

t55\_zf\_lang (TMUJpX-  
Gag62Q7tVWZiyax9qHPpQZdFhRWC2)

October 27, 2020

Let  $v1\_zf\_lang : \iota \Rightarrow o$  be given. Let  $m2\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_numbers : \iota$  be given. Let  $v7\_zf\_lang : \iota \Rightarrow o$  be given. Let  $r1\_zf\_lang : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v2\_zf\_lang : \iota \Rightarrow o$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zf\_lang : \iota$  be given. Let  $k4\_zf\_lang : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v3\_zf\_lang : \iota \Rightarrow o$  be given. Let  $k5\_zf\_lang : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v4\_zf\_lang : \iota \Rightarrow o$  be given. Let  $k6\_zf\_lang : \iota \Rightarrow \iota$  be given. Let  $v5\_zf\_lang : \iota \Rightarrow o$  be given. Let  $k7\_zf\_lang : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v6\_zf\_lang : \iota \Rightarrow o$  be given. Let  $k8\_zf\_lang : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned}
& \forall X0.((v1\_zf\_lang X0) \wedge (m2\_finseq\_1 X0 k5\_numbers)) \Rightarrow (( \\
& \neg(v2\_zf\_lang X0) \wedge (\forall X1.(m2\_subset\_1 X1 k5\_numbers k1\_zf\_lang) \Rightarrow \\
& (\forall X2.(m2\_subset\_1 X2 k5\_numbers k1\_zf\_lang) \Rightarrow (X0 \neq k4\_zf\_lang \\
& X1 X2)))) \wedge ((\exists X1.(m2\_subset\_1 X1 k5\_numbers k1\_zf\_lang) \wedge \\
& (\exists X2.(m2\_subset\_1 X2 k5\_numbers k1\_zf\_lang) \wedge (X0 = k4\_zf\_lang \\
& X1 X2))) \Rightarrow (v2\_zf\_lang X0)) \wedge ((\neg(v3\_zf\_lang X0) \wedge (\forall X1.(m2\_subset\_1 \\
& X1 k5\_numbers k1\_zf\_lang) \Rightarrow (\forall X2.(m2\_subset\_1 X2 k5\_numbers \\
& k1\_zf\_lang) \Rightarrow (X0 \neq k5\_zf\_lang X1 X2)))) \wedge ((\exists X1.(m2\_subset\_1 \\
& X1 k5\_numbers k1\_zf\_lang) \wedge (\exists X2.(m2\_subset\_1 X2 k5\_numbers \\
& k1\_zf\_lang) \wedge (X0 = k5\_zf\_lang X1 X2))) \Rightarrow (v3\_zf\_lang X0)) \wedge ((\neg(v4\_zf\_lang \\
& X0) \wedge (\forall X1.((v1\_zf\_lang X1) \wedge (m2\_finseq\_1 X1 k5\_numbers)) \Rightarrow \\
& (X0 \neq k6\_zf\_lang X1))) \wedge ((\exists X1.((v1\_zf\_lang X1) \wedge (m2\_finseq\_1 \\
& X1 k5\_numbers)) \wedge (X0 = k6\_zf\_lang X1)) \Rightarrow (v4\_zf\_lang X0)) \wedge ((\neg(v5\_zf\_lang \\
& X0) \wedge (\forall X1.((v1\_zf\_lang X1) \wedge (m2\_finseq\_1 X1 k5\_numbers)) \Rightarrow \\
& (\forall X2.((v1\_zf\_lang X2) \wedge (m2\_finseq\_1 X2 k5\_numbers)) \Rightarrow ( \\
& X0 \neq k7\_zf\_lang X1 X2)))) \wedge ((\exists X1.((v1\_zf\_lang X1) \wedge (m2\_finseq\_1 \\
& X1 k5\_numbers)) \wedge (\exists X2.((v1\_zf\_lang X2) \wedge (m2\_finseq\_1 X2 \\
& k5\_numbers)) \wedge (X0 = k7\_zf\_lang X1 X2))) \Rightarrow (v5\_zf\_lang X0)) \wedge ((\neg( \\
& v6\_zf\_lang X0) \wedge (\forall X1.(m2\_subset\_1 X1 k5\_numbers k1\_zf\_lang) \Rightarrow \\
& (\forall X2.((v1\_zf\_lang X2) \wedge (m2\_finseq\_1 X2 k5\_numbers)) \Rightarrow ( \\
& X0 \neq k8\_zf\_lang X1 X2)))) \wedge ((\exists X1.(m2\_subset\_1 X1 k5\_numbers \\
& k1\_zf\_lang) \wedge (\exists X2.((v1\_zf\_lang X2) \wedge (m2\_finseq\_1 X2 k5\_numbers)) \wedge \\
& (X0 = k8\_zf\_lang X1 X2))) \Rightarrow (v6\_zf\_lang X0)))))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.(m2\_subset\_1 X0 k5\_numbers k1\_zf\_lang) \Rightarrow (\forall X1. \\ & (m2\_subset\_1 X1 k5\_numbers k1\_zf\_lang) \Rightarrow (\forall X2. ((v1\_zf\_lang \\ & X2) \wedge (m2\_finseq\_1 X2 k5\_numbers)) \Rightarrow (\neg r1\_zf\_lang X2 (k5\_zf\_lang \\ & X0 X1)))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m2\_subset\_1 X0 k5\_numbers k1\_zf\_lang) \Rightarrow (\forall X1. \\ & (m2\_subset\_1 X1 k5\_numbers k1\_zf\_lang) \Rightarrow (\forall X2. ((v1\_zf\_lang \\ & X2) \wedge (m2\_finseq\_1 X2 k5\_numbers)) \Rightarrow (\neg r1\_zf\_lang X2 (k4\_zf\_lang \\ & X0 X1)))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1\_zf\_lang X0) \wedge (m2\_finseq\_1 X0 k5\_numbers)) \Rightarrow (( \\ & v7\_zf\_lang X0) \Leftrightarrow ((v2\_zf\_lang X0) \vee (v3\_zf\_lang X0))) \end{aligned} \quad (4)$$

**Theorem 1**

$$\begin{aligned} & \forall X0. ((v1\_zf\_lang X0) \wedge (m2\_finseq\_1 X0 k5\_numbers)) \Rightarrow (\forall X1. \\ & ((v1\_zf\_lang X1) \wedge (m2\_finseq\_1 X1 k5\_numbers)) \Rightarrow (\neg (v7\_zf\_lang \\ & X0) \wedge (r1\_zf\_lang X1 X0))) \end{aligned}$$