t8_osalg_1 (TML-SnW4Woo8wEj1yVXfuEE6zau93K3NpzxD)

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Let $v2\_struct\_0 : \iota \Rightarrow o$ be given. Let $v11\_struct\_0 : \iota \Rightarrow o$ be given. Let $v4\_osalg\_1 : \iota \Rightarrow o$ be given. Let $v5\_osalg\_1 : \iota \Rightarrow o$ be given. Let $l3\_osalg\_1 : \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u4\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $v1\_orders\_3 : \iota \Rightarrow o$ be given. Let $r1\_osalg\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r2\_osalg\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_msualg\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r3\_orders\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2\_msualg\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3\_orders\_2 : \iota \Rightarrow o$ be given. Let $v4\_orders\_2 : \iota \Rightarrow o$ be given. Let $v5\_orders\_2 : \iota \Rightarrow o$ be given. Let $l1\_orders\_2 : \iota \Rightarrow o$ be given. Let $m2\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $k3\_finseq\_2 : \iota \Rightarrow \iota$ be given. Let $r1\_orders\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1\_osalg\_1 : \iota \Rightarrow o$ be given. Let $l2\_osalg\_1 : \iota \Rightarrow o$ be given. Let $l1\_msualg\_1 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v3\_orders\_2\ X0) \wedge ((v4\_orders\_2\ X0) \wedge ((v5\_orders\_2\ X0) \wedge (l1\_orders\_2\ X0))))) \Rightarrow (\forall X1.(m2\_finseq\_2\ X1\ (u1\_struct\_0\ X0)\ (k3\_finseq\_2\ (u1\_struct\_0\ X0))) \Rightarrow (\forall X2.\ (m2\_finseq\_2\ X2\ (u1\_struct\_0\ X0)\ (k3\_finseq\_2\ (u1\_struct\_0\ X0))) \Rightarrow (((v1\_orders\_3\ X0) \wedge (r2\_osalg\_1\ X0\ X1\ X2)) \Rightarrow (X1 = X2)))) \tag{1}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v1\_orders\_3\ X0) \wedge (l1\_orders\_2\ X0))) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X2.\ (m1\_subset\_1\ X2\ (u1\_struct\_0\ X0)) \Rightarrow ((r1\_orders\_2\ X0\ X1\ X2) \Leftrightarrow (X1 = X2)))) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0\ X0) \wedge ((v3\_orders\_2\ X0) \wedge (l1\_orders\_2\ X0))) \wedge (m1\_subset\_1\ X1\ (u1\_struct\_0\ X0)) \wedge (m1\_subset\_1\ X2\ (u1\_struct\_0\ X0)))) \Rightarrow ((r3\_orders\_2\ X0\ X1\ X2) \Leftrightarrow (r1\_orders\_2\ X0\ X1\ X2)) \tag{3}$$

Assume the following.

$$\forall X0.(l3\_osalg\_1\ X0) \Rightarrow ((l1\_osalg\_1\ X0) \wedge (l2\_osalg\_1\ X0)) \tag{4}$$

Assume the following.

$$\forall X0.(l2\_osalg\_1\ X0) \Rightarrow ((l1\_msualg\_1\ X0) \wedge (l1\_orders\_2\ X0)) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_struct\_0\ X0) \wedge ((\neg v11\_struct\_0\ X0) \wedge (l1\_msualg\_1\ X0))) \wedge (m1\_subset\_1\ X1\ (u4\_struct\_0\ X0))) \Rightarrow (m1\_subset\_1\ (k2\_msualg\_1\ X0\ X1)\ (u1\_struct\_0\ X0)) \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_struct\_0\ X0) \wedge ((\neg v11\_struct\_0\ X0) \wedge (l1\_msualg\_1\ X0))) \wedge (m1\_subset\_1\ X1\ (u4\_struct\_0\ X0))) \Rightarrow (m2\_finseq\_2\ (k1\_msualg\_1\ X0\ X1)\ (u1\_struct\_0\ X0)\ (k3\_finseq\_2\ (u1\_struct\_0\ X0))) \tag{7}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((\neg v11\_struct\_0\ X0) \wedge (l1\_osalg\_1\ X0))) \Rightarrow ((v5\_osalg\_1\ X0) \Leftrightarrow (\forall X1.(m1\_subset\_1\ X1\ (u4\_struct\_0\ X0)) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (u4\_struct\_0\ X0)) \Rightarrow (((r1\_osalg\_1\ X0\ X1\ X2) \wedge ((k1\_msualg\_1\ X0\ X1 = k1\_msualg\_1\ X0\ X2) \wedge (k2\_msualg\_1\ X0\ X1 = k2\_msualg\_1\ X0\ X2))) \Rightarrow (X1 = X2))))) \tag{8}$$

Assume the following.

$$\forall X0.(l3\_osalg\_1\ X0) \Rightarrow ((v4\_osalg\_1\ X0) \Rightarrow ((v3\_orders\_2\ X0) \wedge ((v4\_orders\_2\ X0) \wedge (v5\_orders\_2\ X0)))) \tag{9}$$

Theorem 1

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((\neg v11\_struct\_0\ X0) \wedge ((v4\_osalg\_1\ X0) \wedge ((v5\_osalg\_1\ X0) \wedge (l3\_osalg\_1\ X0))))) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (u4\_struct\_0\ X0)) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (u4\_struct\_0\ X0)) \Rightarrow (((v1\_orders\_3\ X0) \wedge ((r1\_osalg\_1\ X0\ X1\ X2) \wedge ((r2\_osalg\_1\ X0\ (k1\_msualg\_1\ X0\ X1)\ (k1\_msualg\_1\ X0\ X2)) \wedge (r3\_orders\_2\ X0\ (k2\_msualg\_1\ X0\ X1)\ (k2\_msualg\_1\ X0\ X2))))) \Rightarrow (X1 = X2))))$$