fig-FORTH FOR NOVA

ASSEMBLY SOURCE LISTING

RELEASE 1

WITH COMPILER SECURITY

AND

VARIABLE LENGTH NAMES

MAY 1981

This public domain publication is provided through the courtesy of the Forth Interest Group, P.O. Box 1105, San Carlos, CA 94070.

Further distribution must include this notice.

FORTH INTEREST GROUP ····· P.O. Box 1105 ····· San Carlos, Ca. 94070

```
0001 FORTH     MACRO REV 06.30          12:35:56 05/09/81
01              ;*****************************************************
02              ;
03              ;       FIG-FORTH FOR NOVA COMPUTERS
04              ;
05              ;       DEVELOPED BY DR. C. H. TING
06              ;       OFFETE ENTERPRISES
07              ;       1306 S. B ST.
08              ;       SAN MATEO, CA.  94402
09              ;       MAY 1981.
10              ;
11              ;       NOVA IS A REGISTERED TRADEMARK OF
12              ;       DATA GENERAL CORP., SOUTHBORO, MASS.
13              ;
14              ;*****************************************************
15              ;
16              ;DERIVED FROM FIG-FORTH MODEL, 1979.
17              ;REQUIRE NOVA COMPUTER WITH 16K WORDS OF CORE, A
18              ;6030 DISKETTE CONTROLLE AND A 6052 TERMINAL.
19              ;THE SOURCE IS TO BE COMPILED AND RUN STAND ALONE.
20              ;
21              ;       ASSEMBLE BY:    MAC FORTH
22              ;       LOAD BY:        RLDR/I/N/Z FORTH
23              ;       EXECUTE BY:     BOOT FORTH.SV/A
24              ;       START AT:       OCTAL 50
25              ;
26              ;DEVIATIONS FROM FIG-FORTH MODEL:
27              ;  ALL MEMORY REFERENCES ARE CELL ADDRESSING
28              ;    EXCEPT  ENCLOSE,CMOVE,C@,C!,-TRAILING,HOLD,
29              ;            (NUMBER), AND,NUMBER.
30              ;    CELL ADDR=BYTE-ADDR/2, EVEN BYTE AT LEFT SIDE.
31              ;  NAME FIELD IS ZERO PADDED TO CELL BOUNDARY.
32              ;    LAST BYTE IN NAME FIELD HAS MSB CLEARED.
33              ;    TRAVERSE IS NOT NEEDED FOR NFA PROCESSING.
34              ;  PFA IS THE COMPILATION AND EXECUTION ADDRESS.
35              ;    PFA IS RETURNED BY -FIND AND EXECUTED BY EXECUTE.
36              ;  ZBRAN AND BRAN USE INLINE NUMBER AS AN ADDRESS,
37              ;    NOT OFFSET TO CURRENT ADDRESS.
38              ;  THE FORTH REGISTERS ARE:
39              ;    DATA STACK POINTER          SP:     AC2
40              ;    CURRENT WORD POINTER        W:      AC3
41              ;    INSTRUCTION POINTER         IP:     MEMORY 104
42              ;    RETURN STACK POINTER        RP:     MEMORY 105
43              ;    USER AREA POINTER           UP:     MEMORY 106
44              ;  BLOCK MANIPULATES TWO DISC BUFFERS POINTED TO
45              ;    BY PREV AND USE USED IN A PING-PONG FASHION.
46              ;    REDEFINING BLOCK AS
47              ;        : BLOCK ;
48              ;    ALLOWS ADDRESSING CORE MEMORY DIRECTLY.
49              ;    +BUF AND BUFFER ARE NOT NEEDED.
50              ;  SCREEN SIZE EQUAL TO BLOCK SIZE (1024 BYTES).
51              ;    BSCR IS NOT REFERENCED.
52              ;  FIRST 13 TRACKS ON DISC ARE NOT USED BY
53              ;    FORTH. THEY ARE RESERVED FOR RDOS FILES.
54              ;    FORTH USES THE LAST 64 TRACKS AS 256
55              ;    BLOCKS.  BLOCKS 256-511 ARE ON DR1.
56              ;  ?TERMINAL RETURNS TRUE AFTER ANY KEYSTROKE.
57              ;  ADDED WORDS ARE:
58              ;    BYTE, CELL, U<, AND DISC INTERFACE WORDS.
59              ;
60              ;*****************************************
```

```
;*****************************************
;
;
;THIS SOURCE LISTING IS IN THE PUBLIC DOMAIN.
;
;
;IT IS PROVIDED THROUGHT THE COURTESY OF THE
;FORTH INTEREST GROUP, P. O. BOX 1105, SAN
;CARLOS, CA. 94070
;
;
;FURTHER DISTRIBUTION OF THIS PUBLICATION
;MUST INCLUDE THE ABOVE NOTICE.
;
;
;*****************************************
;
;
;THIS SOURCE LISTING IS DISTRIBUTED  AT $10.00 BY
;
;       FORTH INTEREST GROUP
;       P. O. BOX 1105
;       SAN CARLOS, CA  95070
;
;
;MACHINE READABLE SOURCE CODES ARE DISTRIBUTED
;ON AN 8" HARD SECTORED DISKETTE AT $50.00 BY
;
;       OFFETE ENTERPRISES, INC.
;       1306 S. B ST.
;       SAN MATEO, CA  94402
;       (415) 574-8250
;
;
;TECHNICAL QUESTIONS SHOULD BE DIRECTED TO
;
;       DR. C. H. TING
;       156 14TH AVE.
;       SAN MATEO, CA  94402
;
;
;SUGGESTED TECHNICAL LITERATURES:
;
;       USING FORTH ($25.00)
;       FIG-FORTH INSTALLATION MANUAL ($10.00)
;       SYSTEMS GUIDE TO FIG-FORTH ($25.00)
;
;       AVAILABLE AT OFFETE ENTERPRISES, INC..
;
;
;CALIFORNIA RESIDENTS PLEASE ADD 6% SALES TAX.
;BOOK ONLY ORDERS PLEASE INCLUDE $3.00 POSTAGE.
;
;
;*****************************************
        .EJEC
```

```
                ;*****************************************************
                ;
                ;       SYSTEM PARAMETERS
                ;
                        .TITLE  FORTH
        000001          .TXTM   1
        000001          .TXTN   1
        000001          .NOCON  1
        000000  LINK=0
        000050          .LOC    50
00050   002074  ORIGIN: JMP     @ACOLD  ;COLD START
00051   002075          JMP     @AWENT  ;WARM START
00052   001400  WAIT:   JMP     0,3     ;HOOK FOR MULTIPROGRAMMING
00053   000000          0
00054   000000          0
00055   000000          0
00056   006332          TASK-5
00057   000010          10
00060   035341  U0:     XS0             ;STACK POINTER
00061   035540          XR0             ;RETURN STACT POINTER
00062   035342          XTIB            ;TERMINAL INPUT BUFFER
00063   000037          37              ;WIDTH
00064   000000          0               ;WARNING
00065   006340          XDP             ;FENCE
00066   006340          XDP             ;TOP OF DICTIONARY
00067   004163          XXVOC           ;VOCABULARY LINK
00070   035634          DSKBUF          ;FIRST,PREV
00071   037640          ENDBUF          ;LIMIT
00072   036636          DSKBUF+1002     ;USE
00073   000000          0
00074   004272  ACOLD:  COLD
00075   004324  AWENT:  WENT
00076   004337  AGO:    GO
00077   000060  AU0:    U0
00100   035341  SP0:    XS0
00101   035540  RP0:    XR0
00102   035541  UP0:    XUP
00103   035544  AUP3:   XUP+3
00104   000000  IP:     0               ;INSTRUCTION POINTER
00105   000000  RP:     0               ;RETURN STACK POINTER
00106   000000  UP:     0               ;USER AREA POINTER
00107   000000  OP:     0               ;OUTPUT CHARACTER POINTER
00110   000000  IPP:    0               ;INPUT CHARACTER POINTER
00111   000000  N:      0               ;SCRATCH MEMORY
00112   000000  CH:     0               ;TEMP CHAR STORAGE
00113   000002  TW:     2               ;TWO
00114   000003  THRE:   3               ;THREE
00115   000007  SEVEN:  7
00116   000010  EIGHT:  10
00117   000177  C177:   177
00120   000377  C377:   377
00121   177760  C20N:   -20
00122   000012  C12:    12
00123   000015  C15:    15
00124   000060  C60:    60
                ;
                ;*****************************************************
                ;
                ;       MACRO DEFINTIONS
                ;
```

```
                ;*****************************************************
                        .MACRO  HEAD
                **      .PUSH   .
                        .TXT    /<^1>^2/
                        LINK
                **      .IFE .ARGCT-3
                        .+1
                **      .ENDC
                **      .IFE    .ARGCT-4
                        ^4
                **      .ENDC
                **      LINK=.POP
                ^3:%
                ;
                        .MACRO  .WORD
                **      W=0
                **      .DO     .ARGCT
                **      W=W+1
                        ^W
                **      .ENDC
                %
                ;
                ;*****************************************************
                ;
                ;       SUBROUTINE DEFINTIONS
                ;
                ;*****************************************************
                ;
00125 054137    FETCH:  STA     3,FETCO
                ; ( FETCH A CHAR FROM IPP  TO AC0, INCR IPP )
00126 034110            LDA     3,IPP
00127 175220            MOVZR   3,3
00130 021400            LDA     0,0,3
00131 101003            MOV     0,0 SNC
00132 101320            MOVZS   0,0
00133 024120            LDA     1,C377
00134 123400            AND     1,0
00135 010110            ISZ     IPP
00136 002137            JMP     @.+1
00137 000000    FETCO:  0
                ;
00140 054156    DEPOSIT:        STA     3,DEPOO
                ; ( DEPOSIT A CHAR FROM AC0 TO OP, INCR OP )
00141 024120            LDA     1,C377
00142 034107            LDA     3,OP
00143 175223            MOVZR   3,3 SNC
00144 101321            MOVZS   0,0 SKP
00145 125320            MOVZS   1,1
00146 040112            STA     0,CH
00147 021400            LDA     0,0,3
00150 123400            AND     1,0
00151 024112            LDA     1,CH
00152 123020            ADDZ    1,0
00153 041400            STA     0,0,3
00154 010107            ISZ     OP
00155 002156            JMP     @.+1
00156 000000    DEPOO:  0
                ;
                ;DELAY FOR 60 MS.  USED BY DISK I/O.
00157 054165    DELAY:  STA     3,DELAO
```

```
 0005 FORTH
01 00160 020166          LDA     0,DELA1
02 00161 040167          STA     0,DELA2
03 00162 014167          DSZ     DELA2
04 00163 000162          JMP     .-1
05 00164 002165          JMP     @.+1
06 00165 000000 DELA0:   0
07 00166 047040 DELA1:   20000.
08 00167 000000 DELA2:   0
09                ;
10                ;*****************************************************
11                ;
12                ;       INNER INTERPRETER, CODE ENDINGS
13                ;
14                ;*****************************************************
15                ;
16                ;
17 00170 150400 PUSH:    NEG     2,2
18 00171 150000          COM     2,2
19 00172 041000          STA     0,0,2
20 00173 036104 NEXT:    LDA     3,@IP
21 00174 010104          ISZ     IP
22 00175 003777          JMP     @-1,3
23                ;
24 00176 151400 BINAR:   INC     2,2
25 00177 041000 PUT:     STA     0,0,2
26 00200 036104          LDA     3,@IP
27 00201 010104          ISZ     IP
28 00202 003777          JMP     @-1,3
29                ;
30 00203 151400 POP2:    INC     2,2
31 00204 151400 POP:     INC     2,2
32 00205 036104          LDA     3,@IP
33 00206 010104          ISZ     IP
34 00207 003777          JMP     @-1,3
35                ;
36                ;*******************************************************
37                ;
38                ;       CODE DEFINITIONS
39                ;
40                ;*******************************************************
41       000445          .LOC    445
42                ;
43                        HEAD    203,LIT,LIT                     ; LIT
44 00445 101514          .TXT    /<203>LIT/
45       044524
46 00447 000000          LINK
47 00450 000451          .+1
48 00451 034104 LIT:     LDA     3,IP
49 00452 021400          LDA     0,0,3
50 00453 010104          ISZ     IP
51 00454 000170          JMP     PUSH
52                ;
53                ;
54                        HEAD    207,EXECUTE,EXEC                ; EXECUTE
55 00455 103505          .TXT    /<207>EXECUTE/
56       054105
57       041525
58       052105
59 00461 000445          LINK
60 00462 000463          .+1
```

```
01 00463 035000 EXEC:   LDA     3,0,2
02 00464 151400         INC     2,2
03 00465 003777         JMP     @-1,3
04                ;
05                      HEAD    206,BRANCH,BRAN                    ; BRANCH
06 00466 103102         .TXT    /<206>BRANCH/
07       051101
08       047103
09       044000
10 00472 000455         LINK
11 00473 000474         .+1
12 00474 022104 BRAN:   LDA     0,@IP
13 00475 040104         STA     0,IP
14 00476 000173         JMP     NEXT
15                ;
16                      HEAD    207,<60>BRANCH,ZBRAN               ; 0BRANCH
17 00477 103460         .TXT    /<207><60>BRANCH/
18       041122
19       040516
20       041510
21 00503 000466         LINK
22 00504 000505         .+1
23 00505 021000 ZBRAN:  LDA     0,0,2
24 00506 101024         MOVZ    0,0 SZR
25 00507 000404         JMP     ZBRA1
26 00510 022104         LDA     0,@IP
27 00511 040104         STA     0,IP
28 00512 000204         JMP     POP
29 00513 010104 ZBRA1:  ISZ     IP
30 00514 000204         JMP     POP
31                ;
32                      HEAD    206,<50>LOOP<51>,XLOOP             ; (LOOP)
33 00515 103050         .TXT    /<206><50>LOOP<51>/
34       046117
35       047520
36       024400
37 00521 000477         LINK
38 00522 000523         .+1
39 00523 034105 XLOOP:  LDA     3,RP
40 00524 021400         LDA     0,0,3
41 00525 101400         INC     0,0
42 00526 025401         LDA     1,1,3
43 00527 122532         SUBZL   1,0 #SZC
44 00530 000406         JMP     LOOP1
45 00531 020113         LDA     0,TW
46 00532 117000         ADD     0,3
47 00533 010104         ISZ     IP        ;SKIP BRANCH ADDRESS
48 00534 054105         STA     3,RP      ;AND EXIT THE LOOP
49 00535 000173         JMP     NEXT
50 00536 041400 LOOP1:  STA     0,0,3
51 00537 022104         LDA     0,@IP     ;LOAD ADDRESS OF DO
52                                        ;AND LOOP BACK
53 00540 040104         STA     0,IP
54 00541 000173         JMP     NEXT
55                ;
56                      HEAD    207,<50><53>LOOP<51>,XPLOO         ; (+LOOP)
57 00542 103450         .TXT    /<207><50><53>LOOP<51>/
58       025514
59       047517
60       050051
```

```
00546 000515          LINK
00547 000550          .+1
00550 034105 XPLOO:   LDA     3,RP
00551 021400          LDA     0,0,3
00552 025000          LDA     1,0,2
00553 123000          ADD     1,0
00554 125132          MOVZL   1,1 #SZC
00555 000415          JMP     PLOO2
00556 025401          LDA     1,1,3
00557 122532          SUBZL   1,0 #SZC
00560 000406          JMP     PLOO1
00561 020113 PLOOO:   LDA     0,TW
00562 117000          ADD     0,3
00563 054105          STA     3,RP
00564 010104          ISZ     IP       ;EXIT THE LOOP
00565 000204          JMP     POP
00566 041400 PLOO1:   STA     0,0,3
00567 022104          LDA     0,@IP    ;GET DO ADDR TO LOOP BACK
00570 040104          STA     0,IP
00571 000204          JMP     POP
00572 025401 PLOO2:   LDA     1,1,3    ;NEGATIVE INCREMENT
00573 106532          SUBZL   0,1 #SZC
00574 000772          JMP     PLOO1
00575 000764          JMP     PLOOO
                 ;
                      HEAD    204,<50>DO<51>,XDO                ; (DO)
00576 102050          .TXT    /<204><50>DO<51>/
      042117
      024400
00601 000542          LINK
00602 000603          .+1
00603 034105 XDO:     LDA     3,RP
00604 020113          LDA     0,TW
00605 116400          SUB     0,3
00606 021001          LDA     0,1,2
00607 041401          STA     0,1,3
00610 021000          LDA     0,0,2
00611 041400          STA     0,0,3
00612 054105          STA     3,RP
00613 000203          JMP     POP2
                 ;
                      HEAD    201,I,I                           ; I
00614 100511          .TXT    /<201>I/
00615 000576          LINK
00616 000617          .+1
00617 034105 I:       LDA     3,RP
00620 021400          LDA     0,0,3
00621 000170          JMP     PUSH
                 ;
                      HEAD    205,DIGIT,DIGIT                   ; DIGIT
00622 102504          .TXT    /<205>DIGIT/
      044507
      044524
00625 000614          LINK
00626 000627          .+1
                 DIGIT:;( ASCII BASE --- VALUE TRUE; OR FALSE )
00627 021000          LDA     0,0,2            ;BASE
00630 025001          LDA     1,1,2            ;ASCII
00631 034124          LDA     3,C60
00632 166400          SUB     3,1              ;ASCII-60
```

```
00633 034116          LDA     3,EIGHT
00634 175400          INC     3,3
00635 166033          ADCZ    3,1,#SNC          ;SKIP >9
00636 000407          JMP     DIGI1
00637 034115          LDA     3,SEVEN
00640 166400          SUB     3,1
00641 034122          LDA     3,C12             ;10.
00642 166433          SUBZ    3,1,#SNC          ;SKIP IF >=10
00643 000411          JMP     DIGI2             ;ERROR
00644 000403          JMP     DIGI3
00645 125112 DIGI1:   MOVL    1,1,#SZC          ;SKIP IF >0
00646 000406          JMP     DIGI2
00647 106432 DIGI3:   SUBZ    0,1,#SZC          ;SKIP IF < BASE
00650 000404          JMP     DIGI2
00651 045001          STA     1,1,2
00652 102520          SUBZL   0,0               ;TRUE
00653 000177          JMP     PUT
00654 102400 DIGI2:   SUB     0,0
00655 000176          JMP     BINARY
                ;
00656 000037          C37:    37
00657 037577          CMASK:  37577
00660 000000          LENGTH: 0
00661 000000          LENCT:  0
      000022          XADDR=22
      000023          XNFA=23
                      HEAD    206,<50>FIND<51>,PFIND          ; (FIND)
00662 103050          .TXT    /<206><50>FIND<51>/
      043111
      047104
      024400
00666 000622          LINK
00667 000670          .+1
                PFIND:; ( ADDR NFA --- PFA (NFA) TF ; OR FF )
00670 021001          LDA     0,1,2
00671 040022          STA     0,XADDR
00672 021000          LDA     0,0,2
00673 040023          STA     0,XNFA
00674 035000          LDA     3,0,2    ;1ST WORD AT NFA
00675 021400          LDA     0,0,3
00676 024761          LDA     1,CMASK
00677 107700          ANDS    0,1      ;RID OF LEAD & P BITS
00700 034756          LDA     3,C37
00701 137620          ANDZR   1,3
00702 125300          MOVS    1,1      ;CLEARED NFA DATA
00703 175400          INC     3,3      ;WORD LENGTH
00704 054754          STA     3,LENGTH
00705 054754          STA     3,LENCT
00706 023001          LDA     @0,1,2   ;1ST WORD AT ADDR
00707 122414          SUB     1,0,#SZR
00710 000422          JMP     FAST     ;NO MATCH, DO FAST COMPARE
00711 014750 NOFAST:  DSZ     LENCT
00712 000402          JMP     NOFA1
00713 000406          JMP     FOUND
00714 022023 NOFA1:   LDA     0,@XNFA
00715 026022          LDA     1,@XADDR          ;AUTO-INCREMENT
00716 106415          SUB     0,1,#SNR
00717 000772          JMP     NOFAST
00720 000412          JMP     FAST
00721 035000 FOUND:   LDA     3,0,2
```

```
00722 021400          LDA     0,0,3
00723 041000          STA     0,0,2    ;1ST CELL IN NFA
00724 020023          LDA     0,XNFA
00725 034114          LDA     3,THRE   ;3
00726 163000          ADD     3,0      ;GET PFA
00727 041001          STA     0,1,2
00730 102520          SUBZL   0,0
00731 000170          JMP     PUSH
00732 021000 FAST:    LDA     0,0,2
00733 034725          LDA     3,LENGTH
00734 117000          ADD     0,3
00735 025400          LDA     1,0,3
00736 045000          STA     1,0,2    ;REPLACE NFA WITH LFA
00737 121004          MOV     1,0,SZR
00740 000730          JMP     PFIND    ;CONTINUE THE SEARCH
00741 000176          JMP     BINARY   ;FAILED
                ;
                      HEAD    207,ENCLOSE,ENCL                    ; ENCLOSE
00742 103505          .TXT    /<207>ENCLOSE/
      047103
      046117
      051505
00746 000662          LINK
00747 000750          .+1
                ENCL:; ( CADDR CHAR --- CADDR OFFSET END NEXT-CHAR )
00750 021000          LDA     0,0,2
00751 040112          STA     0,CH
00752 021001          LDA     0,1,2
00753 040110          STA     0,IPP
00754 004125 ENCL1:   JSR     FETCH
00755 024112          LDA     1,CH
00756 122415          SUB     1,0,#SNR
00757 000775          JMP     ENCL1    ;LEADING DELIMITERS
00760 024110          LDA     1,IPP
00761 124400          NEG     1,1
00762 124000          COM     1,1
00763 045000          STA     1,0,2    ;OFFSET OF 1ST GOOD CHAR
00764 101015 ENCL2:   MOV     0,0,#SNR
00765 000425          JMP     ENCL4    ;NULL CHAR
00766 004125          JSR     FETCH
00767 024112          LDA     1,CH
00770 122414          SUB     1,0,#SZR
00771 000773          JMP     ENCL2    ;KEEP SCANNING
00772 024110          LDA     1,IPP    ;DELIMITER
00773 045376          STA     1,-2,2   ;NEXT CHARACTER
00774 124400          NEG     1,1
00775 124000          COM     1,1
00776 021001 ENCL3:   LDA     0,1,2    ;CADDR
00777 106400          SUB     0,1
01000 045377          STA     1,-1,2   ;END OFFSET
01001 025376          LDA     1,-2,2
01002 106400          SUB     0,1
01003 045376          STA     1,-2,2   ;NEXT CHAR OFFSET
01004 025000          LDA     1,0,2
01005 106400          SUB     0,1
01006 045000          STA     1,0,2    ;1ST CHAR OFFSET
01007 020113          LDA     0,TW
01010 112400          SUB     0,2      ;ADJUST STACK POINTER
01011 000173          JMP     NEXT
01012 024110 ENCL4:   LDA     1,IPP
```

```
01 01013 045376          STA     1,-2,2  ;NEXT CHAR
02 01014 124400          NEG     1,1
03 01015 124000          COM     1,1     ;DEC NEXT
04 01016 021000          LDA     0,0,2   ;OFFSET
05 01017 122415          SUB     1,0,#SNR
06 01020 125400          INC     1,1     ;
07 01021 000755          JMP     ENCL3
08                 ;
09                       HEAD    204,EMIT,EMIT                    ; EMIT
10 01022 102105          .TXT    /<204>EMIT/
11       046511
12       052000
13 01025 000742          LINK
14 01026 001027          .+1
15 01027 004052 EMIT:    JSR     WAIT
16 01030 063511          SKPBZ   TTO
17 01031 000776          JMP     .-2
18 01032 021000          LDA     0,0,2
19 01033 061111          DOAS    0,TTO
20 01034 000204          JMP     POP
21                 ;
22                       HEAD    203,KEY,KEY                      ; KEY
23 01035 101513          .TXT    /<203>KEY/
24       042531
25 01037 001022          LINK
26 01040 001041          .+1
27 01041 060110 KEY:     NIOS    TTI
28 01042 004052          JSR     WAIT
29 01043 063510          SKPBZ   TTI
30 01044 000776          JMP     .-2
31 01045 060610          DIAC    0,TTI
32 01046 024117          LDA     1,C177
33 01047 123400          AND     1,0
34 01050 000170          JMP     PUSH
35                 ;
36 01051 000033 C33:     33
37                       HEAD    211,<77>TERMINAL,QTERM           ; ?TERMINAL
38 01052 104477          .TXT    /<211><77>TERMINAL/
39       052105
40       051115
41       044516
42       040514
43 01057 001035          LINK
44 01060 001061          .+1
45                 QTERM:; ( --- F ,  TRUE IF ANY KEY )
46 01061 063410          SKPBN   TTI
47 01062 102521          SUBZL   0,0,SKP
48 01063 102400          SUB     0,0
49 01064 000170          JMP     PUSH
50                 ;
51                       HEAD    206,<50>TERM<51>,PTERM           ; (TERM)
52 01065 103050          .TXT    /<206><50>TERM<51>/
53       052105
54       051115
55       024400
56 01071 001052          LINK
57 01072 001073          .+1
58 01073 060110 PTERM:   NIOS    TTI
59 01074 000173          JMP     NEXT
60                 ;
```

```
01                          HEAD    202,CR,CR                          ; CR
02 01075 101103             .TXT    /<202>CR/
03       051000
04 01077 001065             LINK
05 01100 001101             .+1
06 01101 004052 CR:         JSR     WAIT
07 01102 063511             SKPBZ   TTO
08 01103 000776             JMP     .-2
09 01104 020123             LDA     0,C15
10 01105 061111             DOAS    0,TTO
11 01106 063511             SKPBZ   TTO
12 01107 000777             JMP     .-1
13 01110 020122             LDA     0,C12
14 01111 061111             DOAS    0,TTO
15 01112 000173             JMP     NEXT
16                  ;
17                  ;
18                          HEAD    205,CMOVE,CMOVE                    ; CMOVE
19 01113 102503             .TXT    /<205>CMOVE/
20       046517
21       053105
22 01116 001075             LINK
23 01117 001120             .+1
24                  CMOVE:;( CHAR-ADDR1 CHAR-ADDR2 COUNT --- )
25                  ;ADDRESSES ARE BYTE ADDRESSES, NOT CELL ADDRESS
26 01120 021000             LDA     0,0,2
27 01121 103057             ADDO    0,0,#SBN
28 01122 000411             JMP     CMOV2
29 01123 021001             LDA     0,1,2
30 01124 040107             STA     0,OP
31 01125 021002             LDA     0,2,2    ;SOURCE
32 01126 040110             STA     0,IPP
33 01127 004125 CMOV1:      JSR     FETCH
34 01130 004140             JSR     DEPOSIT
35 01131 015000             DSZ     0,2
36 01132 000775             JMP     CMOV1
37 01133 151400 CMOV2:      INC     2,2
38 01134 000203             JMP     POP2
39                  ;
40                          HEAD    204,MOVE,MOVE                      ; MOVE
41 01135 102115             .TXT    /<204>MOVE/
42       047526
43       042400
44 01140 001113             LINK
45 01141 001142             .+1
46 01142 021000 MOVE:       LDA     0,0,2
47 01143 103057             ADDO    0,0,#SBN
48 01144 000411             JMP     MOVE2
49 01145 035002 MOVE1:      LDA     3,2,2
50 01146 021400             LDA     0,0,3
51 01147 035001             LDA     3,1,2
52 01150 041400             STA     0,0,3
53 01151 011002             ISZ     2,2
54 01152 011001             ISZ     1,2
55 01153 015000             DSZ     0,2
56 01154 000771             JMP     MOVE1
57 01155 151400 MOVE2:      INC     2,2
58 01156 000203             JMP     POP2
59                  ;
60                          HEAD    202,U<52>,USTAR                    ; U*
```

```
01 01157 101125          .TXT    /<202>U<52>/
02       025000
03 01161 001135          LINK
04 01162 001163          .+1
05                USTAR:;( N1 N2 --- D )
06 01163 050111          STA     2,N
07 01164 102400          SUB     0,0
08 01165 025000          LDA     1,0,2
09 01166 031001          LDA     2,1,2
10 01167 034121          LDA     3,C20N
11 01170 125203 MUL1:    MOVR    1,1 SNC
12 01171 101201          MOVR    0,0 SKP
13 01172 143220          ADDZR   2,0
14 01173 175404          INC     3,3 SZR
15 01174 000774          JMP     MUL1
16 01175 125260          MOVCR   1,1
17 01176 030111          LDA     2,N
18 01177 041000          STA     0,0,2
19 01200 045001          STA     1,1,2
20 01201 000173          JMP     NEXT
21                ;
22                       HEAD    202,U<57>,USLAS                    ; U/
23 01202 101125          .TXT    /<202>U<57>/
24       027400
25 01204 001157          LINK
26 01205 001206          .+1
27 01206 050111 USLAS:   STA     2,N
28                ; ( D N  --- MOD  QUOT )
29 01207 021001          LDA     0,1,2
30 01210 025002          LDA     1,2,2
31 01211 031000          LDA     2,0,2
32 01212 034121          LDA     3,C20N
33 01213 125120          MOVZL   1,1
34 01214 101100 DIV1:    MOVL    0,0
35 01215 142412          SUB     2,0 #SZC
36 01216 142400          SUB     2,0
37 01217 125100          MOVL    1,1
38 01220 175404          INC     3,3 SZR
39 01221 000773          JMP     DIV1
40 01222 030111          LDA     2,N
41 01223 045001          STA     1,1,2
42 01224 041002          STA     0,2,2
43 01225 000204          JMP     POP
44                ;
45                       HEAD    203,AND,ANDD                       ; AND
46 01226 101501          .TXT    /<203>AND/
47       047104
48 01230 001202          LINK
49 01231 001232          .+1
50 01232 021000 ANDD:    LDA     0,0,2
51 01233 025001          LDA     1,1,2
52 01234 123400          AND     1,0
53 01235 000176          JMP     BINARY
54                ;
55                       HEAD    202,OR,ORR                         ; OR
56 01236 101117          .TXT    /<202>OR/
57       051000
58 01240 001226          LINK
59 01241 001242          .+1
60 01242 021000 ORR:     LDA     0,0,2
```

```
01 01243 025001          LDA     1,1,2
02 01244 124000          COM     1,1
03 01245 123400          AND     1,0
04 01246 122020          ADCZ    1,0
05 01247 000176          JMP     BINARY
06                 ;
07                       HEAD    203,XOR,XORR                          ; XOR
08 01250 101530          .TXT    /<203>XOR/
09       047522
10 01252 001236          LINK
11 01253 001254          .+1
12 01254 021000 XORR:    LDA     0,0,2
13 01255 025001          LDA     1,1,2
14 01256 135000          MOV     1,3
15 01257 117520          ANDZL   0,3
16 01260 123000          ADD     1,0
17 01261 162400          SUB     3,0
18 01262 000176          JMP     BINARY
19                 ;
20                       HEAD    203,SP<100>,SPAT                      ; SP@
21 01263 101523          .TXT    /<203>SP<100>/
22       050100
23 01265 001250          LINK
24 01266 001267          .+1
25 01267 141000 SPAT:    MOV     2,0
26 01270 000170          JMP     PUSH
27                 ;
28                       HEAD    203,SP<41>,SPSTO                      ; SP!
29 01271 101523          .TXT    /<203>SP<41>/
30       050041
31 01273 001263          LINK
32 01274 001275          .+1
33 01275 030100 SPSTO:   LDA     2,SP0
34 01276 000173          JMP     NEXT
35                 ;
36                       HEAD    203,RP<41>,RPSTO                      ; RP!
37 01277 101522          .TXT    /<203>RP<41>/
38       050041
39 01301 001271          LINK
40 01302 001303          .+1
41 01303 020101 RPSTO:   LDA     0,RP0
42 01304 040105          STA     0,RP
43 01305 000173          JMP     NEXT
44                 ;
45                       HEAD    202,<73>S,SEMIS                       ; ;S
46 01306 101073          .TXT    /<202><73>S/
47       051400
48 01310 001277          LINK
49 01311 001312          .+1
50 01312 022105 SEMIS:   LDA     0,@RP
51 01313 010105          ISZ     RP
52 01314 040104          STA     0,IP
53 01315 000173          JMP     NEXT
54                 ;
55                       HEAD    205,LEAVE,LEAVE                       ; LEAVE
56 01316 102514          .TXT    /<205>LEAVE/
57       042501
58       053105
59 01321 001306          LINK
60 01322 001323          .+1
```

```
01323 034105 LEAVE:  LDA     3,RP
01324 025400         LDA     1,0,3
01325 045401         STA     1,1,3
01326 000173         JMP     NEXT
                ;
                     HEAD    202,R<76>,FROMR                    ; R>
01327 101122         .TXT    /<202>R<76>/
      037000
01331 001316         LINK
01332 001333         .+1
01333 034105 FROMR:  LDA     3,RP
01334 021400         LDA     0,0,3
01335 010105         ISZ     RP
01336 000170         JMP     PUSH
                ;
                     HEAD    202,<76>R,TOR                      ; >R
01337 101076         .TXT    /<202><76>R/
      051000
01341 001327         LINK
01342 001343         .+1
01343 014105 TOR:    DSZ     RP
01344 034105         LDA     3,RP
01345 021000         LDA     0,0,2
01346 041400         STA     0,0,3
01347 000204         JMP     POP
                ;
                     HEAD    201,R,R                            ; R
01350 100522         .TXT    /<201>R/
01351 001337         LINK
01352 001353         .+1
01353 034105 R:      LDA     3,RP
01354 021400         LDA     0,0,3
01355 000170         JMP     PUSH
                ;
                     HEAD    202,<60><75>,ZEQU                  ; 0=
01356 101060         .TXT    /<202><60><75>/
      036400
01360 001350         LINK
01361 001362         .+1
01362 021000 ZEQU:   LDA     0,0,2
01363 101004         MOV     0,0 SZR
01364 102421         SUBZ    0,0 SKP
01365 102520         SUBZL   0,0
01366 000177         JMP     PUT
                ;
                     HEAD    202,<60><74>,ZLESS                 ; 0<
01367 101060         .TXT    /<202><60><74>/
      036000
01371 001356         LINK
01372 001373         .+1
01373 021000 ZLESS:  LDA     0,0,2
01374 101133         MOVZL   0,0 #SNC
01375 102441         SUBO    0,0 SKP
01376 102520         SUBZL   0,0
01377 000177         JMP     PUT
                ;
                     HEAD    201,<53>,PLUS                      ; +
01400 100453         .TXT    /<201><53>/
01401 001367         LINK
01402 001403         .+1
```

```
01403 021000 PLUS:   LDA     0,0,2
01404 025001         LDA     1,1,2
01405 123000         ADD     1,0
01406 000176         JMP     BINARY
                ;
                     HEAD    202,D<53>,DPLUS                    ; D+
01407 101104         .TXT    /<202>D<53>/
      025400
01411 001400         LINK
01412 001413         .+1
01413 021000 DPLUS:  LDA     0,0,2
01414 025001         LDA     1,1,2
01415 035003         LDA     3,3,2
01416 167022         ADDZ    3,1,SZC
01417 101400         INC     0,0
01420 035002         LDA     3,2,2
01421 163000         ADD     3,0
01422 041002         STA     0,2,2
01423 045003         STA     1,3,2
01424 000203         JMP     POP2
                ;
                     HEAD    205,MINUS,MINUS                    ; MINUS
01425 102515         .TXT    /<205>MINUS/
      044516
      052523
01430 001407         LINK
01431 001432         .+1
01432 021000 MINUS:  LDA     0,0,2
01433 100400         NEG     0,0
01434 000177         JMP     PUT
                ;
                     HEAD    206,DMINUS,DMINU                   ; DMINUS
01435 103104         .TXT    /<206>DMINUS/
      046511
      047125
      051400
01441 001425         LINK
01442 001443         .+1
01443 021000 DMINU:  LDA     0,0,2
01444 025001         LDA     1,1,2
01445 124405         NEG     1,1,SNR
01446 100401         NEG     0,0,SKP
01447 100000         COM     0,0
01450 041000         STA     0,0,2
01451 045001         STA     1,1,2
01452 000173         JMP     NEXT
                ;
                     HEAD    204,OVER,OVER                      ; OVER
01453 102117         .TXT    /<204>OVER/
      053105
      051000
01456 001435         LINK
01457 001460         .+1
01460 021001 OVER:   LDA     0,1,2
01461 000170         JMP     PUSH
                ;
                     HEAD    204,DROP,DROP                      ; DROP
01462 102104         .TXT    /<204>DROP/
      051117
      050000
```

```
01 01465 001453          LINK
02 01466 001467          .+1
03 01467 000204 DROP:    JMP     POP
04                ;
05                       HEAD    204,SWAP,SWAP                    ; SWAP
06 01470 102123          .TXT    /<204>SWAP/
07       053501
08       050000
09 01473 001462          LINK
10 01474 001475          .+1
11 01475 021001 SWAP:    LDA     0,1,2
12 01476 025000          LDA     1,0,2
13 01477 045001          STA     1,1,2
14 01500 000177          JMP     PUT
15                ;
16                       HEAD    203,DUP,DUP                      ; DUP
17 01501 101504          .TXT    /<203>DUP/
18       052520
19 01503 001470          LINK
20 01504 001505          .+1
21 01505 021000 DUP:     LDA     0,0,2
22 01506 000170          JMP     PUSH
23                ;
24                       HEAD    202,<53><41>,PSTOR               ; +!
25 01507 101053          .TXT    /<202><53><41>/
26       020400
27 01511 001501          LINK
28 01512 001513          .+1
29 01513 021001 PSTOR:   LDA     0,1,2
30 01514 035000          LDA     3,0,2
31 01515 025400          LDA     1,0,3
32 01516 123000          ADD     1,0
33 01517 041400          STA     0,0,3
34 01520 000203          JMP     POP2
35                ;
36                       HEAD    206,TOGGLE,TOGGL                 ; TOGGLE
37 01521 103124          .TXT    /<206>TOGGLE/
38       047507
39       043514
40       042400
41 01525 001507          LINK
42 01526 001527          .+1
43                TOGGL:; ( ADDR PATTERN --- )
44 01527 035001          LDA     3,1,2
45 01530 021400          LDA     0,0,3
46 01531 025000          LDA     1,0,2
47 01532 135000          MOV     1,3
48 01533 117520          ANDZL   0,3
49 01534 107000          ADD     0,1
50 01535 166400          SUB     3,1
51 01536 047001          STA     @1,1,2
52 01537 000203          JMP     POP2
53                ;
54                       HEAD    201,<100>,AT                     ; @
55 01540 100500          .TXT    /<201><100>/
56 01541 001521          LINK
57 01542 001543          .+1
58 01543 035000 AT:      LDA     3,0,2
59 01544 021400          LDA     0,0,3
60 01545 000177          JMP     PUT
```

```
01                  ;
02                          HEAD    201,<41>,STORE                  ; !
03 01546 100441             .TXT    /<201><41>/
04 01547 001540             LINK
05 01550 001551             .+1
06 01551 021001 STORE:      LDA     0,1,2
07 01552 043000             STA     @0,0,2
08 01553 000203             JMP     POP2
09                  ;
10                  ;****** USE BYTE ADDRESSING SCHEME ******
11                  ;
12                          HEAD    202,C<100>,CAT                  ; C@
13 01554 101103             .TXT    /<202>C<100>/
14       040000
15 01556 001546             LINK
16 01557 001560             .+1
17 01560 021000 CAT:        LDA     0,0,2
18 01561 040110             STA     0,IPP
19 01562 004125             JSR     FETCH
20 01563 000177             JMP     PUT
21                  ;
22                          HEAD    202,C<41>,CSTOR                 ; C!
23 01564 101103             .TXT    /<202>C<41>/
24       020400
25 01566 001554             LINK
26 01567 001570             .+1
27 01570 025000 CSTOR:      LDA     1,0,2
28 01571 021001             LDA     0,1,2
29 01572 044107             STA     1,OP
30 01573 004140             JSR     DEPOSIT
31 01574 000203             JMP     POP2
32                  ;
33                          HEAD    204,BYTE,BYTE                   ; BYTE
34 01575 102102             .TXT    /<204>BYTE/
35       054524
36       042400
37 01600 001564             LINK
38 01601 001602             .+1
39                  BYTE:; ( : BYTE 2 * ;   GET BYTE ADDRESS )
40 01602 021000             LDA     0,0,2
41 01603 101120             MOVZL   0,0
42 01604 000177             JMP     PUT
43                  ;
44                          HEAD    204,CELL,CELL                   ; CELL
45 01605 102103             .TXT    /<204>CELL/
46       042514
47       046000
48 01610 001575             LINK
49 01611 001612             .+1
50                  CELL:; ( : CELL 2 / ;  GET WORD ADDRESS FROM BYTE ADDR )
51 01612 021000             LDA     0,0,2
52 01613 101220             MOVZR   0,0
53 01614 000177             JMP     PUT
54                  ;
55                  ;*****************************************
56                  ;
57                  ;       PRE-COMPILED FORTH SECTION
58                  ;
59                  ;*****************************************
60                  ;
```

```
01                          HEAD    301,<72>,COLON,DOCOL                ; :
02 01615 140472             .TXT    /<301><72>/
03 01616 001605             LINK
04 01617 001631             DOCOL
05                  COLON:  .WORD   QEXEC,SCSP,CURR,AT,CONT,STORE
06 01620 002504             QEXEC
07 01621 002441             SCSP
08 01622 002135             CURR
09 01623 001543             AT
10 01624 002126             CONT
11 01625 001551             STORE
12                          .WORD   CREAT,RBRAC,PSCOD
13 01626 003656             CREAT
14 01627 002610             RBRAC
15 01630 002674             PSCOD
16 01631 024104     DOCOL:  LDA     1,IP     ;PUSH IP TO RETURN STACK
17 01632 014105             DSZ     RP
18 01633 046105             STA     1,@RP
19 01634 054104             STA     3,IP     ;MOVE W TO IP
20 01635 000173             JMP     NEXT
21                  ;
22                          HEAD    301,<73>,SEMI,DOCOL                 ; ;
23 01636 140473             .TXT    /<301><73>/
24 01637 001615             LINK
25 01640 001631             DOCOL
26                  SEMI:   .WORD   QCSP,COMP,SEMIS,SMUDG,LBRAC,SEMIS
27 01641 002532             QCSP
28 01642 002566             COMP
29 01643 001312             SEMIS
30 01644 002623             SMUDG
31 01645 002601             LBRAC
32 01646 001312             SEMIS
33                  ;
34                          HEAD    210,CONSTANT,CON,DOCOL              ; CONSTANT
35 01647 104103             .TXT    /<210>CONSTANT/
36       047516
37       051524
38       040516
39       052000
40 01654 001636             LINK
41 01655 001631             DOCOL
42                  CON:    .WORD   CREAT,SMUDG,COMMA,PSCOD
43 01656 003656             CREAT
44 01657 002623             SMUDG
45 01660 002257             COMMA
46 01661 002674             PSCOD
47 01662 021400     DOCON:  LDA     0,0,3
48 01663 000170             JMP     PUSH
49                  ;
50                          HEAD    210,VARIABLE,VAR,DOCOL              ; VARIABLE
51 01664 104126             .TXT    /<210>VARIABLE/
52       040522
53       044501
54       041114
55       042400
56 01671 001647             LINK
57 01672 001631             DOCOL
58                  VAR:    .WORD   CON,PSCOD
59 01673 001656             CON
60 01674 002674             PSCOD
```

```
01675 161000 DOVAR:  MOV     3,0
01676 000170         JMP     PUSH
                ;
                     HEAD    204,USER,USER,DOCOL                ; USER
01677 102125         .TXT    /<204>USER/
      051505
      051000
01702 001664         LINK
01703 001631         DOCOL
                USER:.WORD   CON,PSCOD
01704 001656         CON
01705 002674         PSCOD
01706 021400 DOUSE:  LDA     0,0,3
01707 024106         LDA     1,UP
01710 123000         ADD     1,0
01711 000170         JMP     PUSH
                ;
                ;*****************************************************
                ;
                ;    CONSTANTS
                ;
                ;*****************************************************
                ;
                     HEAD    201,0,ZERO,DOCON                   ; 0
01712 100460         .TXT    /<201>0/
01713 001677         LINK
01714 001662         DOCON
01715 000000 ZERO:   0
                ;
                     HEAD    201,1,ONE,DOCON                    ; 1
01716 100461         .TXT    /<201>1/
01717 001712         LINK
01720 001662         DOCON
01721 000001 ONE:    1
                ;
                     HEAD    201,2,TWO,DOCON                    ; 2
01722 100462         .TXT    /<201>2/
01723 001716         LINK
01724 001662         DOCON
01725 000002 TWO:    2
                ;
                     HEAD    201,3,THREE,DOCON                  ; 3
01726 100463         .TXT    /<201>3/
01727 001722         LINK
01730 001662         DOCON
01731 000003 THREE:  3
                ;
                     HEAD    202,BL,BL,DOCON                    ; BL
01732 101102         .TXT    /<202>BL/
      046000
01734 001726         LINK
01735 001662         DOCON
01736 000040 BL:     40
                ;
                     HEAD    203,C<57>L,CL,DOCON                ; C/L
01737 101503         .TXT    /<203>C<57>L/
      027514
01741 001732         LINK
01742 001662         DOCON
01743 000100 CL:     100
```

```
                ;
                        HEAD    205,B<57>BUF,BBUF,DOCON         ; B/BUF
01744 102502            .TXT    /<205>B<57>BUF/
      027502
      052506
01747 001737            LINK
01750 001662            DOCON
01751 002000 BBUF:      1024.
                ;
                        HEAD    205,B<57>SCR,BSCR,DOCON         ; B/SCR
01752 102502            .TXT    /<205>B<57>SCR/
      027523
      041522
01755 001744            LINK
01756 001662            DOCON
01757 000001 BSCR:      1
                ;
                        HEAD    207,<53>ORIGIN,PORIG,DOCOL      ; +ORIGIN
01760 103453            .TXT    /<207><53>ORIGIN/
      047522
      044507
      044516
01764 001752            LINK
01765 001631            DOCOL
                PORIG:  .WORD   LIT,ORIGIN,PLUS,SEMIS
01766 000451            LIT
01767 000050            ORIGIN
01770 001403            PLUS
01771 001312            SEMIS
                ;
                ;*****************************************************
                ;
                ;       USER VARIABLES
                ;
                ;*****************************************************
                ;
                ;
                        HEAD    202,S0,SZERO,DOUSE              ; S0
01772 101123            .TXT    /<202>S0/
      030000
01774 001760            LINK
01775 001706            DOUSE
01776 000003 SZERO:     3
                ;
                        HEAD    202,R0,RZERO,DOUSE              ; R0
01777 101122            .TXT    /<202>R0/
      030000
02001 001772            LINK
02002 001706            DOUSE
02003 000004 RZERO:     4
                ;
                        HEAD    203,TIB,TIB,DOUSE               ; TIB
02004 101524            .TXT    /<203>TIB/
      044502
02006 001777            LINK
02007 001706            DOUSE
02010 000005 TIB:       5
                ;
                        HEAD    205,WIDTH,WIDTH,DOUSE           ; WIDTH
02011 102527            .TXT    /<205>WIDTH/
```

```
01        044504
02        052110
03 02014 002004          LINK
04 02015 001706          DOUSE
05 02016 000006 WIDTH:   6
06                ;
07                       HEAD     207,WARNING,WARN,DOUSE            ; WARNING
08 02017 103527          .TXT     /<207>WARNING/
09        040522
10        047111
11        047107
12 02023 002011          LINK
13 02024 001706          DOUSE
14 02025 000007 WARN:    7
15
16                ;
17                       HEAD     205,FENCE,FENCE,DOUSE             ; FENCE
18 02026 102506          .TXT     /<205>FENCE/
19        042516
20        041505
21 02031 002017          LINK
22 02032 001706          DOUSE
23 02033 000010 FENCE:   10
24                ;
25                       HEAD     202,DP,DP,DOUSE                   ; DP
26 02034 101104          .TXT     /<202>DP/
27        050000
28 02036 002026          LINK
29 02037 001706          DOUSE
30 02040 000011 DP:      11
31                ;
32                       HEAD     210,VOC<55>LINK,VOCL,DOUSE        ; VOC-LINK
33 02041 104126          .TXT     /<210>VOC<55>LINK/
34        047503
35        026514
36        044516
37        045400
38 02046 002034          LINK
39 02047 001706          DOUSE
40 02050 000012 VOCL:    12
41                ;
42                       HEAD     205,FIRST,FIRST,DOUSE             ; FIRST
43 02051 102506          .TXT     /<205>FIRST/
44        044522
45        051524
46 02054 002041          LINK
47 02055 001706          DOUSE
48 02056 000013 FIRST:   13
49                ;
50                       HEAD     205,LIMIT,LIMIT,DOUSE             ; LIMIT
51 02057 102514          .TXT     /<205>LIMIT/
52        044515
53        044524
54 02062 002051          LINK
55 02063 001706          DOUSE
56 02064 000014 LIMIT:   14
57                ;
58                       HEAD     203,BLK,BLK,DOUSE                 ; BLK
59 02065 101502          .TXT     /<203>BLK/
60        046113
```

```
01 02067 002057          LINK
02 02070 001706          DOUSE
03 02071 000017 BLK:     17
04                 ;
05                       HEAD     202,IN,IN,DOUSE                    ; IN
06 02072 101111          .TXT     /<202>IN/
07       047000
08 02074 002065          LINK
09 02075 001706          DOUSE
10 02076 000020 IN:      20
11                 ;
12                       HEAD     203,OUT,OUT,DOUSE                  ; OUT
13 02077 101517          .TXT     /<203>OUT/
14       052524
15 02101 002072          LINK
16 02102 001706          DOUSE
17 02103 000021 OUT:     21
18                 ;
19                       HEAD     203,SCR,SCR,DOUSE                  ; SCR
20 02104 101523          .TXT     /<203>SCR/
21       041522
22 02106 002077          LINK
23 02107 001706          DOUSE
24 02110 000022 SCR:     22
25                 ;
26                       HEAD     206,OFFSET,OFSET,DOUSE             ; OFFSET
27 02111 103117          .TXT     /<206>OFFSET/
28       043106
29       051505
30       052000
31 02115 002104          LINK
32 02116 001706          DOUSE
33 02117 000023 OFSET:   23
34                 ;
35                       HEAD     207,CONTEXT,CONT,DOUSE             ; CONTEXT
36 02120 103503          .TXT     /<207>CONTEXT/
37       047516
38       052105
39       054124
40 02124 002111          LINK
41 02125 001706          DOUSE
42 02126 000024 CONT:    24
43                 ;
44                       HEAD     207,CURRENT,CURR,DOUSE             ; CURRENT
45 02127 103503          .TXT     /<207>CURRENT/
46       052522
47       051105
48       047124
49 02133 002120          LINK
50 02134 001706          DOUSE
51 02135 000025 CURR:    25
52                 ;
53                       HEAD     205,STATE,STATE,DOUSE              ; STATE
54 02136 102523          .TXT     /<205>STATE/
55       052101
56       052105
57 02141 002127          LINK
58 02142 001706          DOUSE
59 02143 000026 STATE:   26
60                 ;
```

```
01                          HEAD     204,BASE,BASE,DOUSE                ; BASE
02 02144 102102             .TXT     /<204>BASE/
03       040523
04       042400
05 02147 002136             LINK
06 02150 001706             DOUSE
07 02151 000027 BASE:       27
08                          ;
09                          HEAD     203,DPL,DPL,DOUSE                  ; DPL
10 02152 101504             .TXT     /<203>DPL/
11       050114
12 02154 002144             LINK
13 02155 001706             DOUSE
14 02156 000030 DPL:        30
15                          ;
16                          HEAD     203,FLD,FLD,DOUSE                  ; FLD
17 02157 101506             .TXT     /<203>FLD/
18       046104
19 02161 002152             LINK
20 02162 001706             DOUSE
21 02163 000031 FLD:        31
22                          ;
23                          HEAD     203,CSP,CSP,DOUSE                  ; CSP
24 02164 101503             .TXT     /<203>CSP/
25       051520
26 02166 002157             LINK
27 02167 001706             DOUSE
28 02170 000032 CSP:        32
29                          ;
30                          HEAD     202,R<43>,RNUM,DOUSE               ; R#
31 02171 101122             .TXT     /<202>R<43>/
32       021400
33 02173 002164             LINK
34 02174 001706             DOUSE
35 02175 000033 RNUM:       33
36                          ;
37                          HEAD     203,HLD,HLD,DOUSE                  ; HLD
38 02176 101510             .TXT     /<203>HLD/
39       046104
40 02200 002171             LINK
41 02201 001706             DOUSE
42 02202 000034 HLD:        34
43                          ;
44                          HEAD     203,USE,USE,DOUSE                  ; USE
45 02203 101525             .TXT     /<203>USE/
46       051505
47 02205 002176             LINK
48 02206 001706             DOUSE
49 02207 000035 USE:        35
50                          ;
51                          HEAD     204,PREV,PREV,DOUSE                ; PREV
52 02210 102120             .TXT     /<204>PREV/
53       051105
54       053000
55 02213 002203             LINK
56 02214 001706             DOUSE
57 02215 000036 PREV:       36
58                          ;
59                          ;END OF USER AREA
60                          ;
```

```
                ;*****************************************************
                ;
                ;       HIGH LEVEL DEFINITIONS
                ;
                ;*****************************************************
                ;
                        HEAD    202,1<53>,ONEP,DOCOL            ; 1+
02216 101061            .TXT    /<202>1<53>/
      025400
02220 002210            LINK
02221 001631            DOCOL
                ONEP:   .WORD   ONE,PLUS,SEMIS
02222 001721            ONE
02223 001403            PLUS
02224 001312            SEMIS
                ;
                        HEAD    202,2<53>,TWOP,DOCOL            ; 2+
02225 101062            .TXT    /<202>2<53>/
      025400
02227 002216            LINK
02230 001631            DOCOL
                TWOP:   .WORD   TWO,PLUS,SEMIS
02231 001725            TWO
02232 001403            PLUS
02233 001312            SEMIS
                ;
                        HEAD    204,HERE,HERE,DOCOL             ; HERE
02234 102110            .TXT    /<204>HERE/
      042522
      042400
02237 002225            LINK
02240 001631            DOCOL
                HERE:   .WORD   DP,AT,SEMIS
02241 002040            DP
02242 001543            AT
02243 001312            SEMIS
                ;
                        HEAD    205,ALLOT,ALLOT,DOCOL           ; ALLOT
02244 102501            .TXT    /<205>ALLOT/
      046114
      047524
02247 002234            LINK
02250 001631            DOCOL
                ALLOT:  .WORD   DP,PSTOR,SEMIS
02251 002040            DP
02252 001513            PSTOR
02253 001312            SEMIS
                ;
                        HEAD    201,<54>,COMMA,DOCOL            ; ,
02254 100454            .TXT    /<201><54>/
02255 002244            LINK
02256 001631            DOCOL
                COMMA:  .WORD   HERE,STORE,ONE,ALLOT,SEMIS
02257 002241            HERE
02260 001551            STORE
02261 001721            ONE
02262 002251            ALLOT
02263 001312            SEMIS
                ;
                ;  THIS SYSTEM DOES NOT USE C,
```

```
01                      ;
02                              HEAD    201,<55>,SUBB,DOCOL                     ; -
03 02264 100455                 .TXT    /<201><55>/
04 02265 002254                 LINK
05 02266 001631                 DOCOL
06                      SUBB:   .WORD   MINUS,PLUS,SEMIS
07 02267 001432                 MINUS
08 02270 001403                 PLUS
09 02271 001312                 SEMIS
10                      ;
11                              HEAD    201,<75>,EQUAL,DOCOL                    ; =
12 02272 100475                 .TXT    /<201><75>/
13 02273 002264                 LINK
14 02274 001631                 DOCOL
15                      EQUAL:  .WORD   SUBB,ZEQU,SEMIS
16 02275 002267                 SUBB
17 02276 001362                 ZEQU
18 02277 001312                 SEMIS
19                      ;
20                              HEAD    201,<74>,LESS,DOCOL                     ; <
21 02300 100474                 .TXT    /<201><74>/
22 02301 002272                 LINK
23 02302 001631                 DOCOL
24                      LESS:   .WORD   SUBB,ZLESS,SEMIS
25 02303 002267                 SUBB
26 02304 001373                 ZLESS
27 02305 001312                 SEMIS
28                      ;
29                              HEAD    201,<76>,GREAT,DOCOL                    ; >
30 02306 100476                 .TXT    /<201><76>/
31 02307 002300                 LINK
32 02310 001631                 DOCOL
33                      GREAT:  .WORD   SWAP,LESS,SEMIS
34 02311 001475                 SWAP
35 02312 002303                 LESS
36 02313 001312                 SEMIS
37                      ;
38                              HEAD    203,ROT,ROT,DOCOL                       ; ROT
39 02314 101522                 .TXT    /<203>ROT/
40       047524
41 02316 002306                 LINK
42 02317 001631                 DOCOL
43                      ROT:    .WORD   TOR,SWAP,FROMR,SWAP,SEMIS
44 02320 001343                 TOR
45 02321 001475                 SWAP
46 02322 001333                 FROMR
47 02323 001475                 SWAP
48 02324 001312                 SEMIS
49                      ;
50                              HEAD    205,SPACE,SPACE,DOCOL                   ; SPACE
51 02325 102523                 .TXT    /<205>SPACE/
52       050101
53       041505
54 02330 002314                 LINK
55 02331 001631                 DOCOL
56                      SPACE:  .WORD   BL,EMIT,SEMIS
57 02332 001736                 BL
58 02333 001027                 EMIT
59 02334 001312                 SEMIS
60                      ;
```

```
                          HEAD     204,<55>DUP,DDUP,DOCOL          ; -DUP
02335 102055              .TXT     /<204><55>DUP/
      042125
      050000
02340 002325              LINK
02341 001631              DOCOL
                  DDUP:   .WORD    DUP,ZBRAN,.+2,DUP,SEMIS
02342 001505              DUP
02343 000505              ZBRAN
02344 002346              .+2
02345 001505              DUP
02346 001312              SEMIS
                  ;
                  ;
                  ;  THIS SYSTEM DOES NOT NEED TRAVERSE, NFA AND PFA ARE OK.
                  ;
                          HEAD     206,LATEST,LATES,DOCOL          ; LATEST
02347 103114              .TXT     /<206>LATEST/
      040524
      042523
      052000
02353 002335              LINK
02354 001631              DOCOL
                  LATES:  .WORD    CURR,AT,AT,SEMIS
02355 002135              CURR
02356 001543              AT
02357 001543              AT
02360 001312              SEMIS
                  ;
                          HEAD     203,LFA,LFA,DOCOL               ; LFA
02361 101514              .TXT     /<203>LFA/
      043101
02363 002347              LINK
02364 001631              DOCOL
                  LFA:    .WORD    TWO,SUBB,SEMIS
02365 001725              TWO
02366 002267              SUBB
02367 001312              SEMIS
                  ;
                          HEAD     203,CFA,CFA,DOCOL               ; CFA
02370 101503              .TXT     /<203>CFA/
      043101
02372 002361              LINK
02373 001631              DOCOL
                  CFA:    .WORD    ONE,SUBB,SEMIS
02374 001721              ONE
02375 002267              SUBB
02376 001312              SEMIS
                  ;
                          HEAD     203,NFA,NFA,DOCOL               ; NFA
02377 101516              .TXT     /<203>NFA/
      043101
02401 002370              LINK
02402 001631              DOCOL
                  NFA:    .WORD    TWO,SUBB,
02403 001725              TWO
02404 002267              SUBB

                  XXN1:   .WORD    ONE,SUBB,DUP,AT,ZLESS,ZBRAN,XXN1
02405 001721              ONE
```

```
01 02406 002267          SUBB
02 02407 001505          DUP
03 02410 001543          AT
04 02411 001373          ZLESS
05 02412 000505          ZBRAN
06 02413 002405          XXN1
07                       .WORD   SEMIS
08 02414 001312          SEMIS
09                 ;
10                       HEAD    203,PFA,PFA,DOCOL                    ; PFA
11 02415 101520          .TXT    /<203>PFA/
12       043101
13 02417 002377          LINK
14 02420 001631          DOCOL
15                 PFA:  .WORD   DUP,BYTE,CAT,LIT,37,ANDD,CELL
16 02421 001505          DUP
17 02422 001602          BYTE
18 02423 001560          CAT
19 02424 000451          LIT
20 02425 000037          37
21 02426 001232          ANDD
22 02427 001612          CELL
23                       .WORD   ONEP,PLUS,TWOP,SEMIS
24 02430 002222          ONEP
25 02431 001403          PLUS
26 02432 002231          TWOP
27 02433 001312          SEMIS
28                 ;
29                       HEAD    204,<41>CSP,SCSP,DOCOL               ; !CSP
30 02434 102041          .TXT    /<204><41>CSP/
31       041523
32       050000
33 02437 002415          LINK
34 02440 001631          DOCOL
35                 SCSP: .WORD   SPAT,CSP,STORE,SEMIS
36 02441 001267          SPAT
37 02442 002170          CSP
38 02443 001551          STORE
39 02444 001312          SEMIS
40                 ;
41                       HEAD    206,<77>ERROR,QERR,DOCOL             ; ?ERROR
42 02445 103077          .TXT    /<206><77>ERROR/
43       042522
44       051117
45       051000
46 02451 002434          LINK
47 02452 001631          DOCOL
48                 QERR: .WORD   SWAP,ZBRAN,XXN2,ERROR,BRAN,XXN3
49 02453 001475          SWAP
50 02454 000505          ZBRAN
51 02455 002461          XXN2
52 02456 003572          ERROR
53 02457 000474          BRAN
54 02460 002462          XXN3
55                 XXN2: .WORD   DROP
56 02461 001467          DROP
57                 XXN3: .WORD   SEMIS
58 02462 001312          SEMIS
59                 ;
60                       HEAD    205,<77>COMP,QCOMP,DOCOL             ; ?COMP
```

```
01 02463 102477          .TXT     /<205><77>COMP/
02       041517
03       046520
04 02466 002445          LINK
05 02467 001631          DOCOL
06               QCOMP:  .WORD    STATE,AT,ZEQU,LIT,21,QERR,SEMIS
07 02470 002143          STATE
08 02471 001543          AT
09 02472 001362          ZEQU
10 02473 000451          LIT
11 02474 000021          21
12 02475 002453          QERR
13 02476 001312          SEMIS
14               ;
15                       HEAD     205,<77>EXEC,QEXEC,DOCOL          ; ?EXEC
16 02477 102477          .TXT     /<205><77>EXEC/
17       042530
18       042503
19 02502 002463          LINK
20 02503 001631          DOCOL
21               QEXEC:  .WORD    STATE,AT,LIT,22,QERR,SEMIS
22 02504 002143          STATE
23 02505 001543          AT
24 02506 000451          LIT
25 02507 000022          22
26 02510 002453          QERR
27 02511 001312          SEMIS
28               ;
29                       HEAD     206,<77>PAIRS,QPAIR,DOCOL         ; ?PAIRS
30 02512 103077          .TXT     /<206><77>PAIRS/
31       050101
32       044522
33       051400
34 02516 002477          LINK
35 02517 001631          DOCOL
36               QPAIR:  .WORD    SUBB,LIT,23,QERR,SEMIS
37 02520 002267          SUBB
38 02521 000451          LIT
39 02522 000023          23
40 02523 002453          QERR
41 02524 001312          SEMIS
42               ;
43                       HEAD     204,<77>CSP,QCSP,DOCOL            ; ?CSP
44 02525 102077          .TXT     /<204><77>CSP/
45       041523
46       050000
47 02530 002512          LINK
48 02531 001631          DOCOL
49               QCSP:   .WORD    SPAT,CSP,AT,SUBB,LIT,24,QERR,SEMIS
50 02532 001267          SPAT
51 02533 002170          CSP
52 02534 001543          AT
53 02535 002267          SUBB
54 02536 000451          LIT
55 02537 000024          24
56 02540 002453          QERR
57 02541 001312          SEMIS
58               ;
59                       HEAD     210,<77>LOADING,QLOAD,DOCOL       ; ?LOADING
60 02542 104077          .TXT     /<210><77>LOADING/
```

```
 0029 FORTH
01        046117
02        040504
03        044516
04        043400
05 02547 002525          LINK
06 02550 001631          DOCOL
07                QLOAD: .WORD   BLK,AT,ZEQU,LIT,26,QERR,SEMIS
08 02551 002071          BLK
09 02552 001543          AT
10 02553 001362          ZEQU
11 02554 000451          LIT
12 02555 000026          26
13 02556 002453          QERR
14 02557 001312          SEMIS
15                ;
16                       HEAD    207,COMPILE,COMP,DOCOL            ; COMPILE
17 02560 103503          .TXT    /<207>COMPILE/
18        047515
19        050111
20        046105
21 02564 002542          LINK
22 02565 001631          DOCOL
23                COMP:  .WORD   QCOMP,FROMR,DUP,ONEP,TOR,AT,COMMA,SEMIS
24 02566 002470          QCOMP
25 02567 001333          FROMR
26 02570 001505          DUP
27 02571 002222          ONEP
28 02572 001343          TOR
29 02573 001543          AT
30 02574 002257          COMMA
31 02575 001312          SEMIS
32                ;
33
34                       HEAD    301,<133>,LBRAC,DOCOL             ; [
35 02576 140533          .TXT    /<301><133>/
36 02577 002560          LINK
37 02600 001631          DOCOL
38                LBRAC: .WORD   ZERO,STATE,STORE,SEMIS
39 02601 001715          ZERO
40 02602 002143          STATE
41 02603 001551          STORE
42 02604 001312          SEMIS
43                ;
44                       HEAD    201,<135>,RBRAC,DOCOL             ; ]
45 02605 100535          .TXT    /<201><135>/
46 02606 002576          LINK
47 02607 001631          DOCOL
48                RBRAC: .WORD   LIT,140000,STATE,STORE,SEMIS
49 02610 000451          LIT
50 02611 140000          140000
51 02612 002143          STATE
52 02613 001551          STORE
53 02614 001312          SEMIS
54                ;
55                       HEAD    206,SMUDGE,SMUDG,DOCOL            ; SMUDGE
56 02615 103123          .TXT    /<206>SMUDGE/
57        046525
58        042107
59        042400
60 02621 002605          LINK
```

```
01 02622 001631          DOCOL
02               SMUDG:  .WORD   LATES,LIT,20000,TOGGL,SEMIS
03 02623 002355          LATES
04 02624 000451          LIT
05 02625 020000          20000
06 02626 001527          TOGGL
07 02627 001312          SEMIS
08               ;
09                       HEAD    203,HEX,HEX,DOCOL                    ; HEX
10 02630 101510          .TXT    /<203>HEX/
11       042530
12 02632 002615          LINK
13 02633 001631          DOCOL
14               HEX:    .WORD   LIT,20,BASE,STORE,SEMIS
15 02634 000451          LIT
16 02635 000020          20
17 02636 002151          BASE
18 02637 001551          STORE
19 02640 001312          SEMIS
20               ;
21                       HEAD    207,DECIMAL,DECIM,DOCOL              ; DECIMAL
22 02641 103504          .TXT    /<207>DECIMAL/
23       042503
24       044515
25       040514
26 02645 002630          LINK
27 02646 001631          DOCOL
28               DECIM:  .WORD   LIT,12,BASE,STORE,SEMIS
29 02647 000451          LIT
30 02650 000012          12
31 02651 002151          BASE
32 02652 001551          STORE
33 02653 001312          SEMIS
34               ;
35                       HEAD    205,OCTAL,OCTAL,DOCOL                ; OCTAL
36 02654 102517          .TXT    /<205>OCTAL/
37       041524
38       040514
39 02657 002641          LINK
40 02660 001631          DOCOL
41               OCTAL:  .WORD   LIT,10,BASE,STORE,SEMIS
42 02661 000451          LIT
43 02662 000010          10
44 02663 002151          BASE
45 02664 001551          STORE
46 02665 001312          SEMIS
47               ;
48                       HEAD    207,<50><73>CODE<51>,PSCOD,DOCOL; ( ;CODE)
49 02666 103450          .TXT    /<207><50><73>CODE<51>/
50       035503
51       047504
52       042451
53 02672 002654          LINK
54 02673 001631          DOCOL
55               PSCOD:  .WORD   FROMR,LATES,PFA,CFA,STORE,SEMIS
56 02674 001333          FROMR
57 02675 002355          LATES
58 02676 002421          PFA
59 02677 002374          CFA
60 02700 001551          STORE
```

```
01 02701 001312          SEMIS
02                 ;
03                       HEAD     305,<73>CODE,SEMIC,DOCOL          ; ;CODE
04 02702 142473          .TXT     /<305><73>CODE/
05       041517
06       042105
07 02705 002666          LINK
08 02706 001631          DOCOL
09                 SEMIC: .WORD    QCSP,COMP,PSCOD,LBRAC,SMUDG,SEMIS
10 02707 002532          QCSP
11 02710 002566          COMP
12 02711 002674          PSCOD
13 02712 002601          LBRAC
14 02713 002623          SMUDG
15 02714 001312          SEMIS
16                 ;
17                       HEAD     207,<74>BUILDS,BUILD,DOCOL        ; <BUILDS
18 02715 103474          .TXT     /<207><74>BUILDS/
19       041125
20       044514
21       042123
22 02721 002702          LINK
23 02722 001631          DOCOL
24                 BUILD: .WORD    ZERO,CON,SEMIS
25 02723 001715          ZERO
26 02724 001656          CON
27 02725 001312          SEMIS
28                 ;
29                       HEAD     205,DOES<76>,DOES,DOCOL           ; DOES>
30 02726 102504          .TXT     /<205>DOES<76>/
31       047505
32       051476
33 02731 002715          LINK
34 02732 001631          DOCOL
35                 DOES:  .WORD    FROMR,LATES,PFA,STORE,PSCOD
36 02733 001333          FROMR
37 02734 002355          LATES
38 02735 002421          PFA
39 02736 001551          STORE
40 02737 002674          PSCOD
41 02740 014105 DODOE:   DSZ      RP
42 02741 020104          LDA      0,IP
43 02742 042105          STA      0,@RP
44 02743 021400          LDA      0,0,3
45 02744 040104          STA      0,IP
46 02745 161400          INC      3,0
47 02746 000170          JMP      PUSH
48                 ;
49                       HEAD     205,COUNT,COUNT,DOCOL             ; COUNT
50 02747 102503          .TXT     /<205>COUNT/
51       047525
52       047124
53 02752 002726          LINK
54 02753 001631          DOCOL
55                 COUNT:; ( ADDR --- CADDR+1 COUNT )
56                       .WORD    BYTE,DUP,ONEP,SWAP,CAT,SEMIS
57 02754 001602          BYTE
58 02755 001505          DUP
59 02756 002222          ONEP
60 02757 001475          SWAP
```

```
01 02760 001560          CAT
02 02761 001312          SEMIS
03                 ;
04                       HEAD     204,TYPE,TYPE,DOCOL                ; TYPE
05 02762 102124          .TXT     /<204>TYPE/
06       054520
07       042400
08 02765 002747          LINK
09 02766 001631          DOCOL
10                 TYPE: .WORD     DDUP,ZBRAN,XXL2,OVER,PLUS,SWAP,XDO
11 02767 002342          DDUP
12 02770 000505          ZBRAN
13 02771 003005          XXL2
14 02772 001460          OVER
15 02773 001403          PLUS
16 02774 001475          SWAP
17 02775 000603          XDO
18                 XXL1: .WORD     I,CAT,EMIT,XLOOP,XXL1,BRAN,XXL3
19 02776 000617          I
20 02777 001560          CAT
21 03000 001027          EMIT
22 03001 000523          XLOOP
23 03002 002776          XXL1
24 03003 000474          BRAN
25 03004 003006          XXL3
26                 XXL2: .WORD     DROP
27 03005 001467          DROP
28                 XXL3: .WORD     SEMIS
29 03006 001312          SEMIS
30                 ; ( CADDR COUNT --- )
31                 ;
32                       HEAD     211,<55>TRAILING,DTRAI,DOCOL      ; -TRAILING
33 03007 104455          .TXT     /<211><55>TRAILING/
34       052122
35       040511
36       046111
37       047107
38 03014 002762          LINK
39 03015 001631          DOCOL
40                 DTRAI: .WORD    DUP,ZERO,XDO
41 03016 001505          DUP
42 03017 001715          ZERO
43 03020 000603          XDO
44                 XXW6: .WORD     OVER,OVER,PLUS,ONE,SUBB,CAT
45 03021 001460          OVER
46 03022 001460          OVER
47 03023 001403          PLUS
48 03024 001721          ONE
49 03025 002267          SUBB
50 03026 001560          CAT
51                       .WORD     BL,SUBB,ZBRAN,XXW7,LEAVE,BRAN,XXWA
52 03027 001736          BL
53 03030 002267          SUBB
54 03031 000505          ZBRAN
55 03032 003036          XXW7
56 03033 001323          LEAVE
57 03034 000474          BRAN
58 03035 003040          XXWA
59                 XXW7: .WORD     ONE,SUBB
60 03036 001721          ONE
```

```
01 03037 002267          SUBB
02               XXWA:   .WORD   XLOOP,XXW6,SEMIS
03 03040 000523          XLOOP
04 03041 003021          XXW6
05 03042 001312          SEMIS
06               ;
07                       HEAD    204,<50><56><42><51>,PDOTQ,DOCOL; (.")
08 03043 102050          .TXT    /<204><50><56><42><51>/
09       027042
10       024400
11 03046 003007          LINK
12 03047 001631          DOCOL
13               PDOTQ:  .WORD   R,COUNT,DUP,CELL,ONEP
14 03050 001353          R
15 03051 002754          COUNT
16 03052 001505          DUP
17 03053 001612          CELL
18 03054 002222          ONEP
19                       .WORD   FROMR,PLUS,TOR,TYPE,SEMIS
20 03055 001333          FROMR
21 03056 001403          PLUS
22 03057 001343          TOR
23 03060 002767          TYPE
24 03061 001312          SEMIS
25               ;
26                       HEAD    302,<56><42>,DOTQ,DOCOL          ; ."
27 03062 141056          .TXT    /<302><56><42>/
28       021000
29 03064 003043          LINK
30 03065 001631          DOCOL
31               DOTQ:   .WORD   LIT,34.,STATE,AT,ZBRAN,XXL6
32 03066 000451          LIT
33 03067 000042          34.
34 03070 002143          STATE
35 03071 001543          AT
36 03072 000505          ZBRAN
37 03073 003107          XXL6
38                       .WORD   COMP,PDOTQ,WORD,HERE,BYTE,CAT
39 03074 002566          COMP
40 03075 003050          PDOTQ
41 03076 003341          WORD
42 03077 002241          HERE
43 03100 001602          BYTE
44 03101 001560          CAT
45                       .WORD   CELL,ONEP,ALLOT,BRAN,XXL7
46 03102 001612          CELL
47 03103 002222          ONEP
48 03104 002251          ALLOT
49 03105 000474          BRAN
50 03106 003113          XXL7
51               XXL6:   .WORD   WORD,HERE,COUNT,TYPE
52 03107 003341          WORD
53 03110 002241          HERE
54 03111 002754          COUNT
55 03112 002767          TYPE
56               XXL7:   .WORD   SEMIS
57 03113 001312          SEMIS
58               ;
59                       HEAD    206,EXPECT,EXPEC,DOCOL           ; EXPECT
60 03114 103105          .TXT    /<206>EXPECT/
```

```
 0034 FORTH
01        054120
02        042503
03        052000
04 03120 003062          LINK
05 03121 001631          DOCOL
06               EXPEC:; ( ADDR COUNT  --- ;  READ TO WORD ADDRESS )
07                       .WORD   SWAP,BYTE,SWAP,OVER,PLUS,OVER,XDO
08 03122 001475          SWAP
09 03123 001602          BYTE
10 03124 001475          SWAP
11 03125 001460          OVER
12 03126 001403          PLUS
13 03127 001460          OVER
14 03130 000603          XDO
15               XXK1:   .WORD   KEY,DUP,LIT,177,EQUAL,ZBRAN,XXK2
16 03131 001041          KEY
17 03132 001505          DUP
18 03133 000451          LIT
19 03134 000177          177
20 03135 002275          EQUAL
21 03136 000505          ZBRAN
22 03137 003157          XXK2
23                       .WORD   DROP,LIT,31,OVER,I,EQUAL,DUP,FROMR
24 03140 001467          DROP
25 03141 000451          LIT
26 03142 000031          31
27 03143 001460          OVER
28 03144 000617          I
29 03145 002275          EQUAL
30 03146 001505          DUP
31 03147 001333          FROMR
32               ; ( 31 MOVES CURSOR TO LEFT )
33                       .WORD   TWO,SUBB,PLUS,TOR,SUBB,BRAN,XXK3
34 03150 001725          TWO
35 03151 002267          SUBB
36 03152 001403          PLUS
37 03153 001343          TOR
38 03154 002267          SUBB
39 03155 000474          BRAN
40 03156 003206          XXK3
41               XXK2:   .WORD   DUP,LIT,15,EQUAL,ZBRAN,XXK4
42 03157 001505          DUP
43 03160 000451          LIT
44 03161 000015          15
45 03162 002275          EQUAL
46 03163 000505          ZBRAN
47 03164 003173          XXK4
48                       .WORD   LEAVE,DROP,BL,ZERO,BRAN,XXK5
49 03165 001323          LEAVE
50 03166 001467          DROP
51 03167 001736          BL
52 03170 001715          ZERO
53 03171 000474          BRAN
54 03172 003174          XXK5
55               XXK4:   .WORD   DUP
56 03173 001505          DUP
57               XXK5:   .WORD   I,CSTOR,ZERO,I,ONEP,CSTOR,ZERO,I,TWOP,CSTOR
58 03174 000617          I
59 03175 001570          CSTOR
60 03176 001715          ZERO
```

```
01 03177 000617          I
02 03200 002222          ONEP
03 03201 001570          CSTOR
04 03202 001715          ZERO
05 03203 000617          I
06 03204 002231          TWOP
07 03205 001570          CSTOR
08               XXK3:   .WORD   EMIT,XLOOP,XXK1,DROP,SEMIS
09 03206 001027          EMIT
