

# l2\_scm\_halt (TMacMHqdxmbupM- MgB7R12rd8DeZbXEaWDaz)

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Let  $k5\_memstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_3 : \iota$  be given. Let  $k1\_scmf\_sa\_2 : \iota$  be given. Let  $k8\_memstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_scmf\_sa\_3 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_scmf\_sa\_2 : \iota \Rightarrow \iota$  be given. Let  $k6\_numbers : \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $k4\_ordinal1 : \iota$  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  $k5\_numbers : \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v1\_ami\_2 : \iota \Rightarrow o$  be given. Let  $v1\_scmf\_sa\_m : \iota \Rightarrow o$  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  $v1\_setfam\_1 : \iota \Rightarrow o$  be given. Let  $l1\_memstr\_0 : \iota \Rightarrow \iota \Rightarrow o$  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  $v5\_memstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $l1\_extpro\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $l1\_compos\_1 : \iota \Rightarrow o$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $v1\_int\_1 : \iota \Rightarrow o$  be given. Let  $v1\_finset\_1 : \iota \Rightarrow o$  be given. Let  $k4\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Assume the following.

$$m1\_subset\_1 \ k1\_xboole\_0 \ k4\_ordinal1 \tag{1}$$

Assume the following.

$$\begin{aligned} & ((v2\_xxreal\_0 \ np\_3) \wedge (m2\_subset\_1 \ np\_3 \ k1\_numbers \ k5\_numbers)) \wedge \\ & ((m1\_subset\_1 \ np\_3 \ k5\_numbers) \wedge (m1\_subset\_1 \ np\_3 \ k1\_numbers)) \end{aligned} \tag{2}$$

Assume the following.

$$\neg v1\_xboole\_0 \ np\_3 \tag{3}$$

Assume the following.

$$\begin{aligned} & ((v2\_xxreal\_0 \ np\_1) \wedge (m2\_subset\_1 \ np\_1 \ k1\_numbers \ k5\_numbers)) \wedge \\ & ((m1\_subset\_1 \ np\_1 \ k5\_numbers) \wedge (m1\_subset\_1 \ np\_1 \ k1\_numbers)) \end{aligned} \tag{4}$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \tag{5}$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (6)$$

Assume the following.

$$(v1\_ami\_2 (k4\_scmf\_sa\_2 k6\_numbers)) \wedge (v1\_scmf\_sa\_m (k4\_scmf\_sa\_2 k6\_numbers)) \quad (7)$$

Assume the following.

$$(v3\_memstr\_0 k1\_scmf\_sa\_2 np\_3) \wedge (v1\_extpro\_1 k1\_scmf\_sa\_2 np\_3) \quad (8)$$

Assume the following.

$$(\neg v2\_struct\_0 k1\_scmf\_sa\_2) \wedge ((v2\_memstr\_0 k1\_scmf\_sa\_2 np\_3) \wedge (v1\_extpro\_1 k1\_scmf\_sa\_2 np\_3)) \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((\neg v1\_setfam\_1 X0) \wedge (((\neg v2\_struct\_0 X1) \wedge ((v2\_memstr\_0 X1 X0) \wedge ((v3\_memstr\_0 X1 X0) \wedge (l1\_memstr\_0 X1 X0)))) \wedge ((v1\_relat\_1 X2) \wedge ((v4\_relat\_1 X2 (u1\_struct\_0 X1)) \wedge (v1\_funct\_1 X2) \wedge (v5\_funct\_1 X2 (k2\_memstr\_0 X0 X1)))))) \Rightarrow ((v1\_relat\_1 (k8\_memstr\_0 X0 X1 X2)) \wedge ((v4\_relat\_1 (k8\_memstr\_0 X0 X1 X2) (u1\_struct\_0 X1)) \wedge ((v1\_funct\_1 (k8\_memstr\_0 X0 X1 X2)) \wedge ((v5\_funct\_1 (k8\_memstr\_0 X0 X1 X2) (k2\_memstr\_0 X0 X1)) \wedge (v5\_memstr\_0 (k8\_memstr\_0 X0 X1 X2) X0 X1 k6\_numbers)))))) \end{aligned} \quad (10)$$

