

# t3\_robins3 (TMJTxscF- Bip9cVmMH4CYwj5qpZfWYKpzCYZ)

October 27, 2020

Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $l3\_lattices : \iota \Rightarrow o$  be given. Let  $v2\_robins3 : \iota \Rightarrow o$  be given. Let  $v1\_robins3 : \iota \Rightarrow o$  be given. Let  $v3\_robins3 : \iota \Rightarrow o$  be given. Let  $v9\_lattices : \iota \Rightarrow o$  be given. Let  $v8\_lattices : \iota \Rightarrow o$  be given. Let  $v6\_lattices : \iota \Rightarrow o$  be given. Let  $v4\_lattices : \iota \Rightarrow o$  be given. Let  $l1\_lattices : \iota \Rightarrow o$  be given. Let  $l2\_lattices : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k2\_lattices : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_lattices : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0.((\neg v2\_struct\_0 X0) \wedge (l3\_lattices X0)) \Rightarrow (((v2\_robins3 X0) \wedge ((v1\_robins3 X0) \wedge ((v3\_robins3 X0) \wedge (v9\_lattices X0)))) \Rightarrow ((v6\_lattices X0) \wedge (v4\_lattices X0))) \quad (1)$$

Assume the following.

$$\forall X0.(l3\_lattices X0) \Rightarrow ((l1\_lattices X0) \wedge (l2\_lattices X0)) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (((\neg v2\_struct\_0 X0) \wedge (l1\_lattices X0)) \wedge ((m1\_subset\_1 X1 (u1\_struct\_0 X0)) \wedge (m1\_subset\_1 X2 (u1\_struct\_0 X0)))) \Rightarrow (m1\_subset\_1 (k2\_lattices X0 X1 X2) (u1\_struct\_0 X0)) \quad (3)$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0 X0) \wedge (l3\_lattices X0)) \Rightarrow ((v8\_lattices X0) \Leftrightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (k1\_lattices X0 (k2\_lattices X0 X1 X2) X2 = X2)))) \quad (4)$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0 X0) \wedge (l1\_lattices X0)) \Rightarrow ((v6\_lattices X0) \Leftrightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (k2\_lattices X0 X1 X2 = k2\_lattices X0 X2 X1)))) \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2\_struct\_0 X0) \wedge (l2\_lattices X0)) \Rightarrow ((v4\_lattices \\ X0) \Leftrightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2. \\ (m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (k1\_lattices X0 X1 X2 = k1\_lattices \\ X0 X2 X1)))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2\_struct\_0 X0) \wedge (l3\_lattices X0)) \Rightarrow ((v3\_robbins3 \\ X0) \Leftrightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2. \\ (m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (k1\_lattices X0 X1 (k2\_lattices \\ X0 X1 X2) = X1)))) \end{aligned} \quad (7)$$

**Theorem 1**

$$\begin{aligned} \forall X0.((\neg v2\_struct\_0 X0) \wedge (l3\_lattices X0)) \Rightarrow (((v2\_robbins3 \\ X0) \wedge ((v1\_robbins3 X0) \wedge ((v3\_robbins3 X0) \wedge (v9\_lattices X0)))) \Rightarrow \\ (v8\_lattices X0)) \end{aligned}$$