

t70\_memstr\_0 (TMaH-  
fwNZRvyKEgP63L1Y7kLmpTKZDtrCiRu)

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Let  $v1\_setfam\_1 : \iota \Rightarrow o$  be given. Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v2\_memstr\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v3\_memstr\_0 : \iota \Rightarrow \iota \Rightarrow o$  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  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $k10\_memstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  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  $k7\_nat\_d : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_memstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_numbers : \iota$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_partfun1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned}
& \forall X0. (\neg v1\_setfam\_1 X0) \Rightarrow (\forall X1. ((\neg v2\_struct\_0 X1) \wedge \\
& ((v2\_memstr\_0 X1 X0) \wedge ((v3\_memstr\_0 X1 X0) \wedge (l1\_memstr\_0 X1 X0)))) \Rightarrow \\
& (\forall X2. ((v1\_relat\_1 X2) \wedge ((v4\_relat\_1 X2 (u1\_struct\_0 X1)) \wedge \\
& ((v1\_funct\_1 X2) \wedge (v5\_funct\_1 X2 (k2\_memstr\_0 X0 X1)))))) \Rightarrow (\forall X3. \\
& (v7\_ordinal1 X3) \Rightarrow (\forall X4. (v7\_ordinal1 X4) \Rightarrow (k1\_funct\_4 ( \\
& k1\_funct\_4 X2 (k7\_memstr\_0 X0 X1 X3)) (k7\_memstr\_0 X0 X1 X4) = k1\_funct\_4 \\
& X2 (k7\_memstr\_0 X0 X1 X4))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0. (\neg v1\_setfam\_1 X0) \Rightarrow (\forall X1. ((\neg v2\_struct\_0 X1) \wedge \\
& ((v2\_memstr\_0 X1 X0) \wedge ((v3\_memstr\_0 X1 X0) \wedge (l1\_memstr\_0 X1 X0)))) \Rightarrow \\
& (\forall X2. ((v1\_relat\_1 X2) \wedge ((v4\_relat\_1 X2 (u1\_struct\_0 X1)) \wedge \\
& ((v1\_funct\_1 X2) \wedge (v5\_funct\_1 X2 (k2\_memstr\_0 X0 X1)))))) \Rightarrow (\forall X3. \\
& (v7\_ordinal1 X3) \Rightarrow (k5\_memstr\_0 X0 X1 (k1\_funct\_4 X2 (k7\_memstr\_0 \\
& X0 X1 X3)) = X3))
\end{aligned} \tag{2}$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((v1\_relat\_1 X1) \wedge (v4\_relat\_1 \\ & X1 X0) \wedge (v1\_funct\_1 X1)) \wedge ((v1\_relat\_1 X2) \wedge ((v4\_relat\_1 X2 X0) \wedge \\ & (v1\_funct\_1 X2)))) \Rightarrow ((v1\_relat\_1 (k1\_funct\_4 X1 X2)) \wedge ((v4\_relat\_1 \\ & (k1\_funct\_4 X1 X2) X0) \wedge (v1\_funct\_1 (k1\_funct\_4 X1 X2)))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((v1\_relat\_1 X0) \wedge (v1\_funct\_1 \\ & X0)) \wedge (((v1\_relat\_1 X1) \wedge (v1\_funct\_1 X1) \wedge (v5\_funct\_1 X1 X0)) \wedge \\ & ((v1\_relat\_1 X2) \wedge ((v1\_funct\_1 X2) \wedge (v5\_funct\_1 X2 X0)))))) \Rightarrow (( \\ & v1\_relat\_1 (k1\_funct\_4 