thm_2Eiterate_2EITERATE__DELTA (TMdWCPZKEcsQcyAZsirU7CHuumVDCoopYVj)

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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_2ET *to be* $(ap\ (ap\ (\mathsf{c\_2Emin\_2E\_3D}\ (2^2))\ (\lambda V0x \in 2.V0x))\ (\lambda V1x \in 2.V$

Definition 4 *We define* c_2Ebool_2E_21 *to be* $\lambda A\_27a : \iota.(\lambda V0P \in (2^{A\_27a}).(ap\ (ap\ (\mathsf{c\_2Emin\_2E\_3D}\ (2^{A\_27}$

Definition 5 *We define* c_2Ebool_2E_5C_2F *to be* $(\lambda V0t1 \in 2.(\lambda V1t2 \in 2.(ap\ (\mathsf{c\_2Ebool\_2E\_21}\ 2)\ (\lambda V2t \in 2$

Definition 6 *We define* c_2Ebool_2EF *to be* $(ap\ (\mathsf{c\_2Ebool\_2E\_21}\ 2)\ (\lambda V0t \in 2.V0t))$.

Definition 7 *We define* c_2Ebool_2E_7E *to be* $(\lambda V0t \in 2.(ap\ (ap\ \mathsf{c\_2Emin\_2E\_3D\_3D\_3E}\ V0t)\ \mathsf{c\_2Ebool\_2EF}$

Definition 8 *We define* c_2Ecombin_2Eo *to be* $\lambda A\_27a : \iota.\lambda A\_27b : \iota.\lambda A\_27c : \iota.\lambda V0f \in (A\_27b^{A\_27c}).\lambda V1g$

Definition 9 *We define* c_2Ebool_2EIN *to be* $\lambda A\_27a : \iota.(\lambda V0x \in A\_27a.(\lambda V1f \in (2^{A\_27a}).(ap\ V1f\ V0x)))$

Definition 10 *We define* c_2Ebool_2E_2F_5C *to be* $(\lambda V0t1 \in 2.(\lambda V1t2 \in 2.(ap\ (\mathsf{c\_2Ebool\_2E\_21}\ 2)\ (\lambda V2t \in$

Let $ty\_2Epair\_2Eprod : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall A0.nonempty\ A0 \Rightarrow \forall A1.nonempty\ A1 \Rightarrow nonempty\ (ty\_2Epair\_2Eprod\ A0\ A1) \tag{1}$$

Let $c\_2Epair\_2EABS\_\_prod : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall A\_27a.nonempty\ A\_27a \Rightarrow \forall A\_27b.nonempty\ A\_27b \Rightarrow c\_2Epair\_2EABS\_\_prod\ A\_27a\ A\_27b \in ((ty\_2Epair\_2Eprod\ A\_27a\ A\_27b)^{((2^{A\_27b})^{A\_27a})}) \tag{2}$$

Definition 11 *We define* c_2Epair_2E_2C *to be* $\lambda A\_27a : \iota.\lambda A\_27b : \iota.\lambda V0x \in A\_27a.\lambda V1y \in A\_27b.(ap\ (c\_2$

Let $c\_2Epred\_\_set\_2EGSPEC : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall A\_27a.nonempty\ A\_27a \Rightarrow \forall A\_27b.nonempty\ A\_27b \Rightarrow c\_2Epred\_\_set\_2EGSPEC\ A\_27a\ A\_27b \in ((2^{A\_27a})^{((ty\_2Epair\_2Eprod\ A\_27a\ 2)^{A\_27b})}) \tag{3}$$

Definition 12 *We define* c_2Epred__set_2EIMAGE *to be* $\lambda A\_27a : \iota.\lambda A\_27b : \iota.\lambda V0f \in (A\_27b^{A\_27a}).\lambda V1s \in$

Definition 13 *We define* c_2Epred__set_2EDIFF *to be* $\lambda A\_27a : \iota.\lambda V0s \in (2^{A\_27a}).\lambda V1t \in (2^{A\_27a}).(ap\ (c\_2$

Definition 14 *We define* c_2Epred__set_2EINTER *to be* $\lambda A\_27a : \iota.\lambda V0s \in (2^{A\_27a}).\lambda V1t \in (2^{A\_27a}).(ap\ (c$

Definition 15 *We define* c_2Epred__set_2EUNION *to be* $\lambda A\_27a : \iota.\lambda V0s \in (2^{A\_27a}).\lambda V1t \in (2^{A\_27a}).(ap\ (c$

Definition 16 *We define* c_2Epred__set_2EEMPTY *to be* $\lambda A_27a : \iota.(\lambda V0x \in A_27a.c_2Ebool_2EF)$.

