

t29\_yellow18

(TMMD4pevdTdZ8DJA2bapEgPhD5Ng8W1THa9)

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Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v2\_altcat\_1 : \iota \Rightarrow o$  be given. Let  $v11\_altcat\_1 : \iota \Rightarrow o$  be given. Let  $v12\_altcat\_1 : \iota \Rightarrow o$  be given. Let  $l2\_altcat\_1 : \iota \Rightarrow o$  be given. Let  $r3\_yellow18 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_yellow18 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_yellow18 : \iota \Rightarrow \iota$  be given. Let  $v6\_altcat\_1 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_altcat\_1 X0) \wedge ((v11\_altcat\_1 \\ X0) \wedge ((v12\_altcat\_1 X0) \wedge (l2\_altcat\_1 X0)))))) \Rightarrow (\forall X1.(( \\ \neg v2\_struct\_0 X1) \wedge ((v2\_altcat\_1 X1) \wedge ((v11\_altcat\_1 X1) \wedge ((v12\_altcat\_1 \\ X1) \wedge (l2\_altcat\_1 X1)))))) \Rightarrow (\forall X2.((\neg v2\_struct\_0 X2) \wedge (( \\ v2\_altcat\_1 X2) \wedge ((v11\_altcat\_1 X2) \wedge ((v12\_altcat\_1 X2) \wedge (l2\_altcat\_1 \\ X2)))))) \Rightarrow ((r1\_yellow18 X0 X1) \wedge (r1\_yellow18 X1 X2)) \Rightarrow (r1\_yellow18 \\ X0 X2))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. (((\neg v2\_struct\_0 X0) \wedge ((v2\_altcat\_1 X0) \wedge \\ ((v11\_altcat\_1 X0) \wedge ((v12\_altcat\_1 X0) \wedge (l2\_altcat\_1 X0)))))) \wedge \\ ((\neg v2\_struct\_0 X1) \wedge ((v2\_altcat\_1 X1) \wedge ((v11\_altcat\_1 X1) \wedge (( \\ v12\_altcat\_1 X1) \wedge (l2\_altcat\_1 X1)))))) \Rightarrow ((r3\_yellow18 X0 X1) \Rightarrow \\ (r3\_yellow18 X1 X0)) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. (((\neg v2\_struct\_0 X0) \wedge ((v2\_altcat\_1 X0) \wedge \\ ((v11\_altcat\_1 X0) \wedge ((v12\_altcat\_1 X0) \wedge (l2\_altcat\_1 X0)))))) \wedge \\ ((\neg v2\_struct\_0 X1) \wedge ((v2\_altcat\_1 X1) \wedge ((v11\_altcat\_1 X1) \wedge (( \\ v12\_altcat\_1 X1) \wedge (l2\_altcat\_1 X1)))))) \Rightarrow ((r1\_yellow18 X0 X1) \Rightarrow \\ (r1\_yellow18 X1 X0)) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v2\_altcat\_1 X0) \wedge ((v12\_altcat\_1 \\ X0) \wedge (l2\_altcat\_1 X0)))) \Rightarrow ((\neg v2\_struct\_0 (k1\_yellow18 X0)) \wedge ( \\ (v2\_altcat\_1 (k1\_yellow18 X0)) \wedge ((v6\_altcat\_1 (k1\_yellow18 X0)) \wedge \\ (v12\_altcat\_1 (k1\_yellow18 X0)))))) \end{aligned} \tag{4}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_altcat\_1 X0) \wedge ((v11\_altcat\_1 X0) \wedge (l2\_altcat\_1 X0)))) \Rightarrow ((\neg v2\_struct\_0 (k1\_yellow18 X0)) \wedge ((v2\_altcat\_1 (k1\_yellow18 X0)) \wedge ((v6\_altcat\_1 (k1\_yellow18 X0)) \wedge (v11\_altcat\_1 (k1\_yellow18 X0)))))) \quad (5)$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_altcat\_1 X0) \wedge (l2\_altcat\_1 X0))) \Rightarrow ((\neg v2\_struct\_0 (k1\_yellow18 X0)) \wedge ((v2\_altcat\_1 (k1\_yellow18 X0)) \wedge ((v6\_altcat\_1 (k1\_yellow18 X0)) \wedge (l2\_altcat\_1 (k1\_yellow18 X0)))))) \quad (6)$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_altcat\_1 X0) \wedge ((v11\_altcat\_1 X0) \wedge ((v12\_altcat\_1 X0) \wedge (l2\_altcat\_1 X0))))) \Rightarrow (\forall X1.((\neg v2\_struct\_0 X1) \wedge ((v2\_altcat\_1 X1) \wedge ((v11\_altcat\_1 X1) \wedge ((v12\_altcat\_1 X1) \wedge (l2\_altcat\_1 X1))))) \Rightarrow ((r3\_yellow18 X0 X1) \Leftrightarrow (r1\_yellow18 X0 (k1\_yellow18 X1)))) \quad (7)$$

**Theorem 1**

$$\forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_altcat\_1 X0) \wedge ((v11\_altcat\_1 X0) \wedge ((v12\_altcat\_1 X0) \wedge (l2\_altcat\_1 X0))))) \Rightarrow (\forall X1.((\neg v2\_struct\_0 X1) \wedge ((v2\_altcat\_1 X1) \wedge ((v11\_altcat\_1 X1) \wedge ((v12\_altcat\_1 X1) \wedge (l2\_altcat\_1 X1))))) \Rightarrow (\forall X2.((\neg v2\_struct\_0 X2) \wedge ((v2\_altcat\_1 X2) \wedge ((v11\_altcat\_1 X2) \wedge ((v12\_altcat\_1 X2) \wedge (l2\_altcat\_1 X2))))) \Rightarrow (((r3\_yellow18 X0 X1) \wedge (r3\_yellow18 X1 X2)) \Rightarrow (r1\_yellow18 X0 X2))))))$$