Assume the following.

$$\forall X0. \forall X1. (l1\_extpro\_1 X1 X0) \Rightarrow ((l1\_memstr\_0 X1 X0) \wedge (l1\_compos\_1 X1)) \quad (11)$$

Assume the following.

$$\forall X0. (v7\_ordinal1 X0) \Rightarrow ((v1\_ami\_2 (k4\_scmf\_sa\_2 X0)) \wedge (m1\_subset\_1 (k4\_scmf\_sa\_2 X0) (u1\_struct\_0 k1\_scmf\_sa\_2))) \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((v1\_ami\_2 X0) \wedge (m1\_subset\_1 X0 (u1\_struct\_0 k1\_scmf\_sa\_2))) \wedge (v1\_int\_1 X1)) \Rightarrow ((v1\_relat\_1 (k1\_scmf\_sa\_3 X0 X1)) \wedge ((v4\_relat\_1 (k1\_scmf\_sa\_3 X0 X1) (u1\_struct\_0 k1\_scmf\_sa\_2)) \wedge ((v1\_funct\_1 (k1\_scmf\_sa\_3 X0 X1)) \wedge ((v5\_funct\_1 (k1\_scmf\_sa\_3 X0 X1) (k2\_memstr\_0 np\_3 k1\_scmf\_sa\_2)) \wedge (v1\_finset\_1 (k1\_scmf\_sa\_3 X0 X1)))))) \end{aligned} \quad (13)$$

Assume the following.

$$(v1\_extpro\_1\ k1\_scmfsa\_2\ np\_3) \wedge (l1\_extpro\_1\ k1\_scmfsa\_2\ np\_3) \quad (14)$$

Assume the following.

$$\begin{aligned} \forall X0. (\neg v1\_setfam\_1\ X0) \Rightarrow (\forall X1. ((\neg v2\_struct\_0\ X1) \wedge \\ ((v2\_memstr\_0\ X1\ X0) \wedge ((v3\_memstr\_0\ X1\ X0) \wedge (l1\_memstr\_0\ X1\ X0)))) \Rightarrow \\ (\forall X2. (v7\_ordinal1\ X2) \Rightarrow (\forall X3. ((v1\_relat\_1\ X3) \wedge \\ (v4\_relat\_1\ X3\ (u1\_struct\_0\ X1)) \wedge ((v1\_funct\_1\ X3) \wedge (v5\_funct\_1 \\ X3\ (k2\_memstr\_0\ X0\ X1)))) \Rightarrow ((v5\_memstr\_0\ X3\ X0\ X1\ X2) \Leftrightarrow ((k4\_struct\_0 \\ X1 \in k9\_xtuple\_0\ X3) \wedge (k5\_memstr\_0\ X0\ X1\ X3 = X2)))))) \end{aligned} \quad (15)$$

Assume the following.

$$\forall X0. (m1\_subset\_1\ X0\ k4\_ordinal1) \Rightarrow (v7\_ordinal1\ X0) \quad (16)$$

Assume the following.

$$\forall X0. (v7\_ordinal1\ X0) \Rightarrow (v1\_int\_1\ X0) \quad (17)$$

Assume the following.

$$\forall X0. ((\neg v1\_xboole\_0\ X0) \wedge (v7\_ordinal1\ X0)) \Rightarrow ((\neg v1\_xboole\_0\ X0) \wedge ((v7\_ordinal1\ X0) \wedge (\neg v1\_setfam\_1\ X0))) \quad (18)$$

**Theorem 1**

$$k5\_memstr\_0\ np\_3\ k1\_scmfsa\_2\ (k8\_memstr\_0\ np\_3\ k1\_scmfsa\_2 \\ (k1\_scmfsa\_3\ (k4\_scmfsa\_2\ k6\_numbers)\ np\_1)) = k6\_numbers$$