Definition 17 *We define* c_2Epred__set_2EINSERT *to be* $\lambda A\_27a : \iota.\lambda V0x \in A\_27a.\lambda V1s \in (2^{A\_27a}).(ap\ (c$

Definition 18 *We define* c_2Epred__set_2EDELETE *to be* $\lambda A\_27a : \iota.\lambda V0s \in (2^{A\_27a}).\lambda V1x \in A\_27a.(ap\ (a$

Definition 19 *We define* c_2Emin_2E_40 *to be* $\lambda A.\lambda P \in 2^A.$**if** $(\exists x \in A.p\ (ap\ P\ x))$ **then** $(the\ (\lambda x.x \in A \wedge p$ *of type* $\iota \Rightarrow \iota$.

Definition 20 *We define* c_2Eiterate_2Eneutral *to be* $\lambda A\_27a : \iota.\lambda V0op \in ((A\_27a^{A\_27a})^{A\_27a}).(ap$ (c_2Emin

Definition 21 *We define* c_2Eiterate_2Esupport *to be* $\lambda A\_27a : \iota.\lambda A\_27b : \iota.\lambda V0op \in ((A\_27b^{A\_27b})^{A\_27b}).\lambda V$

Definition 22 *We define* c_2Ebool_2ECOND *to be* $\lambda A\_27a : \iota.(\lambda V0t \in 2.(\lambda V1t1 \in A\_27a.(\lambda V2t2 \in A\_27a.($

Definition 23 *We define* c_2Epred__set_2EFINITE *to be* $\lambda A\_27a : \iota.\lambda V0s \in (2^{A\_27a}).(ap$ (c_2Ebool_2E_21 (2

Definition 24 *We define* c_2Eiterate_2EITSET *to be* $\lambda A\_27a : \iota.\lambda A\_27b : \iota.\lambda V0f \in ((A\_27a^{A\_27a})^{A\_27b}).\lambda V$

Definition 25 *We define* c_2Eiterate_2Eiterate *to be* $\lambda A\_27a : \iota.\lambda A\_27b : \iota.\lambda V0op \in ((A\_27b^{A\_27b})^{A\_27b}).\lambda V$

Definition 26 *We define* c_2Eiterate_2Emonoidal *to be* $\lambda A\_27a : \iota.\lambda V0op \in ((A\_27a^{A\_27a})^{A\_27a}).(ap\ (ap$ c_2

Assume the following.

$$True \tag{4}$$

Assume the following.

$$(\forall V0t1 \in 2.(\forall V1t2 \in 2.(((p\ V0t1) \Rightarrow (p\ V1t2)) \Rightarrow (((p\ V1t2) \Rightarrow (p\ V0t1)) \Rightarrow ((p\ V0t1) \Leftrightarrow (p\ V1t2)))))) \tag{5}$$

Assume the following.

$$(\forall V0t \in 2.(False \Rightarrow (p\ V0t))) \tag{6}$$

Assume the following.

$$(\forall V0t \in 2.((p\ V0t) \vee (\neg (p\ V0t)))) \tag{7}$$

Assume the following.

$$\forall A\_27a.nonempty\ A\_27a \Rightarrow (\forall V0x \in A\_27a.((V0x = V0x) \Leftrightarrow True)) \tag{8}$$

Assume the following.

$$\forall A\_27a.nonempty\ A\_27a \Rightarrow (\forall V0x \in A\_27a.(\forall V1y \in A\_27a.((V0x = V1y) \Leftrightarrow (V1y = V0x)))) \tag{9}$$

Assume the following.

$$(\forall V0t \in 2.(((True \Leftrightarrow (p\ V0t)) \Leftrightarrow (p\ V0t)) \wedge ((((p\ V0t) \Leftrightarrow True) \Leftrightarrow (p\ V0t)) \wedge (((False \Leftrightarrow (p\ V0t)) \Leftrightarrow (\neg (p\ V0t))) \wedge (((p\ V0t) \Leftrightarrow False) \Leftrightarrow (\neg (p\ V0t))))))) \tag{10}$$

