

t3\_scmfsa\_3  
(TMYC8twZBrUxKBSz316CMVCsfFS46ydvGCT)

October 27, 2020

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  $k1\_scmfsa\_2 : \iota$  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  $np\_3 : \iota$  be given. Let  $v1\_partfun1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_numbers : \iota$  be given. Let  $v1\_ami\_2 : \iota \Rightarrow o$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_4 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_memstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v2\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k4\_ordinal1 : \iota$  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  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v2\_memstr\_0 : \iota \Rightarrow \iota \Rightarrow o$  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  $v1\_setfam\_1 : \iota \Rightarrow o$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1\_relat\_1 X1) \wedge (v1\_funct\_1 X1)) \Rightarrow (\forall X2. \\ & ((v1\_relat\_1 X2) \wedge (v1\_funct\_1 X2)) \Rightarrow ((\neg X0 \in k9\_xtuple\_0 X1) \Rightarrow (k1\_funct\_1 \\ & (k1\_funct\_4 X2 X1) X0 = k1\_funct\_1 X2 X0))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. (m1\_subset\_1 X0 k5\_numbers) \Rightarrow (\forall X1. ((v1\_ami\_2 \\ & X1) \wedge (m1\_subset\_1 X1 (u1\_struct\_0 k1\_scmfsa\_2))) \Rightarrow (\neg X1 \in k1\_relset\_1 \\ & (u1\_struct\_0 k1\_scmfsa\_2) (k7\_memstr\_0 np\_3 k1\_scmfsa\_2 X0))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & ((v2\_xxreal\_0 np\_3) \wedge (m2\_subset\_1 np\_3 k1\_numbers k5\_numbers)) \wedge \\ & ((m1\_subset\_1 np\_3 k5\_numbers) \wedge (m1\_subset\_1 np\_3 k1\_numbers)) \end{aligned} \quad (3)$$

Assume the following.

$$\neg v1\_xboole\_0 np\_3 \quad (4)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X1)\wedge(v4\_relat\_1 X1 X0))\Rightarrow( \quad (6)$$

$$k1\_relset\_1 X0 X1 = k9\_xtuple\_0 X1)$$

Assume the following.

$$(v3\_memstr\_0 k1\_scmf\_sa\_2 np\_3)\wedge(v1\_extpro\_1 k1\_scmf\_sa\_2 np\_3) \quad (7)$$

Assume the following.

$$(\neg v2\_struct\_0 k1\_scmf\_sa\_2)\wedge((v2\_memstr\_0 k1\_scmf\_sa\_2 np\_3)\wedge \quad (8)$$

$$(v1\_extpro\_1 k1\_scmf\_sa\_2 np\_3))$$

Assume the following.

$$\forall X0.\forall X1.(l1\_extpro\_1 X1 X0)\Rightarrow((l1\_memstr\_0 X1 X0)\wedge \quad (9)$$

$$(l1\_compos\_1 X1))$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1\_setfam\_1 X0)\wedge(((\neg v2\_struct\_0 \quad (10)$$

$$X1)\wedge((v2\_memstr\_0 X1 X0)\wedge((v3\_memstr\_0 X1 X0)\wedge(l1\_memstr\_0 X1$$

$$X0))))\wedge(v7\_ordinal1 X2))\Rightarrow((v1\_relat\_1 (k7\_memstr\_0 X0 X1 X2))\wedge$$

$$((v4\_relat\_1 (k7\_memstr\_0 X0 X1 X2) (u1\_struct\_0 X1))\wedge((v1\_funct\_1$$

$$(k7\_memstr\_0 X0 X1 X2))\wedge(v5\_funct\_1 (k7\_memstr\_0 X0 X1 X2) (k2\_memstr\_0$$

$$X0 X1))))))$$

Assume the following.

$$(v1\_extpro\_1 k1\_scmf\_sa\_2 np\_3)\wedge(l1\_extpro\_1 k1\_scmf\_sa\_2 np\_3) \quad (11)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k4\_ordinal1)\Rightarrow(v7\_ordinal1 X0) \quad (12)$$

Assume the following.

$$\forall X0.((\neg v1\_xboole\_0 X0)\wedge(v7\_ordinal1 X0))\Rightarrow((\neg v1\_xboole\_0 \quad (13)$$

$$X0)\wedge((v7\_ordinal1 X0)\wedge(\neg v1\_setfam\_1 X0)))$$

**Theorem 1**

$$\forall X0.((v1\_relat\_1 X0)\wedge((v4\_relat\_1 X0 (u1\_struct\_0 k1\_scmf\_sa\_2))\wedge \quad (14)$$

$$((v1\_funct\_1 X0)\wedge((v5\_funct\_1 X0 (k2\_memstr\_0 np\_3 k1\_scmf\_sa\_2))\wedge$$

$$(v1\_partfun1 X0 (u1\_struct\_0 k1\_scmf\_sa\_2))))))\Rightarrow(\forall X1.$$

$$(m1\_subset\_1 X1 k5\_numbers)\Rightarrow(\forall X2.((v1\_ami\_2 X2)\wedge(m1\_subset\_1$$

$$X2 (u1\_struct\_0 k1\_scmf\_sa\_2))\Rightarrow(k1\_funct\_1 X0 X2 = k1\_funct\_1$$

$$(k1\_funct\_4 X0 (k7\_memstr\_0 np\_3 k1\_scmf\_sa\_2 X1)) X2)))$$