

```

000001 0000 ;
000002 0000 ; FFFF I GGG FFFF OO RRRR TTTTT H H
000003 0000 ; F I G F O O R R T H H
000004 0000 ; FFF I G GGG XX FFF O O RRR T HHHH
000005 0000 ; F I G G F O O R R T H H
000006 0000 ; F I GGG F OO R R T H H
000007 0000 ;
000008 0000 ; 1 8888 00 2222
000009 0000 ; 1 8 8 0 0 2
000010 0000 ; 1 8888 0 0 22
000011 0000 ; 1 8 8 0 0 2
000012 0000 ; 1 8888 00 2222
000013 0000 ;
000014 0000 ;
000015 0000 ;
000016 0000 ; ALL PUBLICATIONS OF THE FORTH INTREST GROUP
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000034 0000 ; 13490 SIMSHAW ST.
000035 0000 ; SYLMAR, CA 91342
000036 0000 ;
000037 0000 ; JIM MCDANIEL
000038 0000 ; 1109 POINCIANA DR.
000039 0000 ; SUNNYVALE, CA 94086
000040 0000 ; ADDRESS COMMENTS & CORRECTIONS TO JIM MCDANIEL.
000041 0000 ;
000042 0000 ; ACKNOWLEDGEMENTS:
000043 0000 ;
000044 0000 ; KEN MANTEI
000045 0000 ;
000046 0000 ; FIG INSTALLATION MANUAL
000047 0000 ;
000048 0000 ; FIG 8080 ASSEMBLY SOURCE LISTING..;
000049 0000 ;
000050 0000 ;
000051 0000 ; THIS LISTING TYPED PRINTED 3/18/81
000052 0000 ;
000053 0000 ;
000054 0000 ; THE I/O VECTORS FOR DISC ARE POINTING TO
000055 0000 ; ROUTINES FOR THE RCA CDP18S007, CDP18S008
000056 0000 ; OR THE CDP 18SOO5..
000057 0000 ; FOR OTHER SYSTEMS YOU WILL NEED TO
000058 0000 ; CHANGE THE POINTERS AND WRITE YOUR
000059 0000 ; OWN ROUTINES.;
000060 0000 ;
000061 0000 ; THE USER VARIABLE DV IS 3 BYTES LONG
000062 0000 ; (USER AREA OFFSET 32H 33H 34H) AND IS USED
000063 0000 ; TO PASS VARIABLES TO THE RCA ROM UTILITY
000064 0000 ; WHEN CALLING FOR DISK I/O. THE RESIDENT ROM
000065 0000 ; UTILITIES PRODUCE THEIR OWN ERROR MESSAGES.

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000066 0000 ;
000067 0000 ; THIS VERSION ASSEMBLES WITH START UP CONSTANTS THAT
000068 0000 ; ASSUME 28K OF RAM. DISC BUFFERS ARE
000069 0000 ; SET FOR 1K (THIS CAN BE EASILY CHANGED
000070 0000 ; BY CHANGING FIRST, LIMIT, B/BUF AND B/SCR) .
000071 0000 ; BLOCK 0 BEGINS AT TRACK 0 SECTOR 1.
000072 0000 ;
000073 0000 ;
000074 0000 ; DR1 (SET DRIVE TO 1) IS IMPLEMENTED AS:
000075 0000 ; : DR1 B/SCR 250 * OFFSET ! ;
000076 0000 ; THERFORE B/SCR AND B/BUF CAN BE CHANGED WITHOUT
000077 0000 ; HAVING TO REWRITE
000078 0000 ; DR1.
000079 0000 ; THE TERMINAL I/O ASSUMES THE USE OF AN
000080 0000 ; RCA CDP1854 UART CONFIGURED IN ONE OF THE
000081 0000 ; ABOVE MENTIONED SYSTEMS. THE UART IS DRIVEN
000082 0000 ; DIRECTLY WITHOUT CALLING RCA ROM UTILITY
000083 0000 ; ROUTINES.
000084 0000 ;
000085 0000 ;
000086 0000 ; THE FORTH WORD MON EXITS FORTH AND RETURNS
000087 0000 ; TO THE RESIDENT ROM UTILITY.
000088 0000 ;
000089 0000 ; THE FORTH WORD BYE IS DEFINED AS:
000090 0000 ; : BYE FLUSH MON ;;
000091 0000 ;
000092 0000 ;
000093 0000 ; REGISTER ALLOCATIONS FOR THIS VERSION
000094 0000 ;
000095 0000 ; R2 RETURNS STACK POINTER R0
000096 0000 ; GROWS DOWN LEFT POINTING TO
000097 0000 ; FREE LOCATION
000098 0000 ;
000099 0000 ; R3 PC FOR I/O AND PRIMITIVES
000100 0000 ;
000101 0000 ; R7, R8 TEMPORARY ACCUMULATORS
000102 0000 ;
000103 0000 ; R9 COMPUTATION STACK POINTER S0
000104 0000 ; GROWS UPWARD
000105 0000 ; LEFT POINTING AT HIGH BYTE
000106 0000 ;
000107 0000 ; RA FORTH "I" REGISTER IP
000108 0000 ;
000109 0000 ; RB FORTH "W" REGISTER WP
000110 0000 ;
000111 0000 ; RC PC FOR INNER INTERPRETER
000112 0000 ;
000113 0000 ; RD USER POINTER UP
000114 0000 ;
000115 0000 ; RF DISC I/O
000116 0000 ;
000117 0000 ; OTHER REGISTERS ARE LEFT AVAILABLE
000118 0000 ; EXCEPT THAT RF.0 IS ZERO AFTER COLD
000119 0000 ; OR WARM STARTS
000120 0000 ;
000121 0000 ;
000122 0000 ; MEMORY MAP
000123 0000 ;
000124 0000 ; ----- LIMIT
000125 0000 ;
000126 0000 ; RAM BUFFERS
000127 0000 ;
000128 0000 ; ----- FIRST
000129 0000 ;
000130 0000 ; USER AREA

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000131 0000 ;
000132 0000 ; ----- UP
000133 0000 ;
000134 0000 ; RETURN STACK R0
000135 0000 ;
000136 0000 ; -----
000137 0000 ;
000138 0000 ; TERMINAL BUFFER
000139 0000 ;
000140 0000 ; ----- TIB
000141 0000 ;
000142 0000 ; COMPUTATION STACK
000143 0000 ;
000144 0000 ; ----- S0
000145 0000 ;
000146 0000 ; FREE SPACE
000147 0000 ;
000148 0000 ; -----
000149 0000 ;
000150 0000 ; TEXT BUFFER
000151 0000 ;
000152 0000 ; ----- PAD
000153 0000 ;
000154 0000 ; WORD BUFFER
000155 0000 ;
000156 0000 ; ----- DP
000157 0000 ;
000158 0000 ; DICTIONARY
000159 0000 ;
000160 0000 ; -----
000161 0000 ;
000162 0000 ; BOOT UP PARAMETERS
000163 0000 ;
000164 0000 ; ----- ORGIN 005E
000165 0000 ;
000166 0000 ; ANY REQUIRED I/O
000167 0000 ; INITIALIZATION
000168 0000 ;
000169 0000 ; ----- 0000
000170 0000 ;
000171 0000 ;
000172 4000 .EQU FIRSTB, H'4000 ; ADDRESS OF FIRST DISK BUFFER
000173 6C2C .EQU LIMITB, H'6C2C ; END OF DISK BUFFER AREA
000174 0009 .EQU CSTACK, 9
000175 0002 .EQU RSTACK, 2
000176 0000 ;
000177 0000 .ORG H'0000
000178 0000 ;
000179 0000 ; SET-UP ROUTINES
000180 0000 ;
000181 0000 71 DIS
000182 0001 00 .DB H'00
000183 0002 61 OUT 1 ; SET LEVEL 1 I/O
000184 0003 01 .DB H'01
000185 0004 63 OUT 3 ; SET UP UART
000186 0005 1D .DB H'1D
000187 0006 F800 LDI H'00
000188 0008 B3 PHI 3
000189 0009 F85E LDI H'5E
000190 000B A3 PLO 3
000191 000C F82F LDI H'2F
000192 000E B2 PHI 2
000193 000F F8FF LDI H'FF
000194 0011 A2 PLO 2
000195 0012 D3 SEP 3

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000196 0013 ;
000197 0013 ;
000198 0013 ;
000199 005E .ORG H'005E
000200 005E ;
000201 005E C4 START: NOP
000202 005F C01900 LBR COLD ; COLD START
000203 0062 C4 NOP
000204 0063 C01915 LBR WARM ; WARM START
000205 0066 070A .DW H'070A ; CPU NUMBER
000206 0068 0001 .DW H'0001 ; REVISION NUMBER
000207 006A 18BF .DW TASK - 7 ; TOPMOST PRGM IN FORTH VOCABULARY
000208 006C 0008 .DW H'0008 ; BACKSPACE
000209 006E 2000 .DW H'2000 ; INITIAL USER AREA UP
000210 0070 1F00 .DW H'1F00 ; INITAL STACK S0
000211 0072 1FFF .DW H'1FFF ; INITAL RETURN STACK R0
000212 0074 1F80 .DW H'1F80 ; TERMINAL BUFFER TIB
000213 0076 001F .DW H'001F ; NAME FIELD WIDTH WIDTH
000214 0078 ; (31 DECIMAL)
000215 0078 0000 .DW H'0000 ; WARNING WARNING
000216 007A 193D .DW LEND ; FENCE FENCE
000217 007C 193D .DW LEND ; INIT DICTIONARY POINTER DP
000218 007E 0F6A .DW FRTH + 16 ; INIT VOCAB VOC-LINK
000219 0080 ;
000220 0080 ;
000221 0080 834C49D4 .DB H'83,"LI",H'D4 ; LIT
000222 0084 0000 .DW H'0000
000223 0086 0088 LIT: .DW * + 2
000224 0088 19 INC R9
000225 0089 19 INC R9
000226 008A 4A LDA RA
000227 008B 59 STR R9
000228 008C 19 INC R9
000229 008D 4A LDA RA
000230 008E 59 STR R9
000231 008F 29 DEC R9
000232 0090 DC SEP RC
000233 0091 ;
000234 0091 ;
000235 0091 ; NEXT INNER INTERPRETER
000236 0091 D3 SEP R3 ; LEAVE RC AT NEXT
000237 0092 4A NEXT: LDA RA
000238 0093 BB PHI RB
000239 0094 4A LDA RA
000240 0095 AB PLO RB
000241 0096 4B WBR: LDA RB
000242 0097 B3 PHI R3
000243 0098 4B LDA RB
000244 0099 A3 PLO R3
000245 009A 3091 BR NEXT - 1
000246 009C ; EXECUTE
000247 009C 87455845435554C5 .DB H'87,"EXECUT",H'C5 ; EXECUTE
000248 00A4 0080 .DW LIT - 6
000249 00A6 00A8 EXE: .DW * + 2
000250 00A8 49 LDA R9
000251 00A9 BB PHI RB
000252 00AA 09 LDN R9 ; LOAD W FROM STACK
000253 00AB AB PLO RB
000254 00AC 29 DEC R9
000255 00AD 29 DEC R9
000256 00AE 29 DEC R9
000257 00AF 1C INC RC
000258 00B0 1C INC RC
000259 00B1 1C INC RC ; POINT TO WBR
000260 00B2 1C INC RC

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000261 00B3 DC SEP RC
000262 00B4 ;
000263 00B4 ;
000264 00B4 864252414E43C8 .DB H'86,"BRANC",H'C8 ; BRANCH
000265 00BB 009C .DW EXE - 10
000266 00BD 00BF BRCH: .DW * + 2
000267 00BF 4A BRANCH: LDA RA
000268 00C0 52 STR R2
000269 00C1 4A LDA RA
000270 00C2 AA PLO RA
000271 00C3 02 LDN R2
000272 00C4 BA PHI RA
000273 00C5 DC SEP RC
000274 00C6 ;
000275 00C6 ;
000276 00C6 87304252414E43C8 .DB H'87,"0BRANC",H'C8 ; 0BRANCH
000277 00CE 00B4 .DW BRCH - 9
000278 00D0 00D2 ZBRCH: .DW * + 2
000279 00D2 49 LDA R9
000280 00D3 3ADD BNZ NO
000281 00D5 09 LDN R9
000282 00D6 3ADD BNZ NO
000283 00D8 29 DEC R9
000284 00D9 29 DEC R9
000285 00DA 29 DEC R9
000286 00DB 30BF BR BRANCH
000287 00DD 1A NO: INC RA
000288 00DE 1A INC RA
000289 00DF 29 DEC R9
000290 00E0 29 DEC R9
000291 00E1 29 DEC R9
000292 00E2 DC SEP RC
000293 00E3 ;
000294 00E3 86284C4F4F50A9 .DB H'86,"(LOOP",H'A9 ; (LOOP)
000295 00EA 00C6 .DW ZBRCH - 10
000296 00EC 00EE LUPE: .DW * + 2
000297 00EE 12 INC R2
000298 00EF 92 GHI R2
000299 00F0 B8 PHI R8
000300 00F1 B7 PHI R7
000301 00F2 82 GLO R2
000302 00F3 A8 PLO R8
000303 00F4 A7 PLO R7
000304 00F5 22 DEC R2
000305 00F6 08 LDN R8
000306 00F7 FC01 ADI H'01
000307 00F9 58 STR R8
000308 00FA 18 INC R8
000309 00FB 08 LDN R8
000310 00FC 7C00 ADCI H'00
000311 00FE C4 NOP ; TO NEW PAGE
000312 00FF C4 NOP
000313 0100 58 COMP: STR R8
000314 0101 18 INC R8
000315 0102 E7 SEX R7
000316 0103 48 LDA R8
000317 0104 F5 SD
000318 0105 17 INC R7
000319 0106 08 LDN R8
000320 0107 75 SDB
000321 0108 FA80 ANI H'80
000322 010A 3213 BZ CEND
000323 010C 4A LDA RA
000324 010D 52 STR R2
000325 010E 0A LDN RA

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000326 010F AA          PLO RA
000327 0110 02          LDN R2
000328 0111 BA          PHI RA
000329 0112 DC          SEP RC
000330 0113 1A          CEND:  INC RA
000331 0114 1A          INC RA
000332 0115 12          INC R2
000333 0116 12          INC R2
000334 0117 12          INC R2
000335 0118 12          INC R2
000336 0119 DC          SEP RC
000337 011A          ;
000338 011A 87282B4C4F4F50A9 .DB H'87,"(+LOOP",H'A9 ; (+LOOP)
000339 0122 00E3          .DW LUPE - 9
000340 0124 0126          PLUPE: .DW * + 2
000341 0126 12          INC R2
000342 0127 92          GHI R2
000343 0128 B8          PHI R8
000344 0129 B7          PHI R7
000345 012A 82          GLO R2
000346 012B A8          PLO R8
000347 012C A7          PLO R7
000348 012D 22          DEC R2
000349 012E E9          SEX R9
000350 012F 19          INC R9
000351 0130 08          LDN R8
000352 0131 F4          ADD
000353 0132 58          STR R8
000354 0133 18          INC R8
000355 0134 29          DEC R9
000356 0135 08          LDN R8
000357 0136 74          ADC
000358 0137 58          STR R8
000359 0138 09          LDN R9
000360 0139 FE          SHL
000361 013A 29          DEC R9
000362 013B 29          DEC R9
000363 013C 3340          BDF LUPE1
000364 013E 3001          BR COMP +1
000365 0140 18          LUPE1: INC R8
000366 0141 E7          SEX R7
000367 0142 48          LDA R8
000368 0143 F7          SM
000369 0144 17          INC R7
000370 0145 08          LDN R8
000371 0146 77          SMB
000372 0147 3008          BR COMP + 8
000373 0149          ;
000374 0149          ;
000375 0149 8428444FA9 .DB H'84,"(DO",H'A9 ; (DO)
000376 014E 011A          .DW PLUPE - 10
000377 0150 0152          PDO: .DW * + 2
000378 0152 29          DEC R9
000379 0153 29          DEC R9
000380 0154 E2          SEX R2
000381 0155 49          LDA R9
000382 0156 73          STXD
000383 0157 49          LDA R9
000384 0158 73          STXD
000385 0159 49          LDA R9
000386 015A 73          STXD
000387 015B 09          LDN R9
000388 015C 73          STXD
000389 015D 29          DEC R9
000390 015E 29          DEC R9

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000391 015F 29          DEC R9
000392 0160 29          DEC R9
000393 0161 29          DEC R9
000394 0162 DC          SEP RC
000395 0163             ;
000396 0163             ;
000397 0163 85444494749D4 .DB H'85,"DIGI",H'D4 ; DIGIT
000398 0169 0149        .DW PDO - 7
000399 016B 016D        DGT: .DW * + 2
000400 016D E9          SEX R9
000401 016E 29          DEC R9
000402 016F 09          LDN R9
000403 0170 FF30        SMI H'30
000404 0172 3B88        BNF BAD
000405 0174 FF11        SMI H'11
000406 0176 337C        BDF DOK
000407 0178 FFF9        SMI H'F9
000408 017A 3388        BDF BAD
000409 017C FC0A        DOK: ADI H'0A
000410 017E 59          STR R9
000411 017F 19          INC R9
000412 0180 19          INC R9
000413 0181 F7          SM
000414 0182 3386        BDF BAD2
000415 0184 29          DEC R9
000416 0185 DC          SEP RC
000417 0186 29          BAD2: DEC R9
000418 0187 29          DEC R9
000419 0188 F800        BAD: LDI H'00
000420 018A 73          STXD
000421 018B 59          STR R9
000422 018C DC          SEP RC
000423 018D             ;
000424 018D 862846494E44A9 .DB H'86,"(FIND",H'A9 ; (FIND)
000425 0194 0163        .DW DGT - 8
000426 0196 0198        FIND: .DW * + 2
000427 0198 29          DEC R9
000428 0199 29          DEC R9
000429 019A 49          LDA R9
000430 019B B8          PHI R8
000431 019C 49          LDA R9
000432 019D A8          PLO R8
000433 019E 49          LDA R9
000434 019F B7          PHI R7
000435 01A0 09          LDN R9
000436 01A1 A7          PLO R7
000437 01A2 29          DEC R9
000438 01A3 29          DEC R9
000439 01A4 E7          LOOP1: SEX R7 ; SAVE LENGTH BYTE
000440 01A5 07          LDN R7
000441 01A6 52          STR R2
000442 01A7 48          LDA R8 ; COMPARE LENGTH BYTES
000443 01A8 F3          XOR
000444 01A9 FA3F        ANI H'3F
000445 01AB 3AD3        BNZ BADLEN
000446 01AD 17          NEXCHR: INC R7
000447 01AE 48          LDA R8 ; COMPARE NEXT CHARACTER
000448 01AF F3          XOR
000449 01B0 FE          SHL
000450 01B1 3AD4        BNZ BADCHR ; NO MATCH ON 7 BITS
000451 01B3 7E          SHLC
000452 01B4 32AD        BZ NEXCHR ; IF NOT LAST CHARACTER
000453 01B6 47          LOOP2: LDA R7 ; ELSE END OF STRING
000454 01B7 FA80        ANI H'80
000455 01B9 32B6        BZ LOOP2

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000456 01BB E9                SEX R9                ; END OF DICT NAME
000457 01BC 87                GLO R7
000458 01BD FC04             ADI H'04
000459 01BF 73                STXD
000460 01C0 97                GHI R7
000461 01C1 7C00             ADCI H'00
000462 01C3 59                STR R9                ; LEAVE PFA
000463 01C4 19                INC R9
000464 01C5 19                INC R9
000465 01C6 F800             LDI H'00
000466 01C8 59                STR R9
000467 01C9 19                INC R9
000468 01CA 02                LDN R2                ; GET LENGTH BYTE
000469 01CB 59                STR R9
000470 01CC 19                INC R9
000471 01CD F8FF             LDI H'FF
000472 01CF 59                STR R9
000473 01D0 19                INC R9
000474 01D1 73                STXD                ; AND TRUE FLAG
000475 01D2 DC                SEP RC
000476 01D3 17                BADLEN: INC R7
000477 01D4 47                BADCHR: LDA R7
000478 01D5 FA80             ANI H'80
000479 01D7 32D4             BZ BADCHR
000480 01D9 07                LDN R7
000481 01DA 3AE7             BNZ BOK
000482 01DC 17                INC R7
000483 01DD 07                LDN R7
000484 01DE 27                DEC R7
000485 01DF 3AE7             BNZ BOK
000486 01E1 F800             LDI H'00                ; LINK=0 RETURN FALSE
000487 01E3 59                STR R9
000488 01E4 29                DEC R9
000489 01E5 59                STR R9
000490 01E6 DC                SEP RC
000491 01E7 47                BOK: LDA R7
000492 01E8 52                STR R2
000493 01E9 07                LDN R7
000494 01EA A7                PLO R7
000495 01EB 02                LDN R2
000496 01EC B7                PHI R7
000497 01ED 09                LDN R9
000498 01EE A8                PLO R8
000499 01EF 29                DEC R9
000500 01F0 49                LDA R9
000501 01F1 B8                PHI R8
000502 01F2 30A4             BR LOOP1
000503 01F4                ;
000504 01F4                ;
000505 01F4 87454E434C4F53C5 .DB H'87,"ENCLOS",H'C5 ; ENCLOSURE
000506 01FC 018D             .DW FIND -9
000507 01FE 0200             ENCL: .DW * + 2
000508 0200 29                DEC R9
000509 0201 29                DEC R9
000510 0202 49                LDA R9
000511 0203 B8                PHI R8
000512 0204 49                LDA R9
000513 0205 A8                PLO R8
000514 0206 19                INC R9
000515 0207 F800             LDI H'00                ; R7.0 IS OFFSET
000516 0209 A7                PLO R7
000517 020A 09                LDN R9                ; SAVE DELIM
000518 020B 52                STR R2
000519 020C E2                SEX R2
000520 020D 08                LOP1: LDN R8

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000521 020E F7 SM
000522 020F 3A15 BNZ FRST ; FIND FIRST NON-
000523 0211 18 INC R8 ; DELIM CHAR
000524 0212 17 INC R7
000525 0213 300D BR LOP1
000526 0215 87 FRST: GLO R7 ; SAVE OFFSET TO
000527 0216 59 STR R9
000528 0217 B7 PHI R7
000529 0218 19 INC R9 ; FIRST CHARACTER
000530 0219 F800 LDI H'00
000531 021B 59 STR R9
000532 021C 19 INC R9
000533 021D 19 INC R9
000534 021E 59 STR R9
000535 021F 19 INC R9
000536 0220 08 LOP2: LDN R8
000537 0221 322A BZ NULL ; EQUAL NULL ?