10 03207 000523          XLOOP
11 03210 003131          XXK1
12 03211 001467          DROP
13 03212 001312          SEMIS
14               ;
15                       HEAD    205,QUERY,QUERY,DOCOL          ; QUERY
16 03213 102521          .TXT    /<205>QUERY/
17       .       052505
18               051131
19 03216 003114          LINK
20 03217 001631          DOCOL
21               QUERY:  .WORD   TIB,AT,LIT,120,EXPEC,ZERO,IN,STORE,SEMIS
22 03220 002010          TIB
23 03221 001543          AT
24 03222 000451          LIT
25 03223 000120          120
26 03224 003122          EXPEC
27 03225 001715          ZERO
28 03226 002076          IN
29 03227 001551          STORE
30 03230 001312          SEMIS
31               ;
32                       HEAD    301,<0>,NULL,DOCOL             ; THE 'NULL'
33 03231 140400          .TXT    /<301><0>/
34 03232 003213          LINK
35 03233 001631          DOCOL
36               NULL:   .WORD   BLK,AT
37 03234 002071          BLK
38 03235 001543          AT
39                       .WORD   ZBRAN,XXJ2,QEXEC
40 03236 000505          ZBRAN
41 03237 003241          XXJ2
42 03240 002504          QEXEC
43               XXJ2:   .WORD   FROMR,DROP,SEMIS
44 03241 001333          FROMR
45 03242 001467          DROP
46 03243 001312          SEMIS
47               ;
48                       HEAD    204,FILL,FILL,DOCOL            ; FILL
49 03244 102106          .TXT    /<204>FILL/
50       044514
51       046000
52 03247 003231          LINK
53 03250 001631          DOCOL
54               FILL:; ( ADDR1 WORD-COUNT PATTERN --- ; FILL WORDS )
55                       .WORD   SWAP,TOR,OVER,STORE
56 03251 001475          SWAP
57 03252 001343          TOR
58 03253 001460          OVER
59 03254 001551          STORE
60                       .WORD   DUP,ONEP,FROMR,ONE,SUBB,MOVE,SEMIS
```

```
01 03255 001505          DUP
02 03256 002222          ONEP
03 03257 001333          FROMR
04 03260 001721          ONE
05 03261 002267          SUBB
06 03262 001142          MOVE
07 03263 001312          SEMIS
08                 ;
09                       HEAD     205,ERASE,ERASE,DOCOL              ; ERASE
10 03264 102505          .TXT     /<205>ERASE/
11       051101
12       051505
13 03267 003244          LINK
14 03270 001631          DOCOL
15                 ERASE:  .WORD   ZERO,FILL,SEMIS
16 03271 001715          ZERO
17 03272 003251          FILL
18 03273 001312          SEMIS
19                 ;
20                       HEAD     206,BLANKS,BLANK,DOCOL             ; BLANKS
21 03274 103102          .TXT     /<206>BLANKS/
22       046101
23       047113
24       051400
25 03300 003264          LINK
26 03301 001631          DOCOL
27                 BLANK:  .WORD   LIT,20040,FILL,SEMIS
28 03302 000451          LIT
29 03303 020040          20040
30 03304 003251          FILL
31 03305 001312          SEMIS
32                 ;
33                       HEAD     204,HOLD,HOLD,DOCOL                ; HOLD
34 03306 102110          .TXT     /<204>HOLD/
35       047514
36       042000
37 03311 003274          LINK
38 03312 001631          DOCOL
39                 HOLD:   .WORD   LIT,-1,HLD,PSTOR,HLD,AT,CSTOR,SEMIS
40 03313 000451          LIT
41 03314 177777          -1
42 03315 002202          HLD
43 03316 001513          PSTOR
44 03317 002202          HLD
45 03320 001543          AT
46 03321 001570          CSTOR
47 03322 001312          SEMIS
48                 ;
49                       HEAD     203,PAD,PAD,DOCOL                  ; PAD
50 03323 101520          .TXT     /<203>PAD/
51       040504
52 03325 003306          LINK
53 03326 001631          DOCOL
54                 PAD:    .WORD   HERE,LIT,42,PLUS,SEMIS
55 03327 002241          HERE
56 03330 000451          LIT
57 03331 000042          42
58 03332 001403          PLUS
59 03333 001312          SEMIS
60                 ;
```

```
01                          HEAD    204,WORD,WORD,DOCOL                ; WORD
02 03334 102127             .TXT    /<204>WORD/
03       047522
04       042000
05 03337 003323             LINK
06 03340 001631             DOCOL
07                  WORD:   .WORD   BLK,AT,ZBRAN,XXI1,BLK,AT,BLOCK,BRAN,XXI2
08 03341 002071             BLK
09 03342 001543             AT
10 03343 000505             ZBRAN
11 03344 003352             XXI1
12 03345 002071             BLK
13 03346 001543             AT
14 03347 004757             BLOCK
15 03350 000474             BRAN
16 03351 003354             XXI2
17                  XXI1:   .WORD   TIB,AT
18 03352 002010             TIB
19 03353 001543             AT
20                  XXI2:   .WORD   BYTE,IN,AT,PLUS,SWAP,ENCL,HERE
21 03354 001602             BYTE
22 03355 002076             IN
23 03356 001543             AT
24 03357 001403             PLUS
25 03360 001475             SWAP
26 03361 000750             ENCL
27 03362 002241             HERE
28                          .WORD   LIT,21,ERASE,IN,PSTOR
29 03363 000451             LIT
30 03364 000021             21
31 03365 003271             ERASE
32 03366 002076             IN
33 03367 001513             PSTOR
34                          .WORD   OVER,SUBB,TOR,R,HERE,BYTE,CSTOR,PLUS
35 03370 001460             OVER
36 03371 002267             SUBB
37 03372 001343             TOR
38 03373 001353             R
39 03374 002241             HERE
40 03375 001602             BYTE
41 03376 001570             CSTOR
42 03377 001403             PLUS
43                          .WORD   HERE,BYTE,ONEP,FROMR,CMOVE,SEMIS
44 03400 002241             HERE
45 03401 001602             BYTE
46 03402 002222             ONEP
47 03403 001333             FROMR
48 03404 001120             CMOVE
49 03405 001312             SEMIS
50
51
52                  ;
53                          HEAD    210,<50>NUMBER<51>,PNUMB,DOCOL   ; (NUMBER)
54 03406 104050             .TXT    /<210><50>NUMBER<51>/
55       047125
56       046502
57       042522
58       024400
59 03413 003334             LINK
60 03414 001631             DOCOL
```

```
01                  PNUMB:; ( D1 CADDR1 --- D2 CADDR2 )
02                  XXF3:   .WORD   ONEP,DUP,TOR,CAT,BASE,AT,DIGIT
03 03415 002222             ONEP
04 03416 001505             DUP
05 03417 001343             TOR
06 03420 001560             CAT
07 03421 002151             BASE
08 03422 001543             AT
09 03423 000627             DIGIT
10                          .WORD   ZBRAN,XXG4,SWAP,BASE,AT,USTAR,DROP
11 03424 000505             ZBRAN
12 03425 003453             XXG4
13 03426 001475             SWAP
14 03427 002151             BASE
15 03430 001543             AT
16 03431 001163             USTAR
17 03432 001467             DROP
18                          .WORD   ROT,BASE,AT,USTAR,DPLUS
19 03433 002320             ROT
20 03434 002151             BASE
21 03435 001543             AT
22 03436 001163             USTAR
23 03437 001413             DPLUS
24                          .WORD   DPL,AT,ONEP,ZBRAN,XXG5,ONE,DPL,PSTOR
25 03440 002156             DPL
26 03441 001543             AT
27 03442 002222             ONEP
28 03443 000505             ZBRAN
29 03444 003450             XXG5
30 03445 001721             ONE
31 03446 002156             DPL
32 03447 001513             PSTOR
33                  XXG5:   .WORD   FROMR,BRAN,XXF3
34 03450 001333             FROMR
35 03451 000474             BRAN
36 03452 003415             XXF3
37                  XXG4:   .WORD   FROMR,SEMIS
38 03453 001333             FROMR
39 03454 001312             SEMIS
40                  ;
41                          HEAD    206,NUMBER,NUMB,DOCOL           ; NUMBER
42 03455 103116             .TXT    /<206>NUMBER/
43       052515
44       041105
45       051000
46 03461 003406             LINK
47 03462 001631             DOCOL
48                  NUMB:; ( CADDR --- D )
49                          .WORD   ZERO,ZERO,ROT,DUP,ONEP,CAT,LIT,55,EQUAL
50 03463 001715             ZERO
51 03464 001715             ZERO
52 03465 002320             ROT
53 03466 001505             DUP
54 03467 002222             ONEP
55 03470 001560             CAT
56 03471 000451             LIT
57 03472 000055             55
58 03473 002275             EQUAL
59                          .WORD   DUP,TOR,PLUS,LIT,-1
60 03474 001505             DUP
```

```
01 03475 001343          TOR
02 03476 001403          PLUS
03 03477 000451          LIT
04 03500 177777          -1
05                XXF6:  .WORD   DPL,STORE,PNUMB,DUP,CAT
06 03501 002156          DPL
07 03502 001551          STORE
08 03503 003415          PNUMB
09 03504 001505          DUP
10 03505 001560          CAT
11                       .WORD   ZBRAN,XXF7,DUP,CAT,LIT,56,SUBB
12 03506 000505          ZBRAN
13 03507 003522          XXF7
14 03510 001505          DUP
15 03511 001560          CAT
16 03512 000451          LIT
17 03513 000056          56
18 03514 002267          SUBB
19                       .WORD   ZERO,QERR,ZERO,BRAN,XXF6
20 03515 001715          ZERO
21 03516 002453          QERR
22 03517 001715          ZERO
23 03520 000474          BRAN
24 03521 003501          XXF6
25                XXF7:  .WORD   DROP,FROMR,ZBRAN,XXFA,DMINU
26 03522 001467          DROP
27 03523 001333          FROMR
28 03524 000505          ZBRAN
29 03525 003527          XXFA
30 03526 001443          DMINU
31                XXFA:  .WORD   SEMIS
32 03527 001312          SEMIS
33
34                ;
35                       HEAD    205,<55>FIND,DFIND,DOCOL          ; -FIND
36 03530 102455          .TXT    /<205><55>FIND/
37       043111
38       047104
39 03533 003455          LINK
40 03534 001631          DOCOL
41                DFIND: .WORD   BL,WORD,HERE,CONT,AT,AT,PFIND
42 03535 001736          BL
43 03536 003341          WORD
44 03537 002241          HERE
45 03540 002126          CONT
46 03541 001543          AT
47 03542 001543          AT
48 03543 000670          PFIND
49                       .WORD   DUP,ZEQU,ZBRAN,XXE3,DROP,HERE,LATES,PFIND
50 03544 001505          DUP
51 03545 001362          ZEQU
52 03546 000505          ZBRAN
53 03547 003554          XXE3
54 03550 001467          DROP
55 03551 002241          HERE
56 03552 002355          LATES
57 03553 000670          PFIND
58                XXE3:  .WORD   SEMIS
59 03554 001312          SEMIS
60                ;
```

```
01                          HEAD     207,<50>ABORT<51>,PABOR,DOCOL    ; (ABORT)
02 03555 103450             .TXT     /<207><50>ABORT<51>/
03       040502
04       047522
05       052051
06 03561 003530             LINK
07 03562 001631             DOCOL
08                  PABOR:  .WORD    ABORT,SEMIS
09 03563 004244             ABORT
10 03564 001312             SEMIS
11                  ;
12                          HEAD     205,ERROR,ERROR,DOCOL            ; ERROR
13 03565 102505             .TXT     /<205>ERROR/
14       051122
15       047522
16 03570 003555             LINK
17 03571 001631             DOCOL
18                  ERROR:  .WORD    WARN,AT,ZLESS,ZBRAN,XXN4,PABORT
19 03572 002025             WARN
20 03573 001543             AT
21 03574 001373             ZLESS
22 03575 000505             ZBRAN
23 03576 003600             XXN4
24 03577 003563             PABORT
25                  XXN4:   .WORD    HERE,COUNT,TYPE,PDOTQ
26 03600 002241             HERE
27 03601 002754             COUNT
28 03602 002767             TYPE
29 03603 003050             PDOTQ
30 03604 001440             .TXT     /<3> ? /
31       037440
32                          .WORD    MESS,SPSTO,IN,AT,BLK,AT,QUIT,SEMIS
33 03606 005076             MESS
34 03607 001275             SPSTO
35 03610 002076             IN
36 03611 001543             AT
37 03612 002071             BLK
38 03613 001543             AT
39 03614 004215             QUIT
40 03615 001312             SEMIS
41                  ;
42                          HEAD     203,ID<56>,IDDOT,DOCOL           ; ID.
43 03616 101511             .TXT     /<203>ID<56>/
44       042056
45 03620 003565             LINK
46 03621 001631             DOCOL
47                  IDDOT:  .WORD    PAD,LIT,20040,LIT,100,FILL
48 03622 003327             PAD
49 03623 000451             LIT
50 03624 020040             20040
51 03625 000451             LIT
52 03626 000100             100
53 03627 003251             FILL
54                          .WORD    DUP,PFA,LFA,OVER,SUBB,PAD,SWAP,MOVE
55 03630 001505             DUP
56 03631 002421             PFA
57 03632 002365             LFA
58 03633 001460             OVER
59 03634 002267             SUBB
60 03635 003327             PAD
```

```
01 03636 001475          SWAP
02 03637 001142          MOVE
03                       .WORD    PAD,COUNT,LIT,37,ANDD,TYPE,SPACE,SEMIS
04 03640 003327          PAD
05 03641 002754          COUNT
06 03642 000451          LIT
07 03643 000037          37
08 03644 001232          ANDD
09 03645 002767          TYPE
10 03646 002332          SPACE
11 03647 001312          SEMIS
12                 ;
13                       HEAD     206,CREATE,CREAT,DOCOL            ; CREATE
14 03650 103103          .TXT     /<206>CREATE/
15       051105
16       040524
17       042400
18 03654 003616          LINK
19 03655 001631          DOCOL
20                 CREAT:.WORD    DFIND,ZBRAN,XXD2,DROP,NFA,IDDOT
21 03656 003535          DFIND
22 03657 000505          ZBRAN
23 03660 003670          XXD2
24 03661 001467          DROP
25 03662 002403          NFA
26 03663 003622          IDDOT
27                       .WORD    LIT,4,MESS,SPACE
28 03664 000451          LIT
29 03665 000004          4
30 03666 005076          MESS
31 03667 002332          SPACE
32                 XXD2: .WORD    HERE,DUP,BYTE,CAT,WIDTH,AT,MIN,CELL
33 03670 002241          HERE
34 03671 001505          DUP
35 03672 001602          BYTE
36 03673 001560          CAT
37 03674 002016          WIDTH
38 03675 001543          AT
39 03676 004426          MIN
40 03677 001612          CELL
41                       .WORD    ONEP,ALLOT,DUP,LIT,120000,TOGGL,LATES,COMMA
42 03700 002222          ONEP
43 03701 002251          ALLOT
44 03702 001505          DUP
45 03703 000451          LIT
46 03704 120000          120000
47 03705 001527          TOGGL
48 03706 002355          LATES
49 03707 002257          COMMA
50                       .WORD    CURR,AT,STORE,HERE,ONEP,COMMA,SEMIS
51 03710 002135          CURR
52 03711 001543          AT
53 03712 001551          STORE
54 03713 002241          HERE
55 03714 002222          ONEP
56 03715 002257          COMMA
57 03716 001312          SEMIS
58                 ;
59                       HEAD     311,<133>COMPILE<135>,BCOMP,DOCOL; [COMPILE]
60 03717 144533          .TXT     /<311><133>COMPILE<135>/
```

```
01          041517
02          046520
03          044514
04          042535
05 03724 003650          LINK
06 03725 001631          DOCOL
07                BCOMP: .WORD   DFIND,ZEQU,ZERO,QERR,DROP,CFA,COMMA,SEMIS
08 03726 003535          DFIND
09 03727 001362          ZEQU
10 03730 001715          ZERO
11 03731 002453          QERR
12 03732 001467          DROP
13 03733 002374          CFA
14 03734 002257          COMMA
15 03735 001312          SEMIS
16                ;
17                       HEAD    307,LITERAL,LITER,DOCOL          ; LITERAL
18 03736 143514          .TXT    /<307>LITERAL/
19          044524
20          042522
21          040514
22 03742 003717          LINK
23 03743 001631          DOCOL
24                LITER: .WORD   STATE,AT,ZBRAN,XXD6,COMP,LIT,COMMA
25 03744 002143          STATE
26 03745 001543          AT
27 03746 000505          ZBRAN
28 03747 003753          XXD6
29 03750 002566          COMP
30 03751 000451          LIT
31 03752 002257          COMMA
32                XXD6:  .WORD   SEMIS
33 03753 001312          SEMIS
34                ;
35                       HEAD    310,DLITERAL,DLITE,DOCOL         ; DLITERAL
36 03754 144104          .TXT    /<310>DLITERAL/
37          046111
38          052105
39          051101
40          046000
41 03761 003736          LINK
42 03762 001631          DOCOL
43                DLITE: .WORD   STATE,AT,ZBRAN,XXN5,SWAP,LITER,LITER
44 03763 002143          STATE
45 03764 001543          AT
46 03765 000505          ZBRAN
47 03766 003772          XXN5
48 03767 001475          SWAP
49 03770 003744          LITER
50 03771 003744          LITER
51                XXN5:  .WORD   SEMIS
52 03772 001312          SEMIS
53                ;
54                       HEAD    202,U<74>,ULESS,DOCOL            ; U<
55 03773 101125          .TXT    /<202>U<74>/
56          036000
57 03775 003754          LINK
58 03776 001631          DOCOL
59                ULESS: .WORD   TOR,ZERO,FROMR,ZERO,DMINU,DPLUS
60 03777 001343          TOR
```

```
 0043 FORTH
01 04000 001715          ZERO
02 04001 001333          FROMR
03 04002 001715          ZERO
04 04003 001443          DMINU
05 04004 001413          DPLUS
06                       .WORD    SWAP,DROP,ZLESS,SEMIS
07 04005 001475          SWAP
08 04006 001467          DROP
09 04007 001373          ZLESS
10 04010 001312          SEMIS
11                 ;
12                       HEAD     206,<77>STACK,QSTACK,DOCOL        ; ?STACK
13 04011 103077          .TXT     /<206><77>STACK/
14       051524
15       040503
16       045400
17 04015 003773          LINK
18 04016 001631          DOCOL
19                 QSTACK: .WORD  SZERO,AT,SPAT,ONEP,ULESS,ONE,QERR
20 04017 001776          SZERO
21 04020 001543          AT
22 04021 001267          SPAT
23 04022 002222          ONEP
24 04023 003777          ULESS
25 04024 001721          ONE
26 04025 002453          QERR
27                       .WORD    SPAT,HERE,LIT,100,PLUS,ULESS,TWO,QERR
28 04026 001267          SPAT
29 04027 002241          HERE
30 04030 000451          LIT
31 04031 000100          100
32 04032 001403          PLUS
33 04033 003777          ULESS
34 04034 001725          TWO
35 04035 002453          QERR
36                       .WORD    SEMIG
37 04036 001312          SEMIS
38                 ;
39                       HEAD     211,INTERPRET,INTER,DOCOL         ; INTERPRET
40 04037 104511          .TXT     /<211>INTERPRET/
41       047124
42       042522
43       050122
44       042524
45 04044 004011          LINK
46 04045 001631          DOCOL
47                 INTER:XXE4:    .WORD   DFIND
48 04046 003535          DFIND
49                       .WORD    ZBRAN,XXEA,STATE,AT,ULESS
50 04047 000505          ZBRAN
51 04050 004065          XXEA
52 04051 002143          STATE
53 04052 001543          AT
54 04053 003777          ULESS
55                       .WORD    ZBRAN,XXE5,COMMA,BRAN,XXE6
56 04054 000505          ZBRAN
57 04055 004061          XXE5
58 04056 002257          COMMA
59 04057 000474          BRAN
60 04060 004062          XXE6
```

```
01                  XXE5:   .WORD   EXEC
02 04061 000463             EXEC
03                  XXE6:   .WORD   QSTACK,BRAN,XXE7
04 04062 004017             QSTACK
05 04063 000474             BRAN
06 04064 004103             XXE7
07                  XXEA:   .WORD   HERE,BYTE,NUMB,DPL,AT,ONEP,ZBRAN,XXF4
08 04065 002241             HERE
09 04066 001602             BYTE
10 04067 003463             NUMB
11 04070 002156             DPL
12 04071 001543             AT
13 04072 002222             ONEP
14 04073 000505             ZBRAN
15 04074 004100             XXF4
16                          .WORD   DLITE,BRAN,XXF5
17 04075 003763             DLITE
18 04076 000474             BRAN
19 04077 004102             XXF5
20                  XXF4:   .WORD   DROP,LITER
21 04100 001467             DROP
22 04101 003744             LITER
23                  XXF5:   .WORD   QSTAC
24 04102 004017             QSTAC
25                  XXE7:   .WORD   BRAN,XXE4
26 04103 000474             BRAN
27 04104 004046             XXE4
28                  ;
29                          HEAD    211,IMMEDIATE,IMMED,DOCOL       ; IMMEDIATE
30 04105 104511             .TXT    /<211>IMMEDIATE/
31       046515
32       042504
33       044501
34       052105
35 04112 004037             LINK
36 04113 001631             DOCOL
37                  IMMED:  .WORD   LATES,LIT,40000,TOGGL,SEMIS
38 04114 002355             LATES
39 04115 000451             LIT
40 04116 040000             40000
41 04117 001527             TOGGL
42 04120 001312             SEMIS
43                  ;
44                          HEAD    212,VOCABULARY,VOCAB,DOCOL
45 04121 105126             .TXT    /<212>VOCABULARY/
46       047503
47       040502
48       052514
49       040522
50       054400
51 04127 004105             LINK
52 04130 001631             DOCOL
53                  VOCAB:  .WORD   BUILD,LIT,120201,COMMA,CURR,AT,COMMA
54 04131 002723             BUILD
55 04132 000451             LIT
56 04133 120201             120201
57 04134 002257             COMMA
58 04135 002135             CURR
59 04136 001543             AT
60 04137 002257             COMMA
```

```
01                          .WORD   HERE,VOCL,AT,COMMA,VOCL,STORE,DOES
02 04140 002241             HERE
03 04141 002050             VOCL
04 04142 001543             AT
05 04143 002257             COMMA
06 04144 002050             VOCL
07 04145 001551             STORE
08 04146 002733             DOES
09                  DOVOC:  .WORD   ONEP,CONT,STORE,SEMIS
10 04147 002222             ONEP
11 04150 002126             CONT
12 04151 001551             STORE
13 04152 001312             SEMIS
14                  ;
15                          HEAD    305,FORTH,FORTH,DODOE           ; FORTH
16 04153 142506             .TXT    /<305>FORTH/
17       047522
18       052110
19 04156 004121             LINK
20 04157 002740             DODOE
21                  FORTH:  .WORD   DOVOC,120201,TASK-5
22 04160 004147             DOVOC
23 04161 120201             120201
24 04162 006332             TASK-5
25                  XXVOC:  .WORD   0
26 04163 000000             0
27                  ;
28                          HEAD    213,DEFINITIONS,DEFIN,DOCOL     ; DEFINITIONS
29 04164 105504             .TXT    /<213>DEFINITIONS/
30       042506
31       044516
32       044524
33       044517
34       047123
35 04172 004153             LINK
36 04173 001631             DOCOL
37                  DEFIN:  .WORD   CONT,AT,CURR,STORE,SEMIS
38 04174 002126             CONT
39 04175 001543             AT
40 04176 002135             CURR
41 04177 001551             STORE
42 04200 001312             SEMIS
43                  ;
44                          HEAD    301,<50>,PAREN,DOCOL            ; (
45 04201 140450             .TXT    /<301><50>/
46 04202 004164             LINK
47 04203 001631             DOCOL
48                  PAREN:  .WORD   LIT,51,WORD,SEMIS
49 04204 000451             LIT
50 04205 000051             51
51 04206 003341             WORD
52 04207 001312             SEMIS
53                  ;
54                          HEAD    204,QUIT,QUIT,DOCOL             ; QUIT
55 04210 102121             .TXT    /<204>QUIT/
56       052511
57       052000
58 04213 004201             LINK
59 04214 001631             DOCOL
60                  QUIT:   .WORD   ZERO,BLK,STORE,LBRAC
```

```
01 04215 001715          ZERO
02 04216 002071          BLK
03 04217 001551          STORE
04 04220 002601          LBRAC
05               XXB1:   .WORD   RPSTO,CR,QUERY,INTER,STATE,AT
06 04221 001303          RPSTO
07 04222 001101          CR
08 04223 003220          QUERY
09 04224 004046          INTER
10 04225 002143          STATE
11 04226 001543          AT
12                       .WORD   ZEQU,ZBRAN,XXB2,PDOTQ
13 04227 001362          ZEQU
14 04230 000505          ZBRAN
15 04231 004235          XXB2
16 04232 003050          PDOTQ
17 04233 001440          .TXT    /<3> OK/
18       047513
19               XXB2:   .WORD   BRAN,XXB1
20 04235 000474          BRAN
21 04236 004221          XXB1
22               ;
23                       HEAD    205,ABORT,ABORT,DOCOL           ; ABORT
24 04237 102501          .TXT    /<205>ABORT/
25       041117
26       051124
27 04242 004210          LINK
28 04243 001631          DOCOL
29               ABORT:  .WORD   SPSTO,DECIM,SPACE,CR,PDOTQ
30 04244 001275          SPSTO
31 04245 002647          DECIM
32 04246 002332          SPACE
33 04247 001101          CR
34 04250 003050          PDOTQ
35 04251 010506          .TXT    /<21>FIG-FORTH  V 1.0 /
36       044507
37       026506
38       047522
39       052110
40       020040
41       053040
42       030456
43       030040
44                       .WORD   FORTH,DEFIN,QUIT
45 04262 004160          FORTH
46 04263 004174          DEFIN
47 04264 004215          QUIT
48               ;
49                       HEAD    204,COLD,COLD                   ; COLD
50 04265 102103          .TXT    /<204>COLD/
51       047514
52       042000
53 04270 004237          LINK
54 04271 004272          .+1
55 04272 020056 COLD:    LDA     0,ORIGIN+6      ;TASK-5
56 04273 040670          STA     0,FORTH+3
57 04274 034102          LDA     3,UPO
58 04275 054106          STA     3,UP
59 04276 020072          LDA     0,ORIGIN+22     ;USE
60 04277 041435          STA     0,35,3
```

```
 0047 FORTH
01 04300 020070          LDA     0,ORIGIN+20      ;DSKBUF
02 04301 041436          STA     0,36,3           ;PREV
03 04302 024071          LDA     1,ORIGIN+21      ;ENDBUF
04 04303 040022          STA     0,22             ;AUTOINCREMENT
05 04304 014022          DSZ     22
06 04305 122400          SUB     1,0
07 04306 152400          SUB     2,2
08 04307 052022 KBUF:    STA     2,@22            ;EMPTY-BUFFERS
09 04310 101404          INC     0,0,SZR
10 04311 000776          JMP     KBUF
11 04312 051421          STA     2,21,3           ;CLEAR OUT
12 04313 051423          STA     2,23,3           ;CLEAR OFFSET
13 04314 030077          LDA     2,AU0            ;XU0
14 04315 050022          STA     2,22
15 04316 014022          DSZ     22
16 04317 030103          LDA     2,AUP3
17 04320 050023          STA     2,23
18 04321 014023          DSZ     23
19 04322 024122 CENT:    LDA     1,C12            ;MOVE 12 WORDS AT COLD START
20 04323 000402          JMP     .+2
21 04324 024116 WENT:    LDA     1,EIGHT          ;MOVE 8 WORDS AT WARM START
22 04325 044111          STA     1,N
23 04326 022022 INIT:    LDA     0,@22
24 04327 042023          STA     0,@23
25 04330 014111          DSZ     N
26 04331 000775          JMP     INIT
27 04332 020061          LDA     0,ORIGIN+11      ;XR0
28 04333 040105          STA     0,RP
29 04334 020076          LDA     0,AGO            ;GO
30 04335 040104          STA     0,IP
31 04336 000173          JMP     NEXT
32                 ;
33                 GO:   .WORD   SPSTO,DECIM,FORTH,DEFIN,ABORT,0,0,0
34 04337 001275          SPSTO
35 04340 002647          DECIM
36 04341 004160          FORTH
37 04342 004174          DEFIN
38 04343 004244          ABORT
39 04344 000000          0
40 04345 000000          0
41 04346 000000          0
42                 ;
43                       HEAD    204,S<55><76>D,STOD              ; S->D
44 04347 102123          .TXT    /<204>S<55><76>D/
45       026476
46       042000
47 04352 004265          LINK
48 04353 004354          .+1
49 04354 025000 STOD:    LDA     1,0,2
50 04355 102440          SUBO    0,0
51 04356 125112          MOVL    1,1,#SZC
52 04357 102000          ADC     0,0
53 04360 000170          JMP     PUSH
54                 ;
55                 ;
56                       HEAD    202,<53><55>,PLMIN,DOCOL         ; +-
57 04361 101053          .TXT    /<202><53><55>/
58       026400
59 04363 004347          LINK
60 04364 001631          DOCOL
```

```
01                  PLMIN:  .WORD   ZLESS,ZBRAN,.+2,MINUS,SEMIS
02 04365 001373             ZLESS
03 04366 000505             ZBRAN
04 04367 004371             .+2
05 04370 001432             MINUS
06 04371 001312             SEMIS
07                  ;
08                          HEAD    203,D<53><55>,DPLMI,DOCOL          ; D+-
09 04372 101504             .TXT    /<203>D<53><55>/
10       025455
11 04374 004361             LINK
12 04375 001631             DOCOL
13                  DPLMI:  .WORD   ZLESS,ZBRAN,.+2,DMINU,SEMIS
14 04376 001373             ZLESS
15 04377 000505             ZBRAN
16 04400 004402             .+2
17 04401 001443             DMINU
18 04402 001312             SEMIS
19                  ;
20                          HEAD    203,ABS,ABS,DOCOL                  ; ABS
21 04403 101501             .TXT    /<203>ABS/
22       041123
23 04405 004372             LINK
24 04406 001631             DOCOL
25                  ABS:    .WORD   DUP,PLMIN,SEMIS
26 04407 001505             DUP
27 04410 004365             PLMIN
28 04411 001312             SEMIS
29                  ;
30                          HEAD    204,DABS,DABS,DOCOL                ; DABS
31 04412 102104             .TXT    /<204>DABS/
32       040502
33       051400
34 04415 004403             LINK
35 04416 001631             DOCOL
36                  DABS:   .WORD   DUP,DPLMI,SEMIS
37 04417 001505             DUP
38 04420 004376             DPLMI
39 04421 001312             SEMIS
40                  ;
41                          HEAD    203,MIN,MIN,DOCOL                  ; MIN
42 04422 101515             .TXT    /<203>MIN/
43       044516
44 04424 004412             LINK
45 04425 001631             DOCOL
46                  MIN:    .WORD   OVER,OVER,GREAT,ZBRAN,XXR7,SWAP
47 04426 001460             OVER
48 04427 001460             OVER
49 04430 002311             GREAT
50 04431 000505             ZBRAN
51 04432 004434             XXR7
52 04433 001475             SWAP
53                  XXR7:   .WORD   DROP,SEMIS
54 04434 001467             DROP
55 04435 001312             SEMIS
56                  ;
57                          HEAD    203,MAX,MAX,DOCOL                  ; MAX
58 04436 101515             .TXT    /<203>MAX/
59       040530
60 04440 004422             LINK
```

```
01 04441 001631          DOCOL
02               MAX:    .WORD   OVER,OVER,LESS,ZBRAN,XXR6,SWAP
03 04442 001460          OVER
04 04443 001460          OVER
05 04444 002303          LESS
06 04445 000505          ZBRAN
07 04446 004450          XXR6
08 04447 001475          SWAP
09               XXR6:   .WORD   DROP,SEMIS
10 04450 001467          DROP
11 04451 001312          SEMIS
12               ;
13                       HEAD    202,M<52>,MSTAR,DOCOL           ; M*
14 04452 101115          .TXT    /<202>M<52>/
15       025000
16 04454 004436          LINK
17 04455 001631          DOCOL
18               MSTAR:  .WORD   OVER,OVER,XORR,TOR,ABS,SWAP,ABS
19 04456 001460          OVER
20 04457 001460          OVER
21 04460 001254          XORR
22 04461 001343          TOR
23 04462 004407          ABS
24 04463 001475          SWAP
25 04464 004407          ABS
26                       .WORD   USTAR,FROMR,DPLMI,SEMIS
27 04465 001163          USTAR
28 04466 001333          FROMR
29 04467 004376          DPLMI
30 04470 001312          SEMIS
31               ;
32                       HEAD    202,M<57>,MSLAS,DOCOL           ; M/
33 04471 101115          .TXT    /<202>M<57>/
34       027400
35 04473 004452          LINK
36 04474 001631          DOCOL
37               MSLAS:  .WORD   OVER,TOR,TOR,DABS,R,ABS
38 04475 001460          OVER
39 04476 001343          TOR
40 04477 001343          TOR
41 04500 004417          DABS
42 04501 001353          R
43 04502 004407          ABS
44                       .WORD   USLAS,FROMR,R,XORR,PLMIN,SWAP
45 04503 001206          USLAS
46 04504 001333          FROMR
47 04505 001353          R
48 04506 001254          XORR
49 04507 004365          PLMIN
50 04510 001475          SWAP
51                       .WORD   FROMR,PLMIN,SWAP,SEMIS
52 04511 001333          FROMR
53 04512 004365          PLMIN
54 04513 001475          SWAP
55 04514 001312          SEMIS
56               ;
57                       HEAD    201,<52>,STAR,DOCOL             ; *
58 04515 100452          .TXT    /<201><52>/
59 04516 004471          LINK
60 04517 001631          DOCOL
```

```
                STAR:   .WORD   MSTAR,DROP,SEMIS
04520 004456            MSTAR
04521 001467            DROP
04522 001312            SEMIS
                ;
                        HEAD    204,<57>MOD,SLMOD,DOCOL         ; /MOD
04523 102057            .TXT    /<204><57>MOD/
      046517
      042000
04526 004515            LINK
04527 001631            DOCOL
                SLMOD:  .WORD   TOR,STOD,FROMR,MSLAS,SEMIS
04530 001343            TOR
04531 004354            STOD
04532 001333            FROMR
04533 004475            MSLAS
04534 001312            SEMIS
                ;
                        HEAD    201,<57>,SLASH,DOCOL            ; /
04535 100457            .TXT    /<201><57>/
04536 004523            LINK
04537 001631            DOCOL
                SLASH:  .WORD   SLMOD,SWAP,DROP,SEMIS
04540 004530            SLMOD
04541 001475            SWAP
04542 001467            DROP
04543 001312            SEMIS
                ;
                        HEAD    203,MOD,MOD,DOCOL               ; MOD
04544 101515            .TXT    /<203>MOD/
      047504
04546 004535            LINK
04547 001631            DOCOL
                MOD:    .WORD   SLMOD,DROP,SEMIS
04550 004530            SLMOD
04551 001467            DROP
04552 001312            SEMIS
                ;
                        HEAD    205,<52><57>MOD,SSMOD,DOCOL     ; */MOD
04553 102452            .TXT    /<205><52><57>MOD/
      027515
      047504
04556 004544            LINK
04557 001631            DOCOL
                SSMOD:  .WORD   TOR,MSTAR,FROMR,MSLAS,SEMIS
04560 001343            TOR
04561 004456            MSTAR
04562 001333            FROMR
04563 004475            MSLAS
04564 001312            SEMIS
                ;
                        HEAD    202,<52><57>,SSLA,DOCOL         ; */
04565 101052            .TXT    /<202><52><57>/
      027400
04567 004553            LINK
04570 001631            DOCOL
                SSLA:   .WORD   SSMOD,SWAP,DROP,SEMIS
04571 004560            SSMOD
04572 001475            SWAP
04573 001467            DROP
```

```
01 04574 001312          SEMIS
02                 ;
03                       HEAD     205,M<57>MOD,MSMOD,DOCOL          ; M/MOD
04 04575 102515          .TXT     /<205>M<57>MOD/
05       027515
06       047504
07 04600 004565          LINK
08 04601 001631          DOCOL
09                 MSMOD: .WORD    TOR,ZERO,R,USLAS,FROMR
10 04602 001343          TOR
11 04603 001715          ZERO
12 04604 001353          R
13 04605 001206          USLAS
14 04606 001333          FROMR
15                       .WORD    SWAP,TOR,USLAS,FROMR,SEMIS
16 04607 001475          SWAP
17 04610 001343          TOR
18 04611 001206          USLAS
19 04612 001333          FROMR
20 04613 001312          SEMIS
21                 ;
22                 ;
23                 ;
24                 ;*****************************************************
25                 ;
26                 ;         DISK I/O, COMMON SECTION
27                 ;
28                 ;*****************************************************
29                 ;
30                 ;
31                       HEAD     206,UPDATE,UPDAT,DOCOL            ; UPDATE
32 04614 103125          .TXT     /<206>UPDATE/
33       050104
34       040524
35       042400
36 04620 004575          LINK
37 04621 001631          DOCOL
38                 UPDAT: .WORD    PREV,AT,AT,LIT,100000,ORR,PREV
39 04622 002215          PREV
40 04623 001543          AT
41 04624 001543          AT
42 04625 000451          LIT
43 04626 100000          100000
44 04627 001242          ORR
45 04630 002215          PREV
46                       .WORD    AT,STORE,SEMIS
47 04631 001543          AT
48 04632 001551          STORE
49 04633 001312          SEMIS
50                 ;                                          ; EMPTY-BUFFERS
51                       HEAD     215,EMPTY<55>BUFFERS,MTBUF,DOCOL;
52 04634 106505          .TXT     /<215>EMPTY<55>BUFFERS/
53       046520
54       052131
55       026502
56       052506
57       043105
58       051123
59 04643 004614          LINK
60 04644 001631          DOCOL
```

```
01                  MTBUF:  .WORD   ZERO,PREV,AT,STORE,ZERO,USE,AT,STORE
02 04645 001715             ZERO
03 04646 002215             PREV
04 04647 001543             AT
05 04650 001551             STORE
06 04651 001715             ZERO
07 04652 002207             USE
08 04653 001543             AT
09 04654 001551             STORE
10                          .WORD   SEMIS
11 04655 001312             SEMIS
12                  ;
13                          HEAD    207,<50>FLUSH,PFLUS,DOCOL          ; (FLUSH)
14 04656 103450             .TXT    /<207><50>FLUSH/
15       043114
16       052523
17       044000
18 04662 004634             LINK
19 04663 001631             DOCOL
20                  PFLUS:  .WORD   PREV,AT,AT,ZLESS,ZBRAN,XXT7
21 04664 002215             PREV
22 04665 001543             AT
23 04666 001543             AT
24 04667 001373             ZLESS
25 04670 000505             ZBRAN
26 04671 004710             XXT7
27                          .WORD   PREV,AT,DUP,ONEP,SWAP,AT
28 04672 002215             PREV
29 04673 001543             AT
30 04674 001505             DUP
31 04675 002222             ONEP
32 04676 001475             SWAP
33 04677 001543             AT
34                          .WORD   BYTE,CELL,DUP,PREV,AT,STORE
35 04700 001602             BYTE
36 04701 001612             CELL
37 04702 001505             DUP
38 04703 002215             PREV
39 04704 001543             AT
40 04705 001551             STORE
41                          .WORD   ZERO,RW
42 04706 001715             ZERO
43 04707 005367             RW
44                  XXT7:   .WORD   SEMIS
45 04710 001312             SEMIS
46                  ;
47                          HEAD    205,FLUSH,FLUSH,DOCOL              ; FLUSH
48 04711 102506             .TXT    /<205>FLUSH/
49       046125
50       051510
51 04714 004656             LINK
52 04715 001631             DOCOL
53                  FLUSH:  .WORD   PFLUS,PREV,AT,USE,AT
54 04716 004664             PFLUS
55 04717 002215             PREV
56 04720 001543             AT
57 04721 002207             USE
58 04722 001543             AT
59                          .WORD   PREV,STORE,USE,STORE
60 04723 002215             PREV
```

```
01 04724 001551          STORE
02 04725 002207          USE
03 04726 001551          STORE
04                       .WORD    PFLUS,SEMIS
05 04727 004664          PFLUS
06 04730 001312          SEMIS
07               ;
08               ;
09                       HEAD     203,DR0,DRZER,DOCOL                ; DR0
10 04731 101504          .TXT     /<203>DR0/
11       051060
12 04733 004711          LINK
13 04734 001631          DOCOL
14               DRZER:  .WORD    ZERO,OFSET,STORE,SEMIS
15 04735 001715          ZERO
16 04736 002117          OFSET
17 04737 001551          STORE
18 04740 001312          SEMIS
19               ;
20                       HEAD     203,DR1,DRONE,DOCOL                ; DR1
21 04741 101504          .TXT     /<203>DR1/
22       051061
23 04743 004731          LINK
24 04744 001631          DOCOL
25               DRONE:  .WORD    LIT,256.,OFSET,STORE,SEMIS
26 04745 000451          LIT
27 04746 000400          256.
28 04747 002117          OFSET
29 04750 001551          STORE
30 04751 001312          SEMIS
31               ;
32                       HEAD     205,BLOCK,BLOCK,DOCOL              ; BLOCK
33 04752 102502          .TXT     /<205>BLOCK/
34       046117
35       041513
36 04755 004741          LINK
37 04756 001631          DOCOL
38               BLOCK:  .WORD    OFSET,AT,PLUS,TOR,PREV,AT,AT,BYTE,R,BYTE
39 04757 002117          OFSET
40 04760 001543          AT
41 04761 001403          PLUS
42 04762 001343          TOR
43 04763 002215          PREV
44 04764 001543          AT
45 04765 001543          AT
46 04766 001602          BYTE
47 04767 001353          R
48 04770 001602          BYTE
49                       .WORD    SUBB,ZBRAN,XXT6
50 04771 002267          SUBB
51 04772 000505          ZBRAN
52 04773 005030          XXT6
53                       .WORD    PREV,AT,USE,AT,PREV,STORE,USE,STORE
54 04774 002215          PREV
55 04775 001543          AT
56 04776 002207          USE
57 04777 001543          AT
58 05000 002215          PREV
59 05001 001551          STORE
60 05002 002207          USE
```

```
01 05003 001551          STORE
02                       .WORD    PREV,AT,AT,BYTE,R,BYTE
03 05004 002215          PREV
04 05005 001543          AT
05 05006 001543          AT
06 05007 001602          BYTE
07 05010 001353          R
08 05011 001602          BYTE
09                       .WORD    SUBB,ZBRAN,XXT6
10 05012 002267          SUBB
11 05013 000505          ZBRAN
12 05014 005030          XXT6
13                       .WORD    PFLUS,R,PREV,AT,STORE
14 05015 004664          PFLUS
15 05016 001353          R
16 05017 002215          PREV
17 05020 001543          AT
18 05021 001551          STORE
19                XXT4:  .WORD    PREV,AT,ONEP,R,ONE,RW
20 05022 002215          PREV
21 05023 001543          AT
22 05024 002222          ONEP
23 05025 001353          R
24 05026 001721          ONE
25 05027 005367          RW
26                XXT6:  .WORD    FROMR,DROP,PREV,AT,ONEP,SEMIS
27 05030 001333          FROMR
28 05031 001467          DROP
29 05032 002215          PREV
30 05033 001543          AT
31 05034 002222          ONEP
32 05035 001312          SEMIS
33                ;
34                ;
35                       HEAD     206,<50>LINE<51>,PLINE,DOCOL     ; (LINE)
36 05036 103050          .TXT     /<206><50>LINE<51>/
37       046111
38       047105
39       024400
40 05042 004752          LINK
41 05043 001631          DOCOL
42                PLINE: .WORD    TOR,CL,BBUF,SSMOD,FROMR
43 05044 001343          TOR
44 05045 001743          CL
45 05046 001751          BBUF
46 05047 004560          SSMOD
47 05050 001333          FROMR
48                       .WORD    PLUS,BLOCK,BYTE,PLUS,CL,SEMIS
49 05051 001403          PLUS
50 05052 004757          BLOCK
51 05053 001602          BYTE
52 05054 001403          PLUS
53 05055 001743          CL
54 05056 001312          SEMIS
55                ;
56                       HEAD     205,<56>LINE,DLINE,DOCOL         ; .LINE
57 05057 102456          .TXT     /<205><56>LINE/
58       046111
59       047105
60 05062 005036          LINK
```

```
01 05063 001631          DOCOL
02               DLINE:  .WORD   PLINE,DTRAI,TYPE,SEMIS
03 05064 005044          PLINE
04 05065 003016          DTRAI
05 05066 002767          TYPE
06 05067 001312          SEMIS
07               ;
08                       HEAD    207,MESSAGE,MESS,DOCOL          ; MESSAGE
09 05070 103515          .TXT    /<207>MESSAGE/
10       042523
11       051501
12       043505
13 05074 005057          LINK
14 05075 001631          DOCOL
15               MESS:   .WORD   WARN,AT,ZBRAN,XXW5,DDUP,ZBRAN,XXW3,LIT,4
16 05076 002025          WARN
17 05077 001543          AT
18 05100 000505          ZBRAN
19 05101 005115          XXW5
20 05102 002342          DDUP
21 05103 000505          ZBRAN
22 05104 005113          XXW3
23 05105 000451          LIT
24 05106 000004          4
25                       .WORD   OFSET,AT,PLUS,DLINE
26 05107 002117          OFSET
27 05110 001543          AT
28 05111 001403          PLUS
29 05112 005064          DLINE
30               XXW3:   .WORD   BRAN,XXW4
31 05113 000474          BRAN
32 05114 005123          XXW4
33               XXW5:   .WORD   PDOTQ
34 05115 003050          PDOTQ
35 05116 003115          .TXT    /<6>MSG # /
36       051507
37       020043
38       020000
39                       .WORD   DOT
40 05122 006116          DOT
41               XXW4:   .WORD   SEMIS
42 05123 001312          SEMIS
43               ;
44                       HEAD    204,LOAD,LOAD,DOCOL             ; LOAD
45 05124 102114          .TXT    /<204>LOAD/
46       047501
47       042000
48 05127 005070          LINK
49 05130 001631          DOCOL
50               LOAD:   .WORD   BLK,AT,TOR,IN,AT,TOR,ZERO,IN,STORE
51 05131 002071          BLK
52 05132 001543          AT
53 05133 001343          TOR
54 05134 002076          IN
55 05135 001543          AT
56 05136 001343          TOR
57 05137 001715          ZERO
58 05140 002076          IN
59 05141 001551          STORE
60                       .WORD   BLK,STORE,INTER,FROMR,IN,STORE
```

```
05142 002071          BLK
05143 001551          STORE
05144 004046          INTER
05145 001333          FROMR
05146 002076          IN
05147 001551          STORE
                      .WORD   FROMR,BLK,STORE,SEMIS
05150 001333          FROMR
05151 002071          BLK
05152 001551          STORE
05153 001312          SEMIS
                ;
                      HEAD    303,<55><55><76>,ARROW,DOCOL     ; -->
05154 141455          .TXT    /<303><55><55><76>/
      026476
05156 005124          LINK
05157 001631          DOCOL
                ARROW:.WORD   QLOAD,ZERO,IN,STORE
05160 002551          QLOAD
05161 001715          ZERO
05162 002076          IN
05163 001551          STORE
                      .WORD   ONE,BLK,PSTOR,SEMIS
05164 001721          ONE
05165 002071          BLK
05166 001513          PSTOR
05167 001312          SEMIS
                ;
                ;*****************************************************
                ;
                ;     LOW LEVEL DISK I/O DEFINITIONS
                ;     TECH REF:  DATA GENERAL 6030 DISKETTE SUBSYSTEM
                ;                (014-0065-00), PP. II 6-12 .
                ;
                ;*****************************************************
                ;
                      HEAD    206,SECTOR,SECTO                  ; SECTOR
05170 103123          .TXT    /<206>SECTOR/
      042503
      052117
      051000
05174 005154          LINK
05175 005176          .+1
                SECTO:; ( DRIVE-SECTOR --- )
05176 021000          LDA     0,0,2
05177 063233          DOCC    0,DKP
05200 000204          JMP     POP
                ;
                      HEAD    207,COMMAND,COMND                 ; COMMAND
05201 103503          .TXT    /<207>COMMAND/
      047515
      046501
      047104
05205 005170          LINK
05206 005207          .+1
                COMND:; ( R/W-COMMAND --- )
05207 021000          LDA     0,0,2
05210 061133          DOAS    0,DKP
05211 004157          JSR     DELAY
05212 000204          JMP     POP
```

```
01                  ;
02                          HEAD    204,SEEK,SEEK                       ; SEEK
03 05213 102123             .TXT    /<204>SEEK/
04       042505
05       045400
06 05216 005201             LINK
07 05217 005220             .+1
08                  SEEK:; ( SEEK-COMMAND --- )
09 05220 021000             LDA     0,0,2
10 05221 061333             DOAP    0,DKP
11 05222 004157             JSR     DELAY
12 05223 000204             JMP     POP
13                  ;
14                          HEAD    206,MEMORY,MEMOR                    ; MEMORY
15 05224 103115             .TXT    /<206>MEMORY/
16       042515
17       047522
18       054400
19 05230 005213             LINK
20 05231 005232             .+1
21                  MEMOR:; ( BUFFER-ADDR --- )
22 05232 021000             LDA     0,0,2
23 05233 062033             DOB     0,DKP
24 05234 000204             JMP     POP
25                  ;
26                          HEAD    206,STATUS,STATU                    ; STATUS
27 05235 103123             .TXT    /<206>STATUS/
28       052101
29       052125
30       051400
31 05241 005224             LINK
32 05242 005243             .+1
33                  STATU:; ( --- STATUS )
34 05243 060433             DIA     0,DKP
35 05244 000170             JMP     PUSH
36                  ;
37                  ;
38 05245 000100 DKRDY:      100
39                          HEAD    205,<77>DONE,QDONE                  ; ?DONE
40 05246 102477             .TXT    /<205><77>DONE/
41       042117
42       047105
43 05251 005235             LINK
44 05252 005253             .+1
45 05253 024772 QDONE:      LDA     1,DKRDY
46 05254 004052             JSR     WAIT
47 05255 060433             DIA     0,DKP
48 05256 123415             AND     1,0,#SNR
49 05257 000775             JMP     .-3
50 05260 000173             JMP     NEXT
51                  ;
52                          HEAD    204,READ,READ,DOCOL                 ; READ
53 05261 102122             .TXT    /<204>READ/
54       042501
55       042000
56 05264 005246             LINK
57 05265 001631             DOCOL
58                  READ:; ( CYLINDER --- )
59                          .WORD   LIT,160015,PLUS,COMND,SEMIS
60 05266 000451             LIT
```

```
01 05267 160015          160015
02 05270 001403          PLUS
03 05271 005207          COMND
04 05272 001312          SEMIS
05                 ;
06                       HEAD     205,WRITE,WRITE,DOCOL              ; WRITE
07 05273 102527          .TXT     /<205>WRITE/
08       051111
09       052105
10 05276 005261          LINK
11 05277 001631          DOCOL
12                 WRITE:; ( CYLINDER --- )
13                       .WORD    LIT,160415,PLUS,COMND,SEMIS
14 05300 000451          LIT
15 05301 160415          160415
16 05302 001403          PLUS
17 05303 005207          COMND
18 05304 001312          SEMIS
19                 ;
20                       HEAD     204,XI<57>O,XIO,DOCOL              ; XI/O
21 05305 102130          .TXT     /<204>XI<57>O/
22       044457
23       047400
24 05310 005273          LINK
25 05311 001631          DOCOL
26                 XIO:; ( ADDR BLK F --- STATUS )
27                       .WORD    ROT,MEMOR,SWAP,LIT,4,SLMOD
28 05312 002320          ROT
29 05313 005232          MEMOR
30 05314 001475          SWAP
31 05315 000451          LIT
32 05316 000004          4
33 05317 004530          SLMOD
34                       .WORD    LIT,100,SLMOD    ; ( SECT/2 CYL DRIVE )
35 05320 000451          LIT
36 05321 000100          100
37 05322 004530          SLMOD
38                       .WORD    ROT,LIT,40,STAR,LIT,16,PLUS  ;SECT-COMMAND
39 05323 002320          ROT
40 05324 000451          LIT
41 05325 000040          40
42 05326 004520          STAR
43 05327 000451          LIT
44 05330 000016          16
45 05331 001403          PLUS
46                       .WORD    SWAP,ZBRAN,XXP1,LIT,40000,PLUS  ;CYL SECT
47 05332 001475          SWAP
48 05333 000505          ZBRAN
49 05334 005340          XXP1
50 05335 000451          LIT
51 05336 040000          40000
52 05337 001403          PLUS
53                 XXP1:     .WORD    SECTO,QDONE,DUP,LIT,1015,PLUS,SEEK,QDONE
54 05340 005176          SECTO
55 05341 005253          QDONE
56 05342 001505          DUP
57 05343 000451          LIT
58 05344 001015          1015
59 05345 001403          PLUS
60 05346 005220          SEEK
```

```
01 05347 005253          QDONE
02                       .WORD    SWAP,ZBRAN,XXP2,READ,QDONE,BRAN,XXP3
03 05350 001475          SWAP
04 05351 000505          ZBRAN
05 05352 005357          XXP2
06 05353 005266          READ
07 05354 005253          QDONE
08 05355 000474          BRAN
09 05356 005361          XXP3
10                XXP2:  .WORD    WRITE,QDONE
11 05357 005300          WRITE
12 05360 005253          QDONE
13                XXP3:  .WORD    STATU,SEMIS
14 05361 005243          STATU
15 05362 001312          SEMIS
16                ;
17                       HEAD     203,R<57>W,RW,DOCOL                ; R/W
18 05363 101522          .TXT     /<203>R<57>W/
19       027527
20 05365 005305          LINK
21 05366 001631          DOCOL
22                RW:; ( ADDR BLK F --- )
23                       .WORD    LIT,10,ZERO,XDO            ; 8 RETRIES
24 05367 000451          LIT
25 05370 000010          10
26 05371 001715          ZERO
27 05372 000603          XDO
28                XXP4:  .WORD    TOR,OVER,OVER,R,ROT,ROT,FROMR    ; 3DUP
29 05373 001343          TOR
30 05374 001460          OVER
31 05375 001460          OVER
32 05376 001353          R
33 05377 002320          ROT
34 05400 002320          ROT
35 05401 001333          FROMR
36                       .WORD    XIO,ONE,ANDD,ZEQU,ZBRAN,XXP5,LEAVE
37 05402 005312          XIO
38 05403 001721          ONE
39 05404 001232          ANDD
40 05405 001362          ZEQU
41 05406 000505          ZBRAN
42 05407 005411          XXP5
43 05410 001323          LEAVE
44                XXP5:  .WORD    XLOOP,XXP4
45 05411 000523          XLOOP
46 05412 005373          XXP4
47                       .WORD    DROP,DROP,DROP,STATU,ONE,ANDD,
48 05413 001467          DROP
49 05414 001467          DROP
50 05415 001467          DROP
51 05416 005243          STATU
52 05417 001721          ONE
53 05420 001232          ANDD
54
55                       .WORD    LIT,10,QERR,SEMIS
56 05421 000451          LIT
57 05422 000010          10
58 05423 002453          QERR
59 05424 001312          SEMIS
60                ;
```

```
                ;*****************************************************
                ;
                ;       MISCELLANEOUS HIGH LEVEL DEFINTIONS
                ;
                ;*****************************************************
                ;
                        HEAD    301,<47>,TICK,DOCOL                     ; '
05425 140447            .TXT    /<301><47>/
05426 005363            LINK
05427 001631            DOCOL
                TICK:   .WORD   DFIND,ZEQU,ZERO,QERR,DROP,LITER,SEMIS
05430 003535            DFIND
05431 001362            ZEQU
05432 001715            ZERO
05433 002453            QERR
05434 001467            DROP
05435 003744            LITER
05436 001312            SEMIS
                ;
                        HEAD    206,FORGET,FORGE,DOCOL                  ; FORGET
05437 103106            .TXT    /<206>FORGET/
      047522
      043505
      052000
05443 005425            LINK
05444 001631            DOCOL
                FORGE:  .WORD   CURR,AT,CONT,AT,SUBB,LIT,30,QERR,TICK,DUP
05445 002135            CURR
05446 001543            AT
05447 002126            CONT
05450 001543            AT
05451 002267            SUBB
05452 000451            LIT
05453 000030            30
05454 002453            QERR
05455 005430            TICK
05456 001505            DUP
                        .WORD   FENCE,AT,LESS,LIT,25,QERR
05457 002033            FENCE
05460 001543            AT
05461 002303            LESS
05462 000451            LIT
05463 000025            25
05464 002453            QERR
                        .WORD   DUP,NFA,DP,STORE,LFA,AT,CONT,AT
05465 001505            DUP
05466 002403            NFA
05467 002040            DP
05470 001551            STORE
05471 002365            LFA
05472 001543            AT
05473 002126            CONT
05474 001543            AT
                        .WORD   STORE,SEMIS
05475 001551            STORE
05476 001312            SEMIS
                ;
                        HEAD    204,BACK,BACK,DOCOL                     ; BACK
05477 102102            .TXT    /<204>BACK/
      040503
```

```
01          045400
02 05502 005437          LINK
03 05503 001631          DOCOL
04                 BACK:  .WORD   COMMA,SEMIS
05 05504 002257          COMMA
06 05505 001312          SEMIS
07                 ;
08                       HEAD    305,BEGIN,BEGIN,DOCOL                ; BEGIN
09 05506 142502          .TXT    /<305>BEGIN/
10          042507
11          044516
12 05511 005477          LINK
13 05512 001631          DOCOL
14                 BEGIN: .WORD   QCOMP,HERE,ONE,SEMIS
15 05513 002470          QCOMP
16 05514 002241          HERE
17 05515 001721          ONE
18 05516 001312          SEMIS
19                 ;
20                       HEAD    305,ENDIF,ENDIF,DOCOL                ; ENDIF
21 05517 142505          .TXT    /<305>ENDIF/
22          047104
23          044506
24 05522 005506          LINK
25 05523 001631          DOCOL
26                 ENDIF: .WORD   QCOMP,TWO,QPAIR,HERE,SWAP,STORE,SEMIS
27 05524 002470          QCOMP
28 05525 001725          TWO
29 05526 002520          QPAIR
30 05527 002241          HERE
31 05530 001475          SWAP
32 05531 001551          STORE
33 05532 001312          SEMIS
34                 ;
35                       HEAD    304,THEN,THEN,DOCOL                  ; THEN
36 05533 142124          .TXT    /<304>THEN/
37          044105
38          047000
39 05536 005517          LINK
40 05537 001631          DOCOL
41                 THEN:  .WORD   ENDIF,SEMIS
42 05540 005524          ENDIF
43 05541 001312          SEMIS
44                 ;
45                       HEAD    302,DO,DO,DOCOL                      ; DO
46 05542 141104          .TXT    /<302>DO/
47          047400
48 05544 005533          LINK
49 05545 001631          DOCOL
50                 DO:    .WORD   COMP,XDO,HERE,LIT,3,SEMIS
51 05546 002566          COMP
52 05547 000603          XDO
53 05550 002241          HERE
54 05551 000451          LIT
55 05552 000003          3
56 05553 001312          SEMIS
57                 ;
58                       HEAD    304,LOOP,LOOP,DOCOL                  ; LOOP
59 05554 142114          .TXT    /<304>LOOP/
60          047517
```

```
01          050000
02 05557 005542          LINK
03 05560 001631          DOCOL
04                 LOOP:  .WORD   LIT,3,QPAIR,COMP,XLOOP,BACK,SEMIS
05 05561 000451          LIT
06 05562 000003          3
07 05563 002520          QPAIR
08 05564 002566          COMP
09 05565 000523          XLOOP
10 05566 005504          BACK
11 05567 001312          SEMIS
12                 ;
13                       HEAD    305,<53>LOOP,PLOOP,DOCOL          ; +LOOP
14 05570 142453          .TXT    /<305><53>LOOP/
15          046117
16          047520
17 05573 005554          LINK
18 05574 001631          DOCOL
19                 PLOOP: .WORD   LIT,3,QPAIR,COMP,XPLOO,BACK,SEMIS
20 05575 000451          LIT
21 05576 000003          3
22 05577 002520          QPAIR
23 05600 002566          COMP
24 05601 000550          XPLOO
25 05602 005504          BACK
26 05603 001312          SEMIS
27                 ;
28                       HEAD    305,UNTIL,UNTIL,DOCOL             ; UNTIL
29 05604 142525          .TXT    /<305>UNTIL/
30          047124
31          044514
32 05607 005570          LINK
33 05610 001631          DOCOL
34                 UNTIL: .WORD   ONE,QPAIR,COMP,ZBRAN,BACK,SEMIS
35 05611 001721          ONE
36 05612 002520          QPAIR
37 05613 002566          COMP
38 05614 000505          ZBRAN
39 05615 005504          BACK
40 05616 001312          SEMIS
41                 ;
42                       HEAD    303,END,END,DOCOL                 ; END
43 05617 141505          .TXT    /<303>END/
44          047104
45 05621 005604          LINK
46 05622 001631          DOCOL
47                 END:   .WORD   UNTIL,SEMIS
48 05623 005611          UNTIL
49 05624 001312          SEMIS
50                 ;
51                       HEAD    305,AGAIN,AGAIN,DOCOL             ; AGAIN
52 05625 142501          .TXT    /<305>AGAIN/
53          043501
54          044516
55 05630 005617          LINK
56 05631 001631          DOCOL
57                 AGAIN: .WORD   ONE,QPAIR,COMP,BRAN,BACK,SEMIS
58 05632 001721          ONE
59 05633 002520          QPAIR
60 05634 002566          COMP
```

```
01 05635 000474          BRAN
02 05636 005504          BACK
03 05637 001312          SEMIS
04                 ;
05                       HEAD     306,REPEAT,REPEAT,DOCOL          ; REPEAT
06 05640 143122          .TXT     /<306>REPEAT/
07       042520
08       042501
09       052000
10 05644 005625          LINK
11 05645 001631          DOCOL
12                 REPEAT: .WORD  TOR,TOR,AGAIN,FROMR,FROMR,TWO
13 05646 001343          TOR
14 05647 001343          TOR
15 05650 005632          AGAIN
16 05651 001333          FROMR
17 05652 001333          FROMR
18 05653 001725          TWO
19                       .WORD    SUBB,ENDIF,SEMIS
20 05654 002267          SUBB
21 05655 005524          ENDIF
22 05656 001312          SEMIS
23                 ;
24                       HEAD     302,IF,IF,DOCOL                  ; IF
25 05657 141111          .TXT     /<302>IF/
26       043000
27 05661 005640          LINK
28 05662 001631          DOCOL
29                 IF:   .WORD    COMP,ZBRAN,HERE,ZERO,COMMA,TWO,SEMIS
30 05663 002566          COMP
31 05664 000505          ZBRAN
32 05665 002241          HERE
33 05666 001715          ZERO
34 05667 002257          COMMA
35 05670 001725          TWO
36 05671 001312          SEMIS
37                 ;
38                       HEAD     304,ELSE,ELSE,DOCOL              ; ELSE
39 05672 142105          .TXT     /<304>ELSE/
40       046123
41       042400
42 05675 005657          LINK
43 05676 001631          DOCOL
44                 ELSE: .WORD    TWO,QPAIR,COMP,BRAN,HERE,ZERO,COMMA
45 05677 001725          TWO
46 05700 002520          QPAIR
47 05701 002566          COMP
48 05702 000474          BRAN
49 05703 002241          HERE
50 05704 001715          ZERO
51 05705 002257          COMMA
52                       .WORD    SWAP,TWO,ENDIF,TWO,SEMIS
53 05706 001475          SWAP
54 05707 001725          TWO
55 05710 005524          ENDIF
56 05711 001725          TWO
57 05712 001312          SEMIS
58                 ;
59                       HEAD     305,WHILE,WHILE,DOCOL            ; WHILE
60 05713 142527          .TXT     /<305>WHILE/
```

```
01          044111
02          046105
03 05716 005672          LINK
04 05717 001631          DOCOL
05                 WHILE: .WORD   IF,TWOP,SEMIS
06 05720 005663          IF
07 05721 002231          TWOP
08 05722 001312          SEMIS
09                 ;
10                 ;
11                 ;
12                 ;
13                         HEAD    206,SPACES,SPACS,DOCOL          ; SPACES
14 05723 103123          .TXT    /<206>SPACES/
15          050101
16          041505
17          051400
18 05727 005713          LINK
19 05730 001631          DOCOL
20                 SPACS: .WORD   ZERO,MAX,DDUP,ZBRAN,XXR4,ZERO,XDO
21 05731 001715          ZERO
22 05732 004442          MAX
23 05733 002342          DDUP
24 05734 000505          ZBRAN
25 05735 005743          XXR4
26 05736 001715          ZERO
27 05737 000603          XDO
28                 XXRA:  .WORD   SPACE,XLOOP,XXRA
29 05740 002332          SPACE
30 05741 000523          XLOOP
31 05742 005740          XXRA
32                 XXR4:  .WORD   SEMIS
33 05743 001312          SEMIS
34                 ;
35                         HEAD    202,<74><43>,BDIGS,DOCOL        ; <#
36 05744 101074          .TXT    /<202><74><43>/
37          021400
38 05746 005723          LINK
39 05747 001631          DOCOL
40                 BDIGS: .WORD   PAD,BYTE,HLD,STORE,SEMIS
41 05750 003327          PAD
42 05751 001602          BYTE
43 05752 002202          HLD
44 05753 001551          STORE
45 05754 001312          SEMIS
46                 ;
47                         HEAD    202,<43><76>,EDIGS,DOCOL        ; #>
48 05755 101043          .TXT    /<202><43><76>/
49          037000
50 05757 005744          LINK
51 05760 001631          DOCOL
52                 EDIGS: .WORD   DROP,DROP,HLD,AT,PAD,BYTE
53 05761 001467          DROP
54 05762 001467          DROP
55 05763 002202          HLD
56 05764 001543          AT
57 05765 003327          PAD
58 05766 001602          BYTE
59                         .WORD   OVER,SUBB,SEMIS
60 05767 001460          OVER
```

```
01 05770 002267          SUBB
02 05771 001312          SEMIS
03                 ;
04                       HEAD     204,SIGN,SIGN,DOCOL                ; SIGN
05 05772 102123          .TXT     /<204>SIGN/
06       044507
07       047000
08 05775 005755          LINK
09 05776 001631          DOCOL
10                 SIGN: .WORD     ROT,ZLESS,ZBRAN,XXR1,LIT,55,HOLD
11 05777 002320          ROT
12 06000 001373          ZLESS
13 06001 000505          ZBRAN
14 06002 006006          XXR1
15 06003 000451          LIT
16 06004 000055          55
17 06005 003313          HOLD
18                 XXR1: .WORD     SEMIS
19 06006 001312          SEMIS
20                 ;
21                       HEAD     201,<43>,DIG,DOCOL                 ; #
22 06007 100443          .TXT     /<201><43>/
23 06010 005772          LINK
24 06011 001631          DOCOL
25                 DIG:  .WORD     BASE,AT,MSMOD,ROT,LIT,11,OVER,LESS
26 06012 002151          BASE
27 06013 001543          AT
28 06014 004602          MSMOD
29 06015 002320          ROT
30 06016 000451          LIT
31 06017 000011          11
32 06020 001460          OVER
33 06021 002303          LESS
34                       .WORD    ZBRAN,XXR2,LIT,7,PLUS
35 06022 000505          ZBRAN
36 06023 006027          XXR2
37 06024 000451          LIT
38 06025 000007          7
39 06026 001403          PLUS
40                 XXR2: .WORD     LIT,60,PLUS,HOLD,SEMIS
41 06027 000451          LIT
42 06030 000060          60
43 06031 001403          PLUS
44 06032 003313          HOLD
45 06033 001312          SEMIS
46                 ;
47                       HEAD     202,<43>S,DIGS,DOCOL               ; #S
48 06034 101043          .TXT     /<202><43>S/
49       051400
50 06036 006007          LINK
51 06037 001631          DOCOL
52                 DIGS:XXR3:
53                       .WORD    DIG,OVER,OVER,ORR,ZEQU,ZBRAN,XXR3,SEMIS
54 06040 006012          DIG
55 06041 001460          OVER
56 06042 001460          OVER
57 06043 001242          ORR
58 06044 001362          ZEQU
59 06045 000505          ZBRAN
60 06046 006040          XXR3
```

```
01 06047 001312          SEMIS
02                 ;
03                       HEAD     203,D<56>R,DDOTR,DOCOL              ; D.R
04 06050 101504          .TXT     /<203>D<56>R/
05       027122
06 06052 006034          LINK
07 06053 001631          DOCOL
08                 DDOTR: .WORD    TOR,SWAP,OVER,DABS,BDIGS,DIGS,SIGN,EDIGS
09 06054 001343          TOR
10 06055 001475          SWAP
11 06056 001460          OVER
12 06057 004417          DABS
13 06060 005750          BDIGS
14 06061 006040          DIGS
15 06062 005777          SIGN
16 06063 005761          EDIGS
17                       .WORD    FROMR,OVER,SUBB,SPACS,TYPE,SEMIS
18 06064 001333          FROMR
19 06065 001460          OVER
20 06066 002267          SUBB
21 06067 005731          SPACS
22 06070 002767          TYPE
23 06071 001312          SEMIS
24                 ;
25                       HEAD     202,<56>R,DOTR,DOCOL                ; .R
26 06072 101056          .TXT     /<202><56>R/
27       051000
28 06074 006050          LINK
29 06075 001631          DOCOL
30                 DOTR:  .WORD    TOR,STOD,FROMR,DDOTR,SEMIS
31 06076 001343          TOR
32 06077 004354          STOD
33 06100 001333          FROMR
34 06101 006054          DDOTR
35 06102 001312          SEMIS
36                 ;
37                       HEAD     202,D<56>,DDOT,DOCOL                ; D.
38 06103 101104          .TXT     /<202>D<56>/
39       027000
40 06105 006072          LINK
41 06106 001631          DOCOL
42                 DDOT:  .WORD    ZERO,DDOTR,SPACE,SEMIS
43 06107 001715          ZERO
44 06110 006054          DDOTR
45 06111 002332          SPACE
46 06112 001312          SEMIS
47                 ;
48                       HEAD     201,<56>,DOT,DOCOL                  ; .
49 06113 100456          .TXT     /<201><56>/
50 06114 006103          LINK
51 06115 001631          DOCOL
52                 DOT:   .WORD    STOD,DDOT,SEMIS
53 06116 004354          STOD
54 06117 006107          DDOT
55 06120 001312          SEMIS
56                 ;
57                       HEAD     201,<77>,QUEST,DOCOL                ; ?
58 06121 100477          .TXT     /<201><77>/
59 06122 006113          LINK
60 06123 001631          DOCOL
```

```
01                  QUEST:  .WORD   AT,DOT,SEMIS
02 06124 001543             AT
03 06125 006116             DOT
04 06126 001312             SEMIS
05                  ;
06                          HEAD    202,U<56>,UDOT,DOCOL                ; U.
07 06127 101125             .TXT    /<202>U<56>/
08       027000
09 06131 006121             LINK
10 06132 001631             DOCOL
11                  UDOT:   .WORD   ZERO,DDOT,SEMIS
12 06133 001715             ZERO
13 06134 006107             DDOT
14 06135 001312             SEMIS
15                  ;
16                  ;*****************************************************
17                  ;
18                  ;       UTILITY DEFINTIONS
19                  ;
20                  ;*****************************************************
21                  ;
22                          HEAD    204,LIST,LIST,DOCOL                 ; LIST
23 06136 102114             .TXT    /<204>LIST/
24       044523
25       052000
26 06141 006127             LINK
27 06142 001631             DOCOL
28                  LIST:   .WORD   DECIM,CR,DUP,SCR,STORE,PDOTQ
29 06143 002647             DECIM
30 06144 001101             CR
31 06145 001505             DUP
32 06146 002110             SCR
33 06147 001551             STORE
34 06150 003050             PDOTQ
35 06151 003123             .TXT    /<6>SCR # /
36       041522
37       020043
38       020000
39                          .WORD   DOT,LIT,20,ZERO,XDO
40 06155 006116             DOT
41 06156 000451             LIT
42 06157 000020             20
43 06160 001715             ZERO
44 06161 000603             XDO
45                  XXZ1:   .WORD   CR,I,THREE,DOTR,SPACE
46 06162 001101             CR
47 06163 000617             I
48 06164 001731             THREE
49 06165 006076             DOTR
50 06166 002332             SPACE
51                          .WORD   I,SCR,AT,DLINE,XLOOP,XXZ1,CR,SEMIS
52 06167 000617             I
53 06170 002110             SCR
54 06171 001543             AT
55 06172 005064             DLINE
56 06173 000523             XLOOP
57 06174 006162             XXZ1
58 06175 001101             CR
59 06176 001312             SEMIS
60                  ;
```

```
01                          HEAD     205,INDEX,INDEX,DOCOL              ; INDEX
02 06177 102511             .TXT     /<205>INDEX/
03       047104
04       042530
05 06202 006136             LINK
06 06203 001631             DOCOL
07                  INDEX:  .WORD    CR,ONEP,SWAP,XDO
08 06204 001101             CR
09 06205 002222             ONEP
10 06206 001475             SWAP
11 06207 000603             XDO
12                  XXZ2:   .WORD    CR,I,THREE,DOTR,SPACE,ZERO,I,DLINE
13 06210 001101             CR
14 06211 000617             I
15 06212 001731             THREE
16 06213 006076             DOTR
17 06214 002332             SPACE
18 06215 001715             ZERO
19 06216 000617             I
20 06217 005064             DLINE
21                          .WORD    QTERM,ZBRAN,XXZ3,LEAVE
22 06220 001061             QTERM
23 06221 000505             ZBRAN
24 06222 006224             XXZ3
25 06223 001323             LEAVE
26                  XXZ3:   .WORD    XLOOP,XXZ2,SEMIS
27 06224 000523             XLOOP
28 06225 006210             XXZ2
29 06226 001312             SEMIS
30                  ;
31                          HEAD     205,TRIAD,TRIAD,DOCOL              ; TRIAD
32 06227 102524             .TXT     /<205>TRIAD/
33       051111
34       040504
35 06232 006177             LINK
36 06233 001631             DOCOL
37                  TRIAD:  .WORD    LIT,14,EMIT
38 06234 000451             LIT
39 06235 000014             14
40 06236 001027             EMIT
41                          .WORD    THREE,SLASH,THREE,STAR,THREE
42 06237 001731             THREE
43 06240 004540             SLASH
44 06241 001731             THREE
45 06242 004520             STAR
46 06243 001731             THREE
47                          .WORD    OVER,PLUS,SWAP,XDO
48 06244 001460             OVER
49 06245 001403             PLUS
50 06246 001475             SWAP
51 06247 000603             XDO
52                  XXZ4:   .WORD    CR,I,LIST,XLOOP,XXZ4,CR,LIT,17
53 06250 001101             CR
54 06251 000617             I
55 06252 006143             LIST
56 06253 000523             XLOOP
57 06254 006250             XXZ4
58 06255 001101             CR
59 06256 000451             LIT
60 06257 000017             17
```

```
01                          .WORD   MESS,CR,SEMIS
02 06260 005076             MESS
03 06261 001101             CR
04 06262 001312             SEMIS
05                    ;
06                          HEAD    205,VLIST,VLIST,DOCOL          ; VLIST
07 06263 102526             .TXT    /<205>VLIST/
08       046111
09       051524
10 06266 006227             LINK
11 06267 001631             DOCOL
12                    VLIST:.WORD   LIT,200,OUT,STORE,CONT,AT,AT,PTERM
13 06270 000451             LIT
14 06271 000200             200
15 06272 002103             OUT
16 06273 001551             STORE
17 06274 002126             CONT
18 06275 001543             AT
19 06276 001543             AT
20 06277 001073             PTERM
21                    XXZ5: .WORD   OUT,AT,LIT,100,GREAT,ZBRAN,XXZ6
22 06300 002103             OUT
23 06301 001543             AT
24 06302 000451             LIT
25 06303 000100             100
26 06304 002311             GREAT
27 06305 000505             ZBRAN
28 06306 006313             XXZ6
29                          .WORD   CR,ZERO,OUT,STORE
30 06307 001101             CR
31 06310 001715             ZERO
32 06311 002103             OUT
33 06312 001551             STORE
34                    XXZ6: .WORD   DUP,IDDOT,SPACE,SPACE,PFA,LFA,AT
35 06313 001505             DUP
36 06314 003622             IDDOT
37 06315 002332             SPACE
38 06316 002332             SPACE
39 06317 002421             PFA
40 06320 002365             LFA
41 06321 001543             AT
42                          .WORD   DUP,ZEQU,QTERM,ORR,ZBRAN,XXZ5,DROP,SEMIS
43 06322 001505             DUP
44 06323 001362             ZEQU
45 06324 001061             QTERM
46 06325 001242             ORR
47 06326 000505             ZBRAN
48 06327 006300             XXZ5
49 06330 001467             DROP
50 06331 001312             SEMIS
51                    ;
52                          HEAD    204,TASK,TASK,DOCOL            ; TASK
53 06332 102124             .TXT    /<204>TASK/
54       040523
55       045400
56 06335 006263             LINK
57 06336 001631             DOCOL
58                    TASK: .WORD   SEMIS
59 06337 001312             SEMIS
60                    ;
```

```
 0070 FORTH
01 06340 000000 XDP:     0
02 06341 027000          .BLK     27000
03 35341 000000 XS0:     0
04 35342 000176 XTIB:    .BLK     176
05 35540 000000 XR0:     0
06 35541 000073 XUP:     .BLK     73
07 35634 002004 DSKBUF:  .BLK     2004
08 37640 000000 ENDBUF:  0
09                       .END     COLD

**00000 TOTAL ERRORS, 00000 PASS 1 ERRORS
```

