

l18_translac

(TMXMbtzYFe14tPB3bunkVWViedbf6FFUCwS)

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Let $v7_struct_0 : \iota \Rightarrow o$ be given. Let $v1_diraf : \iota \Rightarrow o$ be given. Let $v2_diraf : \iota \Rightarrow o$ 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 $v11_aff_2 : \iota \Rightarrow o$ be given. Let $r1_aff_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r2_analoaf : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v7_struct_0 X0) \wedge ((v1_diraf X0) \wedge (l1_analoaf X0))) \Rightarrow \\ & (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 \\ & X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 \\ & X0)) \Rightarrow ((r1_aff_1 X0 X1 X2 X3) \Rightarrow ((r1_aff_1 X0 X1 X3 X2) \wedge ((r1_aff_1 \\ & X0 X2 X1 X3) \wedge ((r1_aff_1 X0 X2 X3 X1) \wedge ((r1_aff_1 X0 X3 X1 X2) \wedge (r1_aff_1 \\ & X0 X3 X2 X1)))))))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v7_struct_0 X0) \wedge ((v1_diraf X0) \wedge (l1_analoaf X0))) \Rightarrow \\ & (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 \\ & X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 \\ & X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 (u1_struct_0 X0)) \Rightarrow ((r2_analoaf \\ & X0 X1 X2 X3 X4) \Rightarrow ((r2_analoaf X0 X1 X2 X4 X3) \wedge ((r2_analoaf X0 X2 X1 X3 \\ & X4) \wedge ((r2_analoaf X0 X2 X1 X4 X3) \wedge ((r2_analoaf X0 X3 X4 X1 X2) \wedge ((r2_analoaf \\ & X0 X3 X4 X2 X1) \wedge ((r2_analoaf X0 X4 X3 X1 X2) \wedge (r2_analoaf X0 X4 X3 X2 \\ & X1)))))))))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v7_struct_0 X0) \wedge ((v1_diraf X0) \wedge ((v2_diraf X0) \wedge \\ & (l1_analoaf X0)))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\ & X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. \\ & (m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 \\ & (u1_struct_0 X0)) \Rightarrow (((r2_analoaf X0 X1 X2 X3 X4) \wedge (r2_analoaf X0 \\ & X1 X3 X2 X4)) \Rightarrow ((r1_aff_1 X0 X1 X2 X3) \vee ((\neg r1_aff_1 X0 X3 X4 X1) \wedge ((\neg \\ & r1_aff_1 X0 X2 X1 X4) \wedge (\neg r1_aff_1 X0 X4 X3 X2)))))))))) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v7_struct_0 X0) \wedge ((v1_diraf X0) \wedge ((v2_diraf X0) \wedge \\
& \quad (l1_analoaf X0)))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\
& \quad X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. \\
& \quad (m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 \\
& \quad (u1_struct_0 X0)) \Rightarrow (\forall X5.(m1_subset_1 X5 (u1_struct_0 X0)) \Rightarrow \\
& \quad (\forall X6.(m1_subset_1 X6 (u1_struct_0 X0)) \Rightarrow (((r1_aff_1 X0 \\
& \quad X1 X2 X3) \wedge ((r2_analoaf X0 X1 X2 X4 X5) \wedge ((r2_analoaf X0 X1 X4 X2 X5) \wedge \\
& \quad (r2_analoaf X0 X4 X5 X3 X6)))) \Rightarrow ((X1 = X2) \vee ((r1_aff_1 X0 X1 X2 X4) \vee \\
& \quad ((X4 \neq X5) \wedge (r1_aff_1 X0 X1 X2 X6))))))))))
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v7_struct_0 X0) \wedge ((v1_diraf X0) \wedge ((v2_diraf X0) \wedge \\
& \quad (l1_analoaf X0)))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\
& \quad X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. \\
& \quad (m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 \\
& \quad (u1_struct_0 X0)) \Rightarrow (\forall X5.(m1_subset_1 X5 (u1_struct_0 X0)) \Rightarrow \\
& \quad (\forall X6.(m1_subset_1 X6 (u1_struct_0 X0)) \Rightarrow (\forall X7.(m1_subset_1 \\
& \quad X7 (u1_struct_0 X0)) \Rightarrow (\forall X8.(m1_subset_1 X8 (u1_struct_0 \\
& \quad X0)) \Rightarrow (\forall X9.(m1_subset_1 X9 (u1_struct_0 X0)) \Rightarrow (((v11_aff_2 \\
& \quad X0) \wedge ((r1_aff_1 X0 X1 X2 X3) \wedge ((r2_analoaf X0 X1 X2 X4 X5) \wedge ((r2_analoaf \\
& \quad X0 X1 X2 X6 X7) \wedge ((r2_analoaf X0 X1 X4 X2 X5) \wedge ((r2_analoaf X0 X1 X6 X2 \\
& \quad X7) \wedge ((r2_analoaf X0 X4 X5 X3 X8) \wedge ((r2_analoaf X0 X6 X7 X3 X9) \wedge ((r2_analoaf \\
& \quad X0 X4 X3 X5 X8) \wedge (r2_analoaf X0 X6 X3 X7 X9)))))))))) \Rightarrow ((X1 = X2) \vee ((\\
& \quad r1_aff_1 X0 X1 X2 X4) \vee ((r1_aff_1 X0 X1 X2 X6) \vee (X8 = X9))))))
\end{aligned} \tag{5}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((\neg v7_struct_0 X0) \wedge ((v1_diraf X0) \wedge ((v2_diraf X0) \wedge \\
& \quad (l1_analoaf X0)))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\
& \quad X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. \\
& \quad (m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 \\
& \quad (u1_struct_0 X0)) \Rightarrow (\forall X5.(m1_subset_1 X5 (u1_struct_0 X0)) \Rightarrow \\
& \quad (\forall X6.(m1_subset_1 X6 (u1_struct_0 X0)) \Rightarrow (\forall X7.(m1_subset_1 \\
& \quad X7 (u1_struct_0 X0)) \Rightarrow (\forall X8.(m1_subset_1 X8 (u1_struct_0 \\
& \quad X0)) \Rightarrow (\forall X9.(m1_subset_1 X9 (u1_struct_0 X0)) \Rightarrow (((v11_aff_2 \\
& \quad X0) \wedge ((r1_aff_1 X0 X1 X2 X3) \wedge ((r2_analoaf X0 X1 X2 X4 X5) \wedge ((r2_analoaf \\
& \quad X0 X1 X2 X6 X7) \wedge ((r2_analoaf X0 X1 X4 X2 X5) \wedge ((r2_analoaf X0 X1 X6 X2 \\
& \quad X7) \wedge ((r2_analoaf X0 X4 X5 X3 X8) \wedge ((r2_analoaf X0 X4 X3 X5 X8) \wedge ((r2_analoaf \\
& \quad X0 X6 X7 X9 X8) \wedge (r2_analoaf X0 X6 X9 X7 X8)))))))))) \Rightarrow ((X1 = X2) \vee ((\\
& \quad r1_aff_1 X0 X1 X2 X4) \vee ((r1_aff_1 X0 X1 X2 X6) \vee (X3 = X9))))))
\end{aligned}$$