```
*
*
* MACRØ PACKAGE FØR META-APL ASSEMBLIES.
*
*
* THE SYNTAX FØR A META-APL ASSEMBLY PRØGRAM IS AS FØLLØWS:
*    (TERMINALS ARE QUØTED,
*     PARENTHESES ARE METACHARACTERS,
*     A SUFFIX QUESTIØN MARK MEANS 0 ØR 1 ØCCURRENCES, AND
*     A SUFFIX ASTERISK MEANS 0 ØR MØRE ØCCURRENCES.)
*
*      "PRØGRAM"  GLØBSIZE "," LØCSIZE  CR
* (GLØBNAME "GLVAR"  CR)*
* (FNAME "FCN"  CR)*
* (
*FNAME "FUNCTIØN"  RESULT "," NSTMTS "," NARGS "," NLØCALS  CR
*     ("LØCAL"  LØCNAME ("," LØCNAME)*  CR)*
*     ("LØCAL"  ARGNAME ("," ARGNAME)*  CR)*
*     (
*      "STATEMENT"  STNØ  CR
*      (INSTRUCTIØN  CR)*
*     )*
*      "ENDFUNCTIØN"  CR
* )*
*      "ENDPRØGRAM"  CR

*
*
* THIS MACRØ ØUTPUTS (TØ THE LISTING FILE) THE VALUE ØF A SYMBØL ØR
* LIST ØF SYMBØLS.
OUTSYM     MACRØ      D
NNN        NARG
           RPT        NNN,(III=1,1)
           REM        [D(III)]=($[D(III)])
           ENDR
           ENDM
```

```
*
*
* THIS MACRØ BEGINS A META-APL ASSEMBLY PRØGRAM.
PRØGRAM     MACRØ       D
* D(1) IS THE SIZE FØR THE GLØBAL SEGMENT;
* D(2) IS THE SIZE FØR THE LØCAL SEGMENT.
            RELØRG      0→457B
            DATA        0,0                     * CØMMAND WØRD
            DATA        0,0                     * STATUS WØRD
            DATA        DFIRST,DLEN             * DATA SEGMENT DESCRIPTØR
            DATA        PØFIRST,PØLEN           * PRØC SEGMENT DESCRIPTØR
            DATA        0,0                     * ALT PRØC SEG DESCRIPTØR
DFIRST      EQU         */2
GFIRST      EQU         */2
            DATA        LFIRST,1                * SBASE,SPTR
            DATA        0,0                     * FLAGS,LBASE
            DATA        0,0                     * TRAP INFØRMATIØN
            BSS         2*3                     * SAVE NØABR
            DATA        FREEBLØCK,0             * RØVER
            DATA        0,0                     * BLØCKPTR
*
GLEN        EQU         D(1)
LLEN        EQU         D(2)
DLEN        EQU         D(1)+D(2)
*
FCNØ        EQU         0
*
            ENDM
```