ABORT	004244	40/09	46/29	47/38				
ABS	004407	48/25	49/23	49/25	49/43			
ACOLD	000074	3/11	3/31					
AGAIN	005632	62/57	63/15					
AGO	000076	3/33	47/29					
ALLOT	002251	24/44	24/57	33/48	41/43			
ANDD	001232	12/50	27/21	41/08	59/39	59/53		
ARROW	005160	56/18						
AT	001543	16/58	18/09	24/35	26/26	26/27	27/03	28/08
		28/23	28/52	29/09	29/29	33/35	35/23	35/38
		36/45	37/09	37/13	37/19	37/23	38/08	38/15
		38/21	38/26	39/46	39/47	40/20	40/36	40/38
		41/38	41/52	42/26	42/45	43/21	43/53	44/12
		44/59	45/04	45/39	46/11	51/40	51/41	51/47
		52/04	52/08	52/22	52/23	52/29	52/33	52/39
		52/56	52/58	53/40	53/44	53/45	53/55	53/57
		54/04	54/05	54/17	54/21	54/30	55/17	55/27
		55/52	55/55	60/29	60/31	60/40	60/51	60/53
		64/56	65/27	67/02	67/54	69/18	69/19	69/23
		69/41						
AUO	000077	3/34	47/13					
AUP3	000103	3/38	47/16					
AWENT	000075	3/12	3/32					
BACK	005504	61/04	62/10	62/25	62/39	63/02		
BASE	002151	23/07	30/17	30/31	30/44	38/07	38/14	38/20
		65/26						
BBUF	001751	20/08	54/45					
BCOMP	003726	42/07						
BDIGS	005750	64/40	66/13					
BEGIN	005513	61/14						
BINAR	000176	5/24	8/19	9/16	12/53	13/05	13/18	15/04
BL	001736	19/53	25/57	32/52	34/51	39/42		
BLANK	003302	36/27						
BLK	002071	22/03	29/08	35/37	37/08	37/12	40/37	46/02
		55/51	56/01	56/09	56/25			
BLOCK	004757	37/14	53/38	54/50				
BRAN	000474	6/12	27/53	32/24	32/57	33/49	34/39	34/53
		37/15	38/35	39/23	43/59	44/05	44/18	44/26
		46/20	55/31	59/08	63/01	63/48		
BSCR	001757	20/16						
BUILD	002723	31/24	44/54					
BYTE	001602	17/39	27/17	31/57	33/43	34/09	37/21	37/40
		37/45	41/35	44/09	52/35	53/46	53/48	54/06
		54/08	54/51	64/42	64/58			
C12	000122	3/53	8/07	11/13	47/19			
C15	000123	3/54	11/09					
C177	000117	3/50	10/32					
C20N	000121	3/52	12/10	12/32				
C33	001051	10/36						
C37	000656	8/21	8/43					
C377	000120	3/51	4/36	4/44				
C60	000124	3/55	7/59					
CAT	001560	17/17	27/18	32/01	32/20	32/50	33/44	38/06
		38/55	39/10	39/15	41/36			
CELL	001612	17/50	27/22	33/17	33/46	41/40	52/36	
CENT	004322	47/19						
CFA	002374	26/45	30/59	42/13				
CH	000112	3/45	4/49	4/52	9/27	9/31	9/41	
CL	001743	19/60	54/44	54/53				