000538 0223 F7 SM ; SUBTRACT DELIMIN
000539 0224 3238 BZ DELIM
000540 0226 18 INC R8
000541 0227 17 INC R7
000542 0228 3020 BR LOP2
000543 022A 87 NULL: GLO R7 ; LEAVE OFFSET
000544 022B E9 SEX R9
000545 022C 59 STR R9
000546 022D 97 GHI R7 ; TO NEXT CHARACTER
000547 022E F7 SM
000548 022F 3A32 BNZ SKIP
000549 0231 17 INC R7
000550 0232 87 SKIP: GLO R7 ; LAST CHARACTER IN
000551 0233 29 DEC R9
000552 0234 29 DEC R9
000553 0235 59 STR R9 ; WORD
000554 0236 19 INC R9
000555 0237 DC SEP RC
000556 0238 17 DELIM: INC R7
000557 0239 87 GLO R7
000558 023A 59 STR R9
000559 023B 27 DEC R7
000560 023C 3032 BR SKIP
000561 023E ;
000562 023E 85434D4F56C5 .DB H'85,"CMOV",H'C5 ; CMOVE
000563 0244 01F4 .DW ENCL - 10
000564 0246 0248 CMOVE: .DW * + 2
000565 0248 49 LDA R9
000566 0249 FC01 ADI H'01
000567 024B B7 PHI R7
000568 024C 09 LDN R9
000569 024D A7 PLO R7
000570 024E 27 DEC R7
000571 024F 29 DEC R9
000572 0250 29 DEC R9
000573 0251 29 DEC R9
000574 0252 9A GHI RA ; PUSH RA
000575 0253 52 STR R2
000576 0254 22 DEC R2
000577 0255 8A GLO RA
000578 0256 52 STR R2
000579 0257 49 LDA R9 ; RA IS "TO"
000580 0258 BA PHI RA
000581 0259 09 LDN R9
000582 025A AA PLO RA
000583 025B 29 DEC R9
000584 025C 29 DEC R9
000585 025D 29 DEC R9

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000586 025E 49          LDA R9          ; R8 IS "FROM"
000587 025F B8          PHI R8
000588 0260 09          LDN R9
000589 0261 A8          PLO R8
000590 0262 29          DEC R9
000591 0263 29          DEC R9
000592 0264 29          DEC R9
000593 0265 97          LUUP:  GHI R7
000594 0266 326E        BZ END2
000595 0268 48          LDA R8
000596 0269 5A          STR RA
000597 026A 1A          INC RA
000598 026B 27          DEC R7
000599 026C 3065        BR LUUP
000600 026E 42          END2:  LDA R2          ; POP RA
000601 026F AA          PLO RA
000602 0270 02          LDN R2
000603 0271 BA          PHI RA
000604 0272 DC          SEP RC
000605 0273          ;
000606 0273 8255AA      .DB H'82,H'55,H'AA ; U*
000607 0276          ; UNSIGNED 16 X 16 BIT MULTIPLY
000608 0276 023E        .DW CMOVE - 8
000609 0278 027A        USTAR: .DW * + 2
000610 027A E9          SEX R9
000611 027B F800        LDI R0
000612 027D A7          PLO R7          ; R7 IS LOW 2 BYTES
000613 027E B7          PHI R7
000614 027F F810        LDI H'10        ; OF PRODUCT
000615 0281 52          LP7B:  STR R2          ; MEM(2) IS LOOP COUNT
000616 0282 87          GLO R7
000617 0283 FE          SHL
000618 0284 A7          PLO R7
000619 0285 97          GHI R7
000620 0286 7E          SHLC
000621 0287 B7          PHI R7
000622 0288 19          INC R9          ; DOUBLE THE PRODUCT AND
000623 0289 09          LDN R9          ; TEST HIGH BIT
000624 028A 7E          SHLC
000625 028B 73          STXD
000626 028C 09          LDN R9          ; OF OP2
000627 028D 7E          SHLC
000628 028E 59          STR R9
000629 028F 3BA0        BNF SKP9A
000630 0291 29          DEC R9
000631 0292 87          GLO R7
000632 0293 F4          ADD
000633 0294 A7          PLO R7
000634 0295 29          DEC R9          ; ADD OP1
000635 0296 97          GHI R7
000636 0297 74          ADC
000637 0298 B7          PHI R7
000638 0299 19          INC R9          ; TO 24 BIT PRODUCT
000639 029A 19          INC R9
000640 029B 19          INC R9
000641 029C F800        LDI H'00
000642 029E 74          ADC
000643 029F 73          STXD
000644 02A 0 02          SKP9A: LDN R2
000645 02A1 FF01        SMI H'01
000646 02A3 3A81        BNZ LP7B
000647 02A5 29          UOUT:  DEC R9          ; MOVE REST OF
000648 02A6 87          GLO R7
000649 02A7 73          STXD
000650 02A8 97          GHI R7          ; PRODUCT TO STACK

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000651 02A9 59 STR R9
000652 02AA 19 INC R9
000653 02AB 19 INC R9
000654 02AC DC SEP RC
000655 02AD ;
000656 02AD 8255AF .DB H'82,H'55,H'AF ; U/ UNSIGNED DIVIDE
000657 02B0 0273 .DW USTAR - 5
000658 02B2 02B4 USLSH: .DW * + 2
000659 02B4 E9 SEX R9
000660 02B5 29 DEC R9
000661 02B6 29 DEC R9
000662 02B7 49 LDA R9
000663 02B8 B7 PHI R7
000664 02B9 09 LDN R9
000665 02BA A7 PLO R7
000666 02BB 29 DEC R9
000667 02BC 29 DEC R9
000668 02BD 49 LDA R9
000669 02BE FE SHL
000670 02BF 19 INC R9
000671 02C0 73 STXD
000672 02C1 29 DEC R9
000673 02C2 29 DEC R9
000674 02C3 49 LDA R9
000675 02C4 7E SHLC
000676 02C5 19 INC R9
000677 02C6 59 STR R9
000678 02C7 19 INC R9
000679 02C8 F810 LDI H'10
000680 02CA A8 PLO R8
000681 02CB 87 LPC5: GLO R7
000682 02CC 7E SHLC
000683 02CD A7 PLO R7
000684 02CE 97 GHI R7
000685 02CF 7E SHLC
000686 02D0 B7 PHI R7
000687 02D1 19 INC R9
000688 02D2 19 INC R9
000689 02D3 87 GLO R7
000690 02D4 F7 SM
000691 02D5 B8 PHI R8
000692 02D6 29 DEC R9
000693 02D7 97 GHI R7
000694 02D8 77 SMB
000695 02D9 3BDE BNF SKPD8
000696 02DB B7 PHI R7
000697 02DC 98 GHI R8
000698 02DD A7 PLO R7
000699 02DE 29 SKPD8: DEC R9
000700 02DF 09 LDN R9
000701 02E0 7E SHLC
000702 02E1 73 STXD
000703 02E2 09 LDN R9
000704 02E3 7E SHLC
000705 02E4 59 STR R9
000706 02E5 19 INC R9
000707 02E6 28 DEC R8
000708 02E7 88 GLO R8
000709 02E8 3ACB BNZ LPC5
000710 02EA 29 DEC R9
000711 02EB 30A5 BR UOUT
000712 02ED ;
000713 02ED 83414EC4 .DB H'83,"AN",H'C4 ; AND
000714 02F1 02AD .DW USLSH - 5
000715 02F3 02F5 FAND: .DW * + 2

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000716 02F5 89          GLO R9
000717 02F6 A8          PLO R8
000718 02F7 99          GHI R9
000719 02F8 B8          PHI R8
000720 02F9 28          DEC R8
000721 02FA E8          SEX R8
000722 02FB 19          INC R9
000723 02FC 09          LDN R9
000724 02FD F2          AND
000725 02FE 73          STXD
000726 02FF 29          DEC R9
000727 0300 09          LDN R9
000728 0301 F2          AND
000729 0302 58          STR R8
000730 0303 29          DEC R9
000731 0304 29          DEC R9
000732 0305 DC          SEP RC
000733 0306              ;
000734 0306 824FD2      .DB H'82,H'4F,H'D2 ; OR
000735 0309 02ED        .DW FAND - 6
000736 030B 030D        FFOR: .DW * + 2
000737 030D 89          GLO R9
000738 030E A8          PLO R8
000739 030F 99          GHI R9
000740 0310 B8          PHI R8
000741 0311 28          DEC R8
000742 0312 E8          SEX R8
000743 0313 19          INC R9
000744 0314 09          LDN R9
000745 0315 F1          OR
000746 0316 73          STXD
000747 0317 29          DEC R9
000748 0318 09          LDN R9
000749 0319 F1          OR
000750 031A 58          STR R8
000751 031B 29          DEC R9
000752 031C 29          DEC R9
000753 031D DC          SEP RC
000754 031E              ;
000755 031E 83584FD2    .DB H'83,"XO",H'D2 ; XOR
000756 0322 0306        .DW FFOR - 5
000757 0324 0326        FXOR: .DW * + 2
000758 0326 89          GLO R9
000759 0327 A8          PLO R8
000760 0328 99          GHI R9
000761 0329 B8          PHI R8
000762 032A 28          DEC R8
000763 032B E8          SEX R8
000764 032C 19          INC R9
000765 032D 09          LDN R9
000766 032E F3          XOR
000767 032F 73          STXD
000768 0330 29          DEC R9
000769 0331 09          LDN R9
000770 0332 F3          XOR
000771 0333 58          STR R8
000772 0334 29          DEC R9
000773 0335 29          DEC R9
000774 0336 DC          SEP RC
000775 0337              ;
000776 0337 835350C0    .DB H'83,"SP",H'C0 ; SP@
000777 033B 031E        .DW FXOR - 6
000778 033D 033F        FSPAT: .DW * + 2
000779 033F 99          GHI R9
000780 0340 52          STR R2

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000781 0341 89          GLO R9
000782 0342 19          INC R9
000783 0343 19          INC R9
000784 0344 19          INC R9
000785 0345 59          STR R9
000786 0346 29          DEC R9
000787 0347 02          LDN R2
000788 0348 59          STR R9
000789 0349 DC          SEP RC
000790 034A
000791 034A 835350A1    ;          .DB H'83,"SP",H'A1 ; SP!
000792 034E                                     ;          stack pointer store
000793 034E 0337          .DW FSPAT - 6
000794 0350 0352          SP1: .DW * + 2
000795 0352 8D          GLO RD
000796 0353 FC06          ADI H'06
000797 0355 A8          PLO R8
000798 0356 9D          GHI RD
000799 0357 7C00          ADCI H'00
000800 0359 B8          PHI R8
000801 035A 48          LDA R8
000802 035B B9          PHI R9
000803 035C 08          LDN R8
000804 035D A9          PLO R9
000805 035E DC          SEP RC
000806 035F
000807 035F 835250A1    ;          .DB H'83,"RP",H'A1 ; RP!
