

t15_osafree
(TML7AvRUQS1GxmVn5CzbMzCyVEetiNE8HDs)

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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 $v1_relat_1 : \iota \Rightarrow o$ 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 $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u3_msualg_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_osafree : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_dtconstr : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_osafree : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_trees_3 : \iota \Rightarrow \iota$ be given. Let $k4_dtconstr : \iota \Rightarrow \iota$ be given. Let $r3_orders_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_trees_4 : \iota \Rightarrow \iota$ be given. Let $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u4_struct_0 : \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k2_msualg_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
& \forall X0. ((\neg v2_struct_0 X0) \wedge ((\neg v11_struct_0 X0) \wedge ((v4_osalg_1 \\
& X0) \wedge ((v5_osalg_1 X0) \wedge (l3_osalg_1 X0)))))) \Rightarrow (\forall X1. ((v1_relat_1 \\
& X1) \wedge ((v2_relat_1 X1) \wedge ((v4_relat_1 X1 (u1_struct_0 X0)) \wedge ((v1_funct_1 \\
& X1) \wedge (v1_partfun1 X1 (u1_struct_0 X0)))))) \Rightarrow (\forall X2. (m1_subset_1 \\
& X2 (u1_struct_0 X0)) \Rightarrow (k1_funct_1 (u3_msualg_1 X0 (k8_osafree \\
& X0 X1)) X2 = ReplSep (toset (\lambda X3 : \iota. m1_dtconstr X3 (u1_struct_0 \\
& (k2_osafree X0 X1)) (k5_trees_3 (u1_struct_0 (k2_osafree X0 X1))) \\
& (k4_dtconstr (k2_osafree X0 X1)))) (\lambda X3 : \iota. \neg (\forall X4. \\
& (m1_subset_1 X4 (u1_struct_0 X0)) \Rightarrow (\forall X5. \neg (r3_orders_2 \\
& X0 X4 X2) \wedge ((X5 \in k1_funct_1 X1 X4) \wedge (X3 = k1_trees_4 (k4_tarski X5 \\
& X4)))))) \wedge (\forall X4. (m1_subset_1 X4 (u4_struct_0 X0)) \Rightarrow (\neg (k4_tarski \\
& X4 (u1_struct_0 X0) = k1_funct_1 X3 k1_xboole_0) \wedge (r3_orders_2 \\
& X0 (k2_msualg_1 X0 X4) X2)))) (\lambda X3 : \iota. X3)))
\end{aligned} \tag{1}$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge (\neg v11_struct_0 X0) \wedge ((v4_osalg_1 \\ & X0) \wedge ((v5_osalg_1 X0) \wedge (l3_osalg_1 X0)))) \Rightarrow (\forall X1.((v1_relat_1 \\ & X1) \wedge ((v2_relat_1 X1) \wedge ((v4_relat_1 X1 (u1_struct_0 X0)) \wedge ((v1_funct_1 \\ & X1) \wedge (v1_partfun1 X1 (u1_struct_0 X0)))))) \Rightarrow (\forall X2.(m1_subset_1 \\ & X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(X3 \in k1_funct_1 (u3_msualg_1 \\ & X0 (k8_osafree X0 X1)) X2) \Rightarrow (m1_dtconstr X3 (u1_struct_0 (k2_osafree \\ & X0 X1)) (k5_trees_3 (u1_struct_0 (k2_osafree X0 X1)) (k4_dtconstr \\ & (k2_osafree X0 X1)))))) \end{aligned}$$