CMASK	000657	8/22	8/41					
CMOV1	001127	11/33	11/36					
CMOV2	001133	11/28	11/37					
CMOVE	001120	11/24	37/48					
COLD	004272	3/31	46/55	70/09				
COLON	001620	18/05						
COMMA	002257	18/45	24/53	29/30	41/49	41/56	42/14	42/31
		43/58	44/57	44/60	45/05	61/05	63/34	63/51
COMND	005207	56/56	58/03	58/17				
COMP	002566	18/28	29/23	31/11	33/39	42/29	61/51	62/08
		62/23	62/37	62/60	63/30	63/47		
CON	001656	18/42	18/59	19/11	31/26			
CONT	002126	18/10	22/42	39/45	45/11	45/38	60/30	60/52
		69/17						
COUNT	002754	31/55	33/15	33/54	40/27	41/05		
CR	001101	11/06	46/07	46/33	67/30	67/46	67/58	68/08
		68/13	68/53	68/58	69/03	69/30		
CREAT	003656	18/13	18/43	41/20				
CSP	002170	23/28	27/37	28/51				
CSTOR	001570	17/27	34/59	35/03	35/07	36/46	37/41	
CURR	002135	18/08	22/51	26/25	41/51	44/58	45/40	60/28
DABS	004417	48/36	49/41	66/12				
DDOT	006107	66/42	66/54	67/13				
DDOTR	006054	66/08	66/34	66/44				
DDUP	002342	26/07	32/11	55/20	64/23			
DECIM	002647	30/28	46/31	47/35	67/29			
DEFIN	004174	45/37	46/46	47/37				
DELA0	000165	4/60	5/06					
DELA1	000166	5/01	5/07					
DELA2	000167	5/02	5/03	5/08				
DELAY	000157	4/60	56/59	57/11				
DEPOO	000156	4/42	4/57					
DEPOS	000140	4/42	11/34	17/30				
DFIND	003535	39/41	41/21	42/08	43/48	60/12		
DIG	006012	65/25	65/54					
DIGI1	000645	8/04	8/11					
DIGI2	000654	8/09	8/12	8/14	8/18			
DIGI3	000647	8/10	8/13					
DIGIT	000627	7/56	38/09					
DIGS	006040	65/52	66/14					
DIV1	001214	12/34	12/39					
DKRDY	005245	57/38	57/45					
DLINE	005064	55/02	55/29	67/55	68/20			
DLITE	003763	42/43	44/17					
DMINU	001443	15/39	39/30	43/04	48/17			
DO	005546	61/50						
DOCOL	001631	18/04	18/16	18/25	18/41	18/57	19/09	20/24
		24/11	24/21	24/32	24/43	24/52	25/05	25/14
		25/23	25/32	25/42	25/55	26/06	26/23	26/34
		26/44	26/54	27/14	27/34	27/47	28/05	28/20
		28/35	28/48	29/06	29/22	29/37	29/47	30/01
		30/13	30/27	30/40	30/54	31/08	31/23	31/34
		31/54	32/09	32/39	33/12	33/30	34/05	35/20
		35/35	35/53	36/14	36/26	36/38	36/53	37/06
		37/60	38/47	39/40	40/07	40/17	40/46	41/19
		42/06	42/23	42/42	42/58	43/18	43/46	44/36
		44/52	45/36	45/47	45/59	46/28	47/60	48/12
		48/24	48/35	48/45	49/01	49/17	49/36	49/60