000808 0363                                     ;          RETURN STACK POINTER STORE
000809 0363 034A          .DW SP1 - 6
000810 0365 0367          RP1: .DW * + 2
000811 0367 8D          GLO RD
000812 0368 FC08          ADI R8
000813 036A A8          PLO R8
000814 036B 9D          GHI RD
000815 036C 7C00          ADCI H'00
000816 036E B8          PHI R8
000817 036F 48          LDA R8
000818 0370 B2          PHI R2
000819 0371 08          LDN R8
000820 0372 A2          PLO R2
000821 0373 DC          SEP RC
000822 0374
000823 0374 823BD3      ;          .DB H'82,H'3B,H'D3 ; S (UNEST)
000824 0377 035F          .DW RP1 - 6
000825 0379 037B          SEMIS: .DW * + 2
000826 037B 12          INC R2
000827 037C 42          LDA R2
000828 037D AA          PLO RA
000829 037E 02          LDN R2
000830 037F BA          PHI RA
000831 0380 DC          SEP RC
000832 0381
000833 0381 854C454156C5 .DB H'85,"LEAV",H'C5 ; LEAVE
000834 0387 0374          .DW SEMIS - 5
000835 0389 038B          LVE: .DW * + 2
000836 038B 92          GHI R2
000837 038C B8          PHI R8
000838 038D 82          GLO R2
000839 038E A8          PLO R8
000840 038F 18          INC R8
000841 0390 48          LDA R8
000842 0391 18          INC R8
000843 0392 58          STR R8
000844 0393 28          DEC R8
000845 0394 48          LDA R8

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000846 0395 18          INC R8
000847 0396 58          STR R8
000848 0397 DC          SEP RC
000849 0398             ;
000850 0398 823ED2      .DB H'82,H'3E,H'D2 ; >R TO R
000851 039B 0381      .DW LVE - 8
000852 039D 039F      GR: .DW * + 2
000853 039F E2         SEX R2
000854 03A0 49         LDA R9
000855 03A1 73         STXD
000856 03A2 09         LDN R9
000857 03A3 73         STXD
000858 03A4 29         DEC R9
000859 03A5 29         DEC R9
000860 03A6 29         DEC R9
000861 03A7 DC         SEP RC
000862 03A8             ;
000863 03A8 8252BE      .DB H'82,H'52,H'BE ; R> FROM R
000864 03AB 0398      .DW GR - 5
000865 03AD 03AF      RG: .DW * + 2
000866 03AF 19         INC R9
000867 03B0 19         INC R9
000868 03B1 19         INC R9
000869 03B2 12         INC R2
000870 03B3 42         LDA R2
000871 03B4 59         STR R9
000872 03B5 29         DEC R9
000873 03B6 02         LDN R2
000874 03B7 59         STR R9
000875 03B8 DC         SEP RC
000876 03B9             ;
000877 03B9 81D2      .DW H'81D2 ; R COPY TOP OF RETN
000878 03BB 03A8      .DW RG - 5 ; STACK TO TOP OF
000879 03BD 03BF      R: .DW * + 2 ; COMPUTATION STACK
000880 03BF 82         GLO R2
000881 03C0 A8         PLO R8
000882 03C1 92         GHI R2
000883 03C2 B8         PHI R8
000884 03C3 18         INC R8
000885 03C4 19         INC R9
000886 03C5 19         INC R9
000887 03C6 19         INC R9
000888 03C7 48         LDA R8
000889 03C8 59         STR R9
000890 03C9 29         DEC R9
000891 03CA 08         LDN R8
000892 03CB 59         STR R9
000893 03CC DC         SEP RC
000894 03CD             ;
000895 03CD 8230BD      .DB H'82,H'30,H'BD ; 0=
000896 03D0 03B9      .DW R - 4
000897 03D2 03D4      ZEQUAL: .DW * + 2
000898 03D4 49         LDA R9
000899 03D5 3ADE       BNZ NONE
000900 03D7 09         LDN R9
000901 03D8 3ADE       BNZ NONE
000902 03DA F801      ZONE: LDI H'01
000903 03DC 30E0      BR STOR
000904 03DE F800      NONE: LDI H'00
000905 03E0 59        STOR: STR R9
000906 03E1 29        DEC R9
000907 03E2 F800      LDI H'00
000908 03E4 59        STR R9
000909 03E5 DC        SEP RC
000910 03E6             ;

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000911 03E6 8230BC          .DB H'82,H'30,H'BC ; 0<
000912 03E9 03CD          .DW ZEQL - 5
000913 03EB 03ED          ZLESS: .DW * + 2
000914 03ED 49            LDA R9
000915 03EE FE            SHL
000916 03EF 33DA          BDF ZONE
000917 03F1 30DE          BR NONE
000918 03F3              ;
000919 03F3 81AB          .DW H'81AB ; +
000920 03F5 03E6          .DW ZLESS - 5
000921 03F7 03F9          PLUS: .DW * + 2
000922 03F9 89            GLO R9
000923 03FA A8            PLO R8
000924 03FB 99            GHI R9
000925 03FC B8            PHI R8
000926 03FD 28            DEC R8
000927 03FE E8            SEX R8
000928 03FF 19            INC R9
000929 0400 09            LDN R9
000930 0401 F4            ADD
000931 0402 73            STXD
000932 0403 29            DEC R9
000933 0404 09            LDN R9
000934 0405 74            ADC
000935 0406 58            STR R8
000936 0407 29            DEC R9
000937 0408 29            DEC R9
000938 0409 DC            SEP RC
000939 040A              ;
000940 040A 854D494E55D3 .DB H'85,"MINU",H'D3 ; MINUS
000941 0410 03F3          .DW PLUS - 4
000942 0412 0414          MINUS: .DW * + 2
000943 0414 FF00          SMI H'00 ; SET CARRY
000944 0416 19            MINOS: INC R9
000945 0417 09            LDN R9
000946 0418 FBFF          XRI H'FF
000947 041A 7C00          ADCI H'00
000948 041C 59            STR R9
000949 041D 29            DEC R9
000950 041E 09            LDN R9
000951 041F FBFF          XRI H'FF
000952 0421 7C00          ADCI H'00
000953 0423 59            STR R9
000954 0424 DC            SEP RC
000955 0425              ;
000956 0425 8244AB          .DB H'82,H'44,H'AB ; D+ DBL PRCN INTEGERS
000957 0428 040A          .DW MINUS - 8 ; ARE STORED HIGH 16 BITS TOP
000958 042A 042C          DPLUS: .DW * + 2 ; LOW 16 BITS BENEATH
000959 042C 89            GLO R9
000960 042D FF05          SMI H'05
000961 042F A8            PLO R8
000962 0430 99            GHI R9
000963 0431 7F00          SMBI H'00
000964 0433 B8            PHI R8
000965 0434 29            DEC R9
000966 0435 E8            SEX R8
000967 0436 09            LDN R9
000968 0437 F4            ADD
000969 0438 73            STXD
000970 0439 29            DEC R9
000971 043A 09            LDN R9
000972 043B 74            ADC
000973 043C 58            STR R8
000974 043D 18            INC R8
000975 043E 18            INC R8

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000976 043F 18          INC R8
000977 0440 19          INC R9
000978 0441 19          INC R9
000979 0442 19          INC R9
000980 0443 09          LDN R9
000981 0444 74          ADC
000982 0445 73          STXD
000983 0446 29          DEC R9
000984 0447 09          LDN R9
000985 0448 74          ADC
000986 0449 58          STR R8
000987 044A 29          DEC R9
000988 044B 29          DEC R9
000989 044C 29          DEC R9
000990 044D 29          DEC R9
000991 044E DC          SEP RC
000992 044F          ;
000993 044F 86444D494E55D3      .DB H'86,"DMINU",H'D3 ; DMINUS
000994 0456 0425          .DW DPLUS - 5
000995 0458 045A          DMIN: .DW * + 2
000996 045A E9          SEX R9
000997 045B 29          DEC R9
000998 045C 09          LDN R9
000999 045D FBFF          XRI H'FF
001000 045F FC01          ADI H'01
001001 0461 73          STXD
001002 0462 09          LDN R9
001003 0463 FBFF          XRI H'FF
001004 0465 7C00          ADCI H'00
001005 0467 59          STR R9
001006 0468 19          INC R9
001007 0469 19          INC R9
001008 046A 3016          BR MINOS
001009 046C          ;
001010 046C 844F5645D2      .DB H'84,"OVE",H'D2 ; OVER
001011 0471 044F          .DW DMIN - 9
001012 0473 0475          OVER: .DW * + 2
001013 0475 29          DEC R9
001014 0476 29          DEC R9
001015 0477 49          LDA R9
001016 0478 19          INC R9
001017 0479 19          INC R9
001018 047A 19          INC R9
001019 047B 59          STR R9
001020 047C 29          DEC R9
001021 047D 29          DEC R9
001022 047E 29          DEC R9
001023 047F 49          LDA R9
001024 0480 19          INC R9
001025 0481 19          INC R9
001026 0482 19          INC R9
001027 0483 59          STR R9
001028 0484 29          DEC R9
001029 0485 DC          SEP RC
001030 0486          ;
001031 0486 8444524FD0      .DB H'84,"DRO",H'D0 ; DROP
001032 048B 046C          .DW OVER - 7
001033 048D 048F          DROP: .DW * + 2
001034 048F 29          DEC R9
001035 0490 29          DEC R9
001036 0491 DC          SEP RC
001037 0492          ;
001038 0492 84535741D0      .DB H'84,"SWA",H'D0 ; SWAP
001039 0497 0486          .DW DROP - 7
001040 0499 049B          SWAP: .DW * + 2

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001041 049B 89          GLO R9
001042 049C A8          PLO R8
001043 049D 99          GHI R9
001044 049E B8          PHI R8
001045 049F 28          DEC R8
001046 04A0 08          LDN R8
001047 04A1 52          STR R2
001048 04A2 19          INC R9
001049 04A3 09          LDN R9
001050 04A4 58          STR R8
001051 04A5 02          LDN R2
001052 04A6 59          STR R9
001053 04A7 29          DEC R9
001054 04A8 28          DEC R8
001055 04A9 08          LDN R8
001056 04AA 52          STR R2
001057 04AB 09          LDN R9
001058 04AC 58          STR R8
001059 04AD 02          LDN R2
001060 04AE 59          STR R9
001061 04AF DC          SEP RC
001062 04B0          ;
001063 04B0 834455D0    .DB H'83,"DU",H'D0 ; DUP
001064 04B4 0492        .DW SWAP - 7
001065 04B6 04B8        DUP: .DW * + 2
001066 04B8 49          LDA R9
001067 04B9 19          INC R9
001068 04BA 59          STR R9
001069 04BB 29          DEC R9
001070 04BC 49          LDA R9
001071 04BD 19          INC R9
001072 04BE 59          STR R9
001073 04BF 29          DEC R9
001074 04C0 DC          SEP RC
001075 04C1          ;
001076 04C1 822BA1      .DB H'82,H'2B,H'A1 ; +!
001077 04C4 04B0        .DW DUP - 6
001078 04C6 04C8        PLUSS: .DW * + 2
001079 04C8 49          LDA R9
001080 04C9 B8          PHI R8
001081 04CA 09          LDN R9
001082 04CB A8          PLO R8
001083 04CC 29          DEC R9
001084 04CD 29          DEC R9
001085 04CE 18          INC R8
001086 04CF E8          SEX R8
001087 04D0 09          LDN R9
001088 04D1 F4          ADD
001089 04D2 73          STXD
001090 04D3 29          DEC R9
001091 04D4 09          LDN R9
001092 04D5 74          ADC
001093 04D6 58          STR R8
001094 04D7 29          POP: DEC R9
001095 04D8 29          DEC R9
001096 04D9 DC          SEP RC
001097 04DA          ;
001098 04DA 86544F47474CC5 .DB H'86,"TOGGL",H'C5 ; TOGGLE
001099 04E1 04C1        .DW PLUSS - 5
001100 04E3 04E5        TGLE: .DW * + 2
001101 04E5 19          INC R9
001102 04E6 09          LDN R9
001103 04E7 A7          PLO R7
001104 04E8 29          DEC R9
001105 04E9 29          DEC R9

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001106	04EA	29		DEC	R9
001107	04EB	49		LDA	R9
001108	04EC	B8		PHI	R8
001109	04ED	09		LDN	R9
001110	04EE	A8		PLO	R8
001111	04EF	E8		SEX	R8
001112	04F0	87		GLO	R7
001113	04F1	F3		XOR	
001114	04F2	58		STR	R8
001115	04F3	29		DEC	R9
001116	04F4	30D7		BR	POP
001117	04F6			;	
001118	04F6	81C0		.DW	H'81C0 ; @
001119	04F8	04DA		.DW	TGLE - 9
001120	04FA	04FC	AT:	.DW	* + 2
001121	04FC	49		LDA	R9
001122	04FD	B8		PHI	R8
001123	04FE	09		LDN	R9
001124	04FF	A8		PLO	R8
001125	0500	29		DEC	R9
001126	0501	48		LDA	R8
001127	0502	59		STR	R9
001128	0503	19		INC	R9
001129	0504	08		LDN	R8
001130	0505	59		STR	R9
001131	0506	29		DEC	R9
001132	0507	DC		SEP	RC
001133	0508			;	
001134	0508	8243C0		.DB	H'82,H'43,H'C0 ; C@
001135	050B	04F6		.DW	AT - 4
001136	050D	050F	CAT:	.DW	* + 2
001137	050F	49		LDA	R9
001138	0510	B8		PHI	R8
001139	0511	09		LDN	R9
001140	0512	A8		PLO	R8
001141	0513	08		LDN	R8
001142	0514	59		STR	R9
001143	0515	29		DEC	R9
001144	0516	F800		LDI	H'00
001145	0518	59		STR	R9
001146	0519	DC		SEP	RC
001147	051A			;	
001148	051A	81A1		.DW	H'81A1 ; ! STORE
001149	051C	0508		.DW	CAT - 5
001150	051E	0520	EX:	.DW	* + 2
001151	0520	49		LDA	R9
001152	0521	B8		PHI	R8
001153	0522	09		LDN	R9
001154	0523	A8		PLO	R8
001155	0524	29		DEC	R9
001156	0525	29		DEC	R9
001157	0526	29		DEC	R9
001158	0527	49		LDA	R9
001159	0528	58		STR	R8
001160	0529	18		INC	R8
001161	052A	09		LDN	R9
001162	052B	58		STR	R8
001163	052C	29		DEC	R9
001164	052D	29		DEC	R9
001165	052E	29		DEC	R9
001166	052F	DC		SEP	RC
001167	0530			;	
001168	0530	8243A1		.DB	H'82,H'43,H'A1 ; C! C STORE
001169	0533	051A		.DW	EX - 4
001170	0535	0537	CEX:	.DW	* + 2

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001171 0537 49          LDA R9
001172 0538 B8          PHI R8
001173 0539 09          LDN R9
001174 053A A8          PLO R8
001175 053B 29          DEC R9
001176 053C 29          DEC R9
001177 053D 09          LDN R9
001178 053E 58          STR R8
001179 053F 29          DEC R9
001180 0540 29          DEC R9
001181 0541 29          DEC R9
001182 0542 DC          SEP RC
001183 0543          ;
001184 0543          ;
001185 0543          ; THE FOLLOWING FOUR ROUTINES ARE USER DEFINED
001186 0543          ; FOR THE CONSOLE INPUT AND OUTPUT
001187 0543          ;
001188 0543          ; SEND ASCII TO TERMINAL
001189 0543          ;
001190 0543 84454D49D4  .DB H'84,"EMI",H'D4 ; EMIT
001191 0548 0530          .DW CEX - 5
001192 054A 05C2          EMIT:  .DW NEST          ; OUTPUT CHAR TO
001193 054C          ; TERMINAL AND INCREMENT
001194 054C          ; "OUT"
001195 054C 06DB          .DW FOUT          ; GET ADDRESS OF OUT
001196 054E 0552          .DW CSEND
001197 0550 0379          .DW SEMIS
001198 0552 0554          CSEND: .DW * + 2
001199 0554          ; INCREMENT USER VARIABLE "OUT"
001200 0554          ; WHOSE ADDRESS IN ON THE COMPUTATION
001201 0554          ; STACK
001202 0554 49          LDA R9
001203 0555 B8          PHI R8
001204 0556 09          LDN R9
001205 0557 A8          PLO R8
001206 0558 29          DEC R9
001207 0559 29          DEC R9
001208 055A 29          DEC R9
001209 055B 18          INC R8
001210 055C 08          LDN R8
001211 055D FC01          ADI H'01
001212 055F 58          STR R8
001213 0560 28          DEC R8
001214 0561 08          LDN R8
001215 0562 7C00          ADCI H'00
001216 0564 58          STR R8
001217 0565          ; WAIT UNTIL UART FREE AND
001218 0565          ; SEND OUT CHARACTER WHICH IS ON
001219 0565          ; THE COMP.STACK
001220 0565 E2          CSEND1: SEX R2
001221 0566 6B          INP R3          ; GET UART STATUS
001222 0567 FE          SHL          ; GET THRE FLAG
001223 0568 3B65          BNF CSEND1
001224 056A E9          SEX R9
001225 056B 19          INC R9
001226 056C 62          OUT 2
001227 056D 29          DEC R9
001228 056E 29          DEC R9
001229 056F 29          DEC R9
001230 0570 29          DEC R9
001231 0571 DC          SEP RC
001232 0572          ;
001233 0572          ;
001234 0572 834B45D9      .DB H'83,"KE",H'D9 ; KEY READ KEYBOARD
001235 0576 0543          .DW EMIT - 7

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001236 0578 057A          KEY:      .DW * + 2
001237 057A E9            SEX CSTACK
001238 057B 60            IRX
001239 057C 60            IRX
001240 057D 60            IRX
001241 057E 6B          KEY1:    INP R3                ; GET DA BIT FROM
001242 057F F6            SHR                ; UART STATUS BYTE
001243 0580 3B7E         BNF KEY1                ; WAIT 'TILL DATA AVAIL.
001244 0582 6A            INP 2                    ; GET DATA
001245 0583 FA7F         ANI H'7F                ; STRIP PARITY BIT
001246 0585 59            STR CSTACK
001247 0586 29            DEC CSTACK
001248 0587 F800         LDI H'00
001249 0589 59            STR CSTACK
001250 058A DC            SEP RC
001251 058B              ;
001252 058B              ; TEST FOR BREAK
001253 058B              ;
001254 058B 893F5445524D494E .DB H'89,"?TERMINA",H'CC ; ?TERMINAL
001255 0595 0572         .DW KEY - 6
001256 0597              ; ASSUME THAT A FRAMING ERROR INDICATES
001257 0597              ; THAT THE BREAK KEY IS OR WAS PRESSED.
