

## t38\_robins2

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Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v1\_robins2 : \iota \Rightarrow o$  be given. Let  $l2\_robins1 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k5\_robins1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_robins1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_lattices : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v4\_lattices : \iota \Rightarrow o$  be given. Let  $l2\_lattices : \iota \Rightarrow o$  be given. Let  $l1\_robins1 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v1\_robins2 X0) \wedge (l2\_robins1 \\ & X0))) \Rightarrow (\forall X1. (m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2. \\ & (m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3. (m1\_subset\_1 X3 \\ & (u1\_struct\_0 X0)) \Rightarrow (k5\_robins1 X0 X1 (k3\_robins1 X0 (k5\_robins1 \\ & X0 (k3\_robins1 X0 (k5\_robins1 X0 X2 X3)) (k3\_robins1 X0 (k5\_robins1 \\ & X0 X2 X1)))) = k5\_robins1 X0 X2 X1))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v1\_robins2 X0) \wedge (l2\_robins1 \\ & X0))) \Rightarrow (\forall X1. (m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2. \\ & (m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (k3\_robins1 X0 (k1\_lattices \\ & X0 (k3\_robins1 X0 (k1\_lattices X0 X1 X2)) (k3\_robins1 X0 X2)) = \\ & X2))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2\_struct\_0 X0) \wedge ((v4\_lattices \\ & X0) \wedge (l2\_robins1 X0))) \wedge ((m1\_subset\_1 X1 (u1\_struct\_0 X0)) \wedge \\ & (m1\_subset\_1 X2 (u1\_struct\_0 X0)))) \Rightarrow (k5\_robins1 X0 X1 X2 = k1\_lattices \\ & X0 X1 X2) \end{aligned} \tag{3}$$

Assume the following.

$$\forall X0. (l2\_robins1 X0) \Rightarrow ((l2\_lattices X0) \wedge (l1\_robins1 X0)) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_struct\_0 X0)\wedge(l1\_robbins1 X0))\wedge(m1\_subset\_1 X1 (u1\_struct\_0 X0)))\Rightarrow(m1\_subset\_1 (k3\_robbins1 X0 X1) (u1\_struct\_0 X0)) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0 X0)\wedge(l2\_lattices X0))\wedge((m1\_subset\_1 X1 (u1\_struct\_0 X0))\wedge(m1\_subset\_1 X2 (u1\_struct\_0 X0))))\Rightarrow(m1\_subset\_1 (k1\_lattices X0 X1 X2) (u1\_struct\_0 X0)) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0 X0)\wedge((v4\_lattices X0)\wedge(l2\_robbins1 X0)))\wedge((m1\_subset\_1 X1 (u1\_struct\_0 X0))\wedge(m1\_subset\_1 X2 (u1\_struct\_0 X0))))\Rightarrow(k5\_robbins1 X0 X1 X2 = k5\_robbins1 X0 X2 X1) \quad (7)$$

Assume the following.

$$\forall X0.(l2\_robbins1 X0)\Rightarrow(((\neg v2\_struct\_0 X0)\wedge(v1\_robbins2 X0))\Rightarrow((\neg v2\_struct\_0 X0)\wedge(v4\_lattices X0))) \quad (8)$$

**Theorem 1**

$$\forall X0.((\neg v2\_struct\_0 X0)\wedge((v1\_robbins2 X0)\wedge(l2\_robbins1 X0)))\Rightarrow(\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0))\Rightarrow(\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X0))\Rightarrow(\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 X0))\Rightarrow(k5\_robbins1 X0 X1 (k3\_robbins1 X0 (k5\_robbins1 X0 X2 (k3\_robbins1 X0 (k5\_robbins1 X0 X3 X2)) X1)))) = k5\_robbins1 X0 (k3\_robbins1 X0 (k5\_robbins1 X0 X3 X2)) X1))))$$