

t19_yellow18
(TMYPiS81iYrSaYjZx66uA7XerGkPTnnGC23)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v2_altcat_1 : \iota \Rightarrow o$ be given. Let $v11_altcat_1 : \iota \Rightarrow o$ be given. Let $v12_altcat_1 : \iota \Rightarrow o$ be given. Let $l2_altcat_1 : \iota \Rightarrow o$ be given. Let $r2_yellow18 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r2_functor0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_functor0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_altcat_1 X0) \wedge ((v11_altcat_1 \\ & \quad X0) \wedge ((v12_altcat_1 X0) \wedge (l2_altcat_1 X0)))))) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge ((v2_altcat_1 X1) \wedge ((v11_altcat_1 X1) \wedge ((v12_altcat_1 \\ & \quad X1) \wedge (l2_altcat_1 X1)))))) \Rightarrow (\forall X2.((\neg v2_struct_0 X2) \wedge ((v2_altcat_1 X2) \wedge ((v11_altcat_1 X2) \wedge ((v12_altcat_1 X2) \wedge (l2_altcat_1 \\ & \quad X2)))))) \Rightarrow ((r2_yellow18 X0 X1) \Rightarrow ((r1_functor0 X0 X2) \Leftrightarrow (r2_functor0 X1 X2)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v2_struct_0 X0) \wedge (l2_altcat_1 X0)) \wedge \\ & ((\neg v2_struct_0 X1) \wedge (l2_altcat_1 X1))) \Rightarrow ((r2_yellow18 X0 X1) \Rightarrow (r2_yellow18 X1 X0)) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v2_struct_0 X0) \wedge ((v2_altcat_1 X0) \wedge \\ & ((v12_altcat_1 X0) \wedge (l2_altcat_1 X0)))) \wedge ((\neg v2_struct_0 X1) \wedge \\ & ((v2_altcat_1 X1) \wedge ((v12_altcat_1 X1) \wedge (l2_altcat_1 X1)))))) \Rightarrow \\ & ((r2_functor0 X0 X1) \Rightarrow (r2_functor0 X1 X0)) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v2_struct_0 X0) \wedge ((v2_altcat_1 X0) \wedge \\ & ((v12_altcat_1 X0) \wedge (l2_altcat_1 X0)))) \wedge ((\neg v2_struct_0 X1) \wedge \\ & ((v2_altcat_1 X1) \wedge ((v12_altcat_1 X1) \wedge (l2_altcat_1 X1)))))) \Rightarrow \\ & ((r1_functor0 X0 X1) \Rightarrow (r1_functor0 X1 X0)) \end{aligned} \tag{4}$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_altcat_1 X0) \wedge ((v11_altcat_1 \\ & \quad X0) \wedge ((v12_altcat_1 X0) \wedge (l2_altcat_1 X0)))))) \Rightarrow (\forall X1.((\\ \neg v2_struct_0 X1) \wedge ((v2_altcat_1 X1) \wedge ((v11_altcat_1 X1) \wedge ((v12_altcat_1 \\ & \quad X1) \wedge (l2_altcat_1 X1)))))) \Rightarrow (\forall X2.((\neg v2_struct_0 X2) \wedge ((\\ v2_altcat_1 X2) \wedge ((v11_altcat_1 X2) \wedge ((v12_altcat_1 X2) \wedge (l2_altcat_1 \\ & \quad X2)))))) \Rightarrow (\forall X3.((\neg v2_struct_0 X3) \wedge ((v2_altcat_1 X3) \wedge (\\ v11_altcat_1 X3) \wedge ((v12_altcat_1 X3) \wedge (l2_altcat_1 X3)))))) \Rightarrow \\ & ((r2_yellow18 X0 X1) \wedge ((r2_yellow18 X2 X3) \wedge (r2_functor0 X0 X2))) \Rightarrow \\ & \quad (r2_functor0 X1 X3)))) \end{aligned}$$