

## t37\_diraf

(TMKnhQ6aoV5grJAxnNxY3Q696mXbUQAkQfi)

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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. Assume the following.

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

Assume the following.

$$\begin{aligned} \forall X0.((\neg v7\_struct\_0 X0) \wedge ((v2\_analoaf X0) \wedge (l1\_analoaf \\ X0))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2. \\ (m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3.(m1\_subset\_1 X3 \\ (u1\_struct\_0 X0)) \Rightarrow (\forall X4.(m1\_subset\_1 X4 (u1\_struct\_0 X0)) \Rightarrow \\ (\forall X5.(m1\_subset\_1 X5 (u1\_struct\_0 X0)) \Rightarrow (((r3\_diraf X0 \\ X1 X2 X3) \wedge (r3\_diraf X0 X1 X2 X4) \wedge (r3\_diraf X0 X1 X2 X5)) \Rightarrow ((X1 = X2) \vee \\ (r3\_diraf X0 X3 X4 X5)))))))) \end{aligned} \quad (2)$$

### Theorem 1

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