

# t11\_openlatt

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Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v10\_lattices : \iota \Rightarrow o$  be given. Let  $v11\_lattices : \iota \Rightarrow o$  be given. Let  $l3\_lattices : \iota \Rightarrow o$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v19\_lattices : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v20\_lattices : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k8\_openlatt : \iota \Rightarrow \iota$  be given. Let  $k7\_openlatt : \iota \Rightarrow \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0.((\neg v2\_struct\_0 X0) \wedge ((v10\_lattices X0) \wedge ((v11\_lattices X0) \wedge (l3\_lattices X0)))) \Rightarrow ((v1\_relat\_1 (k8\_openlatt X0)) \wedge (v1\_funct\_1 (k8\_openlatt X0))) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v10\_lattices X0) \wedge ((v11\_lattices X0) \wedge (l3\_lattices X0)))) \Rightarrow (\forall X1.((v1\_relat\_1 X1) \wedge (v1\_funct\_1 X1)) \Rightarrow ((X1 = k8\_openlatt X0) \Leftrightarrow (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow ((k9\_xtuple\_0 X1 = u1\_struct\_0 X0) \wedge (k1\_funct\_1 X1 X2 = ReplSep \\ & \quad (toset (\lambda X3 : \iota. (\neg v1\_xboole\_0 X3) \wedge ((v19\_lattices X3 X0) \wedge (v20\_lattices X3 X0) \wedge (m1\_subset\_1 X3 (k1\_zfmisc\_1 (u1\_struct\_0 X0)))))) (\lambda X3 : \iota. (X3 \in k7\_openlatt X0) \wedge (X2 \in X3)) (\lambda X3 : \iota. X3)))))) \quad (2) \end{aligned}$$

## Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v10\_lattices X0) \wedge ((v11\_lattices X0) \wedge (l3\_lattices X0)))) \Rightarrow (\forall X1.((\neg v1\_xboole\_0 X1) \wedge ((v19\_lattices X1 X0) \wedge ((v20\_lattices X1 X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0)))))) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow ((X1 \in k1\_funct\_1 (k8\_openlatt X0) X2) \Leftrightarrow ((X1 \in k7\_openlatt X0) \wedge (X2 \in X1)))))) \end{aligned}$$