

## t8\_fsm\_2

(TMZGP1ZhL2Nhx9iwx3upYjYz9DoBYoCwiRd)

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Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $l1\_fsm\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $r1\_fsm\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v2\_fsm\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m2\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k8\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k12\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_fsm\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u2\_fsm\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0. \forall X1. (m2\_finseq\_1 X1 X0) \Leftrightarrow (m1\_finseq\_1 X1 X0) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((m1\_finseq\_1 X1 X0) \wedge (m1\_finseq\_1 X2 X0)) \Rightarrow (m2\_finseq\_1 (k8\_finseq\_1 X0 X1 X2) X0) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. ((\neg v1\_xboole\_0 X0) \wedge (m1\_subset\_1 X1 X0)) \Rightarrow (m2\_finseq\_1 (k12\_finseq\_1 X0 X1) X0) \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0. (\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1. ((\neg v2\_struct\_0 X1) \wedge \\ (l1\_fsm\_1 X1 X0)) \Rightarrow (\forall X2. (m1\_subset\_1 X2 (u1\_struct\_0 X1)) \Rightarrow \\ ((v2\_fsm\_2 X2 X0 X1) \Leftrightarrow (\exists X3. (m2\_finseq\_1 X3 X0) \wedge (r1\_fsm\_1 \\ X0 X1 X3 (u2\_fsm\_1 X0 X1) X2)))))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0. (\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1. ((\neg v2\_struct\_0 X1) \wedge \\ (l1\_fsm\_1 X1 X0)) \Rightarrow (\forall X2. (m1\_subset\_1 X2 (u1\_struct\_0 X1)) \Rightarrow \\ (\forall X3. (m1\_subset\_1 X3 X0) \Rightarrow ((r1\_fsm\_2 X0 X1 X2 X3) \Leftrightarrow (\exists X4. \\ (m2\_finseq\_1 X4 X0) \wedge (r1\_fsm\_1 X0 X1 (k8\_finseq\_1 X0 (k12\_finseq\_1 \\ X0 X3) X4) (u2\_fsm\_1 X0 X1) X2)))))) \end{aligned} \quad (5)$$

**Theorem 1**

$$\begin{aligned} \forall X0. (\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1. (m1\_subset\_1 X1 X0) \Rightarrow \\ (\forall X2. ((\neg v2\_struct\_0 X2) \wedge (l1\_fsm\_1 X2 X0)) \Rightarrow (\forall X3. \\ (m1\_subset\_1 X3 (u1\_struct\_0 X2)) \Rightarrow ((r1\_fsm\_2 X0 X2 X3 X1) \Rightarrow (v2\_fsm\_2 \\ X3 X0 X2)))))) \end{aligned}$$