

thm_2ETemporal_Logic_2EIMP_NEXT (TM- MaftzjckzSQR8kynRRWDUDgxpsR1KJXXH)

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Definition 1 We define $c_2Emin_2E_3D_3D_3E$ to be $\lambda P \in 2.\lambda Q \in 2.inj_o (p \Rightarrow p \Rightarrow Q)$ of type ι .

Let $ty_2Enum_2Enum : \iota$ be given. Assume the following.

$$nonempty\ ty_2Enum_2Enum \tag{1}$$

Let $c_2Enum_2EREP_num : \iota$ be given. Assume the following.

$$c_2Enum_2EREP_num \in (\omega^{ty_2Enum_2Enum}) \tag{2}$$

Let $c_2Enum_2ESUC_REP : \iota$ be given. Assume the following.

$$c_2Enum_2ESUC_REP \in (\omega^{\omega}) \tag{3}$$

Let $c_2Enum_2EABS_num : \iota$ be given. Assume the following.

$$c_2Enum_2EABS_num \in (ty_2Enum_2Enum^{\omega}) \tag{4}$$

Definition 2 We define $c_2Emin_2E_3D$ to be $\lambda A.\lambda x \in A.\lambda y \in A.inj_o (x = y)$ of type $\iota \Rightarrow \iota$.

Definition 3 We define c_2Ebool_2ET to be $(ap (ap (c_2Emin_2E_3D (2^2)) (\lambda V0x \in 2.V0x)) (\lambda V1x \in 2.V1x))$

Definition 4 We define $c_2Ebool_2E_21$ to be $\lambda A.\lambda a : \iota.(\lambda V0P \in (2^{A-27a}).(ap (ap (c_2Emin_2E_3D (2^{A-27a}))$

Definition 5 We define c_2Enum_2ESUC to be $\lambda V0m \in ty_2Enum_2Enum.(ap c_2Enum_2EABS_num ($

Definition 6 We define $c_2ETemporal_Logic_2ENEXT$ to be $\lambda V0P \in (2^{ty_2Enum_2Enum}).(\lambda V1t \in ty_2Enum_2Enum$

Assume the following.

$$True \tag{5}$$

Assume the following.

$$\forall A.\lambda a : \iota.(\lambda V0x \in A.\lambda a.((V0x = V0x) \Leftrightarrow True)) \tag{6}$$

Theorem 1

$$\begin{aligned} & (\forall V0Q \in (2^{ty_2Enum_2Enum}).(\forall V1P \in (2^{ty_2Enum_2Enum}). \\ & ((ap\ c_2ETemporal_Logic_2ENEXT\ (\lambda V2t \in ty_2Enum_2Enum.(\\ & ap\ (ap\ c_2Emin_2E_3D_3D_3E\ (ap\ V1P\ V2t))\ (ap\ V0Q\ V2t)))))) = (\lambda V3t \in \\ & ty_2Enum_2Enum.(ap\ (ap\ c_2Emin_2E_3D_3D_3E\ (ap\ (ap\ c_2ETemporal_Logic_2ENEXT \\ & V1P)\ V3t))\ (ap\ (ap\ c_2ETemporal_Logic_2ENEXT\ V0Q)\ V3t)))))) \end{aligned}$$