

thm_2Ewords_2EEXTRACT__JOIN__LSL
(TMdq22U97hD1MLYsiHhYg9CzvwDgEQrxrx1)

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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_2E_2T` 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 $\lambda A_27a : \iota.(\lambda V0P \in (2^{A_27a}).(ap (ap (c_2Emin_2E_3D (2^{A_27a}))$

Definition 4 We define `c_2Ebool_2E_2F` to be $(ap (c_2Ebool_2E_21 2) (\lambda V0t \in 2.V0t))$.

Definition 5 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 6 We define `c_2Ebool_2E_7E` to be $(\lambda V0t \in 2.(ap (ap c_2Emin_2E_3D_3D_3E V0t) c_2Ebool_2E_2F))$

Definition 7 We define `c_2Emarker_2E_2A_2B_2B_2E` to be $\lambda V0x \in 2.V0x$.

Let `ty_2Ebool_2E_2E_2I_2T_2S_2E_2L_2F` : $\iota \Rightarrow \iota$ be given. Assume the following.

$$\forall A0.nonempty A0 \Rightarrow nonempty (ty_2Ebool_2E_2E_2I_2T_2S_2E_2L_2F A0) \quad (1)$$

Let `c_2Ebool_2E_2T_2H_2E_2_2V_2A_2L_2U_2E` : $\iota \Rightarrow \iota$ be given. Assume the following.

$$\forall A_27a.nonempty A_27a \Rightarrow c_2Ebool_2E_2T_2H_2E_2_2V_2A_2L_2U_2E A_27a \in (ty_2Ebool_2E_2E_2I_2T_2S_2E_2L_2F A_27a) \quad (2)$$

Let `ty_2E_2N_2U_2M_2E_2N_2U_2M` : ι be given. Assume the following.

$$nonempty ty_2E_2N_2U_2M_2E_2N_2U_2M \quad (3)$$

Let `c_2E_2F_2C_2P_2E_2D_2I_2M_2I_2N_2D_2E_2X` : $\iota \Rightarrow \iota$ be given. Assume the following.

$$\forall A_27a.nonempty A_27a \Rightarrow c_2E_2F_2C_2P_2E_2D_2I_2M_2I_2N_2D_2E_2X A_27a \in (ty_2E_2N_2U_2M_2E_2N_2U_2M^{(ty_2Ebool_2E_2E_2I_2T_2S_2E_2L_2F A_27a)}) \quad (4)$$

Definition 8 We define `c_2Ebool_2E_2F_2_25_2C` to be $(\lambda V0t1 \in 2.(\lambda V1t2 \in 2.(ap (c_2Ebool_2E_21 2) (\lambda V2t \in 2.V2t)))$

Let $c_2Enum_2EREP_num : \iota$ be given. Assume the following.

$$c_2Enum_2EREP_num \in (\omega^{ty_2Enum_2Enum}) \quad (5)$$

Let $c_2Enum_2ESUC_REP : \iota$ be given. Assume the following.

$$c_2Enum_2ESUC_REP \in (\omega^{\omega}) \quad (6)$$

Let $c_2Enum_2EABS_num : \iota$ be given. Assume the following.

$$c_2Enum_2EABS_num \in (ty_2Enum_2Enum^{\omega}) \quad (7)$$

Definition 9 We define c_2Enum_2ESUC to be $\lambda V0m \in ty_2Enum_2Enum.(ap\ c_2Enum_2EABS_num$

Definition 10 We define $c_2Emin_2E_40$ to be $\lambda A.\lambda P \in 2^A.\text{if } (\exists x \in A.p\ (ap\ P\ x)) \text{ then } (the\ (\lambda x.x \in A \wedge$
of type $\iota \Rightarrow \iota$.

