t21_instalg1 (TMULPgk-BLA9dVL1VHhhZwQjtBB6AfCmSGnS)

October 27, 2020

Let $v2\_struct\_0 : \iota \Rightarrow o$ be given. Let $l1\_msualg\_1 : \iota \Rightarrow o$ be given. Let $l3\_msualg\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $g3\_msualg\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u3\_msualg\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u4\_msualg\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_relat\_1 : \iota \Rightarrow o$ be given. Let $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $r3\_pua2mss1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_instalg1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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 $m2\_pboole : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u4\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $k3\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1\_msualg\_1 : \iota \Rightarrow \iota$ be given. Let $k6\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u2\_msualg\_1 : \iota \Rightarrow \iota$ be given. Let $l1\_struct\_0 : \iota \Rightarrow o$ be given. Let $l2\_msualg\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l5\_struct\_0 : \iota \Rightarrow o$ be given. Let $v3\_msualg\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0\ X0) \wedge (l1\_msualg\_1\ X0)) \wedge (((v1\_relat\_1\ X1) \wedge ((v4\_relat\_1\ X1\ (u1\_struct\_0\ X0)) \wedge ((v1\_funct\_1\ X1) \wedge (v1\_partfun1\ X1\ (u1\_struct\_0\ X0))))) \wedge (m2\_pboole\ X2\ (u4\_struct\_0\ X0)\ (k3\_relat\_1\ (u1\_msualg\_1\ X0)\ (k6\_finseq\_2\ (u1\_struct\_0\ X0)\ X1))\ (k3\_relat\_1\ (u2\_msualg\_1\ X0)\ X1)))) \Rightarrow (\forall X3.\forall X4.\forall X5.(g3\_msualg\_1\ X0\ X1\ X2 = g3\_msualg\_1\ X3\ X4\ X5) \Rightarrow ((X0 = X3) \wedge ((X1 = X4) \wedge (X2 = X5)))) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_struct\_0\ X0) \wedge (l1\_msualg\_1\ X0)) \wedge (l3\_msualg\_1\ X1\ X0)) \Rightarrow (m2\_pboole\ (u4\_msualg\_1\ X0\ X1)\ (u4\_struct\_0\ X0)\ (k3\_relat\_1\ (u1\_msualg\_1\ X0)\ (k6\_finseq\_2\ (u1\_struct\_0\ X0)\ (u3\_msualg\_1\ X0\ X1)))\ (k3\_relat\_1\ (u2\_msualg\_1\ X0)\ (u3\_msualg\_1\ X0\ X1))) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.((l1\_struct\_0\ X0) \wedge (l2\_msualg\_1\ X1\ X0)) \Rightarrow ((v1\_relat\_1\ (u3\_msualg\_1\ X0\ X1)) \wedge ((v4\_relat\_1\ (u3\_msualg\_1\ X0\ X1)\ (u1\_struct\_0\ X0)) \wedge ((v1\_funct\_1\ (u3\_msualg\_1\ X0\ X1)) \wedge (v1\_partfun1\ (u3\_msualg\_1\ X0\ X1)\ (u1\_struct\_0\ X0))))) \tag{3}$$

Assume the following.

$$\forall X0.(l5\_struct\_0\ X0) \Rightarrow (l1\_struct\_0\ X0) \tag{4}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge (l1\_msualg\_1\ X0)) \Rightarrow (\forall X1.\ (l3\_msualg\_1\ X1\ X0) \Rightarrow (l2\_msualg\_1\ X1\ X0)) \tag{5}$$

Assume the following.

$$\forall X0.(l1\_msualg\_1\ X0) \Rightarrow (l5\_struct\_0\ X0) \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.\forall X4.(((\neg v2\_struct\_0\ X0) \wedge (l1\_msualg\_1\ X0)) \wedge (((\neg v2\_struct\_0\ X1) \wedge (l1\_msualg\_1\ X1)) \wedge ((l3\_msualg\_1\ X2\ X1) \wedge (((v1\_relat\_1\ X3) \wedge (v1\_funct\_1\ X3)) \wedge ((v1\_relat\_1\ X4) \wedge (v1\_funct\_1\ X4)))))) \Rightarrow ((v3\_msualg\_1\ (k1\_instalg1\ X0\ X1\ X2\ X3\ X4)\ X0) \wedge (l3\_msualg\_1\ (k1\_instalg1\ X0\ X1\ X2\ X3\ X4)\ X0)) \tag{7}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge (l1\_msualg\_1\ X0)) \Rightarrow (\forall X1.\ ((\neg v2\_struct\_0\ X1) \wedge (l1\_msualg\_1\ X1)) \Rightarrow (\forall X2.(l3\_msualg\_1\ X2\ X1) \Rightarrow (\forall X3.((v1\_relat\_1\ X3) \wedge (v1\_funct\_1\ X3)) \Rightarrow (\forall X4.\ ((v1\_relat\_1\ X4) \wedge (v1\_funct\_1\ X4)) \Rightarrow ((r3\_pua2mss1\ X0\ X1\ X3\ X4) \Rightarrow (\forall X5.((v3\_msualg\_1\ X5\ X0) \wedge (l3\_msualg\_1\ X5\ X0)) \Rightarrow ((X5 = k1\_instalg1\ X0\ X1\ X2\ X3\ X4) \Leftrightarrow ((u3\_msualg\_1\ X0\ X5 = k3\_relat\_1\ X3\ (u3\_msualg\_1\ X1\ X2)) \wedge (u4\_msualg\_1\ X0\ X5 = k3\_relat\_1\ X4\ (u4\_msualg\_1\ X1\ X2)))))))))) \tag{8}$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_struct\_0\ X0) \wedge (l1\_msualg\_1\ X0)) \wedge (l3\_msualg\_1\ X1\ X0)) \Rightarrow ((v3\_msualg\_1\ X1\ X0) \Rightarrow (X1 = g3\_msualg\_1\ X0\ (u3\_msualg\_1\ X0\ X1)\ (u4\_msualg\_1\ X0\ X1))) \tag{9}$$

Theorem 1

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge (l1\_msualg\_1\ X0)) \Rightarrow (\forall X1.\ ((\neg v2\_struct\_0\ X1) \wedge (l1\_msualg\_1\ X1)) \Rightarrow (\forall X2.(l3\_msualg\_1\ X2\ X1) \Rightarrow (\forall X3.(l3\_msualg\_1\ X3\ X1) \Rightarrow ((g3\_msualg\_1\ X1\ (u3\_msualg\_1\ X1\ X2)\ (u4\_msualg\_1\ X1\ X2) = g3\_msualg\_1\ X1\ (u3\_msualg\_1\ X1\ X3)\ (u4\_msualg\_1\ X1\ X3)) \Rightarrow (\forall X4.((v1\_relat\_1\ X4) \wedge (v1\_funct\_1\ X4)) \Rightarrow (\forall X5.\ ((v1\_relat\_1\ X5) \wedge (v1\_funct\_1\ X5)) \Rightarrow ((r3\_pua2mss1\ X0\ X1\ X4\ X5) \Rightarrow (k1\_instalg1\ X0\ X1\ X2\ X4\ X5 = k1\_instalg1\ X0\ X1\ X3\ X4\ X5)))))))))$$