

t22_msaterm (TMNtNxu- VKXP4kDaBepcaJr8KL1z4Gp9a7US)

October 27, 2020

Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v11_struct_0 : \iota \Rightarrow o$ be given. Let $l1_msualg_1 : \iota \Rightarrow o$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v2_relat_1 : \iota \Rightarrow o$ 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 $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u4_struct_0 : \iota \Rightarrow \iota$ be given. Let $m1_msaterm : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_msaterm : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k1_msualg_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_finseq_1 : \iota \Rightarrow \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $m1_dtconstr : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_msafree : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_trees_3 : \iota \Rightarrow \iota$ be given. Let $k1_msaterm : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_msaterm : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge (l1_msualg_1 \\
& X0))) \Rightarrow (\forall X1.((v1_relat_1 X1) \wedge ((v2_relat_1 X1) \wedge ((v4_relat_1 \\
& X1 (u1_struct_0 X0)) \wedge (v1_funct_1 X1) \wedge (v1_partfun1 X1 (u1_struct_0 \\
& X0)))))) \Rightarrow (\forall X2.(m1_subset_1 X2 (u4_struct_0 X0)) \Rightarrow (\forall X3. \\
& (m1_msaterm X3 X0 X1 (k2_msaterm X0 X1 X2)) \Rightarrow ((k3_finseq_1 X3 = k3_finseq_1 \\
& (k1_msualg_1 X0 X2)) \wedge ((k4_finseq_1 X3 = k4_finseq_1 (k1_msualg_1 \\
& X0 X2)) \wedge (\forall X4.(v7_ordinal1 X4) \Rightarrow (\neg (X4 \in k4_finseq_1 X3) \wedge \\
& (\forall X5.(m1_dtconstr X5 (u1_struct_0 (k5_msafree X0 X1)) (\\
& k5_trees_3 (u1_struct_0 (k5_msafree X0 X1))) (k1_msaterm X0 X1)) \Rightarrow \\
& (\neg (X5 = k1_funct_1 X3 X4) \wedge ((X5 = k7_partfun1 (k1_msaterm X0 X1) X3 \\
& X4) \wedge ((k7_msaterm X0 X1 X5 = k1_funct_1 (k1_msualg_1 X0 X2) X4) \wedge (\\
& k7_msaterm X0 X1 X5 = k7_partfun1 (u1_struct_0 X0) (k1_msualg_1 \\
& X0 X2) X4))))))))))
\end{aligned} \tag{1}$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge (l1_msualg_1 \\ & X0))) \Rightarrow (\forall X1.((v1_relat_1 X1) \wedge ((v2_relat_1 X1) \wedge ((v4_relat_1 \\ & X1 (u1_struct_0 X0)) \wedge ((v1_funct_1 X1) \wedge (v1_partfun1 X1 (u1_struct_0 \\ & X0)))))) \Rightarrow (\forall X2.(m1_subset_1 X2 (u4_struct_0 X0)) \Rightarrow (\forall X3. \\ & (m1_msaterm X3 X0 X1 (k2_msaterm X0 X1 X2)) \Rightarrow ((k3_finseq_1 X3 = k3_finseq_1 \\ & (k1_msualg_1 X0 X2)) \wedge ((k4_finseq_1 X3 = k4_finseq_1 (k1_msualg_1 \\ & X0 X2)) \wedge (\forall X4.(v7_ordinal1 X4) \Rightarrow ((X4 \in k4_finseq_1 X3) \Rightarrow (\\ & m1_dtconstr (k1_funct_1 X3 X4) (u1_struct_0 (k5_msafree X0 X1)) \\ & (k5_trees_3 (u1_struct_0 (k5_msafree X0 X1)) (k1_msaterm X0 X1)))))))))) \end{aligned}$$