Definition 11 We define $c_2Ebool_2E_3F$ to be $\lambda A_27a : \iota.(\lambda V0P \in (2^{A_27a}).(ap\ V0P\ (ap\ (c_2Emin_2E_40$

Definition 12 We define $c_2Eprim_rec_2E_3C$ to be $\lambda V0m \in ty_2Enum_2Enum.\lambda V1n \in ty_2Enum_2Enum$

Definition 13 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 14 We define $c_2Earithmetic_2EMIN$ to be $\lambda V0m \in ty_2Enum_2Enum.\lambda V1n \in ty_2Enum_2Enum$

Let $c_2Earithmetic_2E_2B : \iota$ be given. Assume the following.

$$c_2Earithmetic_2E_2B \in ((ty_2Enum_2Enum^{ty_2Enum_2Enum})^{ty_2Enum_2Enum}) \quad (8)$$

Let $ty_2Efcf_2Efinite_image : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall A0.nonempty\ A0 \Rightarrow nonempty\ (ty_2Efcf_2Efinite_image\ A0) \quad (9)$$

Definition 15 We define $c_2Ebool_2E_3F_21$ to be $\lambda A_27a : \iota.(\lambda V0P \in (2^{A_27a}).(ap\ (ap\ c_2Ebool_2E_2F_5C$

Definition 16 We define $c_2Efcf_2Efinite_index$ to be $\lambda A_27a : \iota.(ap\ (c_2Emin_2E_40\ (A_27a^{ty_2Enum_2Enum}$

Let $ty_2Efcf_2Ecart : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall A0.nonempty\ A0 \Rightarrow \forall A1.nonempty\ A1 \Rightarrow nonempty\ (ty_2Efcf_2Ecart\ A0\ A1) \quad (10)$$

Let $c_2Efcf_2Edest_cart : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall A_27a.nonempty\ A_27a \Rightarrow \forall A_27b.nonempty\ A_27b \Rightarrow c_2Efcf_2Edest_cart\ A_27a\ A_27b \in ((A_27a^{(ty_2Efcf_2Efinite_image\ A_27b)})^{(ty_2Efcf_2Ecart\ A_27a\ A_27b)}) \quad (11)$$

Definition 17 We define $c_2Efcf_2Efcf_index$ to be $\lambda A_27a : \iota.\lambda A_27b : \iota.\lambda V0x \in (ty_2Efcf_2Ecart\ A_27a\ A_27b)$

Let $c_2Enum_2EZERO_REP : \iota$ be given. Assume the following.

$$c_2Enum_2EZERO_REP \in \omega \tag{12}$$

Definition 18 We define c_2Enum_2E0 to be $(ap\ c_2Enum_2EABS_num\ c_2Enum_2EZERO_REP)$.

Definition 19 We define $c_2Earithmetic_2EZERO$ to be c_2Enum_2E0 .

Definition 20 We define $c_2Earithmetic_2EBIT1$ to be $\lambda V0n \in ty_2Enum_2Enum.(ap\ (ap\ c_2Earithmetic_2EZERO\ n))$.

Definition 21 We define $c_2Earithmetic_2ENUMERAL$ to be $\lambda V0x \in ty_2Enum_2Enum.V0x$.

Let $c_2Earithmetic_2E_2D : \iota$ be given. Assume the following.

$$c_2Earithmetic_2E_2D \in ((ty_2Enum_2Enum^{ty_2Enum_2Enum})^{ty_2Enum_2Enum}) \tag{13}$$

Definition 22 We define $c_2Ebool_2E_5C_2F$ to be $(\lambda V0t1 \in 2.(\lambda V1t2 \in 2.(ap\ (c_2Ebool_2E_21\ 2)\ t2))\ t1)$.

Definition 23 We define $c_2Earithmetic_2E_3C_2D$ to be $\lambda V0m \in ty_2Enum_2Enum.\lambda V1n \in ty_2Enum_2Enum.$

Definition 24 We define c_2EfcP_2EFCP to be $\lambda A_27a : \iota.\lambda A_27b : \iota.(\lambda V0g \in (A_27a^{ty_2Enum_2Enum}).(ap\ (ap\ c_2EfcP_2EFCP\ g\ A_27a\ A_27b)))$.

Definition 25 We define $c_2Ewords_2Eword_bits$ to be $\lambda A_27a : \iota.\lambda V0h \in ty_2Enum_2Enum.\lambda V1l \in ty_2Enum_2Enum.$

Definition 26 We define $c_2Earithmetic_2EBIT2$ to be $\lambda V0n \in ty_2Enum_2Enum.(ap\ (ap\ c_2Earithmetic_2EBIT1\ n))$.