469B

469B+DLEN

GLEN

```
*
*
* THIS MACRØ DECLARES A GLØBAL VARIABLE.
GLVAR       LMACRØ      D
D(0).&:G    EQU         */2-GFIRST
            ØUTSYM      D(0).&:G
            DATA        UNDFTYPEB;  DATA 0
            ENDM
*
UNDFTYPEB   EQU         001000B
*
*
* THIS MACRØ DEFINES A FUNCTIØN NAME.
FCN         LMACRØ      D
            IF          FCNØ=0
            FREESPACE
            LØCSEG
POFIRST     EQU         */2
            ENDF
FCNØ        EQU         FCNØ+1
D(0).&:N    EQU         FCNØ
            ØUTSYM      D(0).&:N
            DATA        D(0).&:B;   DATA 0
            DATA                0;  DATA 0
            ENDM
```

```
*
*
* THIS MACRØ ASSEMBLES THE FREE SPACE AREA.
FREESPACE  MACRØ
FREEBLØCK  EQU         */2-GFIRST
FREESIZE   EQU         GLEN-FREEBLØCK
* FREE BLØCK.
           IF          FREESIZE<5
           REM         NØ RØØM FØR FREE SPACE
           ENDF
           DATA        THISFREEB;  DATA FREESIZE-2
           DATA        FREEBLØCK+FREESIZE-2;  DATA FREEBLØCK+FREESIZE-2
           BSS         2*[FREESIZE-2-3]
           DATA        0;  DATA FREESIZE-2
* DUMMY BLØCK.
           DATA        0;  DATA 0
           DATA        FREEBLØCK;  DATA FREEBLØCK
*
           ENDM
*
THISFREEB  EQU         100000B
*
*
* THIS MACRØ ASSEMBLES THE LØCAL SEGMENT.
LØCSEG     MACRØ
LFIRST     EQU         */2
           DATA        177777B,0              * "LBASE"
           DATA        P.N,CØDEØFFSET*4       * FDESCR,PCTR
           BSS         2*LLEN-2
           ENDM
*
CØDEØFFSET EQU         2
```

```
*
*
* THIS MACRØ BEGINS A FUNCTIØN BØDY.
FUNCTIØN   LMACRØ     D
* D(0) IS THE FUNCTIØN NAME;
* D(1) IS THE RESULT FLAG;
* D(2) IS THE NUMBER ØF STATEMENTS;
* D(3) IS THE NUMBER ØF ARGUMENTS;
* D(4) IS THE NUMBER ØF ØTHER LØCALS.
*
* "PATCH UP" THE FUNCTIØN DIRECTØRY ENTRY BY DEFINING BASE ADDRESS.
D(0).&:B   EQU        */2-PFIRST
           ØUTSYM     D(0).&:B
*
* ASSEMBLE THE FUNCTIØN BØDY HEADER.
           DATA [D(1)]*2↑12+[D(2)];  DATA [D(3)]*2↑12+[D(4)]
           DATA D(0).&:L;            DATA 0
*
* INITIALIZE THE BYTE PØSITIØN CØUNTER.
GENPØS     EQU        16
*
* DEFINE THE MACRØ FØR DECLARING LØCAL VARIABLES (ARGS & ØTHERS).
LØCAL      MACRØ      E
TEMP       NARG
           RPT        TEMP,(I=1,1)
D(0).&E(I) EQU        LØCNØ&7777B
LØCNØ      EQU        LØCNØ-1
           ENDR
           ENDM
*
* INITIALIZE THE LØCAL VARIABLE CURSØR.
LØCNØ      EQU        -1
*
* DEFINE THE MACRØS FØR REFERENCING LØCAL VARIABLES.
SHØRTLØCAL MACRØ      E
           GEN8       000B+[D(0).&E(1)&77B]
           ENDM
*
LØNGLØCAL  MACRØ      E
           GEN16      040000B+D(0).&E(1)
           ENDM
*
* DEFINE THE MACRØ FØR INDICATING STATEMENT BØUNDARIES.
STATEMENT  MACRØ      E
           IF         STNØ+1=E(1)
           IF         E(1)<=D(2)
STNØ       EQU        STNØ+1
D(0).&($STNØ) EQU     2*[*-2*PFIRST]+[GENPØS=8]-4*D(0).&:B
           ØUTSYM     D(0).&($STNØ)
           ELSE
           REM        TØØ MANY STATEMENTS
           ENDF
           ELSE
```

```
            REM         STATEMENT NUMBER ØUT ØF SEQUENCE
            ENDF
            ENDM
*
* INITIALIZE THE STATEMENT CØUNTER.
STNØ        EQU         0
*
* DEFINE THE MACRØ WHICH TERMINATES A FUNCTIØN BØDY.
ENDFUNCTIØN MACRØ
            IF          STNØ=D(2)
            FLUSH
D(0).&:L    EQU         [*/2-PFIRST]-[D(0).&:B+2]
            ØUTSYM      D(0).&:L
* GENERATE THE LINE TABLE.
            RPT         D(2),(I=1,1)
            DATA        D(0).&($I)
            ENDR
            IF          D(2)/2*2#D(2)
            DATA        -1
            ENDF