X1 X2)) \wedge ((v1\_funct\_1 (k1\_funct\_4 X1 X2)) \wedge \\ & (v5\_funct\_1 (k1\_funct\_4 X1 X2) X0))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v7\_ordinal1 X0) \wedge (v7\_ordinal1 X1)) \Rightarrow ( \\ & m1\_subset\_1 (k7\_nat\_d X0 X1) k5\_numbers) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v1\_setfam\_1 X0) \wedge (((\neg v2\_struct\_0 \\ & X1) \wedge ((v2\_memstr\_0 X1 X0) \wedge ((v3\_memstr\_0 X1 X0) \wedge (l1\_memstr\_0 X1 \\ & X0)))) \wedge (v7\_ordinal1 X2))) \Rightarrow ((v1\_relat\_1 (k7\_memstr\_0 X0 X1 X2)) \wedge \\ & ((v4\_relat\_1 (k7\_memstr\_0 X0 X1 X2) (u1\_struct\_0 X1)) \wedge ((v1\_funct\_1 \\ & (k7\_memstr\_0 X0 X1 X2)) \wedge (v5\_funct\_1 (k7\_memstr\_0 X0 X1 X2) (k2\_memstr\_0 \\ & X0 X1)))))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1\_setfam\_1 X0) \wedge (l1\_memstr\_0 X1 X0)) \Rightarrow \\ & ((v1\_relat\_1 (k2\_memstr\_0 X0 X1)) \wedge ((v4\_relat\_1 (k2\_memstr\_0 \\ & X0 X1) (u1\_struct\_0 X1)) \wedge ((v1\_funct\_1 (k2\_memstr\_0 X0 X1)) \wedge (v1\_partfun1 \\ & (k2\_memstr\_0 X0 X1) (u1\_struct\_0 X1)))))) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \wedge (( \\ & v1\_relat\_1 X1) \wedge (v1\_funct\_1 X1))) \Rightarrow ((v1\_relat\_1 (k1\_funct\_4 X0 \\ & X1)) \wedge (v1\_funct\_1 (k1\_funct\_4 X0 X1))) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0. (\neg v1\_setfam\_1 X0) \Rightarrow (\forall X1. ((\neg v2\_struct\_0 X1) \wedge \\ & ((v2\_memstr\_0 X1 X0) \wedge ((v3\_memstr\_0 X1 X0) \wedge (l1\_memstr\_0 X1 X0)))) \Rightarrow \\ & (\forall X2. ((v1\_relat\_1 X2) \wedge ((v4\_relat\_1 X2 (u1\_struct\_0 X1)) \wedge \\ & ((v1\_funct\_1 X2) \wedge (v5\_funct\_1 X2 (k2\_memstr\_0 X0 X1)))))) \Rightarrow (\forall X3. \\ & (v7\_ordinal1 X3) \Rightarrow (k10\_memstr\_0 X0 X1 X2 X3 = k1\_funct\_4 X2 (k7\_memstr\_0 \\ & X0 X1 (k7\_nat\_d (k5\_memstr\_0 X0 X1 X2) X3)))))) \end{aligned} \quad (10)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k4\_ordinal1) \Rightarrow (v7\_ordinal1 X0) \quad (11)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.(\neg v1\_setfam\_1 X0) \Rightarrow (\forall X1.((\neg v2\_struct\_0 X1) \wedge \\ & ((v2\_memstr\_0 X1 X0) \wedge ((v3\_memstr\_0 X1 X0) \wedge (l1\_memstr\_0 X1 X0)))) \Rightarrow \\ & (\forall X2.((v1\_relat\_1 X2) \wedge ((v4\_relat\_1 X2 (u1\_struct\_0 X1)) \wedge \\ & ((v1\_funct\_1 X2) \wedge (v5\_funct\_1 X2 (k2\_memstr\_0 X0 X1)))))) \Rightarrow (\forall X3. \\ & (v7\_ordinal1 X3) \Rightarrow (\forall X4.(v7\_ordinal1 X4) \Rightarrow (k10\_memstr\_0 \\ X0 X1 (k1\_funct\_4 X2 (k7\_memstr\_0 X0 X1 X3)) X4 = k1\_funct\_4 X2 (k7\_memstr\_0 \\ X0 X1 (k7\_nat\_d X3 X4)))))) \end{aligned}$$