Let $c_2Earithmetic_2EEXP : \iota$ be given. Assume the following.

$$c_2Earithmetic_2EEXP \in ((ty_2Enum_2Enum^{ty_2Enum_2Enum})^{ty_2Enum_2Enum}) \tag{14}$$

Definition 27 We define c_2Ebit_2ESBIT to be $\lambda V0b \in 2.\lambda V1n \in ty_2Enum_2Enum.(ap\ (ap\ (ap\ (c_2Ebool_2E_5C_2F\ b)\ n)))$.

Let $c_2Esum_num_2ESUM : \iota$ be given. Assume the following.

$$c_2Esum_num_2ESUM \in ((ty_2Enum_2Enum^{(ty_2Enum_2Enum^{ty_2Enum_2Enum})})^{ty_2Enum_2Enum}) \tag{15}$$

Definition 28 We define $c_2Ewords_2Ew2n$ to be $\lambda A_27a : \iota.\lambda V0w \in (ty_2EfcP_2Ecart\ 2\ A_27a).(ap\ (ap\ c_2Ewords_2Eword_bits\ w\ A_27a))$.

Let $c_2Earithmetic_2EDIV : \iota$ be given. Assume the following.

$$c_2Earithmetic_2EDIV \in ((ty_2Enum_2Enum^{ty_2Enum_2Enum})^{ty_2Enum_2Enum}) \tag{16}$$

Definition 29 We define $c_2Ebit_2EDIV_2EXP$ to be $\lambda V0x \in ty_2Enum_2Enum.\lambda V1n \in ty_2Enum_2Enum.$

Let $c_2Earithmetic_2EMOD : \iota$ be given. Assume the following.

$$c_2Earithmetic_2EMOD \in ((ty_2Enum_2Enum^{ty_2Enum_2Enum})^{ty_2Enum_2Enum}) \tag{17}$$

Definition 30 We define $c_2Ebit_2EMOD_2EXP$ to be $\lambda V0x \in ty_2Enum_2Enum.\lambda V1n \in ty_2Enum_2Enum.$

Definition 31 We define c_2Ebit_2EBITS to be $\lambda V0h \in ty_2Enum_2Enum.\lambda V1l \in ty_2Enum_2Enum.\lambda V$

Definition 32 We define c_2Ebit_2EBIT to be $\lambda V0b \in ty_2Enum_2Enum.\lambda V1n \in ty_2Enum_2Enum.(ap$

Definition 33 We define $c_2Ewords_2En2w$ to be $\lambda A_27a : \iota.\lambda V0n \in ty_2Enum_2Enum.(ap (c_2Efc$

Definition 34 We define $c_2Ewords_2Ew2w$ to be $\lambda A_27a : \iota.\lambda A_27b : \iota.\lambda V0w \in (ty_2Efc$

Definition 35 We define $c_2Ecombin_2Eo$ to be $\lambda A_27a : \iota.\lambda A_27b : \iota.\lambda A_27c : \iota.\lambda V0f \in (A_27b^{A_27c}).\lambda V1$

Definition 36 We define $c_2Ewords_2Eword_extract$ to be $\lambda A_27a : \iota.\lambda A_27b : \iota.\lambda V0h \in ty_2Enum_2Enum$

Definition 37 We define $c_2Ewords_2Eword_xor$ to be $\lambda A_27a : \iota.\lambda V0v \in (ty_2Efc$

Definition 38 We define $c_2Ewords_2Eword_or$ to be $\lambda A_27a : \iota.\lambda V0v \in (ty_2Efc$

Definition 39 We define $c_2Ewords_2Eword_lsl$ to be $\lambda A_27a : \iota.\lambda V0w \in (ty_2Efc$

Definition 40 We define $c_2Ewords_2Eword_and$ to be $\lambda A_27a : \iota.\lambda V0v \in (ty_2Efc$

Assume the following.

$$True \tag{18}$$

Assume the following.

