

t31\_diraf  
(TMQqRSE8P8NvQ3dQpTMZ7fNkdJuc5fdnnFE)

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Let  $v7\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v2\_analoaf : \iota \Rightarrow o$  be given. Let  $l1\_analoaf : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $r3\_diraf : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_diraf : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v7\_struct\_0 X0) \wedge ((v2\_analoaf X0) \wedge (l1\_analoaf \\ & X0))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2. \\ & (m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3.(m1\_subset\_1 X3 \\ & (u1\_struct\_0 X0)) \Rightarrow ((r3\_diraf X0 X1 X2 X3) \Rightarrow ((r3\_diraf X0 X1 X3 X2) \wedge \\ & ((r3\_diraf X0 X2 X1 X3) \wedge (r3\_diraf X0 X2 X3 X1) \wedge ((r3\_diraf X0 X3 X1 \\ & X2) \wedge (r3\_diraf X0 X3 X2 X1)))))))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v7\_struct\_0 X0) \wedge ((v2\_analoaf X0) \wedge (l1\_analoaf \\ & X0))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2. \\ & (m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3.(m1\_subset\_1 X3 \\ & (u1\_struct\_0 X0)) \Rightarrow ((r1\_diraf X0 X1 X2 X3) \Rightarrow (r3\_diraf X0 X1 X2 X3)))))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v7\_struct\_0 X0) \wedge ((v2\_analoaf X0) \wedge (l1\_analoaf \\ & X0))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2. \\ & (m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow ((r1\_diraf X0 X1 X1 X2) \wedge (r1\_diraf \\ & X0 X1 X2 X2)))) \end{aligned} \tag{3}$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((\neg v7\_struct\_0 X0) \wedge ((v2\_analoaf X0) \wedge (l1\_analoaf \\ & X0))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2. \\ & (m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow ((r3\_diraf X0 X1 X1 X2) \wedge ((r3\_diraf \\ & X0 X1 X2 X2) \wedge (r3\_diraf X0 X1 X2 X1)))) \end{aligned}$$