

thm_2Epred__set_2EIN__APP (TMWtSp- kwQeoX7D4gzsoLr3EKVWQ6UixAJap)

October 26, 2020

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_2EIN to be $\lambda A_27a : \iota.(\lambda V0x \in A_27a.(\lambda V1f \in (2^{A_27a}).(\lambda V1x \in A_27a.V1f V0x)))$

Definition 3 We define c_2Ebool_2EET to be $(\lambda p (ap (c_2Emin_2E_3D (2^2)) (\lambda V0x \in 2.V0x)) (\lambda V1x \in 2.V1x))$

Definition 4 We define $c_2Ebool_2E_21$ to be $\lambda A_27a : \iota.(\lambda V0P \in (2^{A_27a}).(\lambda p (ap (c_2Emin_2E_3D (2^{A_27a}).(\lambda V0t \in A_27a.V0t)) (\lambda V1P \in (2^{A_27a}).(\lambda V1x \in A_27a.V1P V0x)))$

Assume the following.

$$True \tag{1}$$

Assume the following.

$$\forall A_27a.nonempty A_27a \Rightarrow (\forall V0t \in 2.((\forall V1x \in A_27a.(p V0t)) \Leftrightarrow (p V0t))) \tag{2}$$

Assume the following.

$$\forall A_27a.nonempty A_27a \Rightarrow (\forall V0x \in A_27a.((V0x = V0x) \Leftrightarrow True)) \tag{3}$$

Theorem 1

$$\forall A_27a.nonempty A_27a \Rightarrow (\forall V0x \in A_27a.(\forall V1P \in (2^{A_27a}).((p (ap (ap (c_2Ebool_2EIN A_27a) V0x) V1P)) \Leftrightarrow (p (ap V1P V0x))))))$$