

# t31\_group\_9

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Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v2\_group\_1 : \iota \Rightarrow o$  be given. Let  $v3\_group\_1 : \iota \Rightarrow o$  be given. Let  $v3\_group\_9 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $l1\_group\_9 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v2\_group\_9 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v4\_group\_9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_group\_9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k19\_group\_9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k16\_group\_9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v2\_struct\_0 X1) \wedge ((v2\_group\_1 X1) \wedge \\ & (v3\_group\_1 X1) \wedge ((v3\_group\_9 X1 X0) \wedge (l1\_group\_9 X1 X0)))) \Rightarrow ( \\ & \forall X2. (m1\_group\_9 X2 X0 X1) \Rightarrow (\forall X3. (m1\_group\_9 X3 X0 \\ X1) \Rightarrow ((k16\_group\_9 X0 X1 X2 X3 = k16\_group\_9 X0 X1 X3 X2) \Rightarrow (u1\_struct\_0 \\ (k19\_group\_9 X0 X1 X2 X3) = k16\_group\_9 X0 X1 X2 X3))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v2\_struct\_0 X1) \wedge ((v2\_group\_1 X1) \wedge \\ & (v3\_group\_1 X1) \wedge ((v3\_group\_9 X1 X0) \wedge (l1\_group\_9 X1 X0)))) \Rightarrow ( \\ & \forall X2. ((v2\_group\_9 X2 X0) \wedge ((v4\_group\_9 X2 X0 X1) \wedge (m1\_group\_9 \\ X2 X0 X1))) \Rightarrow (\forall X3. ((v2\_group\_9 X3 X0) \wedge ((v4\_group\_9 X3 X0 \\ X1) \wedge (m1\_group\_9 X3 X0 X1))) \Rightarrow (k16\_group\_9 X0 X1 X2 X3 = k16\_group\_9 \\ X0 X1 X3 X2))) \end{aligned} \tag{2}$$

**Theorem 1**

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v2\_struct\_0 X1) \wedge ((v2\_group\_1 X1) \wedge \\ & (v3\_group\_1 X1) \wedge ((v3\_group\_9 X1 X0) \wedge (l1\_group\_9 X1 X0)))) \Rightarrow ( \\ & \forall X2. ((v2\_group\_9 X2 X0) \wedge ((v4\_group\_9 X2 X0 X1) \wedge (m1\_group\_9 \\ X2 X0 X1))) \Rightarrow (\forall X3. ((v2\_group\_9 X3 X0) \wedge ((v4\_group\_9 X3 X0 \\ X1) \wedge (m1\_group\_9 X3 X0 X1))) \Rightarrow (u1\_struct\_0 (k19\_group\_9 X0 X1 X2 \\ X3) = k16\_group\_9 X0 X1 X2 X3))) \end{aligned}$$