Pose en libre = $A0^3$ la chaîne ASCII $|\{A0\}_F|$ suivant le format TRFMTY



```
XPRTA2:CLR  TILDEF
XPRTA2F:MOVE  TFRMTY,D3          )⊗   ← entrée pour flottant (TILDEF = 1)
        BEQ   XPRTA20                 → P/9
        CMP   #$4000,(A0)
        BEQ   MH33              ①SS.1   → 0
              ↓
        MH64
```

(1) Pose en libre $A0^2$ la chaine représentant $|\{A0\}|$ suivant le format TFRMTY = $d3^e$ $\neq 0$ 56.2 N

et TFRMTL = $\ell$, TFRMTM = $m$ ) si exponentiel

```
        CLR   -(SP)          ⊗
[MH64:] BSR   XPOSE
        BCLR  #7,(A2)        valeur absolue
        CLR   -(SP)          ⊗
        TST   D3             d3 = TFRMTY
        BPL   KB234          → forme fixe
        MOVEQ #1,D0
        SUB.L TFRMTL,D0
        MOVE.L TFRMTM,D1     m ≥ 1
        MOVE.L D0,D2                    d2 = 1-ℓ
        DIVS  D1,D0                     1-ℓ = rm+α
        SWAP  D0
        TST   D0
        BPL   GIB44
        ADD   D1,D0
                             d0 = α
        ADD
GIB44 : MOVE  D2,(SP)        1-ℓ   }
        SUB   D0,(SP)        -α    } = rm + {k (XPRTA2E)
                                            {0 (XPRTA2)
        MOVEM D1/D2,-(SP)    m, 1-ℓ
X       BSR   GIB50          remplace {A2} par b^d0 {A2}
        BSR   KB250          compare num et denom
        BCC   KB231          → num ≥ den
→KB230: MOVE  (SP),D0
        SUB   D0,4(SP)
X       BSR   KB252A         {A2} remplacé par {A2} * TBASE^d0   d0 > 0
        SUBQ  #1,D0
GIB46 : MOVE  D0,-(SP)
        BSR   KB252          {A2} remplacé par {A2} * TBASE
        MOVE  (SP)+,D0
        DBRA  D0,GIB46
        BSR   KB250
←—      BCS   KB230          num <
        MOVE  (SP),D0
        ADD   D0,4(SP)
X       BSR   KB254A         {A2} remplacé par {A2} / TBASE^d0   d0 > 0
        BRA   GIB45
```

Entrée XPRTA2E :
d0.W = k
{A2} = x en libre
écrit $x b^k$
Il faut x > 0 dans tous les cas

XPRTA2E : MOVE D0,-(SP)

MOVE (SP)+,D0

(1)

```
KB231 :MOVE   (SP),D0  m
       ADD    D0,4(SP)
       BSR    KB254A          /TBASE^do
       BSR    KB250
       BCC    KB231
GIB45 :MOVEM  (SP)+,D0/D1     m 1-l
       SUB    D0,(SP)
       SUB    D1,D0           do = m-1+l
x      BSR    GIB50           remplace {A2} par b^do {A2}
       KB232: MOVE   #0,d3 ;.W
       TFRMTY= *-2
       NEG    D3
```

↓ KB234

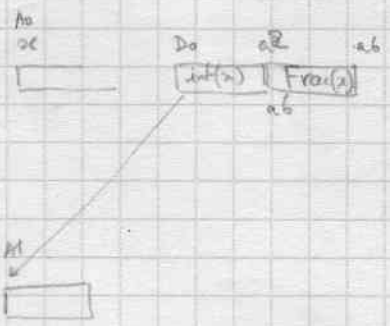
```
KB234 :SUBQ   #1,D3
       MOVE   D3,-(SP)        |k|
       BSR    KB255           [a0] num [a1] den
       MOVE.L A2,-(SP)  x
       BSR    XDIV1
       MOVE.L (SP),A0   x
       MOVE.L A2,-(SP)  ← int(x)
       MOVE.L A2,A1     int(x)
       BSR    XSUBS2    ← frac(x)
```

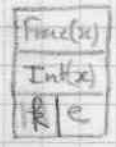
| INT(x) |
|---|
| x |
| \|k\| \| e |

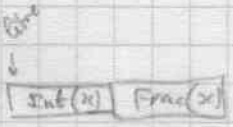
a3 reste a2 quotient

a2 frac(x)

```
MOVEM.L  (SP)+, D0/A0   INTx
MOVEM.L  A0/A2/A6,-(SP)
MOVE.L   A2,A6
MOVE.L   D0,A2
BSR      XLB76
MOVEM.L  (SP)+, A1/A2/A6   Intx, frac(x)
MOVEM.L  A0/A1,-(SP)   Frac(x) Int(x)
BSR      XLB76
LEA      TBASE,A0
MOVE     8(SP),D1   |k|
BSR      XEXPD2   10^|k|
MOVE.L   A2,A0
MOVE.L   (SP),A1   Frac(x)
BSR      XMULS2
BSR      KB255
BSR      XDIVAR
MOVE     -(A3),D4
MOVE.L   (SP),A0
BSR      XLB76
MOVE.L   (SP)+,A0   deci(x)
MOVE     D4,-(SP)   exact ou pas
BSR      XPRTA1   chaine représentant partie décimale
LEA      -2(A6),A1   ← 8
TST.B    (A1)+
BNE      KB236
SUBQ     #1,A1
KB236:CMP.B   #"$",(A0)
      BNE     KB237
      ADDQ    #1,A0
KB237:MOVE.L  A1,D0
      SUB.L   A0,D0
      SUB     D0,6(SP)   k = k - nb de chiffres
      CMP     #$4000,(SP)+
      BEQ     KB238   → exact
      MOVE.B  #"~",(A1)+
      CLR     (A6)+
```