$$\begin{aligned} & (\forall V0t \in 2.(((True \wedge (p V0t)) \Leftrightarrow (p V0t)) \wedge (((p V0t) \wedge True) \Leftrightarrow \\ & (p V0t)) \wedge (((False \wedge (p V0t)) \Leftrightarrow False) \wedge (((p V0t) \wedge False) \Leftrightarrow False) \wedge \\ & (((p V0t) \wedge (p V0t)) \Leftrightarrow (p V0t)))))) \end{aligned} \tag{19}$$

Assume the following.

$$\forall A_27a.nonempty\ A_27a \Rightarrow (\forall V0x \in A_27a.((V0x = V0x) \Leftrightarrow True)) \tag{20}$$

Assume the following.

$$\forall A_27a.nonempty\ A_27a \Rightarrow (\forall V0x \in A_27a.(\forall V1y \in A_27a.((V0x = V1y) \Leftrightarrow (V1y = V0x)))) \tag{21}$$

Assume the following.

$$\begin{aligned} & (\forall V0t \in 2.(((True \Leftrightarrow (p V0t)) \Leftrightarrow (p V0t)) \wedge (((p V0t) \Leftrightarrow True) \Leftrightarrow \\ & (p V0t)) \wedge (((False \Leftrightarrow (p V0t)) \Leftrightarrow \neg(p V0t)) \wedge (((p V0t) \Leftrightarrow False) \Leftrightarrow \neg(\\ & p V0t)))))) \end{aligned} \tag{22}$$

Assume the following.

$$\begin{aligned} & (\forall V0t1 \in 2.(\forall V1t2 \in 2.(\forall V2t3 \in 2.(((p V0t1) \Rightarrow \\ & ((p V1t2) \Rightarrow (p V2t3))) \Leftrightarrow (((p V0t1) \wedge (p V1t2)) \Rightarrow (p V2t3)))))) \end{aligned} \tag{23}$$

Assume the following.

$$2.(((p \ V0x) \Leftrightarrow (p \ V1x_27)) \wedge ((p \ V1x_27) \Rightarrow ((p \ V2y) \Leftrightarrow (p \ V3y_27)))) \Rightarrow \quad (24)$$

$$(((p \ V0x) \Rightarrow (p \ V2y)) \Leftrightarrow ((p \ V1x_27) \Rightarrow (p \ V3y_27))))$$

Assume the following.

$$\begin{aligned} & \forall A_27a.nonempty \ A_27a \Rightarrow \forall A_27b.nonempty \ A_27b \Rightarrow (\\ & \quad \forall V0h \in ty_2Enum_2Enum. (\forall V1m \in ty_2Enum_2Enum. (\forall V2m_27 \in \\ & \quad ty_2Enum_2Enum. (\forall V3l \in ty_2Enum_2Enum. (\forall V4s \in ty_2Enum_2Enum. \\ & \quad (\forall V5w \in (ty_2Efc_2Ecart \ 2 \ A_27a). (((p \ (ap \ (ap \ c_2Earithmetic_2E_3C_3D \\ & \quad V3l) \ V1m)) \wedge ((p \ (ap \ (ap \ c_2Earithmetic_2E_3C_3D \ V2m_27) \ V0h)) \wedge \\ & \quad ((V2m_27 = (ap \ (ap \ c_2Earithmetic_2E_2B \ V1m) \ (ap \ c_2Earithmetic_2ENUMERAL \\ & \quad (ap \ c_2Earithmetic_2EBIT1 \ c_2Earithmetic_2EZERO)))))) \wedge (V4s = \\ & \quad (ap \ (ap \ c_2Earithmetic_2E_2D \ V2m_27) \ V3l)))))) \Rightarrow ((ap \ (ap \ (c_2Ewords_2Eword_or \\ & \quad A_27b) \ (ap \ (ap \ (c_2Ewords_2Eword_lsl \ A_27b) \ (ap \ (ap \ (ap \ (c_2Ewords_2Eword_extract \\ & \quad A_27a \ A_27b) \ V0h) \ V2m_27) \ V5w)) \ V4s)) \ (ap \ (ap \ (ap \ (c_2Ewords_2Eword_extract \\ & \quad A_27a \ A_27b) \ V1m) \ V3l) \ V5w)) = (ap \ (ap \ (ap \ (c_2Ewords_2Eword_extract \\ & \quad A_27a \ A_27b) \ (ap \ (ap \ c_2Earithmetic_2EMIN \ V0h) \ (ap \ (ap \ c_2Earithmetic_2EMIN \\ & \quad (ap \ (ap \ c_2Earithmetic_2E_2D \ (ap \ (ap \ c_2Earithmetic_2E_2B \ (ap \\ & \quad (c_2Efc_2Edimindex \ A_27b) \ (c_2Ebool_2Ethe_value \ A_27b))) \\ & \quad V3l)) \ (ap \ c_2Earithmetic_2ENUMERAL \ (ap \ c_2Earithmetic_2EBIT1 \\ & \quad c_2Earithmetic_2EZERO)))) \ (ap \ (ap \ c_2Earithmetic_2E_2D \ (ap \ (\\ & \quad c_2Efc_2Edimindex \ A_27a) \ (c_2Ebool_2Ethe_value \ A_27a))) \ (\\ & \quad ap \ c_2Earithmetic_2ENUMERAL \ (ap \ c_2Earithmetic_2EBIT1 \ c_2Earithmetic_2EZERO)))))) \\ & \quad V3l) \ V5w)))))) \end{aligned} \quad (25)$$

