

thm_2Equotient_2ECONJ_IMPLIES
(TMZGtLz6vjCGxZrngCmaZVbBiifH4UnZFnG)

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

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 $c_2Ebool_2E_2T$ 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 $\lambda A.^{27a} : \iota.(\lambda V0P \in (2^{A-27a}).(ap (ap (c_2Emin_2E_3D (2^{A-27a}))$

Definition 5 We define $c_2Ebool_2E_2F_5C$ to be $(\lambda V0t1 \in 2.(\lambda V1t2 \in 2.(ap (c_2Ebool_2E_21 2) (\lambda V2t \in 2.V2t)))$

Theorem 1

$$2.(((\forall V0P \in 2.(\forall V1P_27 \in 2.(\forall V2Q \in 2.(\forall V3Q_27 \in 2.(((p V0P) \Rightarrow (p V2Q)) \wedge ((p V1P_27) \Rightarrow (p V3Q_27)))) \Rightarrow (((p V0P) \wedge (p V1P_27)) \Rightarrow ((p V2Q) \wedge (p V3Q_27))))))))))$$