001258 0597 0599         QTERM:  .DW * +2
001259 0599 E9            SEX CSTACK
001260 059A 60            IRX
001261 059B 60            IRX
001262 059C 60            IRX
001263 059D 6B            INP 3                    ; GET NEW STATUS BYTE
001264 059E FA08         ANI H'08                ; FET FRAMING ERROR BIT
001265 05A0 73            STXD
001266 05A1 6A            INP 2                    ; DO A DUMMY READ TO
001267 05A2              ; CLEAR THE DATA AVAILABLE SIGNAL
001268 05A2 F800         LDI H'00
001269 05A4 59            STR CSTACK
001270 05A5 DC            SEP RC
001271 05A6              ;
001272 05A6              ; SEND CR/LF TO TERMINAL
001273 05A6              ;
001274 05A6 8243D2         .DB H'82,H'43,H'D2 ; CR
001275 05A9 058B         .DW QTERM - 12
001276 05AB 05AD         CR:      .DW * + 2
001277 05AD E2            SEX RSTACK
001278 05AE 6B          CR1:    INP 3                ; GET THRE BIT
001279 05AF FE            SHL
001280 05B0 3BAE         BNF CR1
001281 05B2 F80D         LDI H'0D
001282 05B4 52            STR RSTACK
001283 05B5 62            OUT 2
001284 05B6 22            DEC RSTACK
001285 05B7 6B          CR2:    INP 3
001286 05B8 FE            SHL
001287 05B9 3BB7         BNF CR2
001288 05BB F80A         LDI H'0A
001289 05BD 52            STR RSTACK
001290 05BE 62            OUT 2
001291 05BF 22            DEC RSTACK
001292 05C0 E9            SEX R9
001293 05C1 DC            SEP RC
001294 05C2              ;
001295 05C2              ;
001296 05C2 9A          NEST:   GHI RA
001297 05C3 52            STR R2
001298 05C4 22            DEC R2
001299 05C5 8A            GLO RA

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001300 05C6 52          STR R2
001301 05C7 22          DEC R2
001302 05C8 9B          GHI RB
001303 05C9 BA          PHI RA
001304 05CA 8B          GLO RB
001305 05CB AA          PLO RA
001306 05CC DC          SEP RC
001307 05CD              ;
001308 05CD 19          VAR:  INC R9
001309 05CE 19          INC R9
001310 05CF 9B          GHI RB
001311 05D0 59          STR R9
001312 05D1 19          INC R9
001313 05D2 8B          GLO RB
001314 05D3 59          STR R9
001315 05D4 29          DEC R9
001316 05D5 DC          SEP RC
001317 05D6              ;
001318 05D6 19          CONST: INC R9
001319 05D7 19          INC R9
001320 05D8 4B          LDA RB
001321 05D9 59          STR R9
001322 05DA 19          INC R9
001323 05DB 4B          LDA RB
001324 05DC 59          STR R9
001325 05DD 29          DEC R9
001326 05DE DC          SEP RC
001327 05DF              ;
001328 05DF 19          USER:  INC R9
001329 05E0 19          INC R9
001330 05E1 E9          SEX R9
001331 05E2 4B          LDA RB
001332 05E3 59          STR R9
001333 05E4 19          INC R9
001334 05E5 4B          LDA RB
001335 05E6 59          STR R9
001336 05E7 8D          GLO RD
001337 05E8 F4          ADD
001338 05E9 73          STXD
001339 05EA 9D          GHI RD
001340 05EB 74          ADC
001341 05EC 59          STR R9
001342 05ED DC          SEP RC
001343 05EE              ;
001344 05EE              ; FROM HERE ON THE SOURCE IS GENERALLY
001345 05EE              ; DEFINED WITH FORTH WORD ADDRESSES
001346 05EE              ;
001347 05EE 81B0          .DW H'81B0          ; 0
001348 05F0 05A6          .DW CR - 5
001349 05F2 05D6          ZERO:  .DW CONST
001350 05F4 0000          .DW H'0000
001351 05F6              ;
001352 05F6 81B1          .DW H'81B1          ; 1
001353 05F8 05EE          .DW ZERO - 4
001354 05FA 05D6          ONE:   .DW CONST
001355 05FC 0001          .DW H'0001
001356 05FE              ;
001357 05FE 81B2          .DW H'81B2          ; 2
001358 0600 05F6          .DW ONE - 4
001359 0602 05D6          TWO:  .DW CONST
001360 0604 0002          .DW H'0002
001361 0606              ;
001362 0606 8242CC          .DB H'82,H'42,H'CC ; BL
001363 0609 05FE          .DW TWO - 4          ; CONSTANT ASCII BLANK
001364 060B 05D6          BL:   .DW CONST

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001365 060D 0020          .DW H'0020
001366 060F              ;
001367 060F 83432FCC     .DB H'83,H'43,H'2F,H'CC ; C/L
001368 0613                          ; CHARACTERS PER LINE
001369 0613 0606         .DW BL - 5
001370 0615 05D6         CL:  .DW CONST
001371 0617 0040         .DW H'0040          ; 64 (DECIMAL)
001372 0619              ;
001373 0619 8546495253D4 .DB H'85,"FIRS",H'D4 ; FIRST
001374 061F 060F         .DW CL - 6
001375 0621 05D6         FIRST: .DW CONST
001376 0623 4000         .DW FIRSTB
001377 0625              ;
001378 0625 854C494D49D4 .DB H'85,"LIMI",H'D4 ; LIMIT
001379 062B 0619         .DW FIRST - 8
001380 062D 05D6         LIMIT: .DW CONST
001381 062F 6C2C         .DW LIMITB
001382 0631              ;
001383 0631 85422F4255C6 .DB H'85,"B/BU",H'C6 ; B/BUF
001384 0637                          ; BYTES PER BUFFER
001385 0637 0625         .DW LIMIT - 8
001386 0639 05D6         BBUF: .DW CONST
001387 063B 0400         .DW H'0400          ; 1024 BYTES/BUFFER
001388 063D              ;
001389 063D 85422F5343D2 .DB H'85,"B/SC",H'D2 ; B/SCR
001390 0643                          ; BUFFERS/SCREEN
001391 0643 0631         .DW BBUF - 8
001392 0645 05D6         BSCR: .DW CONST
001393 0647 0001         .DW H'0001
001394 0649              ;
001395 0649 864F52494749CE .DB H'86,"ORIGI",H'CE ; ORIGIN
001396 0650 063D         .DW BSCR - 8
001397 0652 05D6         ORGN: .DW CONST
001398 0654 005E         .DW H'005E
001399 0656              ;
001400 0656 872B4F52494749CE .DB H'87,"+ORIGI",H'CE ; +ORIGIN
001401 065E              ;
001402 065E 0649         .DW ORGN - 9
001403 0660 05C2         PORGN: .DW NEST
001404 0662 0652         .DW ORGN
001405 0664 03F7         .DW PLUS
001406 0666 0379         .DW SEMIS
001407 0668              ;
001408 0668              ; USER VARIABLES
001409 0668              ;
001410 0668 8253B0         .DB H'82,H'53,H'B0 ; S0
001411 066B 0656         .DW PORGN - 10
001412 066D 05DF         SO:  .DW USER
001413 066F 0006         .DW H'0006
001414 0671              ;
001415 0671 8252B0         .DB H'82,H'52,H'B0 ; R0
001416 0674 0668         .DW SO - 5
001417 0676 05DF         RO:  .DW USER
001418 0678 0008         .DW H'0008
001419 067A              ;
001420 067A 835449C2     .DB H'83,"TI",H'C2 ; TIB
001421 067E 0671         .DW RO - 5
001422 0680 05DF         TIB: .DW USER
001423 0682 000A         .DW H'000A
001424 0684              ;
001425 0684 8557494454C8 .DB H'85,"WIDT",H'C8 ; WIDTH
001426 068A 067A         .DW TIB - 6
001427 068C 05DF         WIDTH: .DW USER
001428 068E 000C         .DW H'000C
001429 0690              ;

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001430 0690 875741524E494EC7      .DB H'87,"WARNIN",H'C7 ; WARNING
001431 0698 0684                  .DW WIDTH - 8
001432 069A 05DF                  WRNG:  .DW USER
001433 069C 000E                  .DW H'000E
001434 069E                        ;
001435 069E 8546454E43C5          .DB H'85,"FENC",H'C5 ; FENCE   FORGET BOUNDRY
001436 06A4 0690                  .DW WRNG - 10
001437 06A6 05DF                  FNCE:  .DW USER
001438 06A8 0010                  .DW H'0010
001439 06AA                        ;
001440 06AA 8244D0                .DB H'82,H'44,H'D0 ; DP
001441 06AD 069E                  .DW FNCE - 8
001442 06AF 05DF                  DP:    .DW USER
001443 06B1 0012                  .DW H'0012
001444 06B3                        ;
001445 06B3 88564F432D4C494E     .DB H'88,"VOC-LIN",H'CB ; VOC-LINK
      06BB CB
001446 06BC 06AA                  .DW DP - 5
001447 06BE 05DF                  VL:    .DW USER
001448 06C0 0014                  .DW H'0014
001449 06C2                        ;
001450 06C2 83424CCB            .DB H'83,H'42,H'4C,H'CB ; BLK
001451 06C6 06B3                  .DW VL - 11
001452 06C8 05DF                  BLK:   .DW USER
001453 06CA 0016                  .DW H'0016
001454 06CC                        ;
001455 06CC 8249CE                .DB H'82,H'49,H'CE ; IN
001456 06CF 06C2                  .DW BLK - 6
001457 06D1 05DF                  FIN:   .DW USER
001458 06D3 0018                  .DW H'0018
001459 06D5                        ;
001460 06D5 834F55D4            .DB H'83,"OU",H'D4 ; OUT
001461 06D9 06CC                  .DW FIN - 5
001462 06DB 05DF                  FOUT:  .DW USER
001463 06DD 001A                  .DW H'001A
001464 06DF                        ;
001465 06DF 835343D2            .DB H'83,"SC",H'D2 ; SCR
001466 06E3 06D5                  .DW FOUT - 6
001467 06E5 05DF                  FSCR:  .DW USER
001468 06E7 001C                  .DW H'001C
001469 06E9                        ;
001470 06E9 864F46465345D4      .DB H'86,"OFFSE",H'D4 ; OFFSET
001471 06F0 06DF                  .DW FSCR - 6
001472 06F2 05DF                  OFST:  .DW USER
001473 06F4 001E                  .DW H'001E
001474 06F6                        ;
001475 06F6 87434F4E544558D4    .DB H'87,"CONTEX",H'D4 ; CONTEXT
001476 06FE 06E9                  .DW OFST - 9
001477 0700 05DF                  CNTX:  .DW USER
001478 0702 0020                  .DW H'0020
001479 0704                        ;
001480 0704 8743555252454ED4    .DB H'87,"CURREN",H'D4 ; CURRENT
001481 070C 06F6                  .DW CNTX - 10
001482 070E 05DF                  CRNT:  .DW USER
001483 0710 0022                  .DW H'0022
001484 0712                        ;
001485 0712 8553544154C5        .DB H'85,"STAT",H'C5 ; STATE
001486 0718 0704                  .DW CRNT - 10
001487 071A 05DF                  STT:   .DW USER
001488 071C 0024                  .DW H'0024
001489 071E                        ;
001490 071E 84424153C5          .DB H'84,"BAS",H'C5 ; BASE
001491 0723 0712                  .DW STT - 8
001492 0725 05DF                  BASE:  .DW USER
001493 0727 0026                  .DW H'0026

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001494 0729 ;
001495 0729 834450CC .DB H'83,H'44,H'50,H'CC ; DPL
001496 072D 071E .DW BASE - 7
001497 072F 05DF DPL: .DW USER
001498 0731 0028 .DW H'0028
001499 0733 ;
001500 0733 83464CC4 .DB H'83,H'46,H'4C,H'C4 ; FLD
001501 0737 0729 .DW DPL - 6
001502 0739 05DF FLD: .DW USER
001503 073B 002A .DW H'002A
001504 073D ;
001505 073D 834353D0 .DB H'83,H'43,H'53,H'D0 ; CSP
001506 0741 0733 .DW FLD - 6
001507 0743 05DF CSP: .DW USER
001508 0745 002C .DW H'002C
001509 0747 ;
001510 0747 8252A3 .DB H'82,H'52,H'A3 ; R#
001511 074A 073D .DW CSP - 6
001512 074C 05DF RNU: .DW USER
001513 074E 002E .DW H'002E
001514 0750 ;
001515 0750 83484CC4 .DB H'83,H'48,H'4C,H'C4 ; HLD
001516 0754 0747 .DW RNU - 5
001517 0756 05DF HLD: .DW USER
001518 0758 0030 .DW H'0030
001519 075A 8244D6 .DB H'82,H'44,H'D6 ; DV
001520 075D 0750 .DW HLD - 6 ; 3 BYTE VECTOR AREA
001521 075F ; USED DURING DISK OPERATIONS
001522 075F 05DF DV: .DW USER
001523 0761 0032 .DW H'0032
001524 0763 ;
001525 0763 ; END OF USER VARIABLES
001526 0763 ;
001527 0763 8231AB .DB H'82,H'31,H'AB ; 1+
001528 0766 075A .DW DV - 5
001529 0768 05C2 PLUS1: .DW NEST
001530 076A 05FA .DW ONE
001531 076C 03F7 .DW PLUS
001532 076E 0379 .DW SEMIS
001533 0770 ;
001534 0770 8232AB .DB H'82,H'32,H'AB ; 2+
001535 0773 0763 .DW PLUS1 - 5
001536 0775 05C2 PLUS2: .DW NEST
001537 0777 0602 .DW TWO
001538 0779 03F7 .DW PLUS
001539 077B 0379 .DW SEMIS
001540 077D ;
001541 077D 84484552C5 .DB H'84,"HER",H'C5 ; HERE
001542 0782 0770 .DW PLUS2 - 5
001543 0784 05C2 HERE: .DW NEST
001544 0786 06AF .DW DP
001545 0788 04FA .DW AT
001546 078A 0379 .DW SEMIS
001547 078C ;
001548 078C 85414C4C4FD4 .DB H'85,"ALLO",H'D4 ; ALLOT
001549 0792 077D .DW HERE - 7
001550 0794 05C2 ALLOT: .DW NEST
001551 0796 06AF .DW DP
001552 0798 04C6 .DW PLUSS
001553 079A 0379 .DW SEMIS
001554 079C ;
001555 079C 81AC .DW H'81AC ; , (COMMA)
001556 079E 078C .DW ALLOT - 8
001557 07A0 05C2 COMMA: .DW NEST
001558 07A2 0784 .DW HERE

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001559 07A4 051E .DW EX
001560 07A6 0602 .DW TWO
001561 07A8 0794 .DW ALLOT
001562 07AA 0379 .DW SEMIS
001563 07AC ;
001564 07AC 8243AC .DB H'82,H'43,H'AC ; C,