            ELSE
            REM         TØØ FEW STATEMENTS
            ENDF
            ENDM
*
* END ØF "FUNCTIØN" MACRØ.
            ENDM
```

```
*
*
* THIS MACRØ ØUTPUTS ØNE BYTE ØF CØDE.
GEN8        MACRØ       D
            IF          GENPØS=16
GENWØRD     EQU         [D(1)]*2↑8
GENPØS      EQU         8
            ELSE
            DATA        GENWØRD!D(1)
GENPØS      EQU         16
            ENDF
            ENDM
*
*
* THIS MACRØ ØUTPUTS TWØ BYTES ØF CØDE.
GEN16       MACRØ       D
            IF          GENPØS=16
            DATA        D(1)
            ELSE
            DATA        GENWØRD!D(1)&177400B]/2↑8
GENWØRD     EQU         [D(1)]&000377B]*2↑8
            ENDF
            ENDM
*
*
* THIS MACRØ "FLUSHES ØUT" THE LAST WØRD ØF CØDE.
FLUSH       MACRØ
            IF          GENPØS=8
            DATA        GENWØRD!0
GENPØS      EQU         16
            ENDF
            IF          */2*2#*
            DATA        0
            ENDF
            ENDM
```

```
*
*
LØNGGLØBAL MACRØ       D
           GEN16       050000B+D(1).&:G
           ENDM
*
*
* MEMREF <SUBØPCØDE> MUST BE FØLLØWED BY A LØCAL ØR GLØBAL REFERENCE.
MEMREF     MACRØ       D
           GEN8        140B+D(1)
           ENDM
*
* ASINDEXED IS 00 THRØUGH 17B.
ASSIGN     EQU         20B
ASNØRESULT EQU         21B
REFERENCE  EQU         22B
TESTDEF    EQU         23B
* 24B THRØUGH 37B ARE UNUSED.
*
*
GENSCALAR  MACRØ       D
           GEN8        200B+D(1)
           ENDM
*
IDENTITY   EQU         00B
NEGATIVE   EQU         01B
FLØØR      EQU         02B
CEILING    EQU         03B
MAGNITUDE  EQU         04B
NØT        EQU         05B
TESTNUM    EQU         06B
CONVERT    EQU         07B
SUM        EQU         10B
DIFFERENCE EQU         11B
PRØDUCT    EQU         12B
QUØTIENT   EQU         13B
AND        EQU         14B
ØR         EQU         15B
LESS       EQU         16B
EQUAL      EQU         17B
*
*
INDEX      MACRØ       D
           GEN8        220B+D(1)
           ENDM
*
*
SHØRTCØNST MACRØ       D
           IF          D(1)<0
           GEN16       120000B+[010000B-D(1)]
           ELSE
           GEN16       120000B+D(1)
           ENDF
```

```
            ENDM
*
*
ETC         MACRO       D
            GEN8        300B+D(1)
            IF          CONSCALAR=D(1)
            GCONSCALAR  D(2)
            ELSF        CONVEC=D(1)
TEMP        NARG
            IF          TEMP=2
            GCONVEC     D(2)
            ELSF        TEMP=3
            GCONVEC     D(2),D(3)
            ELSE
            REM         BAD OPERANDS FOR CONVEC
            ENDF
            ELSF        CALLFCN=D(1)
            GEN16       D(2)*2↑12+D(3).&:N    NARGS,FCNO
            ENDF
            ENDM
*
UNDEFINED   EQU         00B
EAT1        EQU         01B
INTERCHANGE EQU         02B
SETORIGIN   EQU         03B
GETORIGIN   EQU         04B
SHAPE       EQU         05B
RESHAPE     EQU         06B
RAVEL       EQU         07B
CATENATE    EQU         10B
INDEXGEN    EQU         11B
CONSCALAR   EQU         12B
CONVEC      EQU         13B
BRANCH      EQU         14B
GO          EQU         15B
GOTRUE      EQU         16B
GOFALSE     EQU         17B
RETURNF     EQU         20B
CALLFCN     EQU         21B
BKPTTRAP    EQU         22B → 23B
ATTNTRAP    EQU         23B → 24B
*
*
GCONSCALAR  MACRO       D
            GEN16       D(1);  GEN16 D(2)
            ENDM
*
*
GCONVEC     MACRO       D
* D(1) IS THE NUMBER OF ELEMENTS;
* D(2) THROUGH D(NARG) ARE ELEMENTS.
* IF NECESSARY, GCONSCALAR CALLS CAN BE USED FOR FURTHER ELEMENTS.
            GEN8        D(1)
* MOVE TO NEXT FULLWORD.
```

