

# t8\_glib\_001 (TMTy- hGHDL1mcumZQUvaYnx5Zz8VsN8hcoPX)

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Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_numbers : \iota$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_finset\_1 : \iota \Rightarrow o$  be given. Let  $v1\_glib\_000 : \iota \Rightarrow o$  be given. Let  $m3\_glib\_001 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_abian : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_glib\_000 : \iota \Rightarrow \iota$  be given. Let  $r1\_glib\_000 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r2\_glib\_000 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $k6\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $k2\_nat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k10\_glib\_000 : \iota \Rightarrow \iota$  be given. Let  $k11\_glib\_000 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} \forall X0.((v1\_relat\_1 X0) \wedge ((v4\_relat\_1 X0 k5\_numbers) \wedge ((v1\_funct\_1 \\ X0) \wedge ((v1\_finset\_1 X0) \wedge (v1\_glib\_000 X0)))))) \Rightarrow (\forall X1. \forall X2. \\ \forall X3. (r1\_glib\_000 X0 X2 X3 X1) \Leftrightarrow ((r2\_glib\_000 X0 X2 X3 X1) \vee \\ (r2\_glib\_000 X0 X3 X2 X1))) \end{aligned} \quad (1)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1\_relat\_1 X0) \wedge ((v4\_relat\_1 X0 k5\_numbers) \wedge ((v1\_funct\_1 \\ X0) \wedge ((v1\_finset\_1 X0) \wedge (v1\_glib\_000 X0)))))) \Rightarrow (\forall X1. (m3\_glib\_001 \\ X1 X0) \Rightarrow (\forall X2. ((v1\_abian X2) \wedge (m1\_subset\_1 X2 k5\_numbers)) \Rightarrow \\ (\neg(X2 \in k1\_relset\_1 k5\_numbers X1) \wedge (\forall X3. ((\neg v1\_abian X3) \wedge \\ (m1\_subset\_1 X3 k5\_numbers)) \Rightarrow (\neg(X3 = k6\_xcmplx\_0 X2 np\_1) \wedge (( \\ k6\_xcmplx\_0 X2 np\_1 \in k1\_relset\_1 k5\_numbers X1) \wedge ((k2\_nat\_1 X2 \\ np\_1 \in k1\_relset\_1 k5\_numbers X1) \wedge (r1\_glib\_000 X0 (k1\_funct\_1 \\ X1 X3) (k1\_funct\_1 X1 (k2\_nat\_1 X2 np\_1)) (k1\_funct\_1 X1 X2)))))))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v1\_relat\_1 X0) \wedge ((v4\_relat\_1 X0 k5\_numbers) \wedge ((v1\_funct\_1 \\
& \quad X0) \wedge ((v1\_finset\_1 X0) \wedge (v1\_glib\_000 X0)))))) \Rightarrow (\forall X1. \forall X2. \\
& \forall X3. (r2\_glib\_000 X0 X1 X2 X3) \Leftrightarrow ((X3 \in k7\_glib\_000 X0) \wedge ((k1\_funct\_1 \\
& \quad (k10\_glib\_000 X0) X3 = X1) \wedge (k1\_funct\_1 (k11\_glib\_000 X0) X3 = X2)))) \\
& \hspace{15em} (4)
\end{aligned}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0.((v1\_relat\_1 X0) \wedge ((v4\_relat\_1 X0 k5\_numbers) \wedge ((v1\_funct\_1 \\
& \quad X0) \wedge ((v1\_finset\_1 X0) \wedge (v1\_glib\_000 X0)))))) \Rightarrow (\forall X1. (m3\_glib\_001 \\
& \quad X1 X0) \Rightarrow (\forall X2. ((v1\_abian X2) \wedge (m1\_subset\_1 X2 k5\_numbers)) \Rightarrow \\
& \quad ((X2 \in k1\_relset\_1 k5\_numbers X1) \Rightarrow (k1\_funct\_1 X1 X2 \in k7\_glib\_000 \\
& \quad \quad X0))))
\end{aligned}$$