001565 07AF 079C .DW COMMA - 4
001566 07B1 05C2 CCMA: .DW NEST
001567 07B3 0784 .DW HERE
001568 07B5 0535 .DW CEX
001569 07B7 05FA .DW ONE
001570 07B9 0794 .DW ALLOT
001571 07BB 0379 .DW SEMIS
001572 07BD ;
001573 07BD 81AD .DW H'81AD ; - (MINUS SIGN)
001574 07BF 07AC .DW CCMA - 5
001575 07C1 05C2 MINS: .DW NEST
001576 07C3 0412 .DW MINUS
001577 07C5 03F7 .DW PLUS
001578 07C7 0379 .DW SEMIS
001579 07C9 ;
001580 07C9 81BD .DW H'81BD ; = (EQUAL SIGN)
001581 07CB 07BD .DW MINS - 4
001582 07CD 05C2 EQL: .DW NEST
001583 07CF 07C1 .DW MINS
001584 07D1 03D2 .DW ZEQL
001585 07D3 0379 .DW SEMIS
001586 07D5 ;
001587 07D5 81BC .DW H'81BC ; < (LESS THAN SIGN)
001588 07D7 07C9 .DW EQL - 4
001589 07D9 05C2 LESS: .DW NEST
001590 07DB 07C1 .DW MINS
001591 07DD 03EB .DW ZLESS
001592 07DF 0379 .DW SEMIS
001593 07E1 ;
001594 07E1 81BE .DW H'81BE ; > (GTR THAN SIGN)
001595 07E3 07D5 .DW LESS - 4
001596 07E5 05C2 GTR: .DW NEST
001597 07E7 0499 .DW SWAP
001598 07E9 07D9 .DW LESS
001599 07EB 0379 .DW SEMIS
001600 07ED ;
001601 07ED 83524FD4 .DB H'83,H'52,H'4F,H'D4 ; ROT
001602 07F1 07E1 .DW GTR - 4
001603 07F3 05C2 ROT: .DW NEST
001604 07F5 039D .DW GR
001605 07F7 0499 .DW SWAP
001606 07F9 03AD .DW RG
001607 07FB 0499 .DW SWAP
001608 07FD 0379 .DW SEMIS
001609 07FF ;
001610 07FF 8553504143C5 .DB H'85,"SPAC",H'C5 ; SPACE
001611 0805 07ED .DW ROT - 6
001612 0807 05C2 SPC: .DW NEST
001613 0809 060B .DW BL
001614 080B 054A .DW EMIT
001615 080D 0379 .DW SEMIS
001616 080F ;
001617 080F 842D4455D0 .DB H'84,"-DU",H'D0 ; -DUP
001618 0814 07FF .DW SPC - 8
001619 0816 05C2 MDUP: .DW NEST
001620 0818 04B6 .DW DUP
001621 081A 00D0 .DW ZBRCH
001622 081C 0820 .DW * + 4
001623 081E 04B6 .DW DUP

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001624 0820 0379          .DW SEMIS
001625 0822                ;
001626 0822 8854524156455253 .DB H'88,"TRAVERS",H'C5 ; TRAVERSE
      082A C5
001627 082B 080F          .DW MDUP - 7
001628 082D 05C2          TRVS: .DW NEST
001629 082F 0499          .DW SWAP
001630 0831 0473          TR1: .DW OVER
001631 0833 03F7          .DW PLUS
001632 0835 0086          .DW LIT
001633 0837 007F          .DW H'007F
001634 0839 0473          .DW OVER
001635 083B 050D          .DW CAT
001636 083D 07D9          .DW LESS
001637 083F 00D0          .DW ZBRCH
001638 0841 0831          .DW TR1
001639 0843 0499          .DW SWAP
001640 0845 048D          .DW DROP
001641 0847 0379          .DW SEMIS
001642 0849                ;
001643 0849                ;
001644 0849 864C41544553D4 .DB H'86,"LATES",H'D4 ; LATEST
001645 0850 0822          .DW TRVS - 11
001646 0852 05C2          LTST: .DW NEST
001647 0854 070E          .DW CRNT
001648 0856 04FA          .DW AT
001649 0858 04FA          .DW AT
001650 085A 0379          .DW SEMIS
001651 085C                ;
001652 085C                ;
001653 085C 834C46C1      .DB H'83,H'4C,H'46,H'C1 ; LFA
001654 0860 0849          .DW LTST - 9          ; LINK FIELD ADDRESS
001655 0862 05C2          LFA: .DW NEST
001656 0864 0086          .DW LIT
001657 0866 0004          .DW H'0004
001658 0868 07C1          .DW MINS
001659 086A 0379          .DW SEMIS
001660 086C                ;
001661 086C 834346C1      .DB H'83,H'43,H'46,H'C1 ; CFA
001662 0870 085C          .DW LFA - 6          ; CODE FIELD ADDRESS
001663 0872 05C2          CFA: .DW NEST
001664 0874 0602          .DW TWO
001665 0876 07C1          .DW MINS
001666 0878 0379          .DW SEMIS
001667 087A                ;
001668 087A                ;
001669 087A 834E46C1      .DB H'83,H'4E,H'46,H'C1 ; NFA
001670 087E 086C          .DW CFA - 6          ; NAME FIELD ADDRESS
001671 0880 05C2          NFA: .DW NEST
001672 0882 0086          .DW LIT
001673 0884 0005          .DW H'0005
001674 0886 07C1          .DW MINS
001675 0888 0086          .DW LIT
001676 088A FFFF          .DW H'FFFF
001677 088C 082D          .DW TRVS
001678 088E 0379          .DW SEMIS
001679 0890                ;
001680 0890                ;
001681 0890 835046C1      .DB H'83,H'50,H'46,H'C1 ; PFA
001682 0894 087A          .DW NFA - 6          ; PARAMETER FIELD ADDRESS
001683 0896 05C2          PFA: .DW NEST
001684 0898 05FA          .DW ONE
001685 089A 082D          .DW TRVS
001686 089C 0086          .DW LIT
001687 089E 0005          .DW H'0005

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001688 08A0 03F7          .DW PLUS
001689 08A2 0379          .DW SEMIS
001690 08A4                ;
001691 08A4                ;
001692 08A4 84214353D0     .DB H'84,H'21,H'43,H'53,H'D0 ; !CSP
001693 08A9 0890          .DW PFA - 6
001694 08AB 05C2          DCSP: .DW NEST
001695 08AD 033D          .DW FSPAT
001696 08AF 0743          .DW CSP
001697 08B1 051E          .DW EX
001698 08B3 0379          .DW SEMIS
001699 08B5                ;
001700 08B5                ;
001701 08B5 863F4552524FD2 .DB H'86,"?ERRO",H'D2 ; ?ERROR
001702 08BC 08A4          .DW DCSP - 7
001703 08BE 05C2          QERR: .DW NEST
001704 08C0 0499          .DW SWAP
001705 08C2 00D0          .DW ZBRCH
001706 08C4 08CC          .DW * + 8
001707 08C6 0CE5          .DW ERROR
001708 08C8 00BD          .DW BRCH
001709 08CA 08CE          .DW * + 4
001710 08CC 048D          .DW DROP
001711 08CE 0379          .DW SEMIS
001712 08D0                ;
001713 08D0                ;
001714 08D0 853F434F4DD0   .DB H'85,"?COM",H'D0 ; ?COMP
001715 08D6 08B5          .DW QERR - 9
001716 08D8 05C2          QCMP: .DW NEST
001717 08DA 071A          .DW STT
001718 08DC 04FA          .DW AT
001719 08DE 03D2          .DW ZEQAL
001720 08E0 0086          .DW LIT
001721 08E2 0011          .DW H'0011
001722 08E4 08BE          .DW QERR
001723 08E6 0379          .DW SEMIS
001724 08E8                ;
001725 08E8                ;
001726 08E8 853F455845C3   .DB H'85,"?EXE",H'C3 ; ?EXEC
001727 08EE 08D0          .DW QCMP - 8
001728 08F0 05C2          EXC: .DW NEST
001729 08F2 071A          .DW STT
001730 08F4 04FA          .DW AT
001731 08F6 0086          .DW LIT
001732 08F8 0012          .DW H'0012
001733 08FA 08BE          .DW QERR
001734 08FC 0379          .DW SEMIS
001735 08FE                ;
001736 08FE                ;
001737 08FE 863F50414952D3 .DB H'86,"?PAIR",H'D3 ; ?PAIRS
001738 0905 08E8          .DW EXC - 8
001739 0907 05C2          QPR: .DW NEST
001740 0909 07C1          .DW MINS
001741 090B 0086          .DW LIT
001742 090D 0013          .DW H'0013
001743 090F 08BE          .DW QERR
001744 0911 0379          .DW SEMIS
001745 0913                ;
001746 0913                ;
001747 0913 843F4353D0     .DB H'84,H'3F,H'43,H'53,H'D0 ; ?CSP
001748 0918 08FE          .DW QPR - 9
001749 091A 05C2          QCSP: .DW NEST
001750 091C 033D          .DW FSPAT
001751 091E 0743          .DW CSP
001752 0920 04FA          .DW AT

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001753 0922 07C1 .DW MINS
001754 0924 0086 .DW LIT
001755 0926 0014 .DW H'0014
001756 0928 08BE .DW QERR
001757 092A 0379 .DW SEMIS
001758 092C ;
001759 092C ;
001760 092C 883F4C4F41444494E .DB H'88,"?LOADIN",H'C7 ; ?LOADING
      0934 C7
001761 0935
001762 0935 0913 .DW QCSP - 7
001763 0937 05C2 QLDG: .DW NEST
001764 0939 06C8 .DW BLK
001765 093B 04FA .DW AT
001766 093D 03D2 .DW ZEAL
001767 093F 0086 .DW LIT
001768 0941 0016 .DW H'0016
001769 0943 08BE .DW QERR
001770 0945 0379 .DW SEMIS
001771 0947 ;
001772 0947 ;
001773 0947 87434F4D50494CC5 .DB H'87,"COMPIL",H'C5 ; COMPILE
001774 094F 092C .DW QLDG - 11
001775 0951 05C2 CMPL: .DW NEST
001776 0953 08D8 .DW QCMP
001777 0955 03AD .DW RG
001778 0957 04B6 .DW DUP
001779 0959 0775 .DW PLUS2
001780 095B 039D .DW GR
001781 095D 04FA .DW AT
001782 095F 07A0 .DW COMMA
001783 0961 0379 .DW SEMIS
001784 0963 ;
001785 0963 ;
001786 0963 C1DB ; [ LEFT BRACKET
001787 0965 0947 .DW CMPL - 10
001788 0967 05C2 LB: .DW NEST
001789 0969 05F2 .DW ZERO
001790 096B 071A .DW STT
001791 096D 051E .DW EX
001792 096F 0379 .DW SEMIS
001793 0971 ;
001794 0971 ;
001795 0971 81DD .DW H'81DD ; ] RIGHT BRACKET
001796 0973 0963 .DW LB - 4
001797 0975 05C2 RBK: .DW NEST
001798 0977 0086 .DW LIT
001799 0979 00C0 .DW H'00C0
001800 097B 071A .DW STT
001801 097D 051E .DW EX
001802 097F 0379 .DW SEMIS
001803 0981 ;
001804 0981 ;
001805 0981 86534D5544447C5 .DB H'86,"SMUDG",H'C5 ; SMUDGE
001806 0988 0971 .DW RBK - 4
001807 098A 05C2 SMDG: .DW NEST
001808 098C 0852 .DW LTST
001809 098E 0086 .DW LIT
001810 0990 0020 .DW H'0020
001811 0992 04E3 .DW TGLE
001812 0994 0379 .DW SEMIS
001813 0996 ;
001814 0996 ;
001815 0996 834845D8 .DB H'83,H'48,H'45,H'D8 ; HEX
001816 099A 0981 .DW SMDG - 9

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001817 099C 05C2          MHEX:  .DW NEST
001818 099E 0086          .DW LIT
001819 09A0 0010          .DW H'0010
001820 09A2 0725          .DW BASE
001821 09A4 051E          .DW EX
001822 09A6 0379          .DW SEMIS
001823 09A8                ;
001824 09A8                ;
001825 09A8 87444543494D41CC .DB H'87,"DECIMA",H'CC ; DECIMAL
001826 09B0 0996          .DW MHEX - 6
001827 09B2 05C2          MDCML: .DW NEST
001828 09B4 0086          .DW LIT
001829 09B6 000A          .DW H'000A
001830 09B8 0725          .DW BASE
001831 09BA 051E          .DW EX
001832 09BC 0379          .DW SEMIS
001833 09BE                ;
001834 09BE                ;
001835 09BE 87283B434F4445A9 .DB H'87,"(;CODE",H'A9 ; (;CODE)
001836 09C6 09A8          .DW MDCML - 10
001837 09C8 05C2          PCODE: .DW NEST
001838 09CA 03AD          .DW RG
001839 09CC 0852          .DW LTST
001840 09CE 0896          .DW PFA
001841 09D0 0872          .DW CFA
001842 09D2 051E          .DW EX
001843 09D4 0379          .DW SEMIS
001844 09D6                ;
001845 09D6                ;
001846 09D6 C53B434F44C5   .DB H'C5,";COD",H'C5 ; ;CODE (IMMEDIATE)
001847 09DC 09BE          .DW PCODE - 10
001848 09DE 05C2          CODE:  .DW NEST
001849 09E0 091A          .DW QCSP
001850 09E2 0951          .DW CMPL
001851 09E4 09C8          .DW PCODE
001852 09E6 0967          .DW LB
001853 09E8 098A          .DW SMDG
001854 09EA 0379          .DW SEMIS
001855 09EC                ;
001856 09EC                ;
001857 09EC 85434F554ED4   .DB H'85,"COUN",H'D4 ; COUNT
001858 09F2 09D6          .DW CODE - 8
001859 09F4 05C2          CNT:   .DW NEST
001860 09F6 04B6          .DW DUP
001861 09F8 0768          .DW PLUS1
001862 09FA 0499          .DW SWAP
001863 09FC 050D          .DW CAT
001864 09FE 0379          .DW SEMIS
001865 0A00                ;
001866 0A00                ;
001867 0A00 84545950C5     .DB H'84,"TYP",H'C5 ; TYPE
001868 0A05 09EC          .DW CNT - 8
001869 0A07 05C2          TYPE:  .DW NEST
001870 0A09 0816          .DW MDUP
001871 0A0B 00D0          .DW ZBRCH
001872 0A0D 0A25          .DW * + 24
001873 0A0F 0473          .DW OVER
001874 0A11 03F7          .DW PLUS
001875 0A13 0499          .DW SWAP
001876 0A15 0150          .DW PDO
001877 0A17 03BD          TYP1:  .DW R
001878 0A19 050D          .DW CAT
001879 0A1B 054A          .DW EMIT
001880 0A1D 00EC          .DW LUPE
001881 0A1F 0A17          .DW TYP1

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001882	0A21	00BD		.DW BRCH
001883	0A23	0A27		.DW * + 4
001884	0A25	048D		.DW DROP
001885	0A27	0379		.DW SEMIS
001886	0A29			;
001887	0A29			;
001888	0A29	892D545241494C49		.DB H'89,"-TRAILIN",H'C7 ; -TRAILING
	0A31	4EC7		
001889	0A33	0A00		.DW TYPE - 7
001890	0A35	05C2	TRLG:	.DW NEST
001891	0A37	04B6		.DW DUP
001892	0A39	05F2		.DW ZERO
001893	0A3B	0150		.DW PDO
001894	0A3D	0473	TRL1:	.DW OVER
001895	0A3F	0473		.DW OVER
001896	0A41	03F7		.DW PLUS
001897	0A43	05FA		.DW ONE
001898	0A45	07C1		.DW MINS
001899	0A47	050D		.DW CAT
001900	0A49	060B		.DW BL
001901	0A4B	07C1		.DW MINS
001902	0A4D	00D0		.DW ZBRCH
001903	0A4F	0A57		.DW * + 8
001904	0A51	0389		.DW LVE
001905	0A53	00BD		.DW BRCH
001906	0A55	0A5B		.DW * + 6
001907	0A57	05FA		.DW ONE
001908	0A59	07C1		.DW MINS
001909	0A5B	00EC		.DW LUPE
001910	0A5D	0A3D		.DW TRL1
001911	0A5F	0379		.DW SEMIS
001912	0A61			;
001913	0A61			;
001914	0A61	84282E22A9		.DB H'84,H'28,H'2E,H'22,H'A9 ; (.)
