

t58\_zf\_lang (TMMHdRmzURwu-  
UgdHo49w8L56Lof2sd4hPk4)

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  $v6\_zf\_lang : \iota \Rightarrow o$  be given. Let  $r1\_zf\_lang : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k24\_zf\_lang : \iota \Rightarrow \iota$  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  $k8\_zf\_lang : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k23\_zf\_lang : \iota \Rightarrow \iota$  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.

$$\begin{aligned}
& \forall X0.(m2\_subset\_1 X0 k5\_numbers k1\_zf\_lang) \Rightarrow (\forall X1. \\
& ((v1\_zf\_lang X1) \wedge (m2\_finseq\_1 X1 k5\_numbers)) \Rightarrow (\forall X2.( \\
& (v1\_zf\_lang X2) \wedge (m2\_finseq\_1 X2 k5\_numbers)) \Rightarrow ((r1\_zf\_lang X1 \\
& (k8\_zf\_lang X0 X2)) \Leftrightarrow (X1 = X2))))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m2\_subset\_1 X0 k5\_numbers k1\_zf\_lang) \Rightarrow (\forall X1. \\
& ((v1\_zf\_lang X1) \wedge (m2\_finseq\_1 X1 k5\_numbers)) \Rightarrow (\forall X2.( \\
& (v1\_zf\_lang X2) \wedge (m2\_finseq\_1 X2 k5\_numbers)) \Rightarrow ((v6\_zf\_lang X1) \Rightarrow \\
& ((\neg(X0 = k23\_zf\_lang X1) \wedge (\forall X3.((v1\_zf\_lang X3) \wedge (m2\_finseq\_1 \\
& X3 k5\_numbers)) \Rightarrow (k8\_zf\_lang X0 X3 \neq X1))) \wedge (((\exists X3.((v1\_zf\_lang \\
& X3) \wedge (m2\_finseq\_1 X3 k5\_numbers)) \wedge (k8\_zf\_lang X0 X3 = X1)) \Rightarrow (X0 = \\
& k23\_zf\_lang X1)) \wedge ((\neg(X2 = k24\_zf\_lang X1) \wedge (\forall X3.(m2\_subset\_1 \\
& X3 k5\_numbers k1\_zf\_lang) \Rightarrow (k8\_zf\_lang X3 X2 \neq X1)))) \wedge (((\exists X3. \\
& (m2\_subset\_1 X3 k5\_numbers k1\_zf\_lang) \wedge (k8\_zf\_lang X3 X2 = X1)) \Rightarrow \\
& (X2 = k24\_zf\_lang X1)))))))))
\end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v1\_zf\_lang X0) \wedge (m2\_finseq\_1 X0 k5\_numbers)) \Rightarrow (\forall X1. \\
& ((v1\_zf\_lang X1) \wedge (m2\_finseq\_1 X1 k5\_numbers)) \Rightarrow ((r1\_zf\_lang \\
& X0 X1) \Leftrightarrow (\neg(X1 \neq k6\_zf\_lang X0) \wedge (\forall X2.((v1\_zf\_lang X2) \wedge ( \\
& m2\_finseq\_1 X2 k5\_numbers)) \Rightarrow ((X1 \neq k7\_zf\_lang X0 X2) \wedge (X1 \neq k7\_zf\_lang \\
& X2 X0))) \wedge (\forall X2.(m2\_subset\_1 X2 k5\_numbers k1\_zf\_lang) \Rightarrow \\
& (X1 \neq k8\_zf\_lang X2 X0))))))
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v1\_zf\_lang X0) \wedge (m2\_finseq\_1 X0 k5\_numbers)) \Rightarrow (( \\
& v6\_zf\_lang X0) \Leftrightarrow (\exists X1.(m2\_subset\_1 X1 k5\_numbers k1\_zf\_lang) \wedge \\
& (\exists X2.((v1\_zf\_lang X2) \wedge (m2\_finseq\_1 X2 k5\_numbers)) \wedge ( \\
& X0 = k8\_zf\_lang X1 X2))))
\end{aligned} \tag{5}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0.((v1\_zf\_lang X0) \wedge (m2\_finseq\_1 X0 k5\_numbers)) \Rightarrow (\forall X1. \\
& ((v1\_zf\_lang X1) \wedge (m2\_finseq\_1 X1 k5\_numbers)) \Rightarrow ((v6\_zf\_lang \\
& X0) \Rightarrow ((r1\_zf\_lang X1 X0) \Leftrightarrow (X1 = k24\_zf\_lang X0))))
\end{aligned}$$