

t22_scm_halt

(TMEuhnzJz2mZ9ejCZBDKPaX9krq27eBfvqg)

October 27, 2020

Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_compos_1 : \iota \Rightarrow \iota$ be given. Let $k1_scmfsa_2 : \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $v1_afinsq_1 : \iota \Rightarrow o$ be given. Let $v2_scm_halt : \iota \Rightarrow o$ be given. Let $v3_scm_halt : \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ 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 $k6_memstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_scmfsa_m : \iota \Rightarrow \iota$ be given. Let $k1_scmfsa6b : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_scmfsa_2 : \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $np_1 : \iota$ be given. Assume the following.

$$\begin{aligned}
& \forall X0. ((v1_relat_1 X0) \wedge ((v4_relat_1 X0 (u1_struct_0 k1_scmfsa_2)) \wedge \\
& ((v1_funct_1 X0) \wedge ((v5_funct_1 X0 (k2_memstr_0 np_3 k1_scmfsa_2)) \wedge \\
& (v1_partfun1 X0 (u1_struct_0 k1_scmfsa_2)))))) \Rightarrow (\forall X1. \\
& ((v1_relat_1 X1) \wedge ((v4_relat_1 X1 k5_numbers) \wedge ((v5_relat_1 X1 \\
& (u1_compos_1 k1_scmfsa_2)) \wedge ((v1_funct_1 X1) \wedge (v1_partfun1 X1 \\
& k5_numbers)))))) \Rightarrow (\forall X2. ((\neg v1_xboole_0 X2) \wedge ((v1_relat_1 \\
& X2) \wedge ((v4_relat_1 X2 k5_numbers) \wedge ((v5_relat_1 X2 (u1_compos_1 \\
& k1_scmfsa_2)) \wedge ((v1_funct_1 X2) \wedge ((v1_finset_1 X2) \wedge ((v1_afinsq_1 \\
& X2) \wedge ((v2_scm_halt X2) \wedge (v3_scm_halt X2)))))))))) \Rightarrow (k1_funct_1 \\
& (k1_scmfsa6b X2 X0 X1) (k4_scmfsa_2 k6_numbers) = np_1)))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0. ((v1_relat_1 X0) \wedge ((v4_relat_1 X0 (u1_struct_0 k1_scmfsa_2)) \wedge \\
& ((v1_funct_1 X0) \wedge ((v5_funct_1 X0 (k2_memstr_0 np_3 k1_scmfsa_2)) \wedge \\
& (v1_partfun1 X0 (u1_struct_0 k1_scmfsa_2)))))) \Rightarrow ((k1_funct_1 \\
& X0 (k4_scmfsa_2 k6_numbers) = np_1) \Rightarrow (k6_memstr_0 np_3 k1_scmfsa_2 \\
& (k1_scmfsa_m X0) = k6_memstr_0 np_3 k1_scmfsa_2 X0))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. (((v1_relat_1 X0) \wedge ((v4_relat_1 \\
& X0 k5_numbers) \wedge ((v5_relat_1 X0 (u1_compos_1 k1_scmfsa_2)) \wedge \\
& (\neg v1_xboole_0 X0) \wedge ((v1_funct_1 X0) \wedge ((v1_finset_1 X0) \wedge (v1_afinsq_1 \\
& X0)))))) \wedge (((v1_relat_1 X1) \wedge ((v4_relat_1 X1 (u1_struct_0 k1_scmfsa_2)) \wedge \\
& ((v1_funct_1 X1) \wedge ((v5_funct_1 X1 (k2_memstr_0 np_3 k1_scmfsa_2)) \wedge \\
& (v1_partfun1 X1 (u1_struct_0 k1_scmfsa_2)))))) \wedge ((v1_relat_1 \\
& X2) \wedge ((v4_relat_1 X2 k5_numbers) \wedge ((v5_relat_1 X2 (u1_compos_1 \\
& k1_scmfsa_2)) \wedge ((v1_funct_1 X2) \wedge (v1_partfun1 X2 k5_numbers)))))) \Rightarrow \\
& ((v1_relat_1 (k1_scmfsa6b X0 X1 X2)) \wedge ((v4_relat_1 (k1_scmfsa6b \\
& X0 X1 X2) (u1_struct_0 k1_scmfsa_2)) \wedge ((v1_funct_1 (k1_scmfsa6b \\
& X0 X1 X2)) \wedge ((v5_funct_1 (k1_scmfsa6b X0 X1 X2) (k2_memstr_0 np_3 \\
& k1_scmfsa_2)) \wedge (v1_partfun1 (k1_scmfsa6b X0 X1 X2) (u1_struct_0 \\
& k1_scmfsa_2))))))
\end{aligned} \tag{3}$$

Theorem 1

$$\begin{aligned}
& \forall X0. ((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge ((v5_relat_1 \\
& X0 (u1_compos_1 k1_scmfsa_2)) \wedge ((v1_funct_1 X0) \wedge (v1_partfun1 \\
& X0 k5_numbers)))) \Rightarrow (\forall X1. ((\neg v1_xboole_0 X1) \wedge ((v1_relat_1 \\
& X1) \wedge ((v4_relat_1 X1 k5_numbers) \wedge ((v5_relat_1 X1 (u1_compos_1 \\
& k1_scmfsa_2)) \wedge ((v1_funct_1 X1) \wedge ((v1_finset_1 X1) \wedge ((v1_afinsq_1 \\
& X1) \wedge ((v2_scm_halt X1) \wedge (v3_scm_halt X1)))))) \Rightarrow (\forall X2. \\
& ((v1_relat_1 X2) \wedge ((v4_relat_1 X2 (u1_struct_0 k1_scmfsa_2)) \wedge \\
& ((v1_funct_1 X2) \wedge ((v5_funct_1 X2 (k2_memstr_0 np_3 k1_scmfsa_2)) \wedge \\
& (v1_partfun1 X2 (u1_struct_0 k1_scmfsa_2)))))) \Rightarrow (k6_memstr_0 \\
& np_3 k1_scmfsa_2 (k1_scmfsa_m (k1_scmfsa6b X1 X2 X0)) = k6_memstr_0 \\
& np_3 k1_scmfsa_2 (k1_scmfsa6b X1 X2 X0))))
\end{aligned}$$