001915	0A66	0A29		.DW TRLG - 12
001916	0A68	05C2	PDQ:	.DW NEST
001917	0A6A	03BD		.DW R
001918	0A6C	09F4		.DW CNT
001919	0A6E	04B6		.DW DUP
001920	0A70	0768		.DW PLUS1
001921	0A72	03AD		.DW RG
001922	0A74	03F7		.DW PLUS
001923	0A76	039D		.DW GR
001924	0A78	0A07		.DW TYPE
001925	0A7A	0379		.DW SEMIS
001926	0A7C			;
001927	0A7C			;
001928	0A7C	864558504543D4		.DB H'86,"EXPEC",H'D4 ; EXPECT
001929	0A83	0A61		.DW PDQ - 7
001930	0A85	05C2	EXPT:	.DW NEST
001931	0A87	0473		.DW OVER
001932	0A89	03F7		.DW PLUS
001933	0A8B	0473		.DW OVER
001934	0A8D	0150		.DW PDO
001935	0A8F	0578	EXPT4:	.DW KEY
001936	0A91	04B6		.DW DUP
001937	0A93	0086		.DW LIT
001938	0A95	000E		.DW H'000E
001939	0A97	0660		.DW PORGN
001940	0A99	04FA		.DW AT
001941	0A9B	07CD		.DW EQL
001942	0A9D	00D0		.DW ZBRCH
001943	0A9F	0ABF		.DW EXPT1
001944	0AA1	048D		.DW DROP
001945	0AA3	0086		.DW LIT

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001946 0AA5 0008      .DW H'0008
001947 0AA7 0473      .DW OVER
001948 0AA9 03BD      .DW R
001949 0AAB 07CD      .DW EQL
001950 0AAD 04B6      .DW DUP
001951 0AAF 03AD      .DW RG
001952 0AB1 0602      .DW TWO
001953 0AB3 07C1      .DW MINS
001954 0AB5 03F7      .DW PLUS
001955 0AB7 039D      .DW GR
001956 0AB9 07C1      .DW MINS
001957 0ABB 00BD      .DW BRCH
001958 0ABD 0AE5      .DW EXPT2
001959 0ABF 04B6      EXPT1: .DW DUP
001960 0AC1 0086      .DW LIT
001961 0AC3 000D      .DW H'000D
001962 0AC5 07CD      .DW EQL
001963 0AC7 00D0      .DW ZBRCH
001964 0AC9 0AD7      .DW EXPT3
001965 0ACB 0389      .DW LVE
001966 0ACD 048D      .DW DROP
001967 0ACF 060B      .DW BL
001968 0AD1 05F2      .DW ZERO
001969 0AD3 00BD      .DW BRCH
001970 0AD5 0AD9      .DW EXPT5
001971 0AD7 04B6      EXPT3: .DW DUP
001972 0AD9 03BD      EXPT5: .DW R
001973 0ADB 0535      .DW CEX
001974 0ADD 05F2      .DW ZERO
001975 0ADF 03BD      .DW R
001976 0AE1 0768      .DW PLUS1
001977 0AE3 051E      .DW EX
001978 0AE5 054A      EXPT2: .DW EMIT
001979 0AE7 00EC      .DW LUPE
001980 0AE9 0A8F      .DW EXPT4
001981 0AEB 048D      .DW DROP
001982 0AED 0379      .DW SEMIS
001983 0AEF          ;
001984 0AEF          ;
001985 0AEF 8551554552D9 .DB H'85,"QUER",H'D9 ; QUERY
001986 0AF5 0A7C      .DW EXPT - 9          ; INPUT LINE OF TEXT
001987 0AF7 05C2      QUER: .DW NEST
001988 0AF9 0680      .DW TIB
001989 0AFB 04FA      .DW AT
001990 0AFD 0086      .DW LIT
001991 0AFF 0050      .DW H'0050
001992 0B01 0A85      .DW EXPT
001993 0B03 05F2      .DW ZERO
001994 0B05 06D1      .DW FIN
001995 0B07 051E      .DW EX
001996 0B09 0379      .DW SEMIS
001997 0B0B          ;
001998 0B0B          ;
001999 0B0B C180      .DW H'C180          ; X (IMMEDIATE)
002000 0B0D 0AEF      .DW QUER - 8
002001 0B0F 05C2      X: .DW NEST
002002 0B11 06C8      .DW BLK
002003 0B13 04FA      .DW AT
002004 0B15 00D0      .DW ZBRCH
002005 0B17 0B3F      .DW X2
002006 0B19 05FA      .DW ONE
002007 0B1B 06C8      .DW BLK
002008 0B1D 04C6      .DW PLUSS
002009 0B1F 05F2      .DW ZERO
002010 0B21 06D1      .DW FIN

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002011 0B23 051E      .DW EX
002012 0B25 06C8      .DW BLK
002013 0B27 04FA      .DW AT
002014 0B29 0086      .DW LIT
002015 0B2B 0007      .DW H'0007
002016 0B2D 02F3      .DW FAND
002017 0B2F 03D2      .DW ZEQAL
002018 0B31 00D0      .DW ZBRCH
002019 0B33 0B3B      .DW X1
002020 0B35 08F0      .DW EXC
002021 0B37 03AD      .DW RG
002022 0B39 048D      .DW DROP
002023 0B3B 00BD      X1:  .DW BRCH
002024 0B3D 0B43      .DW XEND
002025 0B3F 03AD      X2:  .DW RG
002026 0B41 048D      .DW DROP
002027 0B43 0379      XEND: .DW SEMIS
002028 0B45           ;
002029 0B45           ;
002030 0B45 8446494CCC .DB H'84,"FIL",H'CC ; FILL  FILL MEMORY
002031 0B4A 0B0B      .DW X - 4
002032 0B4C 05C2      FILL: .DW NEST
002033 0B4E 0499      .DW SWAP
002034 0B50 039D      .DW GR
002035 0B52 0473      .DW OVER
002036 0B54 0535      .DW CEX
002037 0B56 04B6      .DW DUP
002038 0B58 0768      .DW PLUS1
002039 0B5A 03AD      .DW RG
002040 0B5C 05FA      .DW ONE
002041 0B5E 07C1      .DW MINS
002042 0B60 0246      .DW CMOVE
002043 0B62 0379      .DW SEMIS
002044 0B64           ;
002045 0B64           ;
002046 0B64 8545524153C5 .DB H'85,"ERAS",H'C5 ; ERASE  ZERO MEMORY
002047 0B6A 0B45      .DW FILL - 7
002048 0B6C 05C2      ERS:  .DW NEST
002049 0B6E 05F2      .DW ZERO
002050 0B70 0B4C      .DW FILL
002051 0B72 0379      .DW SEMIS
002052 0B74           ;
002053 0B74           ;
002054 0B74 86424C414E4BD3 .DB H'86,"BLANK",H'D3 ; BLANKS
002055 0B7B 0B64      .DW ERS - 8          ; FILL MEMORY WITH
002056 0B7D 05C2      BLNK: .DW NEST          ; ASCII BLANKS
002057 0B7F 060B      .DW BL
002058 0B81 0B4C      .DW FILL
002059 0B83 0379      .DW SEMIS
002060 0B85           ;
002061 0B85           ;
002062 0B85 84484F4CC4 .DB H'84,"HOL",H'C4 ; HOLD
002063 0B8A 0B74      .DW BLNK - 9
002064 0B8C 05C2      HOLD: .DW NEST
002065 0B8E 0086      .DW LIT
002066 0B90 FFFF      .DW H'FFFF          ; -1
002067 0B92 0756      .DW HLD
002068 0B94 04C6      .DW PLUSS
002069 0B96 0756      .DW HLD
002070 0B98 04FA      .DW AT
002071 0B9A 0535      .DW CEX
002072 0B9C 0379      .DW SEMIS
002073 0B9E           ;
002074 0B9E           ;
002075 0B9E 835041C4 .DB H'83,"PA",H'C4  ; PAD

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002076	0BA2	0B85		.DW HOLD - 7
002077	0BA4	05C2	PAD:	.DW NEST
002078	0BA6	0784		.DW HERE
002079	0BA8	0086		.DW LIT
002080	0BAA	0044		.DW H'0044
002081	0BAC	03F7		.DW PLUS
002082	0BAE	0379		.DW SEMIS
002083	0BB0			;
002084	0BB0			;
002085	0BB0	84574F52C4		.DB H'84,"WOR",H'C4 ; WORD
002086	0BB5	0B9E		.DW PAD - 6
002087	0BB7	05C2	WORD:	.DW NEST
002088	0BB9	06C8		.DW BLK
002089	0BBB	04FA		.DW AT
002090	0BBD	00D0		.DW ZBRCH
002091	0BBF	0BCB		.DW WD1
002092	0BC1	06C8		.DW BLK
002093	0BC3	04FA		.DW AT
002094	0BC5	160A		.DW BLOCK
002095	0BC7	00BD		.DW BRCH
002096	0BC9	0BCF		.DW WD2
002097	0BCB	0680	WD1:	.DW TIB
002098	0BCD	04FA		.DW AT
002099	0BCF	06D1	WD2:	.DW FIN
002100	0BD1	04FA		.DW AT
002101	0BD3	03F7		.DW PLUS
002102	0BD5	0499		.DW SWAP
002103	0BD7	01FE		.DW ENCL
002104	0BD9	0784		.DW HERE
002105	0BDB	0086		.DW LIT
002106	0BDD	0022		.DW H'0022
002107	0BDF	0B7D		.DW BLNK
002108	0BE1	06D1		.DW FIN
002109	0BE3	04C6		.DW PLUS6
002110	0BE5	0473		.DW OVER
002111	0BE7	07C1		.DW MINS
002112	0BE9	039D		.DW GR
002113	0BEB	03BD		.DW R
002114	0BED	0784		.DW HERE
002115	0BEF	0535		.DW CEX
002116	0BF1	03F7		.DW PLUS
002117	0BF3	0784		.DW HERE
002118	0BF5	0768		.DW PLUS1
002119	0BF7	03AD		.DW RG
002120	0BF9	0246		.DW CMOVE
002121	0BFB	0379		.DW SEMIS
002122	0BFD			;
002123	0BFD			;
002124	0BFD	88284E554D424552		.DB H'88,"(NUMBER",H'A9 ; (NUMBER)
	0C05	A9		
002125	0C06	0BB0		.DW WORD - 7
002126	0C08	05C2	PNMBR:	.DW NEST
002127	0C0A	0768		.DW PLUS1
002128	0C0C	04B6		.DW DUP
002129	0C0E	039D		.DW GR
002130	0C10	050D		.DW CAT
002131	0C12	0725		.DW BASE
002132	0C14	04FA		.DW AT
002133	0C16	016B		.DW DGT
002134	0C18	00D0		.DW ZBRCH
002135	0C1A	0C46		.DW PNM2
002136	0C1C	0499		.DW SWAP
002137	0C1E	0725		.DW BASE
002138	0C20	04FA		.DW AT
002139	0C22	0278		.DW USTAR

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002140 0C24 048D .DW DROP
002141 0C26 07F3 .DW ROT
002142 0C28 0725 .DW BASE
002143 0C2A 04FA .DW AT
002144 0C2C 0278 .DW USTAR
002145 0C2E 042A .DW DPLUS
002146 0C30 072F .DW DPL
002147 0C32 04FA .DW AT
002148 0C34 0768 .DW PLUS1
002149 0C36 00D0 .DW ZBRCH
002150 0C38 0C40 .DW PNM1
002151 0C3A 05FA .DW ONE
002152 0C3C 072F .DW DPL
002153 0C3E 04C6 .DW PLUS6
002154 0C40 03AD PNM1: .DW RG
002155 0C42 00BD .DW BRCH
002156 0C44 0C0A .DW PNMBR + 2
002157 0C46 03AD PNM2: .DW RG
002158 0C48 0379 .DW SEMIS
002159 0C4A ;
002160 0C4A ;
002161 0C4A ;
002162 0C4A 864E554D4245D2 .DB H'86,"NUMBE",H'D2 ; NUMBER
002163 0C51 0BFD .DW PNMBR - 11
002164 0C53 05C2 NMBR: .DW NEST
002165 0C55 05F2 .DW ZERO
002166 0C57 05F2 .DW ZERO
002167 0C59 07F3 .DW ROT
002168 0C5B 04B6 .DW DUP
002169 0C5D 0768 .DW PLUS1
002170 0C5F 050D .DW CAT
002171 0C61 0086 .DW LIT
002172 0C63 002D .DW H'002D
002173 0C65 07CD .DW EQL
002174 0C67 04B6 .DW DUP
002175 0C69 039D .DW GR
002176 0C6B 03F7 .DW PLUS
002177 0C6D 0086 .DW LIT
002178 0C6F FFFF .DW H'FFFF ; -1
002179 0C71 072F NMB1: .DW DPL
002180 0C73 051E .DW EX
002181 0C75 0C08 .DW PNMBR
002182 0C77 04B6 .DW DUP
002183 0C79 050D .DW CAT
002184 0C7B 060B .DW BL
002185 0C7D 07C1 .DW MINS
002186 0C7F 00D0 .DW ZBRCH
002187 0C81 0C97 .DW NMB2
002188 0C83 04B6 .DW DUP
002189 0C85 050D .DW CAT
002190 0C87 0086 .DW LIT
002191 0C89 002E .DW H'002E
002192 0C8B 07C1 .DW MINS
002193 0C8D 05F2 .DW ZERO
002194 0C8F 08BE .DW QERR
002195 0C91 05F2 .DW ZERO
002196 0C93 00BD .DW BRCH
002197 0C95 0C71 .DW NMB1
002198 0C97 048D NMB2: .DW DROP
002199 0C99 03AD .DW RG
002200 0C9B 00D0 .DW ZBRCH
002201 0C9D 0CA1 .DW NMB3
002202 0C9F 0458 .DW DMIN
002203 0CA1 0379 NMB3: .DW SEMIS
002204 0CA3 ;

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002205 0CA3 ;
002206 0CA3 852D46494EC4 .DB H'85,"-FIN",H'C4 ; -FIND
002207 0CA9 0C4A .DW NMBR - 9
002208 0CAB 05C2 MFIND: .DW NEST
002209 0CAD 060B .DW BL
002210 0CAF 0BB7 .DW WORD
002211 0CB1 0784 .DW HERE
002212 0CB3 0700 .DW CNTX
002213 0CB5 04FA .DW AT
002214 0CB7 04FA .DW AT
002215 0CB9 0196 .DW FIND
002216 0CBB 04B6 .DW DUP
002217 0CBD 03D2 .DW ZEQAL
002218 0CBF 00D0 .DW ZBRCH
002219 0CC1 0CCB .DW MF1
002220 0CC3 048D .DW DROP
002221 0CC5 0784 .DW HERE
002222 0CC7 0852 .DW LTST
002223 0CC9 0196 .DW FIND
002224 0CCB 0379 MF1: .DW SEMIS
002225 0CCD ;
002226 0CCD ;
002227 0CCD 872841424F5254A9 .DB H'87,"(ABORT",H'A9 ; (ABORT)
002228 0CD5 0CA3 .DW MFIND - 8
002229 0CD7 05C2 PABRT: .DW NEST
002230 0CD9 0FBE .DW ABORT
002231 0CDB 0379 .DW SEMIS
002232 0CDD ;
002233 0CDD 854552524FD2 .DB H'85,"ERRO",H'D2 ; ERROR
002234 0CE3 0CCD .DW PABRT - 10
002235 0CE5 05C2 ERROR: .DW NEST
002236 0CE7 069A .DW WRNG
002237 0CE9 04FA .DW AT
002238 0CEB 03EB .DW ZLESS
002239 0CED 00D0 .DW ZBRCH
002240 0CEF 0CF3 .DW ERR1
002241 0CF1 0CD7 .DW PABRT
002242 0CF3 0784 ERR1: .DW HERE
002243 0CF5 09F4 .DW CNT
002244 0CF7 0A07 .DW TYPE
002245 0CF9 0A68 .DW PDQ
002246 0CFB 0320203F .DB H'03," ?"
002247 0CFF 148C .DW MSG
002248 0D01 0350 .DW SP1
002249 0D03 06D1 .DW FIN
002250 0D05 04FA .DW AT
002251 0D07 06C8 .DW BLK
002252 0D09 04FA .DW AT
002253 0D0B 0F8D .DW QUIT
002254 0D0D 0379 .DW SEMIS
002255 0D0F ;
002256 0D0F 834D49CE .DB H'83,"MI",H'CE ; MIN
002257 0D13 0CDD .DW ERROR - 8
002258 0D15 05C2 MIN: .DW NEST
002259 0D17 0473 .DW OVER
002260 0D19 0473 .DW OVER
002261 0D1B 07E5 .DW GTR
002262 0D1D 00D0 .DW ZBRCH
002263 0D1F 0D23 .DW MN1
002264 0D21 0499 .DW SWAP
002265 0D23 048D MN1: .DW DROP
002266 0D25 0379 .DW SEMIS
002267 0D27 ;
002268 0D27 834944AE .DB H'83,"ID",H'AE ; ID.
002269 0D2B 0D0F .DW MIN - 6

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002270	0D2D	05C2	ID:	.DW	NEST
002271	0D2F	0BA4		.DW	PAD
002272	0D31	0086		.DW	LIT
002273	0D33	0020		.DW	H'0020
002274	0D35	0086		.DW	LIT
002275	0D37	005F		.DW	H'005F
002276	0D39	0B4C		.DW	FILL
002277	0D3B	04B6		.DW	DUP
002278	0D3D	0896		.DW	PFA
002279	0D3F	0862		.DW	LFA
002280	0D41	0473		.DW	OVER
002281	0D43	07C1		.DW	MINS
002282	0D45	0BA4		.DW	PAD
002283	0D47	0499		.DW	SWAP
002284	0D49	0246		.DW	CMOVE
002285	0D4B	0BA4		.DW	PAD
002286	0D4D	09F4		.DW	CNT
002287	0D4F	0086		.DW	LIT
002288	0D51	001F		.DW	H'001F
002289	0D53	02F3		.DW	FAND
002290	0D55	0A07		.DW	TYPE
002291	0D57	0807		.DW	SPC
002292	0D59	0379		.DW	SEMIS
002293	0D5B			;	
002294	0D5B			;	
002295	0D5B	864352454154C5		.DB	H'86,"CREAT",H'C5 ; CREATE
002296	0D62	0D27		.DW	ID - 6
002297	0D64	05C2	CRTE:	.DW	NEST
002298	0D66	033D		.DW	FSPAT
002299	0D68	0784		.DW	HERE
002300	0D6A	0086		.DW	LIT
002301	0D6C	00A0		.DW	H'00A0
002302	0D6E	03F7		.DW	PLUS
002303	0D70	07D9		.DW	LESS
002304	0D72	0602		.DW	TWO
002305	0D74	08BE		.DW	QERR
002306	0D76	0CAB		.DW	MFIND
002307	0D78	00D0		.DW	ZBRCH
002308	0D7A	0D8A		.DW	CRT1
002309	0D7C	048D		.DW	DROP
002310	0D7E	0880		.DW	NFA
002311	0D80	0D2D		.DW	ID
002312	0D82	0086		.DW	LIT
002313	0D84	0004		.DW	H'0004
002314	0D86	148C		.DW	MSG
002315	0D88	0807		.DW	SPC
002316	0D8A	0784	CRT1:	.DW	HERE
002317	0D8C	04B6		.DW	DUP
002318	0D8E	050D		.DW	CAT
002319	0D90	068C		.DW	WIDTH
002320	0D92	04FA		.DW	AT
002321	0D94	0D15		.DW	MIN
002322	0D96	0768		.DW	PLUS1
002323	0D98	0794		.DW	ALLOT
002324	0D9A	04B6		.DW	DUP
002325	0D9C	0086		.DW	LIT
002326	0D9E	00A0		.DW	H'00A0
002327	0DA0	04E3		.DW	TGLE
002328	0DA2	0784		.DW	HERE
002329	0DA4	05FA		.DW	ONE
002330	0DA6	07C1		.DW	MINS
002331	0DA8	0086		.DW	LIT
002332	0DAA	0080		.DW	H'0080
002333	0DAC	04E3		.DW	TGLE
002334	0DAE	0852		.DW	LTST

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002335 0DB0 07A0          .DW COMMA
002336 0DB2 070E          .DW CRNT
002337 0DB4 04FA          .DW AT
002338 0DB6 051E          .DW EX
002339 0DB8 0784          .DW HERE
002340 0DBA 0775          .DW PLUS2
002341 0DBC 07A0          .DW COMMA
002342 0DBE 0379          .DW SEMIS
002343 0DC0                ;
002344 0DC0                ;
002345 0DC0 C1BA          .DW H'C1BA          ; : (IMMEDIATE)
002346 0DC2 0D5B          .DW CRTE - 9
002347 0DC4 05C2          COLON: .DW NEST
002348 0DC6 08F0          .DW EXC
002349 0DC8 08AB          .DW DCSP
002350 0DCA 070E          .DW CRNT
002351 0DCC 04FA          .DW AT
002352 0DCE 0700          .DW CNTX
002353 0DD0 051E          .DW EX
002354 0DD2 0D64          .DW CRTE
002355 0DD4 0975          .DW RBK
002356 0DD6 0086          .DW LIT
002357 0DD8 FFFE          .DW H'FFFE          ; -2
002358 0DDA 06AF          .DW DP
002359 0DDC 04C6          .DW PLUS6
002360 0DDE 0951          .DW CMPL
002361 0DE0 05C2          .DW NEST
002362 0DE2 0379          .DW SEMIS
002363 0DE4                ;
002364 0DE4                ;
002365 0DE4 8521434F44C5 .DB H'85,"!COD",H'C5 ; !CODE
002366 0DEA 0DC0          .DW COLON - 4
002367 0DEC 05C2          DCODE: .DW NEST
002368 0DEE 0D64          .DW CRTE
002369 0DF0 098A          .DW SMDG
002370 0DF2 0852          .DW LTST
002371 0DF4 0896          .DW PFA
002372 0DF6 0872          .DW CFA
002373 0DF8 051E          .DW EX
002374 0DFA 07A0          .DW COMMA
002375 0DFC 0379          .DW SEMIS
002376 0DFE                ;
002377 0DFE                ;
