

t44\_diraf (TMN-  
sRg8XQNZJEQ9BH2VuonX7vRsEnmv4aA4)

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Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $l1\_analoaf : \iota \Rightarrow o$  be given. Let  $v7\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v2\_analoaf : \iota \Rightarrow o$  be given. Let  $v3\_analoaf : \iota \Rightarrow o$  be given. Let  $k2\_diraf : \iota \Rightarrow \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $r2\_analoaf : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r2\_diraf : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $g1\_analoaf : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $u1\_analoaf : \iota \Rightarrow \iota$  be given. Let  $l1\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v1\_analoaf : \iota \Rightarrow o$  be given. Let  $k1\_diraf : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v7\_struct\_0 X0) \wedge ((v2\_analoaf X0) \wedge ((v3\_analoaf \\ & X0) \wedge (l1\_analoaf X0)))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 \\ & X0)) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3. \\ & (m1\_subset\_1 X3 (u1\_struct\_0 X0)) \Rightarrow (\forall X4.(m1\_subset\_1 X4 \\ & (u1\_struct\_0 X0)) \Rightarrow (\neg(\neg r2\_diraf X0 X1 X2 X3 X4) \wedge (\forall X5.(m1\_subset\_1 \\ & X5 (u1\_struct\_0 X0)) \Rightarrow (\neg(r2\_diraf X0 X1 X2 X1 X5) \wedge (r2\_diraf X0 X3 \\ & X4 X3 X5)))))))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v7\_struct\_0 X0) \wedge ((v2\_analoaf X0) \wedge (l1\_analoaf \\ & X0))) \Rightarrow (\forall X1.((\neg v2\_struct\_0 X1) \wedge (l1\_analoaf X1)) \Rightarrow ((X1 = \\ & k2\_diraf X0) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow ( \\ & \forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 X0)) \Rightarrow (\forall X4.(m1\_subset\_1 \\ & X4 (u1\_struct\_0 X0)) \Rightarrow (\forall X5.(m1\_subset\_1 X5 (u1\_struct\_0 \\ & X0)) \Rightarrow (\forall X6.(m1\_subset\_1 X6 (u1\_struct\_0 X1)) \Rightarrow (\forall X7. \\ & (m1\_subset\_1 X7 (u1\_struct\_0 X1)) \Rightarrow (\forall X8.(m1\_subset\_1 X8 \\ & (u1\_struct\_0 X1)) \Rightarrow (\forall X9.(m1\_subset\_1 X9 (u1\_struct\_0 X1)) \Rightarrow \\ & (((X2 = X6) \wedge ((X3 = X7) \wedge ((X4 = X8) \wedge (X5 = X9)))) \Rightarrow ((r2\_analoaf X1 X6 \\ & X7 X8 X9) \Leftrightarrow (r2\_diraf X0 X2 X3 X4 X5)))))))))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & (k2\_zfmisc\_1 X0 X0) (k2\_zfmisc\_1 X0 X0))) \Rightarrow (\forall X2. \forall X3. \\ & (g1\_analoaf X0 X1 = g1\_analoaf X2 X3) \Rightarrow ((X0 = X2) \wedge (X1 = X3))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. (l1\_analoaf X0) \Rightarrow (m1\_subset\_1 (u1\_analoaf X0) (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 (k2\_zfmisc\_1 (u1\_struct\_0 X0) (u1\_struct\_0 X0)) \\ & (k2\_zfmisc\_1 (u1\_struct\_0 X0) (u1\_struct\_0 X0)))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0. (l1\_analoaf X0) \Rightarrow (l1\_struct\_0 X0) \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2\_struct\_0 X0) \wedge (l1\_analoaf X0)) \Rightarrow ((v1\_analoaf \\ & (k2\_diraf X0)) \wedge (l1\_analoaf (k2\_diraf X0))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2\_struct\_0 X0) \wedge (l1\_analoaf X0)) \Rightarrow (k2\_diraf X0 = \\ & g1\_analoaf (u1\_struct\_0 X0) (k1\_diraf (u1\_struct\_0 X0) (u1\_analoaf \\ & X0))) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0. (l1\_struct\_0 X0) \Rightarrow ((v2\_struct\_0 X0) \Rightarrow (v7\_struct\_0 X0)) \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0. (l1\_analoaf X0) \Rightarrow ((v1\_analoaf X0) \Rightarrow (X0 = g1\_analoaf \\ & (u1\_struct\_0 X0) (u1\_analoaf X0))) \end{aligned} \quad (9)$$

**Theorem 1**

$$\begin{aligned} & \forall X0. ((\neg v2\_struct\_0 X0) \wedge (l1\_analoaf X0)) \Rightarrow (\forall X1. \\ & ((\neg v7\_struct\_0 X1) \wedge ((v2\_analoaf X1) \wedge ((v3\_analoaf X1) \wedge (l1\_analoaf \\ & X1)))) \Rightarrow ((X0 = k2\_diraf X1) \Rightarrow (\forall X2. (m1\_subset\_1 X2 (u1\_struct\_0 \\ & X0)) \Rightarrow (\forall X3. (m1\_subset\_1 X3 (u1\_struct\_0 X0)) \Rightarrow (\forall X4. \\ & (m1\_subset\_1 X4 (u1\_struct\_0 X0)) \Rightarrow (\forall X5. (m1\_subset\_1 X5 \\ & (u1\_struct\_0 X0)) \Rightarrow (\neg(\neg r2\_analoaf X0 X2 X3 X4 X5) \wedge (\forall X6. ( \\ & m1\_subset\_1 X6 (u1\_struct\_0 X0)) \Rightarrow (\neg(r2\_analoaf X0 X2 X3 X2 X6) \wedge \\ & (r2\_analoaf X0 X4 X5 X4 X6)))))))))) \end{aligned}$$