NOOP EQU 22B

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```
            FLUSH
TEMP        NARG
            RPT         [TEMP-1],(I=2,1)
            GCONSCALAR  D(I)
            ENDR
            ENDM
*
* DESCRIPTOR TYPES
INTTYPEB    EQU         020000B
CHTYPEB     EQU         010000B
*
*
ENDPROGRAM  MACRO
PØLEN       EQU         */2-PFIRST
            OUTSYM      GFIRST,FREEBLOCK,GLEN,LFIRST,LLEN,PFIRST,PØLEN
            END
            ENDM
*
*
            FREEZE
            END
```

```
*
*
ENDPRØGRAM MACRØ
POLEN      EQU       */2-PFIRST
           ØUTSYM    GFIRST,FREEBLØCK,GLEN,LFIRST,LLEN,PFIRST,PLEN
           ENDM
```

```
*  META-APL ASSEMBLY TEST PRØGRAM
*
*   DEL R ← F N
*   [1] BRANCH (2 4)[IØRG + N>0]
*   [2] R ← 1
*   [3] BRANCH 0
*   [4] R ← N TIMES F N-1
*   [5] RETURN
*   DEL

              PRØGRAM     40,40
*
P             FCN
F             FCN
*
P             FUNCTIØN    0,1,0,0
              STATEMENT   1
              SHØRTCØNST  2
              ETC         CALLFCN,1,F
              ETC         ATTNTRAP
              ENDFUNCTIØN
*
F             FUNCTIØN    1,5,1,1
              LØCAL       R
              LØCAL       N
*
              STATEMENT   1
              SHØRTCØNST  0
              SHØRTLØCAL  N
              ETC         INTERCHANGE
              GENSCALAR   LESS
              ETC         GETØRIGIN
              GENSCALAR   SUM
              ETC         CØNVEC,2,((INTTYPEB,2),(INTTYPEB,4))
              INDEX       1
              ETC         BRANCH
*
              STATEMENT   2
              SHØRTCØNST  1
              MEMREF      ASNØRESULT;   SHØRTLØCAL R
*
              STATEMENT   3
              SHØRTCØNST  0
              ETC         BRANCH
*
              STATEMENT   4
              SHØRTCØNST  1
              SHØRTLØCAL  N
              GENSCALAR   DIFFERENCE
              ETC         CALLFCN,1,F
              SHØRTLØCAL  N
              GENSCALAR   PRØDUCT
```

```
            MEMREF      ASNØRESULT;  SHØRTLØCAL R
*
            STATEMENT   5
            ETC         RETURNF
*
            ENDFUNCTIØN
*
            ENDPRØGRAM
```

file: TP1DX

```
            PROGRAM     100,40
*
A           GLVAR
B           GLVAR
C           GLVAR
I           GLVAR
J           GLVAR
K           GLVAR
*
P           FCN
*
P           FUNCTION    0,14,0,0
*
* SETORIGIN 1
            STATEMENT   1
            SHORTCONST  1
            ETC         SETORIGIN
            ETC         EAT1
* A←(2 2 2) RESHAPE INDEXGEN 8
            STATEMENT   2
            SHORTCONST  8
            ETC         INDEXGEN
            ETC         CONVEC,3,((INTTYPEB,2),(INTTYPEB,2),(INTTYPEB,2))
            ETC         RESHAPE
            MEMREF      ASNORESULT; LONGGLOBAL A
* B←C←(SHAPE A) RESHAPE 0
            STATEMENT   3
            SHORTCONST  0
            LONGGLOBAL  A
            ETC         SHAPE
            ETC         RESHAPE
            MEMREF      ASSIGN; LONGGLOBAL C
            MEMREF      ASNORESULT; LONGGLOBAL B
* I←1
            STATEMENT   4
            SHORTCONST  1
            MEMREF      ASNORESULT; LONGGLOBAL I
* J←1
            STATEMENT   5
            SHORTCONST  1
            MEMREF      ASNORESULT; LONGGLOBAL J
* K←1
            STATEMENT   6
            SHORTCONST  1
            MEMREF      ASNORESULT; LONGGLOBAL K
* B[I.,J.,K]←A[I.,J.,K]
            STATEMENT   7
            LONGGLOBAL  K; LONGGLOBAL J; LONGGLOBAL I
            LONGGLOBAL  A
            INDEX       3
            LONGGLOBAL  K; LONGGLOBAL J; LONGGLOBAL I
            MEMREF      3; LONGGLOBAL B
            ETC         EAT1
* K←K+1
```

