

t22_instalg1
(TMRjphkNtTXXcCwn85r91MihdeRBKaiT4FT)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $l1_msualg_1 : \iota \Rightarrow o$ be given. Let $v4_msualg_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l3_msualg_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $r3_pua2mss1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_instalg1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $l2_msualg_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u3_msualg_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_relat_1 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l5_struct_0 : \iota \Rightarrow o$ be given. Let $v3_msualg_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u4_msualg_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((l1_struct_0 X0) \wedge ((v4_msualg_1 X1 X0) \wedge \\ & (l2_msualg_1 X1 X0))) \Rightarrow ((v1_relat_1 (u3_msualg_1 X0 X1)) \wedge ((v2_relat_1 \\ & (u3_msualg_1 X0 X1)) \wedge ((v4_relat_1 (u3_msualg_1 X0 X1) (u1_struct_0 \\ & X0)) \wedge ((v1_funct_1 (u3_msualg_1 X0 X1)) \wedge (v1_partfun1 (u3_msualg_1 \\ & X0 X1) (u1_struct_0 X0)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1_relat_1 X0) \wedge ((v1_relat_1 X1) \wedge (v2_relat_1 \\ & X1))) \Rightarrow ((v1_relat_1 (k3_relat_1 X0 X1)) \wedge (v2_relat_1 (k3_relat_1 \\ & X0 X1))) \end{aligned} \tag{2}$$

Assume the following.

$$\forall X0. (l5_struct_0 X0) \Rightarrow (l1_struct_0 X0) \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge (l1_msualg_1 X0)) \Rightarrow (\forall X1. \\ & (l3_msualg_1 X1 X0) \Rightarrow (l2_msualg_1 X1 X0)) \end{aligned} \tag{4}$$

Assume the following.

$$\forall X0. (l1_msualg_1 X0) \Rightarrow (l5_struct_0 X0) \tag{5}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. (((\neg v2_struct_0 \\ & X0) \wedge (l1_msualg_1 X0)) \wedge (((\neg v2_struct_0 X1) \wedge (l1_msualg_1 X1)) \wedge \\ & ((l3_msualg_1 X2 X1) \wedge ((v1_relat_1 X3) \wedge (v1_funct_1 X3)) \wedge ((v1_relat_1 \\ & X4) \wedge (v1_funct_1 X4)))))) \Rightarrow ((v3_msualg_1 (k1_instalg1 X0 X1 X2 \\ & X3 X4) X0) \wedge (l3_msualg_1 (k1_instalg1 X0 X1 X2 X3 X4) X0)) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0. (l1_struct_0 X0) \Rightarrow (\forall X1. (l2_msualg_1 X1 X0) \Rightarrow \\ & ((v4_msualg_1 X1 X0) \Leftrightarrow (v2_relat_1 (u3_msualg_1 X0 X1)))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge (l1_msualg_1 X0)) \Rightarrow (\forall X1. \\ & ((\neg v2_struct_0 X1) \wedge (l1_msualg_1 X1)) \Rightarrow (\forall X2. (l3_msualg_1 \\ & X2 X1) \Rightarrow (\forall X3. ((v1_relat_1 X3) \wedge (v1_funct_1 X3)) \Rightarrow (\forall X4. \\ & ((v1_relat_1 X4) \wedge (v1_funct_1 X4)) \Rightarrow ((r3_pua2mss1 X0 X1 X3 X4) \Rightarrow \\ & (\forall X5. ((v3_msualg_1 X5 X0) \wedge (l3_msualg_1 X5 X0)) \Rightarrow ((X5 = k1_instalg1 \\ & X0 X1 X2 X3 X4) \Leftrightarrow ((u3_msualg_1 X0 X5 = k3_relat_1 X3 (u3_msualg_1 X1 \\ & X2)) \wedge (u4_msualg_1 X0 X5 = k3_relat_1 X4 (u4_msualg_1 X1 X2)))))))))) \end{aligned} \quad (8)$$

Theorem 1

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge (l1_msualg_1 X0)) \Rightarrow (\forall X1. \\ & ((\neg v2_struct_0 X1) \wedge (l1_msualg_1 X1)) \Rightarrow (\forall X2. ((v4_msualg_1 \\ & X2 X1) \wedge (l3_msualg_1 X2 X1)) \Rightarrow (\forall X3. ((v1_relat_1 X3) \wedge (v1_funct_1 \\ & X3)) \Rightarrow (\forall X4. ((v1_relat_1 X4) \wedge (v1_funct_1 X4)) \Rightarrow ((r3_pua2mss1 \\ & X0 X1 X3 X4) \Rightarrow (v4_msualg_1 (k1_instalg1 X0 X1 X2 X3 X4) X0)))))) \end{aligned}$$