Assume the following.

$$\forall A\_27a.nonempty\ A\_27a \Rightarrow (\forall V0t1 \in A\_27a.(\forall V1t2 \in A\_27a.(((ap\ (ap\ (ap\ (\mathsf{c\_2Ebool\_2ECOND}\ A\_27a)\ \mathsf{c\_2Ebool\_2ET})\ V0t1)\ V1t2) = V0t1) \wedge ((ap\ (ap\ (ap\ (\mathsf{c\_2Ebool\_2ECOND}\ A\_27a)\ \mathsf{c\_2Ebool\_2EF})\ V0t1)\ V1t2) = V1t2)))) \tag{11}$$

Assume the following.

$$(\forall V0t1 \in 2.(\forall V1t2 \in 2.(\forall V2t3 \in 2.(((p\ V0t1) \Rightarrow ((p\ V1t2) \Rightarrow (p\ V2t3))) \Leftrightarrow (((p\ V0t1) \wedge (p\ V1t2)) \Rightarrow (p\ V2t3)))))) \tag{12}$$

Assume the following.

$$\forall A\_27a.nonempty\ A\_27a \Rightarrow (\forall V0P \in 2.(\forall V1Q \in 2.(\forall V2x \in A\_27a.(\forall V3x\_27 \in A\_27a.(\forall V4y \in A\_27a.(\forall V5y\_27 \in A\_27a.((((p\ V0P) \Leftrightarrow (p\ V1Q)) \wedge (((p\ V1Q) \Rightarrow (V2x = V3x\_27)) \wedge ((\neg (p\ V1Q)) \Rightarrow (V4y = V5y\_27)))) \Rightarrow ((ap\ (ap\ (ap\ (\mathsf{c\_2Ebool\_2ECOND}\ A\_27a)\ V0P)\ V2x)\ V4y) = (ap\ (ap\ (ap\ (\mathsf{c\_2Ebool\_2ECOND}\ A\_27a)\ V1Q)\ V3x\_27)\ V5y\_27))))))))) \tag{13}$$

Assume the following.