```
            STATEMENT  8
            SHORTCONST 1
            LONGGLOBAL K
            GENSCALAR  SUM
            MEMREF     ASNORESULT; LONGGLOBAL K
* BRANCH 7  PRODUCT INDEXGEN K LESS 3
            STATEMENT  9
            SHORTCONST 3
            LONGGLOBAL K
            GENSCALAR  LESS
            ETC        INDEXGEN
            SHORTCONST 7
            GENSCALAR  PRODUCT
            ETC        BRANCH
* J←J+1
            STATEMENT  10
            SHORTCONST 1
            LONGGLOBAL J
            GENSCALAR  SUM
            MEMREF     ASNORESULT; LONGGLOBAL J
* BRANCH 6  PRODUCT INDEXGEN J LESS 3
            STATEMENT  11
            SHORTCONST 3
            LONGGLOBAL J
            GENSCALAR  LESS
            ETC        INDEXGEN
            SHORTCONST 6
            GENSCALAR  PRODUCT
            ETC        BRANCH
* I←I+1
            STATEMENT  12
            SHORTCONST 1
            LONGGLOBAL I
            GENSCALAR  SUM
            MEMREF     ASNORESULT; LONGGLOBAL I
* BRANCH 5  PRODUCT INDEXGEN I LESS 3
            STATEMENT  13
            SHORTCONST 3
            LONGGLOBAL I
            GENSCALAR  LESS
            ETC        INDEXGEN
            SHORTCONST 5
            GENSCALAR  PRODUCT
            ETC $      BRANCH
* ATTNTRAP
            STATEMENT  14
            ETC        ATTNTRAP
*
            ENDFUNCTION
*
            ENDPROGRAM
```

File: TPREF

```
          PRØGRAM     40,40
*
A         GLVAR
*
P         FCN
F         FCN
C         FCN
*
P         FUNCTIØN    0,2,0,0
          STATEMENT   1
          MEMREF      REFERENCE; LØNGGLØBAL A
          ETC         CALLFCN,1,F
          STATEMENT   2
          ETC         /TTNTRAP
          ENDFUNCTIØN
*
F         FUNCTIØN    0,3,1,1
          LØCAL       L,X
          STATEMENT   1
          MEMREF      REFERENCE; LØNGLØCAL L
          MEMREF      REFERENCE; LØNGLØCAL X
          ETC         CALLFCN,2,G
          STATEMENT   2
          ETC         ATTNTRAP
          STATEMENT   3
          ETC         RETURNF
          ENDFUNCTIØN
*
G         FUNCTIØN    0,3,2,0
          LØCAL       X,Y
          STATEMENT   1
          SHØRTCØNST  1
          MEMREF      ASNØRESULT; LØNGLØCAL X
          STATEMENT   2
          SHØRTCØNST  2
          MEMREF      ASNØRESULT; LØNGLØCAL Y
          STATEMENT   3
          ETC         RETURNF
          ENDFUNCTIØN
*
          ENDPRØGRAM
```

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file: TPARITH