Assume the following.

$$\begin{aligned} & \forall A_27a.nonempty \ A_27a \Rightarrow (\forall V0w \in (ty_2Efc_2Ecart \\ & \quad 2 \ A_27a). (\forall V1m \in ty_2Enum_2Enum. (\forall V2n \in ty_2Enum_2Enum. \\ & \quad ((ap \ (ap \ (c_2Ewords_2Eword_lsl \ A_27a) \ (ap \ (ap \ (c_2Ewords_2Eword_lsl \\ & \quad A_27a) \ V0w) \ V1m)) \ V2n) = (ap \ (ap \ (c_2Ewords_2Eword_lsl \ A_27a) \ V0w) \\ & \quad (ap \ (ap \ c_2Earithmetic_2E_2B \ V1m) \ V2n)))))) \end{aligned} \quad (26)$$

Assume the following.

$$\begin{aligned}
& \forall A_27a.nonempty\ A_27a \Rightarrow ((\forall V0n \in ty_2Enum_2Enum. \\
& (\forall V1v \in (ty_2EfcP_2Ecart\ 2\ A_27a). (\forall V2w \in (ty_2EfcP_2Ecart \\
& 2\ A_27a). ((ap\ (ap\ (c_2Ewords_2Eword_and\ A_27a)\ (ap\ (ap\ (c_2Ewords_2Eword_lsl \\
& A_27a)\ V2w)\ V0n))\ (ap\ (ap\ (c_2Ewords_2Eword_lsl\ A_27a)\ V1v)\ V0n)) = \\
& (ap\ (ap\ (c_2Ewords_2Eword_lsl\ A_27a)\ (ap\ (ap\ (c_2Ewords_2Eword_and \\
& A_27a)\ V2w)\ V1v))\ V0n)))) \wedge ((\forall V3n \in ty_2Enum_2Enum. (\forall V4v \in \\
& (ty_2EfcP_2Ecart\ 2\ A_27a). (\forall V5w \in (ty_2EfcP_2Ecart\ 2 \\
& A_27a). ((ap\ (ap\ (c_2Ewords_2Eword_or\ A_27a)\ (ap\ (ap\ (c_2Ewords_2Eword_lsl \\
& A_27a)\ V5w)\ V3n))\ (ap\ (ap\ (c_2Ewords_2Eword_lsl\ A_27a)\ V4v)\ V3n)) = \\
& (ap\ (ap\ (c_2Ewords_2Eword_lsl\ A_27a)\ (ap\ (ap\ (c_2Ewords_2Eword_or \\
& A_27a)\ V5w)\ V4v))\ V3n)))) \wedge ((\forall V6n \in ty_2Enum_2Enum. (\forall V7v \in \\
& (ty_2EfcP_2Ecart\ 2\ A_27a). (\forall V8w \in (ty_2EfcP_2Ecart\ 2 \\
& A_27a). ((ap\ (ap\ (c_2Ewords_2Eword_xor\ A_27a)\ (ap\ (ap\ (c_2Ewords_2Eword_lsl \\
& A_27a)\ V8w)\ V6n))\ (ap\ (ap\ (c_2Ewords_2Eword_lsl\ A_27a)\ V7v)\ V6n)) = \\
& (ap\ (ap\ (c_2Ewords_2Eword_lsl\ A_27a)\ (ap\ (ap\ (c_2Ewords_2Eword_xor \\
& A_27a)\ V8w)\ V7v))\ V6n))))))
\end{aligned} \tag{27}$$

