

## t29\_stacks\_1

(TMatH3VaqyxQKkVWTRSmdSKDP6HYyPGU79g)

October 27, 2020

Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v11\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v2\_stacks\_1 : \iota \Rightarrow o$  be given. Let  $v3\_stacks\_1 : \iota \Rightarrow o$  be given. Let  $v4\_stacks\_1 : \iota \Rightarrow o$  be given. Let  $v5\_stacks\_1 : \iota \Rightarrow o$  be given. Let  $v6\_stacks\_1 : \iota \Rightarrow o$  be given. Let  $l1\_stacks\_1 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u4\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k13\_stacks\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k11\_stacks\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_rewrite1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k12\_stacks\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $m1\_rewrite1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $k3\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $r1\_stacks\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k7\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_nat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_stacks\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned}
 & \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((\neg v11\_struct\_0 X0) \wedge ((v2\_stacks\_1 \\
 & X0) \wedge ((v3\_stacks\_1 X0) \wedge ((v4\_stacks\_1 X0) \wedge ((v5\_stacks\_1 X0) \wedge \\
 & ((v6\_stacks\_1 X0) \wedge (l1\_stacks\_1 X0))))))) \Rightarrow (\forall X1. (m1\_subset\_1 \\
 & X1 (u4\_struct\_0 X0)) \Rightarrow (k11\_stacks\_1 X0 X1 = ReplSep (toset (\lambda X2 : \\
 & \iota. m1\_subset\_1 X2 (u4\_struct\_0 X0))) (\lambda X2 : \iota. r1\_rewrite1 \\
 & (k12\_stacks\_1 X0) X1 X2) (\lambda X2 : \iota. X2)))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
 & \forall X0. \forall X1. (((\neg v2\_struct\_0 X0) \wedge ((\neg v11\_struct\_0 X0) \wedge \\
 & ((v2\_stacks\_1 X0) \wedge ((v3\_stacks\_1 X0) \wedge ((v4\_stacks\_1 X0) \wedge ((v5\_stacks\_1 \\
 & X0) \wedge ((v6\_stacks\_1 X0) \wedge (l1\_stacks\_1 X0))))))) \wedge (m1\_subset\_1 \\
 & X1 (u4\_struct\_0 X0))) \Rightarrow (m1\_subset\_1 (k13\_stacks\_1 X0 X1) (u4\_struct\_0 \\
 & X0))
 \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2\_struct\_0 X0) \wedge ((\neg v11\_struct\_0 X0) \wedge ((v2\_stacks\_1 \\ X0) \wedge ((v3\_stacks\_1 X0) \wedge ((v4\_stacks\_1 X0) \wedge ((v5\_stacks\_1 X0) \wedge \\ ((v6\_stacks\_1 X0) \wedge (l1\_stacks\_1 X0)))))))))) \Rightarrow (m1\_subset\_1 (k12\_stacks\_1 \\ X0) (k1\_zfmisc\_1 (k2\_zfmisc\_1 (u4\_struct\_0 X0) (u4\_struct\_0 X0)))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1\_relat\_1 X0) \Rightarrow (\forall X1.\forall X2.(r1\_rewrite1 \\ X0 X1 X2) \Leftrightarrow (\exists X3.(m1\_rewrite1 X3 X0) \wedge ((k1\_funct\_1 X3 np\_1 = \\ X1) \wedge (k1\_funct\_1 X3 (k3\_finseq\_1 X3) = X2)))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2\_struct\_0 X0) \wedge ((\neg v11\_struct\_0 X0) \wedge ((v2\_stacks\_1 \\ X0) \wedge ((v3\_stacks\_1 X0) \wedge ((v4\_stacks\_1 X0) \wedge ((v5\_stacks\_1 X0) \wedge \\ ((v6\_stacks\_1 X0) \wedge (l1\_stacks\_1 X0)))))))))) \Rightarrow (\forall X1.(m1\_subset\_1 \\ X1 (u4\_struct\_0 X0)) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (u4\_struct\_0 \\ X0)) \Rightarrow ((X2 = k13\_stacks\_1 X0 X1) \Leftrightarrow ((r1\_stacks\_1 X0 X2) \wedge (\exists X3. \\ ((v5\_relat\_1 X3 (u4\_struct\_0 X0)) \wedge (m1\_rewrite1 X3 (k12\_stacks\_1 \\ X0)) \wedge ((k1\_funct\_1 X3 np\_1 = X1) \wedge ((k1\_funct\_1 X3 (k3\_finseq\_1 \\ X3) = X2) \wedge (\forall X4.(v7\_ordinal1 X4) \Rightarrow ((r1\_xxreal\_0 np\_1 X4) \Rightarrow \\ ((r1\_xxreal\_0 (k3\_finseq\_1 X3) X4) \vee ((\neg r1\_stacks\_1 X0 (k7\_partfun1 \\ (u4\_struct\_0 X0) X3 X4)) \wedge (k7\_partfun1 (u4\_struct\_0 X0) X3 (k1\_nat\_1 \\ X4 np\_1) = k5\_stacks\_1 X0 (k7\_partfun1 (u4\_struct\_0 X0) X3 X4)))))))))))))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 \\ (k2\_zfmisc\_1 X0 X1))) \Rightarrow (v1\_relat\_1 X2) \end{aligned} \quad (6)$$

### Theorem 1

$$\begin{aligned} \forall X0.((\neg v2\_struct\_0 X0) \wedge ((\neg v11\_struct\_0 X0) \wedge ((v2\_stacks\_1 \\ X0) \wedge ((v3\_stacks\_1 X0) \wedge ((v4\_stacks\_1 X0) \wedge ((v5\_stacks\_1 X0) \wedge \\ ((v6\_stacks\_1 X0) \wedge (l1\_stacks\_1 X0)))))))))) \Rightarrow (\forall X1.(m1\_subset\_1 \\ X1 (u4\_struct\_0 X0)) \Rightarrow (k13\_stacks\_1 X0 X1 \in k11\_stacks\_1 X0 X1)) \end{aligned}$$