$$\forall A\_27a.nonempty\ A\_27a \Rightarrow \forall A\_27b.nonempty\ A\_27b \Rightarrow \forall A\_27c.\ nonempty\ A\_27c \Rightarrow \forall A\_27d.nonempty\ A\_27d \Rightarrow \forall A\_27e.nonempty\ A\_27e \Rightarrow \forall A\_27f.nonempty\ A\_27f \Rightarrow \forall A\_27g.nonempty\ A\_27g \Rightarrow \forall A\_27h.nonempty\ A\_27h \Rightarrow \forall A\_27i.nonempty\ A\_27i \Rightarrow (\forall V0op \in ((A\_27b^{A\_27b})^{A\_27b}).((\forall V1f \in (A\_27b^{A\_27a}). ((ap\ (ap\ (ap\ (\mathsf{c\_2Eiterate\_2Esupport}\ A\_27a\ A\_27b)\ V0op)\ V1f)\ (\mathsf{c\_2Epred\_\_set\_2EEMPTY}\ A\_27a)) = (\mathsf{c\_2Epred\_\_set\_2EEMPTY}\ A\_27a))) \wedge ((\forall V2f \in (A\_27b^{A\_27c}). (\forall V3x \in A\_27c.(\forall V4s \in (2^{A\_27c}).((ap\ (ap\ (ap\ (\mathsf{c\_2Eiterate\_2Esupport}\ A\_27c\ A\_27b)\ V0op)\ V2f)\ (ap\ (ap\ (\mathsf{c\_2Epred\_\_set\_2EINSERT}\ A\_27c)\ V3x)\ V4s)) = (ap\ (ap\ (ap\ (\mathsf{c\_2Ebool\_2ECOND}\ (2^{A\_27c}))\ (ap\ (ap\ (\mathsf{c\_2Emin\_2E\_3D}\ A\_27b)\ (ap\ V2f\ V3x))\ (ap\ (\mathsf{c\_2Eiterate\_2Eneutral}\ A\_27b)\ V0op)))\ (ap\ (ap\ (ap\ (\mathsf{c\_2Eiterate\_2Esupport}\ A\_27c\ A\_27b)\ V0op)\ V2f)\ V4s))\ (ap\ (ap\ (\mathsf{c\_2Epred\_\_set\_2EINSERT}\ A\_27c)\ V3x)\ (ap\ (ap\ (ap\ (\mathsf{c\_2Eiterate\_2Esupport}\ A\_27c\ A\_27b)\ V0op)\ V2f)\ V4s))))))) \wedge ((\forall V5f \in (A\_27b^{A\_27d}). (\forall V6x \in A\_27d.(\forall V7s \in (2^{A\_27d}).((ap\ (ap\ (ap\ (\mathsf{c\_2Eiterate\_2Esupport}\ A\_27d\ A\_27b)\ V0op)\ V5f)\ (ap\ (ap\ (\mathsf{c\_2Epred\_\_set\_2EDELETE}\ A\_27d)\ V7s)\ V6x)) = (ap\ (ap\ (\mathsf{c\_2Epred\_\_set\_2EDELETE}\ A\_27d)\ (ap\ (ap\ (ap\ (\mathsf{c\_2Eiterate\_2Esupport}\ A\_27d\ A\_27b)\ V0op)\ V5f)\ V7s))\ V6x))))) \wedge ((\forall V8f \in (A\_27b^{A\_27e}).(\forall V9s \in (2^{A\_27e}).(\forall V10t \in (2^{A\_27e}).((ap\ (ap\ (ap\ (\mathsf{c\_2Eiterate\_2Esupport}\ A\_27e\ A\_27b)\ V0op)\ V8f)\ (ap\ (ap\ (\mathsf{c\_2Epred\_\_set\_2EUNION}\ A\_27e)\ V9s)\ V10t)) = (ap\ (ap\ (\mathsf{c\_2Epred\_\_set\_2EUNION}\ A\_27e)\ (ap\ (ap\ (ap\ (\mathsf{c\_2Eiterate\_2Esupport}\ A\_27e\ A\_27b)\ V0op)\ V8f)\ V9s))\ (ap\ (ap\ (ap\ (\mathsf{c\_2Eiterate\_2Esupport}\ A\_27e\ A\_27b)\ V0op)\ V8f)\ V10t)))))) \wedge ((\forall V11f \in (A\_27b^{A\_27f}). (\forall V12s \in (2^{A\_27f}).(\forall V13t \in (2^{A\_27f}).((ap\ (ap\ (ap\ (\mathsf{c\_2Eiterate\_2Esupport}\ A\_27f\ A\_27b)\ V0op)\ V11f)\ (ap\ (ap\ (\mathsf{c\_2Epred\_\_set\_2EINTER}\ A\_27f)\ V12s)\ V13t)) = (ap\ (ap\ (\mathsf{c\_2Epred\_\_set\_2EINTER}\ A\_27f)\ (ap\ (ap\ (ap\ (\mathsf{c\_2Eiterate\_2Esupport}\ A\_27f\ A\_27b)\ V0op)\ V11f)\ V12s))\ (ap\ (ap\ (ap\ (\mathsf{c\_2Eiterate\_2Esupport}\ A\_27f\ A\_27b)\ V0op)\ V11f)\ V13t)))))) \wedge ((\forall V14f \in (A\_27b^{A\_27g}).(\forall V15s \in (2^{A\_27g}).(\forall V16t \in (2^{A\_27g}).((ap\ (ap\ (ap\ (\mathsf{c\_2Eiterate\_2Esupport}\ A\_27g\ A\_27b)\ V0op)\ V14f)\ (ap\ (ap\ (\mathsf{c\_2Epred\_\_set\_2EDIFF}\ A\_27g)\ V15s)\ V16t)) = (ap\ (ap\ (\mathsf{c\_2Epred\_\_set\_2EDIFF}\ A\_27g)\ (ap\ (ap\ (ap\ (\mathsf{c\_2Eiterate\_2Esupport}\ A\_27g\ A\_27b)\ V0op)\ V14f)\ V15s))\ (ap\ (ap\ (ap\ (\mathsf{c\_2Eiterate\_2Esupport}\ A\_27g\ A\_27b)\ V0op)\ V14f)\ V16t)))))) \wedge (\forall V17f \in (A\_27i^{A\_27h}). (\forall V18g \in (A\_27b^{A\_27i}).(\forall V19s \in (2^{A\_27h}).((ap\ (ap\ (ap\ (\mathsf{c\_2Eiterate\_2Esupport}\ A\_27i\ A\_27b)\ V0op)\ V18g)\ (ap\ (ap\ (\mathsf{c\_2Epred\_\_set\_2EIMAGE}\ A\_27h\ A\_27i)\ V17f)\ V19s)) = (ap\ (ap\ (\mathsf{c\_2Epred\_\_set\_2EIMAGE}\ A\_27h\ A\_27i)\ V17f)\ (ap\ (ap\ (ap\ (\mathsf{c\_2Eiterate\_2Esupport}\ A\_27h\ A\_27b)\ V0op)\ (ap\ (ap\ (\mathsf{c\_2Ecombin\_2Eo}\ A\_27h\ A\_27b\ A\_27i)\ V18g)\ V17f))\ V19s))))))))))))) \tag{14}$$