		50/11	50/22	50/33	50/44	50/56	51/08	51/37
		51/60	52/19	52/52	53/13	53/24	53/37	54/41
		55/01	55/14	55/49	56/17	57/57	58/11	58/25
		59/21	60/10	60/26	61/03	61/13	61/25	61/40
		61/49	62/03	62/18	62/33	62/46	62/56	63/11
		63/28	63/43	64/04	64/19	64/39	64/51	65/09
		65/24	65/51	66/07	66/29	66/41	66/51	66/60
		67/10	67/27	68/06	68/36	69/11	69/57	
DOCON	001662	18/47	19/27	19/33	19/39	19/45	19/52	19/59
		20/07	20/15					
DODOE	002740	31/41	45/20					
DOES	002733	31/35	45/08					
DOT	006116	55/40	66/52	67/03	67/40			
DOTQ	003066	33/31						
DOTR	006076	66/30	67/49	68/16				
DOUSE	001706	19/13	20/42	20/49	20/56	21/04	21/13	21/22
		21/29	21/39	21/47	21/55	22/02	22/09	22/16
		22/23	22/32	22/41	22/50	22/58	23/06	23/13
		23/20	23/27	23/34	23/41	23/48	23/56	
DOVAR	001675	19/01						
DOVOC	004147	45/09	45/22					
DP	002040	21/30	24/34	24/45	60/48			
DPL	002156	23/14	38/25	38/31	39/06	44/11		
DPLMI	004376	48/13	48/38	49/29				
DPLUS	001413	15/11	38/23	43/05				
DRONE	004745	53/25						
DROP	001467	16/03	27/56	32/27	34/24	34/50	35/12	35/45
		38/17	39/26	39/54	41/24	42/12	43/08	44/21
		48/54	49/10	50/03	50/26	50/36	50/60	54/28
		59/48	59/49	59/50	60/16	64/53	64/54	69/49
DRZER	004735	53/14						
DSKBU	035634	3/27	3/29	70/07				
DTRAI	003016	32/40	55/04					
DUP	001505	16/21	26/08	26/11	27/02	27/16	29/26	31/58
		32/41	33/16	34/17	34/30	34/42	34/56	36/01
		38/04	38/53	38/60	39/09	39/14	39/50	40/55
		41/34	41/44	48/26	48/37	52/30	52/37	58/56
		60/37	60/46	67/31	69/35	69/43		
EDIGS	005761	64/52	66/16					
EIGHT	000116	3/49	8/01	47/21				
ELSE	005677	63/44						
EMIT	001027	10/15	25/58	32/21	35/09	68/40		
ENCL	000750	9/25	37/26					
ENCL1	000754	9/30	9/33					
ENCL2	000764	9/38	9/43					
ENCL3	000776	9/48	10/07					
ENCL4	001012	9/39	9/60					
END	005623	62/47						
ENDBU	037640	3/28	70/08					
ENDIF	005524	61/26	61/42	63/21	63/55			
EQUAL	002275	25/15	34/20	34/29	34/45	38/58		
ERASE	003271	36/15	37/31					
ERROR	003572	27/52	40/18					
EXEC	000463	6/01	44/02					
EXPEC	003122	34/06	35/26					
FAST	000732	8/51	8/59	9/09				
FENCE	002033	21/23	60/39					
FETCO	000137	4/29	4/40					

