

t41\_funct\_1  
(TMM4YTk24MmvtuXDNidEgHbpd4N7ai64drF)

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Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v2\_funct\_1 : \iota \Rightarrow o$  be given. Let  $k10\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k3\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_relat\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_funct\_1 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} \forall X0.((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow ((v2\_funct\_1 X0) \Rightarrow \\ ((k3\_relat\_1 X0 (k2\_funct\_1 X0) = k4\_relat\_1 (k9\_xtuple\_0 X0)) \wedge \\ (k3\_relat\_1 (k2\_funct\_1 X0) X0 = k4\_relat\_1 (k10\_xtuple\_0 X0)))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow ((v2\_funct\_1 X0) \Rightarrow \\ ((k10\_xtuple\_0 X0 = k9\_xtuple\_0 (k2\_funct\_1 X0)) \wedge (k9\_xtuple\_0 \\ X0 = k10\_xtuple\_0 (k2\_funct\_1 X0)))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. ((v1\_relat\_1 X1) \wedge (v1\_funct\_1 X1)) \Rightarrow (\forall X2. \\ ((v1\_relat\_1 X2) \wedge (v1\_funct\_1 X2)) \Rightarrow (\forall X3. ((v1\_relat\_1 \\ X3) \wedge (v1\_funct\_1 X3)) \Rightarrow (((k10\_xtuple\_0 X1 = X0) \wedge ((k3\_relat\_1 X1 \\ X2 = k4\_relat\_1 (k9\_xtuple\_0 X3)) \wedge (k3\_relat\_1 X2 X3 = k4\_relat\_1 \\ X0))) \Rightarrow (X3 = X1)))) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow ((v1\_relat\_1 (k2\_funct\_1 X0)) \wedge (v1\_funct\_1 (k2\_funct\_1 X0))) \quad (4)$$

**Theorem 1**

$$\begin{aligned} \forall X0.((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow (\forall X1.(( \\ v1\_relat\_1 X1) \wedge (v1\_funct\_1 X1)) \Rightarrow (((v2\_funct\_1 X0) \wedge ((k10\_xtuple\_0 \\ X0 = k9\_xtuple\_0 X1) \wedge (k3\_relat\_1 X0 X1 = k4\_relat\_1 (k9\_xtuple\_0 \\ X0)))) \Rightarrow (X1 = k2\_funct\_1 X0))) \end{aligned}$$