Theorem 1

$$\begin{aligned}
& \forall A_27a.nonempty\ A_27a \Rightarrow \forall A_27b.nonempty\ A_27b \Rightarrow (\\
& \forall V0h \in ty_2Enum_2Enum. (\forall V1m \in ty_2Enum_2Enum. (\forall V2m_27 \in \\
& ty_2Enum_2Enum. (\forall V3l \in ty_2Enum_2Enum. (\forall V4s \in ty_2Enum_2Enum. \\
& (\forall V5n \in ty_2Enum_2Enum. (\forall V6w \in (ty_2EfcP_2Ecart \\
& 2\ A_27a). (((p\ (ap\ (ap\ c_2Earithmetic_2E_3C_3D\ V3l)\ V1m)) \wedge ((p \\
& (ap\ (ap\ c_2Earithmetic_2E_3C_3D\ V2m_27)\ V0h)) \wedge ((V2m_27 = (ap\ (\\
& ap\ c_2Earithmetic_2E_2B\ V1m)\ (ap\ c_2Earithmetic_2ENUMERAL\ (ap \\
& c_2Earithmetic_2EBIT1\ c_2Earithmetic_2EZERO)))) \wedge (V4s = (ap \\
& (ap\ c_2Earithmetic_2E_2B\ (ap\ (ap\ c_2Earithmetic_2E_2D\ V2m_27 \\
& V3l)\ V5n)))))) \Rightarrow ((ap\ (ap\ (c_2Ewords_2Eword_or\ A_27b)\ (ap\ (ap\ (\\
& c_2Ewords_2Eword_lsl\ A_27b)\ (ap\ (ap\ (ap\ (c_2Ewords_2Eword_extract \\
& A_27a\ A_27b)\ V0h)\ V2m_27)\ V6w))\ V4s))\ (ap\ (ap\ (c_2Ewords_2Eword_lsl \\
& A_27b)\ (ap\ (ap\ (ap\ (c_2Ewords_2Eword_extract\ A_27a\ A_27b)\ V1m)\ \\
& V3l)\ V6w))\ V5n)) = (ap\ (ap\ (c_2Ewords_2Eword_lsl\ A_27b)\ (ap\ (ap \\
& (ap\ (c_2Ewords_2Eword_extract\ A_27a\ A_27b)\ (ap\ (ap\ c_2Earithmetic_2EMIN \\
& V0h)\ (ap\ (ap\ c_2Earithmetic_2EMIN\ (ap\ (ap\ c_2Earithmetic_2E_2D \\
& (ap\ (ap\ c_2Earithmetic_2E_2B\ (ap\ (c_2EfcP_2Edimindex\ A_27b)\ (\\
& c_2Ebool_2Ethe_value\ A_27b)))\ V3l))\ (ap\ c_2Earithmetic_2ENUMERAL \\
& (ap\ c_2Earithmetic_2EBIT1\ c_2Earithmetic_2EZERO))))\ (ap\ (ap \\
& c_2Earithmetic_2E_2D\ (ap\ (c_2EfcP_2Edimindex\ A_27a)\ (c_2Ebool_2Ethe_value \\
& A_27a)))\ (ap\ c_2Earithmetic_2ENUMERAL\ (ap\ c_2Earithmetic_2EBIT1 \\
& c_2Earithmetic_2EZERO))))))\ V3l)\ V6w))\ V5n))))))
\end{aligned}$$