FETCH	000125		4/29	9/30	9/40	11/33	17/19		
FILL	003251		35/54	36/17	36/30	40/53			
FIRST	002056		21/48						
FLD	002163		23/21						
FLUSH	004716		52/53						
FORGE	005445		60/27						
FORTH	004160		45/21	46/45	46/56	47/36			
FOUND	000721		8/54	8/60					
FROMR	001333		14/11	25/46	29/25	30/56	31/36	33/20	34/31
			35/44	36/03	37/47	38/34	38/38	39/27	43/02
			49/28	49/46	49/52	50/15	50/48	51/14	51/19
			54/27	54/47	56/04	56/08	59/35	63/16	63/17
			66/18	66/33					
GO	004337		3/33	47/33					
GREAT	002311		25/33	48/49	69/26				
HEAD	000000	MC	4/02	5/43	5/54	6/05	6/16	6/32	6/56
			7/26	7/42	7/50	8/27	9/18	10/09	10/22
			10/37	10/51	11/01	11/18	11/40	11/60	12/22
			12/45	12/55	13/07	13/20	13/28	13/36	13/45
			13/55	14/06	14/16	14/27	14/35	14/46	14/57
			15/06	15/22	15/32	15/48	15/57	16/05	16/16
			16/24	16/36	16/54	17/02	17/12	17/22	17/33
			17/44	18/01	18/22	18/34	18/50	19/04	19/24
			19/30	19/36	19/42	19/48	19/55	20/02	20/10
			20/18	20/38	20/45	20/52	20/59	21/07	21/17
			21/25	21/32	21/42	21/50	21/58	22/05	22/12
			22/19	22/26	22/35	22/44	22/53	23/01	23/09
			23/16	23/23	23/30	23/37	23/44	23/51	24/07
			24/17	24/27	24/38	24/49	25/02	25/11	25/20
			25/29	25/38	25/50	26/01	26/17	26/30	26/40
			26/50	27/10	27/29	27/41	27/60	28/15	28/29
			28/43	28/59	29/16	29/34	29/44	29/55	30/09
			30/21	30/35	30/48	31/03	31/17	31/29	31/49
			32/04	32/32	33/07	33/26	33/59	35/15	35/32
			35/48	36/09	36/20	36/33	36/49	37/01	37/53
			38/41	39/35	40/01	40/12	40/42	41/13	41/59
			42/17	42/35	42/54	43/12	43/39	44/29	44/44
			45/15	45/28	45/44	45/54	46/23	46/49	47/43
			47/56	48/08	48/20	48/30	48/41	48/57	49/13
			49/32	49/57	50/06	50/19	50/29	50/39	50/52
			51/03	51/31	51/51	52/13	52/47	53/09	53/20
			53/32	54/35	54/56	55/08	55/44	56/13	56/37
			56/49	57/02	57/14	57/26	57/39	57/52	58/06
			58/20	59/17	60/07	60/20	60/58	61/08	61/20
			61/35	61/45	61/58	62/13	62/28	62/42	62/51
			63/05	63/24	63/38	63/59	64/13	64/35	64/47
			65/04	65/21	65/47	66/03	66/25	66/37	66/48
			66/57	67/06	67/22	68/01	68/31	69/06	69/52
HERE	002241		24/33	24/54	33/42	33/53	36/55	37/27	37/39
			37/44	39/44	39/55	40/26	41/33	41/54	43/29
			44/08	45/02	61/16	61/30	61/53	63/32	63/49
HEX	002634		30/14						
HLD	002202		23/42	36/42	36/44	64/43	64/55		
HOLD	003313		36/39	65/17	65/44				
I	000617		7/46	32/19	34/28	34/58	35/01	35/05	67/47
			67/52	68/14	68/19	68/54			
IDDOT	003622		40/47	41/26	69/36				
IF	005663		63/29	64/06					

