

thm_2EASCIInumbers_2Es2n__compute
(TMTVYvFaSXVAXjBTZMdB-
WSADmWd7tBWEqrj)

October 26, 2020

Let $ty_2Elist_2Elist : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall A0.nonempty\ A0 \Rightarrow nonempty\ (ty_2Elist_2Elist\ A0) \quad (1)$$

Let $c_2Elist_2EREVERSE : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall A_27a.nonempty\ A_27a \Rightarrow c_2Elist_2EREVERSE\ A_27a \in ((ty_2Elist_2Elist\ A_27a)^{(ty_2Elist_2Elist\ A_27a)}) \quad (2)$$

Let $c_2Elist_2EMAP : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall A_27a.nonempty\ A_27a \Rightarrow \forall A_27b.nonempty\ A_27b \Rightarrow c_2Elist_2EMAP\ A_27a\ A_27b \in (((ty_2Elist_2Elist\ A_27b)^{(ty_2Elist_2Elist\ A_27a)})^{(A_27b^{A_27a})}) \quad (3)$$

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

$$nonempty\ ty_2Enum_2Enum \quad (4)$$

Let $c_2Enumposrep_2El2n : \iota$ be given. Assume the following.

$$c_2Enumposrep_2El2n \in ((ty_2Enum_2Enum)^{(ty_2Elist_2Elist\ ty_2Enum_2Enum)})^{ty_2Enum_2Enum} \quad (5)$$

Let $ty_2Estring_2Echar : \iota$ be given. Assume the following.

$$nonempty\ ty_2Estring_2Echar \quad (6)$$

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 $(ap\ (ap\ (c_2Emin_2E_3D\ (2^2))\ (\lambda V0x \in 2.V0x))\ (\lambda V1x \in 2.V1x))$

Definition 3 We define $c_2Ebool_2E_21$ to be $\lambda A_27a : \iota.(\lambda V0P \in (2^{A_27a}).(ap\ (ap\ (c_2Emin_2E_3D\ (2^{A_27a}))\ (\lambda V1x \in 2.V1x))\ (\lambda V1x \in 2.V1x)))$

Definition 4 We define $c_2EASCIInumbers_2Es2n$ to be $\lambda V0b \in ty_2Enum_2Enum.\lambda V1f \in (ty_2Enum_2Enum)$

Let $c_2Estring_2EIMPLode : \iota$ be given. Assume the following.

$$c_2Estring_2EIMPLode \in ((ty_2Elist_2Elist\ ty_2Estring_2Echar)^{(ty_2Elist_2Elist\ ty_2Estring_2Echar)}) \quad (7)$$

Let $c_2Estring_2EEXPLODE : \iota$ be given. Assume the following.

$$c_2Estring_2EEXPLODE \in ((ty_2Elist_2Elist\ ty_2Estring_2Echar)^{(ty_2Elist_2Elist\ ty_2Estring_2Echar)}) \quad (8)$$

Definition 5 We define $c_2Emin_2E3D_3D_3E$ to be $\lambda P \in 2.\lambda Q \in 2.inj_o (p\ P \Rightarrow p\ Q)$ of type ι .

Definition 6 We define $c_2Ebool_2E2F_5C$ to be $(\lambda V0t1 \in 2.(\lambda V1t2 \in 2.(ap\ (c_2Ebool_2E21\ 2)\ (\lambda V2t \in 2.$

Assume the following.

$$True \quad (9)$$

Assume the following.

$$\forall A_27a.nonempty\ A_27a \Rightarrow (\forall V0x \in A_27a.((V0x = V0x) \Leftrightarrow True)) \quad (10)$$

Assume the following.

$$(\forall V0s \in (ty_2Elist_2Elist\ ty_2Estring_2Echar).(((ap\ c_2Estring_2EEXPLODE\ V0s) = V0s) \wedge ((ap\ c_2Estring_2EIMPLode\ V0s) = V0s))) \quad (11)$$

Theorem 1

$$\begin{aligned} & (\forall V0b \in ty_2Enum_2Enum.(\forall V1f \in (ty_2Enum_2Enum)^{ty_2Estring_2Echar}). \\ & \quad (\forall V2s \in (ty_2Elist_2Elist\ ty_2Estring_2Echar).((ap\ (ap \\ & \quad (ap\ c_2EASCIInumbers_2Es2n\ V0b)\ V1f)\ V2s) = (ap\ (ap\ c_2Enumposrep_2El2n \\ & \quad V0b)\ (ap\ (ap\ (c_2Elist_2EMAP\ ty_2Estring_2Echar\ ty_2Enum_2Enum) \\ & \quad V1f)\ (ap\ (c_2Elist_2EVERSE\ ty_2Estring_2Echar)\ (ap\ c_2Estring_2EEXPLODE \\ & \quad V2s)))))))) \end{aligned}$$