

## t33\_memstr\_0

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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  $v1\_partfun1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k8\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k6\_domain\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $l2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0. \forall X1. \neg (X0 \in X1) \wedge (v1\_xboole\_0 X1) \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0. ((\neg v2\_struct\_0 X0) \wedge (l2\_struct\_0 X0)) \Rightarrow (u1\_struct\_0 \\ X0 = k4\_subset\_1 (u1\_struct\_0 X0) (k6\_domain\_1 (u1\_struct\_0 X0) \\ (k4\_struct\_0 X0)) (k8\_struct\_0 X0)) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0. (\neg v1\_setfam\_1 X0) \Rightarrow (\forall X1. ((\neg v2\_struct\_0 X1) \wedge \\ ((v2\_memstr\_0 X1 X0) \wedge (l1\_memstr\_0 X1 X0))) \Rightarrow (\forall X2. ((v1\_relat\_1 \\ X2) \wedge ((v4\_relat\_1 X2 (u1\_struct\_0 X1)) \wedge ((v1\_funct\_1 X2) \wedge ((v5\_funct\_1 \\ X2 (k2\_memstr\_0 X0 X1)) \wedge (v1\_partfun1 X2 (u1\_struct\_0 X1)))))) \Rightarrow \\ (k4\_struct\_0 X1 \in k9\_xtuple\_0 X2))) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. ((v1\_relat\_1 X1) \wedge (v4\_relat\_1 X1 X0)) \Rightarrow ( \\ X1 = k5\_relat\_1 X1 X0) \quad (4)$$

Assume the following.

$$\begin{aligned}
& \forall X0.(\neg v1\_setfam\_1 X0) \Rightarrow (\forall X1.((\neg v2\_struct\_0 X1) \wedge \\
& ((v2\_memstr\_0 X1 X0) \wedge ((v3\_memstr\_0 X1 X0) \wedge (l1\_memstr\_0 X1 X0)))) \Rightarrow \\
& (\forall X2.((v1\_relat\_1 X2) \wedge ((v4\_relat\_1 X2 (u1\_struct\_0 X1)) \wedge \\
& ((v1\_funct\_1 X2) \wedge ((v5\_funct\_1 X2 (k2\_memstr\_0 X0 X1)) \wedge (v1\_partfun1 \\
& X2 (u1\_struct\_0 X1)))))) \Rightarrow (k9\_xtuple\_0 X2 = k4\_subset\_1 (u1\_struct\_0 \\
& X1) (k6\_domain\_1 (u1\_struct\_0 X1) (k4\_struct\_0 X1)) (k8\_struct\_0 \\
& X1))))))
\end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. ((m1\_subset\_1 X1 (k1\_zfmisc\_1 \\
& X0)) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 X0))) \Rightarrow (k4\_subset\_1 X0 X1 X2 = \\
& k2\_xboole\_0 X1 X2)
\end{aligned} \tag{6}$$

Assume the following.

$$\forall X0. \forall X1. (l1\_memstr\_0 X1 X0) \Rightarrow (l2\_struct\_0 X1) \tag{7}$$

Assume the following.

$$\forall X0. (l2\_struct\_0 X0) \Rightarrow (m1\_subset\_1 (k8\_struct\_0 X0) (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \tag{8}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. ((\neg v1\_xboole\_0 X0) \wedge (m1\_subset\_1 X1 X0)) \Rightarrow \\
& (m1\_subset\_1 (k6\_domain\_1 X0 X1) (k1\_zfmisc\_1 X0))
\end{aligned} \tag{9}$$

Assume the following.

$$\forall X0. (l2\_struct\_0 X0) \Rightarrow (m1\_subset\_1 (k4\_struct\_0 X0) (u1\_struct\_0 X0)) \tag{10}$$

Assume the following.

$$\forall X0. \forall X1. k2\_xboole\_0 X0 X1 = k2\_xboole\_0 X1 X0 \tag{11}$$

### Theorem 1

$$\begin{aligned}
& \forall X0. (\neg v1\_setfam\_1 X0) \Rightarrow (\forall X1. ((\neg v2\_struct\_0 X1) \wedge \\
& ((v2\_memstr\_0 X1 X0) \wedge ((v3\_memstr\_0 X1 X0) \wedge (l1\_memstr\_0 X1 X0)))) \Rightarrow \\
& (\forall X2. ((v1\_relat\_1 X2) \wedge ((v4\_relat\_1 X2 (u1\_struct\_0 X1)) \wedge \\
& ((v1\_funct\_1 X2) \wedge ((v5\_funct\_1 X2 (k2\_memstr\_0 X0 X1)) \wedge (v1\_partfun1 \\
& X2 (u1\_struct\_0 X1)))))) \Rightarrow (X2 = k5\_relat\_1 X2 (k4\_subset\_1 (u1\_struct\_0 \\
& X1) (k8\_struct\_0 X1) (k6\_domain\_1 (u1\_struct\_0 X1) (k4\_struct\_0 \\
& X1))))))
\end{aligned}$$