IMMED	004114	44/37						
IN	002076	22/10	35/28	37/22	37/32	40/35	55/54	55/58
		56/05	56/21					
INDEX	006204	68/07						
INIT	004326	47/23	47/26					
INTER	004046	43/47	46/09	56/03				
IP	000104	3/39	5/20	5/21	5/26	5/27	5/32	5/33
		5/48	5/50	6/12	6/13	6/26	6/27	6/29
		6/47	6/51	6/53	7/15	7/18	7/19	13/52
		18/16	18/19	31/42	31/45	47/30		
IPP	000110	3/43	4/31	4/38	9/29	9/34	9/44	9/60
		11/32	17/18					
KBUF	004307	47/08	47/10					
KEY	001041	10/27	34/16					
LATES	002355	26/24	30/03	30/57	31/37	39/56	41/48	44/38
LBRAC	002601	18/31	29/38	31/13	46/04			
LEAVE	001323	14/01	32/56	34/49	59/43	68/25		
LENCT	000661	8/24	8/48	8/52				
LENGT	000660	8/23	8/47	9/10				
LESS	002303	25/24	25/35	49/05	60/41	65/33		
LFA	002365	26/35	40/57	60/50	69/40			
LIMIT	002064	21/56						
LINK	006332	3/09	5/46	5/48	5/59	6/01	6/10	6/12
		6/21	6/23	6/37	6/39	7/01	7/03	7/30
		7/32	7/44	7/46	7/54	7/56	8/32	8/34
		9/23	9/25	10/13	10/15	10/25	10/27	10/43
		10/45	10/56	10/58	11/04	11/06	11/22	11/24
		11/44	11/46	12/03	12/05	12/25	12/27	12/48
		12/50	12/58	12/60	13/10	13/12	13/23	13/25
		13/31	13/33	13/39	13/41	13/48	13/50	13/59
		14/01	14/09	14/11	14/19	14/21	14/29	14/31
		14/38	14/40	14/49	14/51	14/59	15/01	15/09
		15/11	15/26	15/28	15/37	15/39	15/52	15/54
		16/01	16/03	16/09	16/11	16/19	16/21	16/27
		16/29	16/41	16/43	16/56	16/58	17/04	17/06
		17/15	17/17	17/25	17/27	17/37	17/39	17/48
		17/50	18/03	18/05	18/24	18/26	18/40	18/42
		18/56	18/58	19/08	19/10	19/26	19/28	19/32
		19/34	19/38	19/40	19/44	19/46	19/51	19/53
		19/58	19/60	20/06	20/08	20/14	20/16	20/23
		20/25	20/41	20/43	20/48	20/50	20/55	20/57
		21/03	21/05	21/12	21/14	21/21	21/23	21/28
		21/30	21/38	21/40	21/46	21/48	21/54	21/56
		22/01	22/03	22/08	22/10	22/15	22/17	22/22
		22/24	22/31	22/33	22/40	22/42	22/49	22/51
		22/57	22/59	23/05	23/07	23/12	23/14	23/19
		23/21	23/26	23/28	23/33	23/35	23/40	23/42
		23/47	23/49	23/55	23/57	24/10	24/12	24/20
		24/22	24/31	24/33	24/42	24/44	24/51	24/53
		25/04	25/06	25/13	25/15	25/22	25/24	25/31
		25/33	25/41	25/43	25/54	25/56	26/05	26/07
		26/22	26/24	26/33	26/35	26/43	26/45	26/53
		26/55	27/13	27/15	27/33	27/35	27/46	27/48
		28/04	28/06	28/19	28/21	28/34	28/36	28/47
		28/49	29/05	29/07	29/21	29/23	29/36	29/38
		29/46	29/48	29/60	30/02	30/12	30/14	30/26
		30/28	30/39	30/41	30/53	30/55	31/07	31/09
		31/22	31/24	31/33	31/35	31/53	31/55	32/08

		32/10	32/38	32/40	33/11	33/13	33/29	33/31
		34/04	34/06	35/19	35/21	35/34	35/36	35/52
		35/54	36/13	36/15	36/25	36/27	36/37	36/39
		36/52	36/54	37/05	37/07	37/59	38/01	38/46
		38/48	39/39	39/41	40/06	40/08	40/16	40/18
		40/45	40/47	41/18	41/20	42/05	42/07	42/22
		42/24	42/41	42/43	42/57	42/59	43/17	43/19
		43/45	43/47	44/35	44/37	44/51	44/53	45/19
		45/21	45/35	45/37	45/46	45/48	45/58	45/60
		46/27	46/29	46/53	46/55	47/47	47/49	47/59
		48/01	48/11	48/13	48/23	48/25	48/34	48/36
		48/44	48/46	48/60	49/02	49/16	49/18	49/35
		49/37	49/59	50/01	50/10	50/12	50/21	50/23
		50/32	50/34	50/43	50/45	50/55	50/57	51/07
		51/09	51/36	51/38	51/59	52/01	52/18	52/20
		52/51	52/53	53/12	53/14	53/23	53/25	53/36
		53/38	54/40	54/42	54/60	55/02	55/13	55/15
		55/48	55/50	56/16	56/18	56/42	56/44	56/54
		56/56	57/06	57/08	57/19	57/21	57/31	57/33
		57/43	57/45	57/56	57/58	58/10	58/12	58/24
		58/26	59/20	59/22	60/09	60/11	60/25	60/27
		61/02	61/04	61/12	61/14	61/24	61/26	61/39
		61/41	61/48	61/50	62/02	62/04	62/17	62/19
		62/32	62/34	62/45	62/47	62/55	62/57	63/10
		63/12	63/27	63/29	63/42	63/44	64/03	64/05
		64/18	64/20	64/38	64/40	64/50	64/52	65/08
		65/10	65/23	65/25	65/50	65/52	66/06	66/08
		66/28	66/30	66/40	66/42	66/50	66/52	66/59
		67/01	67/09	67/11	67/26	67/28	68/05	68/07
		68/35	68/37	69/10	69/12	69/56	69/58	
LIST	006143	67/28	68/55					
LIT	000451	5/48	20/26	27/19	28/10	28/24	28/38	28/54
		29/11	29/49	30/04	30/15	30/29	30/42	33/32
		34/18	34/25	34/43	35/24	36/28	36/40	36/56
		37/29	38/56	39/03	39/16	40/49	40/51	41/06
		41/28	41/45	42/30	43/30	44/39	44/55	45/49
		51/42	53/26	55/23	57/60	58/14	58/31	58/35
		58/40	58/43	58/50	58/57	59/24	59/56	60/33
		60/42	61/54	62/05	62/20	65/15	65/30	65/37
		65/41	67/41	68/38	68/59	69/13	69/24	
LITER	003744	42/24	42/49	42/50	44/22	60/17		
LOAD	005131	55/50						
LOOP	005561	62/04						
LOOP1	000536	6/44	6/50					
MAX	004442	49/02	64/22					
MEMOR	005232	57/21	58/29					
MESS	005076	40/33	41/30	55/15	69/02			
MIN	004426	41/39	48/46					
MINUS	001432	15/28	25/07	48/05				
MOD	004550	50/34						
MOVE	001142	11/46	36/06	41/02				
MOVE1	001145	11/49	11/56					
MOVE2	001155	11/48	11/57					
MSLAS	004475	49/37	50/16	50/49				
MSMOD	004602	51/09	65/28					
MSTAR	004456	49/18	50/02	50/47				
MTBUF	004645	52/01						
MUL1	001170	12/11	12/15					

N	000111	3/44	12/06	12/17	12/27	12/40	47/22	47/25
NEXT	000173	5/20	6/14	6/49	6/54	9/59	10/59	11/15
		12/20	13/34	13/43	13/53	14/04	15/46	18/20
		47/31	57/50					
NFA	002403	26/55	41/25	60/47				
NOFA1	000714	8/53	8/55					
NOFAS	000711	8/52	8/58					
NULL	003234	35/36						
NUMB	003463	38/48	44/10					
OCTAL	002661	30/41						
OFSET	002117	22/33	53/16	53/28	53/39	55/26		
ONE	001721	19/34	24/13	24/56	26/46	26/60	32/48	32/60
		36/04	38/30	43/25	54/24	56/24	59/38	59/52
		61/17	62/35	62/58				
ONEP	002222	24/12	27/24	29/27	31/59	33/18	33/47	35/02
		36/02	37/46	38/03	38/27	38/54	41/42	41/55
		43/23	44/13	45/10	52/31	54/22	54/31	68/09
OP	000107	3/42	4/45	4/55	11/30	17/29		
ORIGI	000050	3/11	20/27	46/55	46/59	47/01	47/03	47/27
ORR	001242	12/60	51/44	65/57	69/46			
OUT	002103	22/17	69/15	69/22	69/32			
OVER	001460	15/54	32/14	32/45	32/46	34/11	34/13	34/27
		35/58	37/35	40/58	48/47	48/48	49/03	49/04
		49/19	49/20	49/38	59/30	59/31	64/60	65/32
		65/55	65/56	66/11	66/19	68/48		
PABOR	003563	40/08	40/24					
PAD	003327	36/54	40/48	40/60	41/04	64/41	64/57	
PAREN	004204	45/48						
PDOTQ	003050	33/13	33/40	40/29	46/16	46/34	55/34	67/34
PFA	002421	27/15	30/58	31/38	40/56	69/39		
PFIND	000670	8/34	9/15	39/48	39/57			
PFLUS	004664	52/20	52/54	53/05	54/14			
PLINE	005044	54/42	55/03					
PLMIN	004365	48/01	48/27	49/49	49/53			
PL000	000561	7/12	7/24					
PL001	000566	7/11	7/17	7/23				
PL002	000572	7/08	7/21					
PLOOP	005575	62/19						
PLUS	001403	15/01	20/28	24/14	24/24	25/08	27/25	32/15
		32/47	33/21	34/12	34/36	36/58	37/24	37/42
		39/02	43/32	53/41	54/49	54/52	55/28	58/02
		58/16	58/45	58/52	58/59	65/39	65/43	68/49
PNUMB	003415	38/01	39/08					
POP	000204	5/31	6/28	6/30	7/16	7/20	10/20	12/43
		14/25	16/03	56/47	56/60	57/12	57/24	
POP2	000203	5/30	7/40	11/38	11/58	15/20	16/34	16/52
		17/08	17/31					
PORIG	001766	20/25						
PREV	002215	23/57	51/39	51/45	52/03	52/21	52/28	52/38
		52/55	52/60	53/43	53/54	53/58	54/03	54/16
		54/20	54/29					
PSCOD	002674	18/15	18/46	18/60	19/12	30/55	31/12	31/40
PSTOR	001513	16/29	24/46	36/43	37/33	38/32	56/26	
PTERM	001073	10/58	69/20					
PUSH	000170	5/17	5/51	7/48	9/08	10/34	10/49	13/26
		14/14	14/33	15/55	16/22	18/48	19/02	19/16
		31/47	47/53	57/35				
PUT	000177	5/25	8/17	14/44	14/55	15/30	16/14	16/60

		17/20	17/42	17/53				
QCOMP	002470	28/06	29/24	61/15	61/27			
QCSP	002532	18/27	28/49	31/10				
QDONE	005253	57/45	58/55	59/01	59/07	59/12		
QERR	002453	27/48	28/12	28/26	28/40	28/56	29/13	39/21
		42/11	43/26	43/35	59/58	60/15	60/35	60/44
QEXEC	002504	18/06	28/21	35/42				
QLOAD	002551	29/07	56/19					
QPAIR	002520	28/36	61/29	62/07	62/22	62/36	62/59	63/46
QSTAC	004017	43/19	44/04	44/24				
QTERM	001061	10/45	68/22	69/45				
QUERY	003220	35/21	46/08					
QUEST	006124	67/01						
QUIT	004215	40/39	45/60	46/47				
R	001353	14/31	33/14	37/38	49/42	49/47	51/12	53/47
		54/07	54/15	54/23	59/32			
RBRAC	002610	18/14	29/48					
READ	005266	57/58	59/06					
REPEA	005646	63/12						
RNUM	002175	23/35						
ROT	002320	25/43	38/19	38/52	58/28	58/39	59/33	59/34
		65/11	65/29					
RP	000105	3/40	6/39	6/48	7/03	7/14	7/32	7/39
		7/46	13/42	13/50	13/51	14/01	14/11	14/13
		14/21	14/22	14/31	18/17	18/18	31/41	31/43
		47/28						
RP0	000101	3/36	13/41					
RPSTO	001303	13/41	46/06					
RW	005367	52/43	54/25	59/22				
RZERO	002003	20/50						
SCR	002110	22/24	67/32	67/53				
SCSP	002441	18/07	27/35					
SECTO	005176	56/44	58/54					
SEEK	005220	57/08	58/60					
SEMI	001641	18/26						
SEMIC	002707	31/09						
SEMIS	001312	13/50	18/29	18/32	20/29	24/15	24/25	24/36
		24/47	24/58	25/09	25/18	25/27	25/36	25/48
		25/59	26/12	26/28	26/38	26/48	27/08	27/27
		27/39	27/58	28/13	28/27	28/41	28/57	29/14
		29/31	29/42	29/53	30/07	30/19	30/33	30/46
		31/01	31/15	31/27	32/02	32/29	33/05	33/24
		33/57	35/13	35/30	35/46	36/07	36/18	36/31
		36/47	36/59	37/49	38/39	39/32	39/59	40/10
		40/40	41/11	41/57	42/15	42/33	42/52	43/10
		43/37	44/42	45/13	45/42	45/52	48/06	48/18
		48/28	48/39	48/55	49/11	49/30	49/55	50/04
		50/17	50/27	50/37	50/50	51/01	51/20	51/49
		52/11	52/45	53/06	53/18	53/30	54/32	54/54
		55/06	55/42	56/11	56/27	58/04	58/18	59/15
		59/59	60/18	60/56	61/06	61/18	61/33	61/43
		61/56	62/11	62/26	62/40	62/49	63/03	63/22
		63/36	63/57	64/08	64/33	64/45	65/02	65/19
		65/45	66/01	66/23	66/35	66/46	66/55	67/04
		67/14	67/59	68/29	69/04	69/50	69/59	
SEVEN	000115	3/48	8/05					
SIGN	005777	65/10	66/15					
SLASH	004540	50/23	68/43					