Assume the following.

$$\forall A\_27a.nonempty\ A\_27a \Rightarrow \forall A\_27b.nonempty\ A\_27b \Rightarrow (\forall V0op \in ((A\_27a^{A\_27a})^{A\_27a}).(\forall V1s \in (2^{A\_27b}).(\forall V2f \in (A\_27a^{A\_27b}).(\forall V3a \in A\_27b.((ap\ (ap\ (ap\ (\mathsf{c\_2Eiterate\_2Esupport}\ A\_27b\ A\_27a)\ V0op)\ (\lambda V4x \in A\_27b.(ap\ (ap\ (ap\ (\mathsf{c\_2Ebool\_2ECOND}\ A\_27a)\ (ap\ (ap\ (\mathsf{c\_2Emin\_2E\_3D}\ A\_27b)\ V4x)\ V3a))\ (ap\ V2f\ V4x))\ (ap\ (\mathsf{c\_2Eiterate\_2Eneutral}\ A\_27a)\ V0op))))\ V1s) = (ap\ (ap\ (ap\ (\mathsf{c\_2Ebool\_2ECOND}\ (2^{A\_27b}))\ (ap\ (ap\ (\mathsf{c\_2Ebool\_2EIN}\ A\_27b)\ V3a)\ V1s))\ (ap\ (ap\ (ap\ (\mathsf{c\_2Eiterate\_2Esupport}\ A\_27b\ A\_27a)\ V0op)\ V2f)\ (ap\ (ap\ (\mathsf{c\_2Epred\_\_set\_2EINSERT}\ A\_27b)\ V3a)\ (\mathsf{c\_2Epred\_\_set\_2EEMPTY}\ A\_27b))))\ (\mathsf{c\_2Epred\_\_set\_2EEMPTY}\ A\_27b))))))) \tag{15}$$

Assume the following.

$$\forall A\_27a.nonempty\ A\_27a \Rightarrow \forall A\_27b.nonempty\ A\_27b \Rightarrow (\forall V0op \in ((A\_27a^{A\_27a})^{A\_27a}).(\forall V1f \in (A\_27a^{A\_27b}). (\forall V2s \in (2^{A\_27b}).((ap\ (ap\ (ap\ (\mathsf{c\_2Eiterate\_2Eiterate}\ A\_27b\ A\_27a)\ V0op)\ (ap\ (ap\ (ap\ (\mathsf{c\_2Eiterate\_2Esupport}\ A\_27b\ A\_27a)\ V0op)\ V1f)\ V2s))\ V1f) = (ap\ (ap\ (ap\ (\mathsf{c\_2Eiterate\_2Eiterate}\ A\_27b\ A\_27a)\ V0op)\ V2s)\ V1f))))) \tag{16}$$

Assume the following.