002378 0DFE 88434F4E5354414E .DB H'88,"CONSTAN",H'D4 ; CONSTANT
002379 0E06 D4
002379 0E07 0DE4          .DW DCODE - 8
002380 0E09 05C2          CNST: .DW NEST
002381 0E0B 0086          .DW LIT
002382 0E0D 05D6          .DW CONST
002383 0E0F 0DEC          .DW DCODE
002384 0E11 0379          .DW SEMIS
002385 0E13                ;
002386 0E13                ;
002387 0E13 885641524941424C .DB H'88,"VARIABL",H'C5 ; VARIABLE
002388 0E1B C5
002388 0E1C 0DFE          .DW CNST - 11
002389 0E1E 05C2          VARB: .DW NEST
002390 0E20 0086          .DW LIT
002391 0E22 05CD          .DW VAR
002392 0E24 0DEC          .DW DCODE
002393 0E26 0379          .DW SEMIS
002394 0E28                ;
002395 0E28                ;
002396 0E28 84555345D2 .DB H'84,"USE",H'D2 ; USER
002397 0E2D 0E13          .DW VARB - 11

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002398 0E2F 05C2          USR:      .DW NEST
002399 0E31 0086          .DW LIT
002400 0E33 05DF          .DW USER
002401 0E35 0DEC          .DW DCODE
002402 0E37 0379          .DW SEMIS
002403 0E39                ;
002404 0E39                ;
002405 0E39 873C4255494C44D3 .DB H'87,"<BUILD",H'D3 ; <BUILDS
002406 0E41 0E28          .DW USR - 7
002407 0E43 05C2          LBLD:    .DW NEST
002408 0E45 05F2          .DW ZERO
002409 0E47 0E09          .DW CNST
002410 0E49 0379          .DW SEMIS
002411 0E4B                ;
002412 0E4B                ;
002413 0E4B 854444F4553BE .DB H'85,"DOES",H'BE ; DOES>
002414 0E51 0E39          .DW LBLD - 10
002415 0E53 05C2          DOSEG:   .DW NEST
002416 0E55 03AD          .DW RG
002417 0E57 0852          .DW LTST
002418 0E59 0896          .DW PFA
002419 0E5B 051E          .DW EX
002420 0E5D 09C8          .DW PCODE
002421 0E5F E2            DUZ1:    SEX R2
002422 0E60 9A            GHI RA
002423 0E61 73            STXD
002424 0E62 8A            GLO RA
002425 0E63 73            STXD
002426 0E64 4B            LDA RB
002427 0E65 BA            PHI RA
002428 0E66 4B            LDA RB
002429 0E67 AA            PLO RA
002430 0E68 19            INC R9
002431 0E69 19            INC R9
002432 0E6A 9B            GHI RB
002433 0E6B 59            STR R9
002434 0E6C 19            INC R9
002435 0E6D 8B            GLO RB
002436 0E6E 59            STR R9
002437 0E6F 29            DEC R9
002438 0E70 DC            SEP RC
002439 0E71                ;
002440 0E71                ;
002441 0E71 C74C4954455241CC .DB H'C7,"LITERA",H'CC ; LITERAL (IMMEDIATE)
002442 0E79 0E4B          .DW DOSEG - 8
002443 0E7B 05C2          LTL:     .DW NEST
002444 0E7D 071A          .DW STT
002445 0E7F 04FA          .DW AT
002446 0E81 00D0          .DW ZBRCH
002447 0E83 0E8B          .DW LT1
002448 0E85 0951          .DW CMPL
002449 0E87 0086          .DW LIT
002450 0E89 07A0          .DW COMMA
002451 0E8B 0379          LT1:     .DW SEMIS
002452 0E8D                ;
002453 0E8D                ;
002454 0E8D C8444C4954455241 .DB H'C8,"DLITERA",H'CC ; DLITERAL (IMMEDIATE)
0E95 CC
002455 0E96 0E71          .DW LTL - 10
002456 0E98 05C2          DLTL:    .DW NEST
002457 0E9A 071A          .DW STT
002458 0E9C 04FA          .DW AT
002459 0E9E 00D0          .DW ZBRCH
002460 0EA0 0EA8          .DW DLTL1
002461 0EA2 0499          .DW SWAP

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002462 0EA4 0E7B          .DW LTL
002463 0EA6 0E7B          .DW LTL
002464 0EA8 0379          DLTL1: .DW SEMIS
002465 0EAA                ;
002466 0EAA                ;
002467 0EAA 863F53544143CB .DB H'86,"?STAC",H'CB ; ?STACK
002468 0EB1 0E8D          .DW DLTL - 11
002469 0EB3 05C2          QSTK: .DW NEST
002470 0EB5 066D          .DW SO
002471 0EB7 04FA          .DW AT
002472 0EB9 04B6          .DW DUP
002473 0EBB 033D          .DW FSPAT
002474 0EBD 07E5          .DW GTR
002475 0EBF 05FA          .DW ONE
002476 0EC1 08BE          .DW QERR
002477 0EC3 0086          .DW LIT
002478 0EC5 0100          .DW H'0100
002479 0EC7 03F7          .DW PLUS
002480 0EC9 033D          .DW FSPAT
002481 0ECB 07D9          .DW LESS
002482 0ECD 0086          .DW LIT
002483 0ECF 0007          .DW H'0007
002484 0ED1 08BE          .DW QERR
002485 0ED3 0379          .DW SEMIS
002486 0ED5                ;
002487 0ED5                ;
002488 0ED5 89494E5445525052 .DB H'89,"INTERPRE",H'D4 ; INTERPRET
002489 0EDF 0EAA          0EDD 45D4
002489 0EDF 0EAA          .DW QSTK - 9
002490 0EE1 05C2          INPT: .DW NEST
002491 0EE3 0CAB          .DW MFIN
002492 0EE5 00D0          .DW ZBRCH
002493 0EE7 0F05          .DW PT1
002494 0EE9 071A          .DW STT
002495 0EEB 04FA          .DW AT
002496 0EED 07D9          .DW LESS
002497 0EEF 00D0          .DW ZBRCH
002498 0EF1 0EFB          .DW PT2
002499 0EF3 0872          .DW CFA
002500 0EF5 07A0          .DW COMMA
002501 0EF7 00BD          .DW BRCH
002502 0EF9 0EFF          .DW PT3
002503 0EFB 0872          PT2: .DW CFA
002504 0EFD 00A6          .DW EXE
002505 0EFF 0EB3          PT3: .DW QSTK
002506 0F01 00BD          .DW BRCH
002507 0F03 0F1F          .DW PT4
002508 0F05 0784          PT1: .DW HERE
002509 0F07 0C53          .DW NMBR
002510 0F09 072F          .DW DPL
002511 0F0B 04FA          .DW AT
002512 0F0D 0768          .DW PLUS1
002513 0F0F 00D0          .DW ZBRCH
002514 0F11 0F19          .DW PT5
002515 0F13 0E98          .DW DLTL
002516 0F15 00BD          .DW BRCH
002517 0F17 0F1D          .DW PT6
002518 0F19 048D          PT5: .DW DROP
002519 0F1B 0E7B          .DW LTL
002520 0F1D 0EB3          PT6: .DW QSTK
002521 0F1F 00BD          PT4: .DW BRCH
002522 0F21 0EE3          .DW INPT + 2
002523 0F23 0379          .DW SEMIS
002524 0F25                ;
002525 0F25                ;

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002526 0F25 8A564F434142554C      .DB H'8A,"VOCABULAR",H'D9 ; VOCABULARY
      0F2D 4152D9
002527 0F30 0ED5                    .DW INPT - 12
002528 0F32 05C2                    VBLY: .DW NEST
002529 0F34 0E43                    .DW LBLD
002530 0F36 0086                    .DW LIT
002531 0F38 81A0                    .DW H'81A0
002532 0F3A 07A0                    .DW COMMA
002533 0F3C 070E                    .DW CRNT
002534 0F3E 04FA                    .DW AT
002535 0F40 0872                    .DW CFA
002536 0F42 07A0                    .DW COMMA
002537 0F44 0784                    .DW HERE
002538 0F46 06BE                    .DW VL
002539 0F48 04FA                    .DW AT
002540 0F4A 07A0                    .DW COMMA
002541 0F4C 06BE                    .DW VL
002542 0F4E 051E                    .DW EX
002543 0F50 0E53                    .DW DOSEG
002544 0F52 0775                    VB1: .DW PLUS2
002545 0F54 0700                    .DW CNTX
002546 0F56 051E                    .DW EX
002547 0F58 0379                    .DW SEMIS
002548 0F5A                          ;
002549 0F5A                          ;
002550 0F5A C5464F5254C8          FRTH: .DB H'C5,"FORT",H'C8 ; FORTH (IMMEDIATE)
002551 0F60 0F25                    .DW VBLY - 13
002552 0F62 0E5F                    .DW DUZ1
002553 0F64 0F52                    .DW VB1
002554 0F66 81A0                    .DW H'81A0
002555 0F68 18BF                    .DW TASK - 7
002556 0F6A 0000                    .DW H'0000
002557 0F6C                          ; DICTION LINK
002558 0F6C                          ; NOTE THIS MUST BE CHANGED
002559 0F6C                          ; TO REFLECT THE LINK TO THE
002560 0F6C                          ; LAST DICT WORD IN THE
002561 0F6C                          ; FORTH VOCAB
002562 0F6C                          ;
002563 0F6C                          ;
002562 0F6C 8B444546494E4954      .DB H'8B,"DEFINITION",H'D3 ; DEFINITIONS
      0F74 494F4ED3
002563 0F78 0F5A                    .DW FRTH
002564 0F7A 05C2                    DFN: .DW NEST
002565 0F7C 0700                    .DW CNTX
002566 0F7E 04FA                    .DW AT
002567 0F80 070E                    .DW CRNT
002568 0F82 051E                    .DW EX
002569 0F84 0379                    .DW SEMIS
002570 0F86                          ;
002571 0F86 84515549D4            .DB H'84,"QUI",H'D4 ; QUIT
002572 0F8B 0F6C                    .DW DFN - 14
002573 0F8D 05C2                    QUIT: .DW NEST
002574 0F8F 05F2                    .DW ZERO
002575 0F91 06C8                    .DW BLK
002576 0F93 051E                    .DW EX
002577 0F95 0967                    .DW LB
002578 0F97 0365                    Q2: .DW RP1
002579 0F99 05AB                    .DW CR
002580 0F9B 0AF7                    .DW QUER
002581 0F9D 0EE1                    .DW INPT
002582 0F9F 071A                    .DW STT
002583 0FA1 04FA                    .DW AT
002584 0FA3 03D2                    .DW ZEQL
002585 0FA5 00D0                    .DW ZBRCH
002586 0FA7 0FB0                    .DW Q1
002587 0FA9 0A68                    .DW PDQ
002588 0FAB 0420204F4B            .DB H'04," OK"

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002589 0FB0 00BD          Q1:      .DW BRCH
002590 0FB2 0F97          .DW Q2
002591 0FB4 0379          .DW SEMIS
002592 0FB6                ;
002593 0FB6                ;
002594 0FB6 8541424F52D4   .DB H'85,"ABOR",H'D4 ; ABORT
002595 0FBC 0F86          .DW QUIT - 7
002596 0FBE 05C2          ABORT:   .DW NEST
002597 0FC0 0350          .DW SP1
002598 0FC2 09B2          .DW MDCML
002599 0FC4 05AB          .DW CR
002600 0FC6 0A68          .DW PDQ
002601 0FC8 1C31383032204649 .DB H'1C,"1802 FIG-FORTH R0.4 3/16/81"
      0FD0 472D464F52544820
      0FD8 52302E342020332F
      0FE0 31362F3831
002602 0FE5 17B5          .DW DRZER
002603 0FE7 15AB          .DW MTBUF
002604 0FE9 0621          .DW FIRST
002605 0FEB 04B6          .DW DUP
002606 0FED 154D          .DW PREV
002607 0FEF 051E          .DW EX
002608 0FF1 1542          .DW USE
002609 0FF3 051E          .DW EX
002610 0FF5 0F62          .DW FRTH + 8
002611 0FF7 0F7A          .DW DFN
002612 0FF9 0F8D          .DW QUIT
002613 0FFB 0379          .DW SEMIS
002614 0FFD                ;
002615 0FFD                ;
002616 0FFD C1BB          .DW H'C1BB          ; ; (IMMEDIATE)
002617 0FFF 0FB6          .DW ABORT - 8
002618 1001 05C2          SEMIC:   .DW NEST
002619 1003 091A          .DW QCSP
002620 1005 0951          .DW CMPL
002621 1007 0379          .DW SEMIS
002622 1009 098A          .DW SMDG
002623 100B 0967          .DW LB
002624 100D 0379          .DW SEMIS
002625 100F                ;
002626 100F                ;
002627 100F                ;
002628 100F C22EA2        .DB H'C2,H'2E,H'A2 ; ." (IMMEDIATE)
002629 1012 0FFD          .DW SEMIC - 4
002630 1014 05C2          DOTQ:   .DW NEST
002631 1016 0086          .DW LIT
002632 1018 0022          .DW H'0022
002633 101A 071A          .DW STT
002634 101C 04FA          .DW AT
002635 101E 00D0          .DW ZBRCH
002636 1020 1034          .DW DOTQ1
002637 1022 0951          .DW CMPL
002638 1024 0A68          .DW PDQ
002639 1026 0BB7          .DW WORD
002640 1028 0784          .DW HERE
002641 102A 050D          .DW CAT
002642 102C 0768          .DW PLUS1
002643 102E 0794          .DW ALLOT
002644 1030 00BD          .DW BRCH
002645 1032 103C          .DW DOTQ2
002646 1034 0BB7          DOTQ1:  .DW WORD
002647 1036 0784          .DW HERE
002648 1038 09F4          .DW CNT
002649 103A 0A07          .DW TYPE
002650 103C 0379          DOTQ2:  .DW SEMIS

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002651 103E ;
002652 103E ;
002653 103E C95B434F4D50494C .DB H'C9,"[COMPILE",H'DD ; [COMPILE]
      1046 45DD
002654 1048 100F .DW DOTQ - 5 ; (IMMEDIATE)
002655 104A 05C2 BCOMP: .DW NEST
002656 104C 0CAB .DW MFIND
002657 104E 03D2 .DW ZEQL
002658 1050 05F2 .DW ZERO
002659 1052 08BE .DW QERR
002660 1054 048D .DW DROP
002661 1056 0872 .DW CFA
002662 1058 07A0 .DW COMMA
002663 105A 0379 .DW SEMIS
002664 105C ;
002665 105C ;
002666 105C 89494D4D454444941 .DB H'89,"IMMEDIAT",H'C5 ; IMMEDIATE
      1064 54C5
002667 1066 103E .DW BCOMP - 12
002668 1068 05C2 IMMED: .DW NEST
002669 106A 0852 .DW LTST
002670 106C 0086 .DW LIT
002671 106E 0040 .DW H'0040
002672 1070 04E3 .DW TGLE
002673 1072 0379 .DW SEMIS
002674 1074 ;
002675 1074 ;
002676 1074 C1A8 .DW H'C1A8 ; ( IMMEDIATE)
002677 1076 105C .DW IMMED - 12
002678 1078 05C2 PAREN: .DW NEST
002679 107A 0086 .DW LIT
002680 107C 0029 .DW H'0029
002681 107E 0BB7 .DW WORD
002682 1080 0379 .DW SEMIS
002683 1082 ;
002684 1082 ;
002685 1082 81B3 .DW H'81B3 ; 3
002686 1084 1074 .DW PAREN - 4
002687 1086 05D6 THREE: .DW CONST
002688 1088 0003 .DW H'0003
002689 108A ;
002690 108A ;
002691 108A C1A7 .DW H'C1A7 ; ' (TICK) (IMMEDIATE)
002692 108C 1082 .DW THREE - 4
002693 108E 05C2 TICK: .DW NEST
002694 1090 0CAB .DW MFIND
002695 1092 03D2 .DW ZEQL
002696 1094 05F2 .DW ZERO
002697 1096 08BE .DW QERR
002698 1098 048D .DW DROP
002699 109A 0E7B .DW LTL
002700 109C 0379 .DW SEMIS
002701 109E ;
002702 109E ;
002703 109E 86464F524745D4 .DB H'86,"FORGE",H'D4 ; FORGET
002704 10A5 108A .DW TICK - 4
002705 10A7 05C2 FORG: .DW NEST
002706 10A9 070E .DW CRNT
002707 10AB 04FA .DW AT
002708 10AD 0700 .DW CNTX
002709 10AF 04FA .DW AT
002710 10B1 07C1 .DW MINS
002711 10B3 0086 .DW LIT
002712 10B5 0018 .DW H'0018
002713 10B7 08BE .DW QERR

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002714	10B9	108E		.DW	TICK
002715	10BB	04B6		.DW	DUP
002716	10BD	06A6		.DW	FNCE
002717	10BF	04FA		.DW	AT
002718	10C1	07D9		.DW	LESS
002719	10C3	0086		.DW	LIT
002720	10C5	0015		.DW	H'0015
002721	10C7	08BE		.DW	QERR
002722	10C9	04B6		.DW	DUP
002723	10CB	0880		.DW	NFA
002724	10CD	06AF		.DW	DP
002725	10CF	051E		.DW	EX
002726	10D1	0862		.DW	LFA
002727	10D3	04FA		.DW	AT
002728	10D5	0700		.DW	CNTX
002729	10D7	04FA		.DW	AT
002730	10D9	051E		.DW	EX
002731	10DB	0379		.DW	SEMIS
002732	10DD			;	
002733	10DD			;	
002734	10DD	822BAD		.DB	H'82,H'2B,H'AD ; +-
002735	10E0	109E		.DW	FORG - 9
002736	10E2	05C2	PM:	.DW	NEST
002737	10E4	03EB		.DW	ZLESS
002738	10E6	00D0		.DW	ZBRCH
002739	10E8	10EC		.DW	PM1
002740	10EA	0412		.DW	MINUS
002741	10EC	0379	PM1:	.DW	SEMIS
002742	10EE			;	
002743	10EE	83442BAD		.DB	H'83,H'44,H'2B,H'AD ; D+-
002744	10F2	10DD		.DW	PM - 5
002745	10F4	05C2	DPM:	.DW	NEST
002746	10F6	03EB		.DW	ZLESS
002747	10F8	00D0		.DW	ZBRCH
002748	10FA	10FE		.DW	DPM1
