

# l100\_geomtrap (TMTnDSRMRagvSDtejJ3cKJfm3yAr93Zfcz7)

October 27, 2020

Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v3\_geomtrap : \iota \Rightarrow o$  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  $k2\_diraf : \iota \Rightarrow \iota$  be given. Let  $r2\_analoaf : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned}
& \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v3\_geomtrap X0) \wedge (l1\_analoaf \\
& \quad X0))) \Rightarrow (\forall X1. (m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2. \\
& \quad (m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3. (m1\_subset\_1 X3 \\
& \quad (u1\_struct\_0 X0)) \Rightarrow (\forall X4. (m1\_subset\_1 X4 (u1\_struct\_0 X0)) \Rightarrow \\
& \quad (\forall X5. (m1\_subset\_1 X5 (u1\_struct\_0 (k2\_diraf X0))) \Rightarrow (\forall X6. \\
& \quad (m1\_subset\_1 X6 (u1\_struct\_0 (k2\_diraf X0))) \Rightarrow (\forall X7. (m1\_subset\_1 \\
& \quad \quad X7 (u1\_struct\_0 (k2\_diraf X0))) \Rightarrow (\forall X8. (m1\_subset\_1 X8 ( \\
& \quad u1\_struct\_0 (k2\_diraf X0)))) \Rightarrow (((X1 = X5) \wedge ((X2 = X6) \wedge ((X3 = X7) \wedge ( \\
& \quad X4 = X8)))) \Rightarrow ((r2\_analoaf (k2\_diraf X0) X5 X6 X7 X8) \Leftrightarrow ((r2\_analoaf \\
& \quad \quad X0 X1 X2 X3 X4) \vee (r2\_analoaf X0 X1 X2 X4 X3))))))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v3\_geomtrap X0) \wedge (l1\_analoaf \\
& \quad X0))) \Rightarrow (\forall X1. (m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Leftrightarrow (m1\_subset\_1 \\
& \quad \quad X1 (u1\_struct\_0 (k2\_diraf X0))))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge (l1\_analoaf X0)) \Rightarrow ((v3\_geomtrap \\
& X0) \Leftrightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2. \\
& (m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3.(m1\_subset\_1 X3 \\
& (u1\_struct\_0 X0)) \Rightarrow (\forall X4.(m1\_subset\_1 X4 (u1\_struct\_0 X0)) \Rightarrow \\
& (\forall X5.(m1\_subset\_1 X5 (u1\_struct\_0 X0)) \Rightarrow (\forall X6.(m1\_subset\_1 \\
& X6 (u1\_struct\_0 X0)) \Rightarrow (\forall X7.(m1\_subset\_1 X7 (u1\_struct\_0 \\
& X0)) \Rightarrow (\forall X8.(m1\_subset\_1 X8 (u1\_struct\_0 X0)) \Rightarrow (\forall X9. \\
& (m1\_subset\_1 X9 (u1\_struct\_0 X0)) \Rightarrow (\forall X10.(m1\_subset\_1 \\
& X10 (u1\_struct\_0 X0)) \Rightarrow (((r2\_analoaf X0 X1 X2 X2 X3) \Rightarrow ((X1 = X2) \wedge ( \\
& X2 = X3))) \wedge (((r2\_analoaf X0 X1 X2 X5 X6) \wedge (r2\_analoaf X0 X1 X2 X7 X8)) \Rightarrow \\
& ((X1 = X2) \vee (r2\_analoaf X0 X5 X6 X7 X8))) \wedge (((r2\_analoaf X0 X1 X2 X3 \\
& X4) \Rightarrow ((r2\_analoaf X0 X3 X4 X1 X2) \wedge (r2\_analoaf X0 X2 X1 X4 X3))) \wedge (( \\
& \neg \forall X11.(m1\_subset\_1 X11 (u1\_struct\_0 X0)) \Rightarrow ((\neg r2\_analoaf \\
& X0 X1 X2 X3 X11) \wedge (\neg r2\_analoaf X0 X1 X2 X11 X3))) \wedge (\neg (r2\_analoaf X0 \\
& X1 X2 X3 X9) \wedge ((r2\_analoaf X0 X1 X2 X3 X10) \wedge ((X1 \neq X2) \wedge (X9 \neq X10))))))))))))) \\
& \tag{3}
\end{aligned}$$

**Theorem 1**

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