$$\forall A\_27a.nonempty\ A\_27a \Rightarrow \forall A\_27b.nonempty\ A\_27b \Rightarrow (\forall V0op \in ((A\_27a^{A\_27a})^{A\_27a}).((p\ (ap\ (\mathsf{c\_2Eiterate\_2Emonoidal}\ A\_27a)\ V0op)) \Rightarrow ((\forall V1f \in (A\_27a^{A\_27b}).((ap\ (ap\ (ap\ (\mathsf{c\_2Eiterate\_2Eiterate}\ A\_27b\ A\_27a)\ V0op)\ (\mathsf{c\_2Epred\_\_set\_2EEMPTY}\ A\_27b))\ V1f) = (ap\ (\mathsf{c\_2Eiterate\_2Eneutral}\ A\_27a)\ V0op))) \land (\forall V2f \in (A\_27a^{A\_27b}).(\forall V3x \in A\_27b. (\forall V4s \in (2^{A\_27b}).((p\ (ap\ (\mathsf{c\_2Epred\_\_set\_2EFINITE}\ A\_27b)\ V4s)) \Rightarrow ((ap\ (ap\ (ap\ (\mathsf{c\_2Eiterate\_2Eiterate}\ A\_27b\ A\_27a)\ V0op)\ (ap\ (ap\ (\mathsf{c\_2Epred\_\_set\_2EINSERT}\ A\_27b)\ V3x)\ V4s))\ V2f) = (ap\ (ap\ (ap\ (\mathsf{c\_2Ebool\_2ECOND}\ A\_27a)\ (ap\ (ap\ (\mathsf{c\_2Ebool\_2EIN}\ A\_27b)\ V3x)\ V4s))\ (ap\ (ap\ (ap\ (\mathsf{c\_2Eiterate\_2Eiterate}\ A\_27b\ A\_27a)\ V0op)\ V4s)\ V2f))\ (ap\ (ap\ V0op\ (ap\ V2f\ V3x))\ (ap\ (ap\ (ap\ (\mathsf{c\_2Eiterate\_2Eiterate}\ A\_27b\ A\_27a)\ V0op)\ V4s)\ V2f))))))))))) \tag{17}$$

Assume the following.

$$\forall A\_27a.nonempty\ A\_27a \Rightarrow \forall A\_27b.nonempty\ A\_27b \Rightarrow (\forall V0op \in ((A\_27b^{A\_27b})^{A\_27b}).((p\ (ap\ (\mathsf{c\_2Eiterate\_2Emonoidal}\ A\_27b)\ V0op)) \Rightarrow (\forall V1f \in (A\_27b^{A\_27a}).(\forall V2x \in A\_27a. ((ap\ (ap\ (ap\ (\mathsf{c\_2Eiterate\_2Eiterate}\ A\_27a\ A\_27b)\ V0op)\ (ap\ (ap\ (\mathsf{c\_2Epred\_\_set\_2EINSERT}\ A\_27a)\ V2x)\ (\mathsf{c\_2Epred\_\_set\_2EEMPTY}\ A\_27a)))\ V1f) = (ap\ V1f\ V2x)))))) \tag{18}$$

Theorem 1

$$\forall A\_27a.nonempty\ A\_27a \Rightarrow \forall A\_27b.nonempty\ A\_27b \Rightarrow (\forall V0op \in ((A\_27a^{A\_27a})^{A\_27a}).((p\ (ap\ (\mathsf{c\_2Eiterate\_2Emonoidal}\ A\_27a)\ V0op)) \Rightarrow (\forall V1f \in (A\_27a^{A\_27b}).(\forall V2a \in A\_27b.(\forall V3s \in (2^{A\_27b}).((ap\ (ap\ (ap\ (\mathsf{c\_2Eiterate\_2Eiterate}\ A\_27b\ A\_27a)\ V0op)\ V3s)\ (\lambda V4x \in A\_27b.(ap\ (ap\ (ap\ (\mathsf{c\_2Ebool\_2ECOND}\ A\_27a)\ (ap\ (ap\ (\mathsf{c\_2Emin\_2E\_3D}\ A\_27b)\ V4x)\ V2a))\ (ap\ V1f\ V4x))\ (ap\ (\mathsf{c\_2Eiterate\_2Eneutral}\ A\_27a)\ V0op)))) = (ap\ (ap\ (ap\ (\mathsf{c\_2Ebool\_2ECOND}\ A\_27a)\ (ap\ (ap\ (\mathsf{c\_2Ebool\_2EIN}\ A\_27b)\ V2a)\ V3s))\ (ap\ V1f\ V2a))\ (ap\ (\mathsf{c\_2Eiterate\_2Eneutral}\ A\_27a)\ V0op))))))))$$