

t12\_dirort  
(TMSKAuueJMDg2zrggm81PVkyaCr3UoHdtf9)

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Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v1\_dirort : \iota \Rightarrow o$  be given. Let  $l1\_analoaf : \iota \Rightarrow o$  be given. Let  $v2\_dirort : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $r2\_dirort : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r2\_analoaf : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v1\_dirort X0) \wedge (l1\_analoaf X0))) \Rightarrow \\ & ((v2\_dirort X0) \Leftrightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow \\ & (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3.(m1\_subset\_1 \\ & X3 (u1\_struct\_0 X0)) \Rightarrow (\forall X4.(m1\_subset\_1 X4 (u1\_struct\_0 \\ & X0)) \Rightarrow (\forall X5.(m1\_subset\_1 X5 (u1\_struct\_0 X0)) \Rightarrow (\forall X6. \\ & (m1\_subset\_1 X6 (u1\_struct\_0 X0)) \Rightarrow (((r2\_analoaf X0 X1 X2 X4 X5) \wedge \\ & (r2\_dirort X0 X4 X5 X3 X6)) \Rightarrow ((X4 = X5) \vee (r2\_analoaf X0 X1 X2 X3 X6)))))))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v1\_dirort X0) \wedge (l1\_analoaf X0))) \Rightarrow \\ & (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2.(m1\_subset\_1 \\ & X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 \\ & X0)) \Rightarrow (\forall X4.(m1\_subset\_1 X4 (u1\_struct\_0 X0)) \Rightarrow ((r2\_dirort \\ & X0 X1 X2 X3 X4) \Leftrightarrow (\exists X5.(m1\_subset\_1 X5 (u1\_struct\_0 X0)) \wedge ( \\ & \exists X6.(m1\_subset\_1 X6 (u1\_struct\_0 X0)) \wedge ((X5 \neq X6) \wedge ((r2\_analoaf \\ & X0 X5 X6 X1 X2) \wedge (r2\_analoaf X0 X5 X6 X3 X4)))))))))) \end{aligned} \quad (2)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v1\_dirort X0) \wedge (l1\_analoaf X0))) \Rightarrow \\ & ((v2\_dirort X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow \\ & (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3.(m1\_subset\_1 \\ & X3 (u1\_struct\_0 X0)) \Rightarrow (\forall X4.(m1\_subset\_1 X4 (u1\_struct\_0 \\ & X0)) \Rightarrow (\forall X5.(m1\_subset\_1 X5 (u1\_struct\_0 X0)) \Rightarrow (\forall X6. \\ & (m1\_subset\_1 X6 (u1\_struct\_0 X0)) \Rightarrow (((r2\_dirort X0 X1 X2 X3 X4) \wedge \\ & (r2\_dirort X0 X3 X4 X5 X6)) \Rightarrow ((X3 = X4) \vee (r2\_dirort X0 X1 X2 X5 X6)))))))))) \end{aligned}$$