Frac(x) · $10^{|k|}$

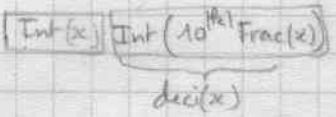
[A0] = num  [A1] = den

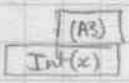

BSR XDIVMUL ⊗

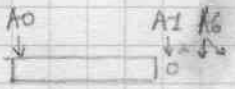
passe, plus loin qu'on libre,

[A2] = cint( frac(x) $10^{k}$ )

et met D4 = $4000 exact / ≠0 approché


```
ADD  #$800,(SP)   ⊗
TILDEF = *-2
```

0 exact

1 flottant → Sortie du tilde

```
:TST  TILDE
      BNE   KB238
```

(1)

```
KB238 : MOVE.L  A0,-(SP)
        MOVE.L  4(SP),A0
KB238A: BSR     XPRTA1
        SUBQ    #1,A6
        TST.B   -(A6)
        BEQ     KB239
        ADDQ    #1,A6
KB239 : MOVE.B  #".",(A6)+
        MOVE    8(SP),D0
        BRA     KB241
KB240 : MOVE.B  #"0",(A6)+
KB241 : DBRA    D0,KB240
        MOVE.L  (SP)+,A1
KB242 : MOVE.B  (A1)+,(A6)+
        BNE     KB242
        MOVE.L  A0,A2
        MOVE    6(SP),D0
        BEQ     KB245
KB243 : MOVE.B  #"0",(A6)+
        SUBQ    #1,D0
        BNE     KB243
        MOVE.B  #",",(A6)+
        MOVE    8(SP),D0
        BPL     KB244
        NEG     D0
KB244 : MOVE.L  A6,A0
        EXT.L   D0
        BSR     PINTA
        MOVE.L  A0,A6
        CLR.B   (A6)+
KB245 : CLR.B   (A6)
        MEVEN   A6
        MOVE.L  (SP),A0
        BSR     XLB76
        MOVEM.L (SP)+,A0/A1
        RTS
```

chaine déc.

| Int x | |
|---|---|
| R | e |

chaine Int(x) en A0

```
        MOVE    8(SP),D0
        BPL     KB238A
        CLR     8(SP)
        LEA     TCONST1,A1
        BSR     XADD1
        MOVE.L  A2,A0
        MOVE.L  A1,A6
```

← 9

si retenue jusqu'à partie entière

ADDQ.L #1,(SP)

```
KB242A: TST.L   D0
```

EXT.L D0 exposant

→ e=0

```
        SUBQ    #1,A6
        TST.B   -(A6)
        BEQ     KB243
        ADDQ    #1,A6
KB243 : MOVE.B  #32,(A6)+
        MOVE.B  #"E",(A6)+
        MOVE.B  #"+",(A6)+
        TST.L   D0
        BPL     KB244
        NEG.L   D0
        ADDQ.B  #2,-1(A6)
```

BSR XPREX$

← 10 final

KB245 : MOVEM.L (SP)+, A0/A1 hidden

BRA MH601

(SP)

```
MH601 : CLR.B   (A6)+
        MEVEN   A6
        MOVE.L  A0,A4
        BSR     XLB76
        MOVE.L  A4,A0
        RTS
```

Compare |den|, |num| de A2

```
KB250: BSR   KB255
       BRA   XCMP1
```

met [A0]=num, [A1]=den de {A2}

```
KB255: MOVE.L  A2,A0
       LEA   TCONST1,A1
       BTST  #5,(A0)
       BEQ   KB256
       MOVE.L  A0,A1
       BSR   SLNH0
       ADD   D0,A1
KB256: RTS
```

Remplace {A2} par {A2} * TBASE

```
KB252: LEA  XMULS2,A3
KB253: MOVE.L  A2,-(SP)
       MOVE.L  A2,A0
       LEA   TBASE,A1
       JSR   (A3)
       MOVE.L  (SP),A0
       BSR   XLB76
       MOVE.L  (SP)+,A2
       RTS
```

Remplace {A2} par {A2} / TBASE

```
KB254: LEA  XDIVS2,A3
       BRA   KB253
```

(1)

remplace {A2} par {A2} * $b^{do}$ $do \geq 0$

```
GIB46: MOVE  D0,-(SP)
       BSR   KB252
       MOVE  (SP)+,D0
KB252A: DBRA  D0,GIB46
       RTS
```

(SP)

remplace {A2} par A2 / $b^{do}$ $do \geq 0$

```
GIB48: MOVE  D0,-(SP)
       BSR   KB254
       MOVE  (SP)+,D0
KB254A: DBRA  D0,GIB48
       RTS
```

(SP)

remplace {A2} par {A2} $b^{do}$ $do$ 99

(SP)

```
GIB50: TST   D0
       BPL   KB252A
       NEG   D0
       BRA   KB254A
```