

t34\_parsp\_1 (TM-  
bCu6DaMvFZaiBE72965KTJ73wuQxPxfTU)

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

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_parsp\_1 X0) \wedge (l1\_parsp\_1 \\ & X0))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2. \\ & (m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3.(m1\_subset\_1 X3 \\ & (u1\_struct\_0 X0)) \Rightarrow (\forall X4.(m1\_subset\_1 X4 (u1\_struct\_0 X0)) \Rightarrow \\ & (((r1\_parsp\_1 X0 X1 X3 X1 X4) \wedge (r1\_parsp\_1 X0 X2 X3 X2 X4)) \Rightarrow ((r1\_parsp\_1 \\ & X0 X1 X2 X1 X3) \vee (X3 = X4)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_parsp\_1 X0) \wedge (l1\_parsp\_1 \\ & X0))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2. \\ & (m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3.(m1\_subset\_1 X3 \\ & (u1\_struct\_0 X0)) \Rightarrow (\forall X4.(m1\_subset\_1 X4 (u1\_struct\_0 X0)) \Rightarrow \\ & (\forall X5.(m1\_subset\_1 X5 (u1\_struct\_0 X0)) \Rightarrow (((r1\_parsp\_1 \\ & X0 X1 X3 X4 X5) \wedge (r1\_parsp\_1 X0 X2 X3 X4 X5)) \Rightarrow ((r1\_parsp\_1 X0 X1 X2 X1 \\ & X3) \vee (X4 = X5)))))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_parsp\_1 X0) \wedge (l1\_parsp\_1 \\ & X0))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2. \\ & (m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3.(m1\_subset\_1 X3 \\ & (u1\_struct\_0 X0)) \Rightarrow (\forall X4.(m1\_subset\_1 X4 (u1\_struct\_0 X0)) \Rightarrow \\ & (\forall X5.(m1\_subset\_1 X5 (u1\_struct\_0 X0)) \Rightarrow (\forall X6.(m1\_subset\_1 \\ & X6 (u1\_struct\_0 X0)) \Rightarrow (\neg(\neg r1\_parsp\_1 X0 X1 X2 X1 X3) \wedge ((r1\_parsp\_1 \\ & X0 X1 X2 X4 X5) \wedge ((r1\_parsp\_1 X0 X1 X3 X4 X6) \wedge ((r1\_parsp\_1 X0 X2 X3 X5 \\ & X6) \wedge ((X4 \neq X5) \wedge (r1\_parsp\_1 X0 X4 X5 X4 X6)))))))))) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_parsp\_1 X0) \wedge (l1\_parsp\_1 \\ & X0))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2. \\ & (m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (r1\_parsp\_1 X0 X1 X2 X1 X2))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge (l1\_parsp\_1 X0)) \Rightarrow ((v2\_parsp\_1 \\ & X0) \Leftrightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2. \\ & (m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3.(m1\_subset\_1 X3 \\ & (u1\_struct\_0 X0)) \Rightarrow (\forall X4.(m1\_subset\_1 X4 (u1\_struct\_0 X0)) \Rightarrow \\ & (\forall X5.(m1\_subset\_1 X5 (u1\_struct\_0 X0)) \Rightarrow (\forall X6.(m1\_subset\_1 \\ & X6 (u1\_struct\_0 X0)) \Rightarrow (\forall X7.(m1\_subset\_1 X7 (u1\_struct\_0 \\ & X0)) \Rightarrow (\forall X8.(m1\_subset\_1 X8 (u1\_struct\_0 X0)) \Rightarrow ((r1\_parsp\_1 \\ & X0 X1 X2 X2 X1) \wedge ((r1\_parsp\_1 X0 X1 X2 X3 X3) \wedge ((\neg(r1\_parsp\_1 X0 X1 X2 \\ & X5 X6) \wedge ((r1\_parsp\_1 X0 X1 X2 X7 X8) \wedge ((\neg r1\_parsp\_1 X0 X5 X6 X7 X8) \wedge \\ & (X1 \neq X2)))))) \wedge ((r1\_parsp\_1 X0 X1 X2 X1 X3) \Rightarrow (r1\_parsp\_1 X0 X2 X1 X2 \\ & X3)) \wedge (\exists X9.(m1\_subset\_1 X9 (u1\_struct\_0 X0)) \wedge ((r1\_parsp\_1 \\ & X0 X1 X2 X3 X9) \wedge (r1\_parsp\_1 X0 X1 X3 X2 X9)))))))))) \end{aligned} \quad (5)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_parsp\_1 X0) \wedge (l1\_parsp\_1 \\ & X0))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2. \\ & (m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3.(m1\_subset\_1 X3 \\ & (u1\_struct\_0 X0)) \Rightarrow (\forall X4.(m1\_subset\_1 X4 (u1\_struct\_0 X0)) \Rightarrow \\ & (\forall X5.(m1\_subset\_1 X5 (u1\_struct\_0 X0)) \Rightarrow (\forall X6.(m1\_subset\_1 \\ & X6 (u1\_struct\_0 X0)) \Rightarrow (\forall X7.(m1\_subset\_1 X7 (u1\_struct\_0 \\ & X0)) \Rightarrow (((r1\_parsp\_1 X0 X1 X2 X4 X5) \wedge ((r1\_parsp\_1 X0 X1 X3 X4 X6) \wedge \\ & (r1\_parsp\_1 X0 X1 X3 X4 X7) \wedge ((r1\_parsp\_1 X0 X2 X3 X5 X6) \wedge (r1\_parsp\_1 \\ & X0 X2 X3 X5 X7)))))) \Rightarrow ((r1\_parsp\_1 X0 X1 X2 X1 X3) \vee (X6 = X7)))))) \end{aligned}$$