X0) X0)) \tag{2}$$

Assume the following.

$$\forall X0. (\neg v1_setfam_1 X0) \Rightarrow ((v2_memstr_0 (k4_amistd_1 X0) X0) \wedge (v1_extpro_1 (k4_amistd_1 X0) X0)) \tag{3}$$

Assume the following.

$$\forall X0.(\neg v1_setfam_1 X0) \Rightarrow ((\neg v2_struct_0 (k4_amistd_1 X0)) \wedge ((v8_struct_0 (k4_amistd_1 X0)) \wedge (v1_extpro_1 (k4_amistd_1 X0) X0))) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.(l1_extpro_1 X1 X0) \Rightarrow ((l1_memstr_0 X1 X0) \wedge (l1_compos_1 X1)) \quad (5)$$

Assume the following.

$$\forall X0.(\neg v1_setfam_1 X0) \Rightarrow ((v1_extpro_1 (k4_amistd_1 X0) X0) \wedge (l1_extpro_1 (k4_amistd_1 X0) X0)) \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((\neg v1_setfam_1 X0) \wedge \\ & (((v2_memstr_0 X1 X0) \wedge (l1_extpro_1 X1 X0)) \wedge ((m1_subset_1 X2 (u1_compos_1 X1)) \wedge ((v1_relat_1 X3) \wedge ((v4_relat_1 X3 (u1_struct_0 X1)) \wedge ((v1_funct_1 X3) \wedge ((v5_funct_1 X3 (k2_memstr_0 X0 X1)) \wedge (v1_partfun1 X3 (u1_struct_0 X1)))))))))) \Rightarrow ((v1_relat_1 (k2_extpro_1 X0 X1 X2 X3)) \wedge ((v4_relat_1 (k2_extpro_1 X0 X1 X2 X3) (u1_struct_0 X1)) \wedge ((v1_funct_1 (k2_extpro_1 X0 X1 X2 X3)) \wedge ((v5_funct_1 (k2_extpro_1 X0 X1 X2 X3) (k2_memstr_0 X0 X1)) \wedge (v1_partfun1 (k2_extpro_1 X0 X1 X2 X3) (u1_struct_0 X1)))))) \quad (7) \end{aligned}$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1_setfam_1 X0) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge ((v2_memstr_0 X1 X0) \wedge ((v3_memstr_0 X1 X0) \wedge (l1_extpro_1 X1 X0)))) \Rightarrow \\ & (\forall X2.(m1_subset_1 X2 (u1_compos_1 X1)) \Rightarrow ((v4_amistd_1 X2 X0 X1) \Leftrightarrow (\forall X3.((v1_relat_1 X3) \wedge ((v4_relat_1 X3 (u1_struct_0 X1)) \wedge ((v1_funct_1 X3) \wedge ((v5_funct_1 X3 (k2_memstr_0 X0 X1)) \wedge (v1_partfun1 X3 (u1_struct_0 X1)))))) \Rightarrow (k1_funct_1 (k2_extpro_1 X0 X1 X2 X3) (k4_struct_0 X1) = k1_ordinal1 (k5_memstr_0 X0 X1 X3)))))) \quad (8) \end{aligned}$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1_setfam_1 X0) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge ((v2_memstr_0 X1 X0) \wedge (v3_memstr_0 X1 X0) \wedge (l1_memstr_0 X1 X0)))) \Rightarrow \\ & (\forall X2.((v1_relat_1 X2) \wedge ((v4_relat_1 X2 (u1_struct_0 X1)) \wedge ((v1_funct_1 X2) \wedge (v5_funct_1 X2 (k2_memstr_0 X0 X1)))))) \Rightarrow (k5_memstr_0 X0 X1 X2 = k1_funct_1 X2 (k4_struct_0 X1))) \quad (9) \end{aligned}$$

Theorem 1

$$\begin{aligned} \forall X0.(\neg v1_setfam_1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_compos_1 \\ (k4_amistd_1 X0))) \Rightarrow (\forall X2.((v1_relat_1 X2) \wedge ((v4_relat_1 \\ X2 (u1_struct_0 (k4_amistd_1 X0))) \wedge (v1_funct_1 X2) \wedge ((v5_funct_1 \\ X2 (k2_memstr_0 X0 (k4_amistd_1 X0))) \wedge (v1_partfun1 X2 (u1_struct_0 \\ (k4_amistd_1 X0)))))) \Rightarrow ((k2_compos_0 (u1_compos_1 (k4_amistd_1 \\ X0) X1 = np_1) \Rightarrow (k5_memstr_0 X0 (k4_amistd_1 X0) (k2_extpro_1 \\ X0 (k4_amistd_1 X0) X1 X2) = k1_ordinal1 (k5_memstr_0 X0 (k4_amistd_1 \\ X0) X2)))))) \end{aligned}$$