thm_2ETemporal__Logic_2EEQUIV__NEXT (TMMLQYapu91cxdvknMsTwKyrszy7Aizoo2A)

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Let $ty\_2Enum\_2Enum : \iota$ be given. Assume the following.

$$nonempty\ ty\_2Enum\_2Enum \quad (1)$$

Let $c\_2Enum\_2EREP\_\_num : \iota$ be given. Assume the following.

$$c\_2Enum\_2EREP\_\_num \in (omega^{ty\_2Enum\_2Enum}) \quad (2)$$

Let $c\_2Enum\_2ESUC\_\_REP : \iota$ be given. Assume the following.

$$c\_2Enum\_2ESUC\_\_REP \in (omega^{omega}) \quad (3)$$

Let $c\_2Enum\_2EABS\_\_num : \iota$ be given. Assume the following.

$$c\_2Enum\_2EABS\_\_num \in (ty\_2Enum\_2Enum^{omega}) \quad (4)$$

Definition 1 *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 2 *We define* c_2Ebool_2ET *to be* $(ap\ (ap\ (\text{c\_2Emin\_2E\_3D}\ (2^2))\ (\lambda V0x \in 2.V0x))\ (\lambda V1x \in 2.V1$

Definition 3 *We define* c_2Ebool_2E_21 *to be* $\lambda A\_27a : \iota.(\lambda V0P \in (2^{A\_27a}).(ap\ (ap\ (\text{c\_2Emin\_2E\_3D}\ (2^{A\_27}$

Definition 4 *We define* c_2Enum_2ESUC *to be* $\lambda V0m \in ty\_2Enum\_2Enum.(ap\ c\_2Enum\_2EABS\_\_num\ ($

Definition 5 *We define* c_2ETemporal__Logic_2ENEXT *to be* $\lambda V0P \in (2^{ty\_2Enum\_2Enum}).(\lambda V1t \in ty\_2Enu$

Assume the following.

$$True \quad (5)$$

Assume the following.

$$\forall A\_27a.nonempty\ A\_27a \Rightarrow (\forall V0x \in A\_27a.((V0x = V0x) \Leftrightarrow True)) \quad (6)$$

Theorem 1

$$(\forall V0Q \in (2^{ty\_2Enum\_2Enum}).(\forall V1P \in (2^{ty\_2Enum\_2Enum}). ((ap\ \text{c\_2ETemporal\_\_Logic\_2ENEXT}\ (\lambda V2t \in ty\_2Enum\_2Enum.(ap\ (ap\ (\text{c\_2Emin\_2E\_3D}\ 2)\ (ap\ V1P\ V2t))\ (ap\ V0Q\ V2t)))) = (\lambda V3t \in ty\_2Enum\_2Enum.(ap\ (ap\ (\text{c\_2Emin\_2E\_3D}\ 2)\ (ap\ (ap\ \text{c\_2ETemporal\_\_Logic\_2ENEXT}\ V1P)\ V3t))\ (ap\ (ap\ \text{c\_2ETemporal\_\_Logic\_2ENEXT}\ V0Q)\ V3t))))))$$