SLMOD	004530	50/12	50/24	50/35	58/33	58/37		
SMUDG	002623	18/30	18/44	30/02	31/14			
SPO	000100	3/35	13/33					
SPACE	002332	25/56	41/10	41/31	46/32	64/29	66/45	67/50
		68/17	69/37	69/38				
SPACS	005731	64/20	66/21					
SPAT	001267	13/25	27/36	28/50	43/22	43/28		
SPSTO	001275	13/33	40/34	46/30	47/34			
SSLA	004571	50/57						
SSMOD	004560	50/45	50/58	54/46				
STAR	004520	50/01	58/42	68/45				
STATE	002143	22/59	28/07	28/22	29/40	29/51	33/34	42/25
		42/44	43/52	46/10				
STATU	005243	57/33	59/14	59/51				
STOD	004354	47/49	50/14	66/32	66/53			
STORE	001551	17/06	18/11	24/55	27/38	29/41	29/52	30/18
		30/32	30/45	30/60	31/39	35/29	35/59	39/07
		41/53	45/07	45/12	45/41	46/03	51/48	52/05
		52/09	52/40	53/01	53/03	53/17	53/29	53/59
		54/01	54/18	55/59	56/02	56/06	56/10	56/22
		60/49	60/55	61/32	64/44	67/33	69/16	69/33
SUBB	002267	25/06	25/16	25/25	26/37	26/47	26/57	27/01
		28/37	28/53	32/49	32/53	33/01	34/35	34/38
		36/05	37/36	39/18	40/59	53/50	54/10	60/32
		63/20	65/01	66/20				
SWAP	001475	16/11	25/34	25/45	25/47	27/49	31/60	32/16
		34/08	34/10	35/56	37/25	38/13	41/01	42/48
		43/07	48/52	49/08	49/24	49/50	49/54	50/25
		50/59	51/16	52/32	58/30	58/47	59/03	61/31
		63/53	66/10	68/10	68/50			
SZERO	001776	20/43	43/20					
TASK	006337	3/17	45/24	69/58				
THEN	005540	61/41						
THRE	000114	3/47	9/04					
THREE	001731	19/46	67/48	68/15	68/42	68/44	68/46	
TIB	002010	20/57	35/22	37/18				
TICK	005430	60/11	60/36					
TOGGL	001527	16/43	30/06	41/47	44/41			
TOR	001343	14/21	25/44	29/28	33/22	34/37	35/57	37/37
		38/05	39/01	42/60	49/22	49/39	49/40	50/13
		50/46	51/10	51/17	53/42	54/43	55/53	55/56
		59/29	63/13	63/14	66/09	66/31		
TRIAD	006234	68/37						
TW	000113	3/46	6/45	7/12	7/33	9/57		
TWO	001725	19/40	24/23	26/36	26/56	34/34	43/34	61/28
		63/18	63/35	63/45	63/54	63/56		
TWOP	002231	24/22	27/26	35/06	64/07			
TYPE	002767	32/10	33/23	33/55	40/28	41/09	55/05	66/22
UO	000060	3/19	3/34					
UDOT	006133	67/11						
ULESS	003777	42/59	43/24	43/33	43/54			
UNTIL	005611	62/34	62/48					
UP	000106	3/41	19/14	46/58				
UPO	000102	3/37	46/57					
UPDAT	004622	51/38						
USE	002207	23/49	52/07	52/57	53/02	53/56	53/60	
USER	001704	19/10						
USLAS	001206	12/27	49/45	51/13	51/18			

USTAR	001163	12/05	38/16	38/22	49/27			
VAR	001673	18/58						
VLIST	006270	69/12						
VOCAB	004131	44/53						
VOCL	002050	21/40	45/03	45/06				
W	000001	18/06	18/07	18/08	18/09	18/10	18/11	18/13
		18/14	18/15	18/27	18/28	18/29	18/30	18/31
		18/32	18/43	18/44	18/45	18/46	18/59	18/60
		19/11	19/12	20/26	20/27	20/28	20/29	24/13
		24/14	24/15	24/23	24/24	24/25	24/34	24/35
		24/36	24/45	24/46	24/47	24/54	24/55	24/56
		24/57	24/58	25/07	25/08	25/09	25/16	25/17
		25/18	25/25	25/26	25/27	25/34	25/35	25/36
		25/44	25/45	25/46	25/47	25/48	25/57	25/58
		25/59	26/08	26/09	26/10	26/11	26/12	26/25
		26/26	26/27	26/28	26/36	26/37	26/38	26/46
		26/47	26/48	26/56	26/57	26/58	26/60	27/01
		27/02	27/03	27/04	27/05	27/06	27/08	27/16
		27/17	27/18	27/19	27/20	27/21	27/22	27/24
		27/25	27/26	27/27	27/36	27/37	27/38	27/39
		27/49	27/50	27/51	27/52	27/53	27/54	27/56
		27/58	28/07	28/08	28/09	28/10	28/11	28/12
		28/13	28/22	28/23	28/24	28/25	28/26	28/27
		28/37	28/38	28/39	28/40	28/41	28/50	28/51
		28/52	28/53	28/54	28/55	28/56	28/57	29/08
		29/09	29/10	29/11	29/12	29/13	29/14	29/24
		29/25	29/26	29/27	29/28	29/29	29/30	29/31
		29/39	29/40	29/41	29/42	29/49	29/50	29/51
		29/52	29/53	30/03	30/04	30/05	30/06	30/07
		30/15	30/16	30/17	30/18	30/19	30/29	30/30
		30/31	30/32	30/33	30/42	30/43	30/44	30/45
		30/46	30/56	30/57	30/58	30/59	30/60	31/01
		31/10	31/11	31/12	31/13	31/14	31/15	31/25
		31/26	31/27	31/36	31/37	31/38	31/39	31/40
		31/57	31/58	31/59	31/60	32/01	32/02	32/11
		32/12	32/13	32/14	32/15	32/16	32/17	32/19
		32/20	32/21	32/22	32/23	32/24	32/25	32/27
		32/29	32/41	32/42	32/43	32/45	32/46	32/47
		32/48	32/49	32/50	32/52	32/53	32/54	32/55
		32/56	32/57	32/58	32/60	33/01	33/03	33/04
		33/05	33/14	33/15	33/16	33/17	33/18	33/20
		33/21	33/22	33/23	33/24	33/32	33/33	33/34
		33/35	33/36	33/37	33/39	33/40	33/41	33/42
		33/43	33/44	33/46	33/47	33/48	33/49	33/50
		33/52	33/53	33/54	33/55	33/57	34/08	34/09
		34/10	34/11	34/12	34/13	34/14	34/16	34/17
		34/18	34/19	34/20	34/21	34/22	34/24	34/25
		34/26	34/27	34/28	34/29	34/30	34/31	34/34
		34/35	34/36	34/37	34/38	34/39	34/40	34/42
		34/43	34/44	34/45	34/46	34/47	34/49	34/50
		34/51	34/52	34/53	34/54	34/56	34/58	34/59
		34/60	35/01	35/02	35/03	35/04	35/05	35/06
		35/07	35/09	35/10	35/11	35/12	35/13	35/22
		35/23	35/24	35/25	35/26	35/27	35/28	35/29
		35/30	35/37	35/38	35/40	35/41	35/42	35/44
		35/45	35/46	35/56	35/57	35/58	35/59	36/01
		36/02	36/03	36/04	36/05	36/06	36/07	36/16
		36/17	36/18	36/28	36/29	36/30	36/31	36/40

36/41	36/42	36/43	36/44	36/45	36/46	36/47
36/55	36/56	36/57	36/58	36/59	37/08	37/09
37/10	37/11	37/12	37/13	37/14	37/15	37/16
37/18	37/19	37/21	37/22	37/23	37/24	37/25
37/26	37/27	37/29	37/30	37/31	37/32	37/33
37/35	37/36	37/37	37/38	37/39	37/40	37/41
37/42	37/44	37/45	37/46	37/47	37/48	37/49
38/03	38/04	38/05	38/06	38/07	38/08	38/09
38/11	38/12	38/13	38/14	38/15	38/16	38/17
38/19	38/20	38/21	38/22	38/23	38/25	38/26
38/27	38/28	38/29	38/30	38/31	38/32	38/34
38/35	38/36	38/38	38/39	38/50	38/51	38/52
38/53	38/54	38/55	38/56	38/57	38/58	38/60
39/01	39/02	39/03	39/04	39/06	39/07	39/08
39/09	39/10	39/12	39/13	39/14	39/15	39/16
39/17	39/18	39/20	39/21	39/22	39/23	39/24
39/26	39/27	39/28	39/29	39/30	39/32	39/42
39/43	39/44	39/45	39/46	39/47	39/48	39/50
39/51	39/52	39/53	39/54	39/55	39/56	39/57
39/59	40/09	40/10	40/19	40/20	40/21	40/22
40/23	40/24	40/26	40/27	40/28	40/29	40/33
40/34	40/35	40/36	40/37	40/38	40/39	40/40
40/48	40/49	40/50	40/51	40/52	40/53	40/55
40/56	40/57	40/58	40/59	40/60	41/01	41/02
41/04	41/05	41/06	41/07	41/08	41/09	41/10
41/11	41/21	41/22	41/23	41/24	41/25	41/26
41/28	41/29	41/30	41/31	41/33	41/34	41/35
41/36	41/37	41/38	41/39	41/40	41/42	41/43
41/44	41/45	41/46	41/47	41/48	41/49	41/51
41/52	41/53	41/54	41/55	41/56	41/57	42/08
42/09	42/10	42/11	42/12	42/13	42/14	42/15
42/25	42/26	42/27	42/28	42/29	42/30	42/31
42/33	42/44	42/45	42/46	42/47	42/48	42/49
42/50	42/52	42/60	43/01	43/02	43/03	43/04
43/05	43/07	43/08	43/09	43/10	43/20	43/21
43/22	43/23	43/24	43/25	43/26	43/28	43/29
43/30	43/31	43/32	43/33	43/34	43/35	43/37
43/48	43/50	43/51	43/52	43/53	43/54	43/56
43/57	43/58	43/59	43/60	44/02	44/04	44/05
44/06	44/08	44/09	44/10	44/11	44/12	44/13
44/14	44/15	44/17	44/18	44/19	44/21	44/22
44/24	44/26	44/27	44/38	44/39	44/40	44/41
44/42	44/54	44/55	44/56	44/57	44/58	44/59
44/60	45/02	45/03	45/04	45/05	45/06	45/07
45/08	45/10	45/11	45/12	45/13	45/22	45/23
45/24	45/26	45/38	45/39	45/40	45/41	45/42
45/49	45/50	45/51	45/52	46/01	46/02	46/03
46/04	46/06	46/07	46/08	46/09	46/10	46/11
46/13	46/14	46/15	46/16	46/20	46/21	46/30
46/31	46/32	46/33	46/34	46/45	46/46	46/47
47/34	47/35	47/36	47/37	47/38	47/39	47/40
47/41	48/02	48/03	48/04	48/05	48/06	48/14
48/15	48/16	48/17	48/18	48/26	48/27	48/28
48/37	48/38	48/39	48/47	48/48	48/49	48/50
48/51	48/52	48/54	48/55	49/03	49/04	49/05
49/06	49/07	49/08	49/10	49/11	49/19	49/20
49/21	49/22	49/23	49/24	49/25	49/27	49/28
49/29	49/30	49/38	49/39	49/40	49/41	49/42

49/43	49/45	49/46	49/47	49/48	49/49	49/50
49/52	49/53	49/54	49/55	50/02	50/03	50/04
50/13	50/14	50/15	50/16	50/17	50/24	50/25
50/26	50/27	50/35	50/36	50/37	50/46	50/47
50/48	50/49	50/50	50/58	50/59	50/60	51/01
51/10	51/11	51/12	51/13	51/14	51/16	51/17
51/18	51/19	51/20	51/39	51/40	51/41	51/42
51/43	51/44	51/45	51/47	51/48	51/49	52/02
52/03	52/04	52/05	52/06	52/07	52/08	52/09
52/11	52/21	52/22	52/23	52/24	52/25	52/26
52/28	52/29	52/30	52/31	52/32	52/33	52/35
52/36	52/37	52/38	52/39	52/40	52/42	52/43
52/45	52/54	52/55	52/56	52/57	52/58	52/60
53/01	53/02	53/03	53/05	53/06	53/15	53/16
53/17	53/18	53/26	53/27	53/28	53/29	53/30
53/39	53/40	53/41	53/42	53/43	53/44	53/45
53/46	53/47	53/48	53/50	53/51	53/52	53/54
53/55	53/56	53/57	53/58	53/59	53/60	54/01
54/03	54/04	54/05	54/06	54/07	54/08	54/10
54/11	54/12	54/14	54/15	54/16	54/17	54/18
54/20	54/21	54/22	54/23	54/24	54/25	54/27
54/28	54/29	54/30	54/31	54/32	54/43	54/44
54/45	54/46	54/47	54/49	54/50	54/51	54/52
54/53	54/54	55/03	55/04	55/05	55/06	55/16
55/17	55/18	55/19	55/20	55/21	55/22	55/23
55/24	55/26	55/27	55/28	55/29	55/31	55/32
55/34	55/40	55/42	55/51	55/52	55/53	55/54
55/55	55/56	55/57	55/58	55/59	56/01	56/02
56/03	56/04	56/05	56/06	56/08	56/09	56/10
56/11	56/19	56/20	56/21	56/22	56/24	56/25
56/26	56/27	57/60	58/01	58/02	58/03	58/04
58/14	58/15	58/16	58/17	58/18	58/28	58/29
58/30	58/31	58/32	58/33	58/35	58/36	58/37
58/39	58/40	58/41	58/42	58/43	58/44	58/45
58/47	58/48	58/49	58/50	58/51	58/52	58/54
58/55	58/56	58/57	58/58	58/59	58/60	59/01
59/03	59/04	59/05	59/06	59/07	59/08	59/09
59/11	59/12	59/14	59/15	59/24	59/25	59/26
59/27	59/29	59/30	59/31	59/32	59/33	59/34
59/35	59/37	59/38	59/39	59/40	59/41	59/42
59/43	59/45	59/46	59/48	59/49	59/50	59/51
59/52	59/53	59/54	59/56	59/57	59/58	59/59
60/12	60/13	60/14	60/15	60/16	60/17	60/18
60/28	60/29	60/30	60/31	60/32	60/33	60/34
60/35	60/36	60/37	60/39	60/40	60/41	60/42
60/43	60/44	60/46	60/47	60/48	60/49	60/50
60/51	60/52	60/53	60/55	60/56	61/05	61/06
61/15	61/16	61/17	61/18	61/27	61/28	61/29
61/30	61/31	61/32	61/33	61/42	61/43	61/51
61/52	61/53	61/54	61/55	61/56	62/05	62/06
62/07	62/08	62/09	62/10	62/11	62/20	62/21
62/22	62/23	62/24	62/25	62/26	62/35	62/36
62/37	62/38	62/39	62/40	62/48	62/49	62/58
62/59	62/60	63/01	63/02	63/03	63/13	63/14
63/15	63/16	63/17	63/18	63/20	63/21	63/22
63/30	63/31	63/32	63/33	63/34	63/35	63/36
63/45	63/46	63/47	63/48	63/49	63/50	63/51
63/53	63/54	63/55	63/56	63/57	64/06	64/07

		64/08	64/21	64/22	64/23	64/24	64/25	64/26
		64/27	64/29	64/30	64/31	64/33	64/41	64/42
		64/43	64/44	64/45	64/53	64/54	64/55	64/56
		64/57	64/58	64/60	65/01	65/02	65/11	65/12
		65/13	65/14	65/15	65/16	65/17	65/19	65/26
		65/27	65/28	65/29	65/30	65/31	65/32	65/33
		65/35	65/36	65/37	65/38	65/39	65/41	65/42
		65/43	65/44	65/45	65/54	65/55	65/56	65/57
		65/58	65/59	65/60	66/01	66/09	66/10	66/11
		66/12	66/13	66/14	66/15	66/16	66/18	66/19
		66/20	66/21	66/22	66/23	66/31	66/32	66/33
		66/34	66/35	66/43	66/44	66/45	66/46	66/53
		66/54	66/55	67/02	67/03	67/04	67/12	67/13
		67/14	67/29	67/30	67/31	67/32	67/33	67/34
		67/40	67/41	67/42	67/43	67/44	67/46	67/47
		67/48	67/49	67/50	67/52	67/53	67/54	67/55
		67/56	67/57	67/58	67/59	68/08	68/09	68/10
		68/11	68/13	68/14	68/15	68/16	68/17	68/18
		68/19	68/20	68/22	68/23	68/24	68/25	68/27
		68/28	68/29	68/38	68/39	68/40	68/42	68/43
		68/44	68/45	68/46	68/48	68/49	68/50	68/51
		68/53	68/54	68/55	68/56	68/57	68/58	68/59
		68/60	69/02	69/03	69/04	69/13	69/14	69/15
		69/16	69/17	69/18	69/19	69/20	69/22	69/23
		69/24	69/25	69/26	69/27	69/28	69/30	69/31
		69/32	69/33	69/35	69/36	69/37	69/38	69/39
		69/40	69/41	69/43	69/44	69/45	69/46	69/47
		69/48	69/49	69/50	69/59			
WAIT	000052	3/13	10/15	10/28	11/06	57/46		
WARN	002025	21/14	40/19	55/16				
WENT	004324	3/32	47/21					
WHILE	005720	64/05						
WIDTH	002016	21/05	41/37					
WORD	003341	33/41	33/52	37/07	39/43	45/51		
WRITE	005300	58/12	59/11					
XADDR	000022	8/25	8/36	8/56				
XDO	000603	7/32	32/17	32/43	34/14	59/27	61/52	64/27
		67/44	68/11	68/51				
XDP	006340	3/24	3/25	70/01				
XIO	005312	58/26	59/37					
XLOOP	000523	6/39	32/22	33/03	35/10	59/45	62/09	64/30
		67/56	68/27	68/56				
XNFA	000023	8/26	8/38	8/55	9/03			
XORR	001254	13/12	49/21	49/48				
XPLOO	000550	7/03	62/24					
XRO	035540	3/20	3/36	70/05				
XSO	035341	3/19	3/35	70/03				
XTIB	035342	3/21	70/04					
XUP	035541	3/37	3/38	70/06				
XXB1	004221	46/05	46/21					
XXB2	004235	46/15	46/19					
XXD2	003670	41/23	41/32					
XXD6	003753	42/28	42/32					
XXE3	003554	39/53	39/58					
XXE4	004046	43/47	44/27					
XXE5	004061	43/57	44/01					
XXE6	004062	43/60	44/03					
XXE7	004103	44/06	44/25					

XXEA	004065	43/51	44/07					
XXF3	003415	38/02	38/36					
XXF4	004100	44/15	44/20					
XXF5	004102	44/19	44/23					
XXF6	003501	39/05	39/24					
XXF7	003522	39/13	39/25					
XXFA	003527	39/29	39/31					
XXG4	003453	38/12	38/37					
XXG5	003450	38/29	38/33					
XXI1	003352	37/11	37/17					
XXI2	003354	37/16	37/20					
XXJ2	003241	35/41	35/43					
XXK1	003131	34/15	35/11					
XXK2	003157	34/22	34/41					
XXK3	003206	34/40	35/08					
XXK4	003173	34/47	34/55					
XXK5	003174	34/54	34/57					
XXL1	002776	32/18	32/23					
XXL2	003005	32/13	32/26					
XXL3	003006	32/25	32/28					
XXL6	003107	33/37	33/51					
XXL7	003113	33/50	33/56					
XXN1	002405	26/59	27/06					
XXN2	002461	27/51	27/55					
XXN3	002462	27/54	27/57					
XXN4	003600	40/23	40/25					
XXN5	003772	42/47	42/51					
XXP1	005340	58/49	58/53					
XXP2	005357	59/05	59/10					
XXP3	005361	59/09	59/13					
XXP4	005373	59/28	59/46					
XXP5	005411	59/42	59/44					
XXR1	006006	65/14	65/18					
XXR2	006027	65/36	65/40					
XXR3	006040	65/52	65/60					
XXR4	005743	64/25	64/32					
XXR6	004450	49/07	49/09					
XXR7	004434	48/51	48/53					
XXRA	005740	64/28	64/31					
XXT4	005022	54/19						
XXT6	005030	53/52	54/12	54/26				
XXT7	004710	52/26	52/44					
XXVOC	004163	3/26	45/25					
XXW3	005113	55/22	55/30					
XXW4	005123	55/32	55/41					
XXW5	005115	55/19	55/33					
XXW6	003021	32/44	33/04					
XXW7	003036	32/55	32/59					
XXWA	003040	32/56	33/02					
XXZ1	006162	67/45	67/57					
XXZ2	006210	68/12	68/28					
XXZ3	006224	68/24	68/26					
XXZ4	006250	68/52	68/57					
XXZ5	006300	69/21	69/48					
XXZ6	006313	69/28	69/34					
ZBRA1	000513	6/25	6/29					
ZBRAN	000505	6/23	26/09	27/05	27/50	32/12	32/54	33/36
		34/21	34/46	35/40	37/10	38/11	38/28	39/12

			39/28	39/52	40/22	41/22	42/27	42/46	43/50
			43/56	44/14	46/14	48/03	48/15	48/50	49/06
			52/25	53/51	54/11	55/18	55/21	58/48	59/04
			59/41	62/38	63/31	64/24	65/13	65/35	65/59
			68/23	69/27	69/47				
ZEQU	001362		14/40	25/17	28/09	29/10	39/51	42/09	46/13
			59/40	60/13	65/58	69/44			
ZERO	001715		19/28	29/39	31/25	32/42	34/52	34/60	35/04
			35/27	36/16	38/50	38/51	39/20	39/22	42/10
			43/01	43/03	46/01	51/11	52/02	52/06	52/42
			53/15	55/57	56/20	59/26	60/14	63/33	63/50
			64/21	64/26	66/43	67/12	67/43	68/18	69/31
ZLESS	001373		14/51	25/26	27/04	40/21	43/09	48/02	48/14
			52/24	65/12					
.WORD	000016	MC	4/15	18/05	18/12	18/26	18/42	18/58	19/10
			20/25	24/12	24/22	24/33	24/44	24/53	25/06
			25/15	25/24	25/33	25/43	25/56	26/07	26/24
			26/35	26/45	26/55	26/59	27/07	27/15	27/23
			27/35	27/48	27/55	27/57	28/06	28/21	28/36
			28/49	29/07	29/23	29/38	29/48	30/02	30/14
			30/28	30/41	30/55	31/09	31/24	31/35	31/56
			32/10	32/18	32/26	32/28	32/40	32/44	32/51
			32/59	33/02	33/13	33/19	33/31	33/38	33/45
			33/51	33/56	34/07	34/15	34/23	34/33	34/41
			34/48	34/55	34/57	35/08	35/21	35/36	35/39
			35/43	35/55	35/60	36/15	36/27	36/39	36/54
			37/07	37/17	37/20	37/28	37/34	37/43	38/02
			38/10	38/18	38/24	38/33	38/37	38/49	38/59
			39/05	39/11	39/19	39/25	39/31	39/41	39/49
			39/58	40/08	40/18	40/25	40/32	40/47	40/54
			41/03	41/20	41/27	41/32	41/41	41/50	42/07
			42/24	42/32	42/43	42/51	42/59	43/06	43/19
			43/27	43/36	43/47	43/49	43/55	44/01	44/03
			44/07	44/16	44/20	44/23	44/25	44/37	44/53
			45/01	45/09	45/21	45/25	45/37	45/48	45/60
			46/05	46/12	46/19	46/29	46/44	47/33	48/01
			48/13	48/25	48/36	48/46	48/53	49/02	49/09
			49/18	49/26	49/37	49/44	49/51	50/01	50/12
			50/23	50/34	50/45	50/57	51/09	51/15	51/38
			51/46	52/01	52/10	52/20	52/27	52/34	52/41
			52/44	52/53	52/59	53/04	53/14	53/25	53/38
			53/49	53/53	54/02	54/09	54/13	54/19	54/26
			54/42	54/48	55/02	55/15	55/25	55/30	55/33
			55/39	55/41	55/50	55/60	56/07	56/18	56/23
			57/59	58/13	58/27	58/34	58/38	58/46	58/53
			59/02	59/10	59/13	59/23	59/28	59/36	59/44
			59/47	59/55	60/11	60/27	60/38	60/45	60/54
			61/04	61/14	61/26	61/41	61/50	62/04	62/19
			62/34	62/47	62/57	63/12	63/19	63/29	63/44
			63/52	64/05	64/20	64/28	64/32	64/40	64/52
			64/59	65/10	65/18	65/25	65/34	65/40	65/53
			66/08	66/17	66/30	66/42	66/52	67/01	67/11
			67/28	67/39	67/45	67/51	68/07	68/12	68/21
			68/26	68/37	68/41	68/47	68/52	69/01	69/12
			69/21	69/29	69/34	69/42	69/58		