```
            PROGRAM    200,50
*
A           GLVAR
B           GLVAR
I           GLVAR
R           GLVAR
*
P           FCN
D           FCN
*
P           FUNCTION   0,16,0,0
* SETORIGIN 1
            STATEMENT  1
            SHORTCONST 1
            ETC        SETORIGIN
            ETC        EAT1
* A←1.0 PRODUCT INDEXGEN 25
            STATEMENT  2
            SHORTCONST 25
            ETC        INDEXGEN
            ETC        CONSCALAR,(040000B,000200B)
            GENSCALAR  PRODUCT
            MEMREF     ASNORESULT; LONGGLOBAL A
* B←A+A
            STATEMENT  3
            LONGGLOBAL A
            LONGGLOBAL A
            GENSCALAR  SUM
            MEMREF     ASNORESULT; LONGGLOBAL B
* I←1.0
            STATEMENT  4
            ETC        CONSCALAR,(040000B,000200B)
            MEMREF     ASNORESULT; LONGGLOBAL I
* LOOP: R←D[A.,B.,I]
            STATEMENT  5
            LONGGLOBAL I; LONGGLOBAL B; LONGGLOBAL A
            ETC        CALLFCN,3,D
            MEMREF     ASNORESULT; LONGGLOBAL R
* ATTNTRAP
            STATEMENT  6
            ETC        ATTNTRAP
* BRANCH LOOP PRODUCT INDEXGEN (I←I+1)<5
            STATEMENT  7
            SHORTCONST 5
            SHORTCONST 1
            LONGGLOBAL I
            GENSCALAR  SUM
            MEMREF     ASSIGN; LONGGLOBAL I
            GENSCALAR  LESS
            ETC        INDEXGEN
            SHORTCONST 5
            GENSCALAR  PRODUCT
            ETC        BRANCH
* R←(0 0 1 1) AND (0 1 0 1)
```

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```
                STATEMENT  8
                ETC        CONVEC,4
                GCONSCALAR INTTYPEB,0
                GCONSCALAR INTTYPEB,1
                GCONSCALAR INTTYPEB,0
                GCONSCALAR 040000B,000200B
                ETC        CONVEC,4
                GCONSCALAR INTTYPEB,0
                GCONSCALAR INTTYPEB,0
                GCONSCALAR INTTYPEB,1
                GCONSCALAR 040000B,000200B
                GENSCALAR  AND
                MEMREF     ASNORESULT; LONGGLOBAL R
* ATTNTRAP
                STATEMENT  9
                ETC        ATTNTRAP
* R←(0 0 1 1) OR (0 1 0 1)
                STATEMENT  10
                ETC        CONVEC,4
                GCONSCALAR INTTYPEB,0
                GCONSCALAR INTTYPEB,1
                GCONSCALAR INTTYPEB,0
                GCONSCALAR INTTYPEB,1
                ETC        CONVEC,4
                GCONSCALAR INTTYPEB,0
                GCONSCALAR INTTYPEB,0
                GCONSCALAR INTTYPEB,1
                GCONSCALAR INTTYPEB,1
                GENSCALAR  OR
                MEMREF     ASNORESULT; LONGGLOBAL R
* ATTNTRAP
                STATEMENT  11
                ETC        ATTNTRAP
* R←A<B
                STATEMENT  12
                LONGGLOBAL B; LONGGLOBAL A
                GENSCALAR  LESS
                MEMREF     ASNORESULT; LONGGLOBAL R
* ATTNTRAP
                STATEMENT  13
                ETC        ATTNTRAP
* R←A=B
                STATEMENT  14
                LONGGLOBAL B; LONGGLOBAL A
                GENSCALAR  EQUAL
                MEMREF     ASNORESULT; LONGGLOBAL R
* ATTNTRAP
                STATEMENT  15
                ETC        ATTNTRAP
* RETURN
                STATEMENT  16
                ETC        RETURNF
* DEL
                ENDFUNCTION
```

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```
* DEL R←D[A.,B.,N]
D           FUNCTION    1,9,3,1
            LOCAL       R
            LOCAL       A,B,N
* BRANCH (2 3 4 5 6 7 8 9)[N]
            STATEMENT   1
            SHORTLOCAL  N
            ETC         CONVEC,8
            GCONSCALAR  INTTYPEB,2
            GCONSCALAR  INTTYPEB,3
            GCONSCALAR  INTTYPEB,4
            GCONSCALAR  INTTYPEB,5
            GCONSCALAR  INTTYPEB,6
            GCONSCALAR  INTTYPEB,7
            GCONSCALAR  INTTYPEB,8
            GCONSCALAR  INTTYPEB,9
            INDEX       1
            ETC         BRANCH
*
S           MACRO       D
* D(1) IS THE STATEMENT NUMBER,
* D(2) IS THE (SCALAR) OPERATOR.
            STATEMENT   D(1)
            SHORTLOCAL  B; SHORTLOCAL A
            GENSCALAR   D(2)
            MEMREF      ASSIGN; SHORTLOCAL R
            SHORTCONST  Ø
            ETC         CATENATE
            ETC         BRANCH
            ENDM
*
* BRANCH Ø,R←A+B
            S           2,SUM
* BRANCH Ø,R←A-B
            S           3,DIFFERENCE
* BRANCH Ø,R←A PRODUCT B
            S           4,PRODUCT
* BRANCH Ø,R←A QUOTIENT B
            S           5,QUOTIENT
* BRANCH Ø,R←A AND B
            S           6,AND
* BRANCH Ø,R←A OR B
            S           7,OR
* BRANCH Ø,R←A LESS B
            S           8,LESS
* BRANCH Ø,R←A EQUAL B
            S           9,EQUAL
* DEL
            ENDFUNCTION
*
            ENDPROGRAM
```