002749	10FC	0458		.DW	DMIN
002750	10FE	0379	DPM1:	.DW	SEMIS
002751	1100			;	
002752	1100	834142D3		.DB	H'83,H'41,H'42,H'D3 ; ABS
002753	1104	10EE		.DW	DPM - 6
002754	1106	05C2	ABS:	.DW	NEST
002755	1108	04B6		.DW	DUP
002756	110A	10E2		.DW	PM
002757	110C	0379		.DW	SEMIS
002758	110E			;	
002759	110E	84444142D3		.DB	H'84,"DAB",H'D3 ; DABS
002760	1113	1100		.DW	ABS - 6
002761	1115	05C2	DABS:	.DW	NEST
002762	1117	04B6		.DW	DUP
002763	1119	10F4		.DW	DPM
002764	111B	0379		.DW	SEMIS
002765	111D			;	
002766	111D	834D41D8		.DB	H'83,H'4D,H'41,H'D8 ; MAX
002767	1121	110E		.DW	DABS - 7
002768	1123	05C2	MAX:	.DW	NEST
002769	1125	0473		.DW	OVER
002770	1127	0473		.DW	OVER
002771	1129	07D9		.DW	LESS
002772	112B	00D0		.DW	ZBRCH
002773	112D	1131		.DW	MAX1
002774	112F	0499		.DW	SWAP
002775	1131	048D	MAX1:	.DW	DROP
002776	1133	0379		.DW	SEMIS
002777	1135			;	
002778	1135	824DAA		.DB	H'82,H'4D,H'AA ; M*

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002779 1138 111D .DW MAX - 6
002780 113A 05C2 MSTAR: .DW NEST
002781 113C 0473 .DW OVER
002782 113E 0473 .DW OVER
002783 1140 0324 .DW FXOR
002784 1142 039D .DW GR
002785 1144 1106 .DW ABS
002786 1146 0499 .DW SWAP
002787 1148 1106 .DW ABS
002788 114A 0278 .DW USTAR
002789 114C 03AD .DW RG
002790 114E 10F4 .DW DPM
002791 1150 0379 .DW SEMIS
002792 1152 ;
002793 1152 824DAF .DB H'82,H'4D,H'AF ; M/
002794 1155 1135 .DW MSTAR - 5
002795 1157 05C2 MSLAS: .DW NEST
002796 1159 0473 .DW OVER
002797 115B 039D .DW GR
002798 115D 039D .DW GR
002799 115F 1115 .DW DABS
002800 1161 03BD .DW R
002801 1163 1106 .DW ABS
002802 1165 02B2 .DW USLSH
002803 1167 03AD .DW RG
002804 1169 03BD .DW R
002805 116B 0324 .DW FXOR
002806 116D 10E2 .DW PM
002807 116F 0499 .DW SWAP
002808 1171 03AD .DW RG
002809 1173 10E2 .DW PM
002810 1175 0499 .DW SWAP
002811 1177 0379 .DW SEMIS
002812 1179 ;
002813 1179 81AA .DW H'81AA ; *
002814 117B 1152 .DW MSLAS - 5
002815 117D 05C2 STAR: .DW NEST
002816 117F 113A .DW MSTAR
002817 1181 048D .DW DROP
002818 1183 0379 .DW SEMIS
002819 1185 ;
002820 1185 842F4D4FC4 .DB H'84,H'2F,H'4D,H'4F,H'C4 ; /MOD
002821 118A 1179 .DW STAR - 4
002822 118C 05C2 SLMOD: .DW NEST
002823 118E 039D .DW GR
002824 1190 14F1 .DW STOD
002825 1192 03AD .DW RG
002826 1194 1157 .DW MSLAS
002827 1196 0379 .DW SEMIS
002828 1198 ;
002829 1198 81AF .DW H'81AF ; /
002830 119A 1185 .DW SLMOD - 7
002831 119C 05C2 SLASH: .DW NEST
002832 119E 118C .DW SLMOD
002833 11A0 0499 .DW SWAP
002834 11A2 048D .DW DROP
002835 11A4 0379 .DW SEMIS
002836 11A6 ;
002837 11A6 834D4FC4 .DB H'83,H'4D,H'4F,H'C4 ; MOD
002838 11AA 1198 .DW SLASH - 4
002839 11AC 05C2 MODD: .DW NEST
002840 11AE 118C .DW SLMOD
002841 11B0 048D .DW DROP
002842 11B2 0379 .DW SEMIS
002843 11B4 ;

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002844 11B4 852A2F4D4FC4      .DB H'85,"*/MO",H'C4 ; */MOD
002845 11BA 11A6              .DW MODD - 6
002846 11BC 05C2              SSMOD: .DW NEST
002847 11BE 039D              .DW GR
002848 11C0 113A              .DW MSTAR
002849 11C2 03AD              .DW RG
002850 11C4 1157              .DW MSLAS
002851 11C6 0379              .DW SEMIS
002852 11C8                    ;
002853 11C8 822AAF            .DB H'82,H'2A,H'AF ; */
002854 11CB 11B4              .DW SSMOD - 8
002855 11CD 05C2              SSLA:  .DW NEST
002856 11CF 11BC              .DW SSMOD
002857 11D1 0499              .DW SWAP
002858 11D3 048D              .DW DROP
002859 11D5 0379              .DW SEMIS
002860 11D7                    ;
002861 11D7 854D2F4D4FC4      .DB H'85,"M/MO",H'C4 ; M/MOD
002862 11DD 11C8              .DW SSLA - 5
002863 11DF 05C2              MSMOD: .DW NEST
002864 11E1 039D              .DW GR
002865 11E3 05F2              .DW ZERO
002866 11E5 03BD              .DW R
002867 11E7 02B2              .DW USLSH
002868 11E9 03AD              .DW RG
002869 11EB 0499              .DW SWAP
002870 11ED 039D              .DW GR
002871 11EF 02B2              .DW USLSH
002872 11F1 03AD              .DW RG
002873 11F3 0379              .DW SEMIS
002874 11F5                    ;
002875 11F5                    ;
002876 11F5 834D4FCE          .DB H'83,"MO",H'CE ; MON
002877 11F9 11D7              .DW MSMOD - 8 ; RETURN TO MONITOR
002878 11FB 11FD              MON:   .DW * + 2 ; AT 8000 HEX
002879 11FD F880              LDI H'80
002880 11FF B0                 PHI R0
002881 1200 F800              LDI H'00
002882 1202 A0                 PLO R0
002883 1203 E0                 SEX R0
002884 1204 D0                 SEP R0
002885 1205                    ;
002886 1205                    ;
002887 1205 834259C5          .DB H'83,"BY",H'C5 ; BYE
002888 1209 11F5              .DW MON - 6
002889 120B 05C2              BYE:  .DW NEST
002890 120D 189B              .DW FLUSH
002891 120F 11FB              .DW MON
002892 1211                    ;
002893 1211                    ;
002894 1211 84424143CB        .DB H'84,"BAC",H'CB ; BACK
002895 1216 1205              .DW BYE - 6
002896 1218 05C2              BACK: .DW NEST
002897 121A 07A0              .DW COMMA
002898 121C 0379              .DW SEMIS
002899 121E                    ;
002900 121E C542454749CE      .DB H'C5,"BEGI",H'CE ; BEGIN
002901 1224 1211              .DW BACK - 7
002902 1226 05C2              BEGIN: .DW NEST
002903 1228 08D8              .DW QCMP
002904 122A 0784              .DW HERE
002905 122C 05FA              .DW ONE
002906 122E 0379              .DW SEMIS
002907 1230                    ;
002908 1230 C5454E4449C6      .DB H'C5,"ENDI",H'C6 ; ENDIF

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002909 1236 121E          .DW BEGIN - 8
002910 1238 05C2          ENDIFF: .DW NEST
002911 123A 08D8          .DW QCMP
002912 123C 0602          .DW TWO
002913 123E 0907          .DW QPR
002914 1240 0784          .DW HERE
002915 1242 0499          .DW SWAP
002916 1244 051E          .DW EX
002917 1246 0379          .DW SEMIS
002918 1248                ;
002919 1248 C4544845CE     .DB H'C4,"THE",H'CE ; THEN
002920 124D 1230          .DW ENDIFF - 8
002921 124F 05C2          THEN: .DW NEST
002922 1251 1238          .DW ENDIFF
002923 1253 0379          .DW SEMIS
002924 1255                ;
002925 1255 C244CF         .DB H'C2,H'44,H'CF ; DO
002926 1258 1248          .DW THEN - 7
002927 125A 05C2          DO: .DW NEST
002928 125C 0951          .DW CMPL
002929 125E 0150          .DW PDO
002930 1260 0784          .DW HERE
002931 1262 1086          .DW THREE
002932 1264 0379          .DW SEMIS
002933 1266                ;
002934 1266 C44C4F4FD0     .DB H'C4,H'4C,H'4F,H'4F,H'D0 ; LOOP
002935 126B 1255          .DW DO - 5
002936 126D 05C2          LOOP: .DW NEST
002937 126F 1086          .DW THREE
002938 1271 0907          .DW QPR
002939 1273 0951          .DW CMPL
002940 1275 00EC          .DW LUPE
002941 1277 1218          .DW BACK
002942 1279 0379          .DW SEMIS
002943 127B                ;
002944 127B C52B4C4F4FD0   .DB H'C5,"+LOO",H'D0 ; +LOOP
002945 1281 1266          .DW LOOP - 7
002946 1283 05C2          PLOOP: .DW NEST
002947 1285 1086          .DW THREE
002948 1287 0907          .DW QPR
002949 1289 0951          .DW CMPL
002950 128B 0124          .DW PLUPE
002951 128D 1218          .DW BACK
002952 128F 0379          .DW SEMIS
002953 1291                ;
002954 1291 C5554E5449CC   .DB H'C5,"UNTI",H'CC ; UNTIL
002955 1297 127B          .DW PLOOP - 8
002956 1299 05C2          UNTIL: .DW NEST
002957 129B 05FA          .DW ONE
002958 129D 0907          .DW QPR
002959 129F 0951          .DW CMPL
002960 12A1 00D0          .DW ZBRCH
002961 12A3 1218          .DW BACK
002962 12A5 0379          .DW SEMIS
002963 12A7                ;
002964 12A7 C3454EC4       .DB H'C3,H'45,H'4E,H'C4 ; END
002965 12AB 1291          .DW UNTIL - 8
002966 12AD 05C2          ENDD: .DW NEST
002967 12AF 1299          .DW UNTIL
002968 12B1 0379          .DW SEMIS
002969 12B3                ;
002970 12B3 C541474149CE   .DB H'C5,"AGAI",H'CE ; AGAIN
002971 12B9 12A7          .DW ENDD - 6
002972 12BB 05C2          AGAIN: .DW NEST
002973 12BD 05FA          .DW ONE

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002974 12BF 0907          .DW QPR
002975 12C1 0951          .DW CMPL
002976 12C3 00BD          .DW BRCH
002977 12C5 1218          .DW BACK
002978 12C7 0379          .DW SEMIS
002979 12C9                ;
002980 12C9 C65245504541D4 .DB H'C6,"REPEA",H'D4 ; REPEAT
002981 12D0 12B3          .DW AGAIN - 8
002982 12D2 05C2          REPEA: .DW NEST
002983 12D4 039D          .DW GR
002984 12D6 039D          .DW GR
002985 12D8 12BB          .DW AGAIN
002986 12DA 03AD          .DW RG
002987 12DC 03AD          .DW RG
002988 12DE 0602          .DW TWO
002989 12E0 07C1          .DW MINS
002990 12E2 1238          .DW ENDIFF
002991 12E4 0379          .DW SEMIS
002992 12E6                ;
002993 12E6 C249C6        .DB H'C2,H'49,H'C6 ; IF
002994 12E9 12C9          .DW REPEA - 9
002995 12EB 05C2          IFF: .DW NEST
002996 12ED 0951          .DW CMPL
002997 12EF 00D0          .DW ZBRCH
002998 12F1 0784          .DW HERE
002999 12F3 05F2          .DW ZERO
003000 12F5 07A0          .DW COMMA
003001 12F7 0602          .DW TWO
003002 12F9 0379          .DW SEMIS
003003 12FB                ;
003004 12FB C4454C53C5    .DB H'C4,"ELS",H'C5 ; ELSE
003005 1300 12E6          .DW IFF - 5
003006 1302 05C2          ELSEE: .DW NEST
003007 1304 0602          .DW TWO
003008 1306 0907          .DW QPR
003009 1308 0951          .DW CMPL
003010 130A 00BD          .DW BRCH
003011 130C 0784          .DW HERE
003012 130E 05F2          .DW ZERO
003013 1310 07A0          .DW COMMA
003014 1312 0499          .DW SWAP
003015 1314 0602          .DW TWO
003016 1316 1238          .DW ENDIFF
003017 1318 0602          .DW TWO
003018 131A 0379          .DW SEMIS
003019 131C                ;
003020 131C C55748494CC5 .DB H'C5,"WHIL",H'C5 ; WHILE
003021 1322 12FB          .DW ELSEE - 7
003022 1324 05C2          WHILE: .DW NEST
003023 1326 12EB          .DW IFF
003024 1328 0775          .DW PLUS2
003025 132A 0379          .DW SEMIS
003026 132C                ;
003027 132C 865350414345D3 .DB H'86,"SPACE",H'D3 ; SPACES
003028 1333 131C          .DW WHILE - 8
003029 1335 05C2          SPACS: .DW NEST
003030 1337 05F2          .DW ZERO
003031 1339 1123          .DW MAX
003032 133B 0816          .DW MDUP
003033 133D 00D0          .DW ZBRCH
003034 133F 134B          .DW SPAX1
003035 1341 05F2          .DW ZERO
003036 1343 0150          .DW PDO
003037 1345 0807          SPAX2: .DW SPC
003038 1347 00EC          .DW LUPE

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003039 1349 1345                .DW SPAX2
003040 134B 0379                SPAX1: .DW SEMIS
003041 134D                      ;
003042 134D 823CA3              .DB H'82,H'3C,H'A3 ; <#
003043 1350 132C                .DW SPACS - 9
003044 1352 05C2                BDIGS: .DW NEST
003045 1354 0BA4                .DW PAD
003046 1356 0756                .DW HLD
003047 1358 051E                .DW EX
003048 135A 0379                .DW SEMIS
003049 135C                      ;
003050 135C 8223BE              .DB H'82,H'23,H'BE ; #>
003051 135F 134D                .DW BDIGS - 5
003052 1361 05C2                EDIGS: .DW NEST
003053 1363 048D                .DW DROP
003054 1365 048D                .DW DROP
003055 1367 0756                .DW HLD
003056 1369 04FA                .DW AT
003057 136B 0BA4                .DW PAD
003058 136D 0473                .DW OVER
003059 136F 07C1                .DW MINS
003060 1371 0379                .DW SEMIS
003061 1373                      ;
003062 1373 84534947CE          .DB H'84,"SIG",H'CE ; SIGN
003063 1378 135C                .DW EDIGS - 5
003064 137A 05C2                SIGN: .DW NEST
003065 137C 07F3                .DW ROT
003066 137E 03EB                .DW ZLESS
003067 1380 00D0                .DW ZBRCH
003068 1382 138A                .DW SIGN1
003069 1384 0086                .DW LIT
003070 1386 002D                .DW H'002D
003071 1388 0B8C                .DW HOLD
003072 138A 0379                SIGN1: .DW SEMIS
003073 138C                      ;
003074 138C 81A3                .DW H'81A3 ; #
003075 138E 1373                .DW SIGN - 7
003076 1390 05C2                DIG: .DW NEST
003077 1392 0725                .DW BASE
003078 1394 04FA                .DW AT
003079 1396 11DF                .DW MSMOD
003080 1398 07F3                .DW ROT
003081 139A 0086                .DW LIT
003082 139C 0009                .DW H'0009
003083 139E 0473                .DW OVER
003084 13A0 07D9                .DW LESS
003085 13A2 00D0                .DW ZBRCH
003086 13A4 13AC                .DW DIG1
003087 13A6 0086                .DW LIT
003088 13A8 0007                .DW H'0007
003089 13AA 03F7                .DW PLUS
003090 13AC 0086                DIG1: .DW LIT
003091 13AE 0030                .DW H'0030
003092 13B0 03F7                .DW PLUS
003093 13B2 0B8C                .DW HOLD
003094 13B4 0379                .DW SEMIS
003095 13B6                      ;
003096 13B6 8223D3              .DB H'82,H'23,H'D3 ; #S
003097 13B9 138C                .DW DIG - 4
003098 13BB 05C2                DIGS: .DW NEST
003099 13BD 1390                DIGS1: .DW DIG
003100 13BF 0473                .DW OVER
003101 13C1 0473                .DW OVER
003102 13C3 030B                .DW FFOR
003103 13C5 03D2                .DW ZEQAL

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003104 13C7 00D0          .DW ZBRCH
003105 13C9 13BD          .DW DIGS1
003106 13CB 0379          .DW SEMIS
003107 13CD                ;
003108 13CD 83442ED2      .DB H'83,H'44,H'2E,H'D2 ; D.R
003109 13D1 13B6          .DW DIGS - 5
003110 13D3 05C2          DDOTR: .DW NEST
003111 13D5 039D          .DW GR
003112 13D7 0499          .DW SWAP
003113 13D9 0473          .DW OVER
003114 13DB 1115          .DW DABS
003115 13DD 1352          .DW BDIGS
003116 13DF 13BB          .DW DIGS
003117 13E1 137A          .DW SIGN
003118 13E3 1361          .DW EDIGS
003119 13E5 03AD          .DW RG
003120 13E7 0473          .DW OVER
003121 13E9 07C1          .DW MINS
003122 13EB 1335          .DW SPACS
003123 13ED 0A07          .DW TYPE
003124 13EF 0379          .DW SEMIS
003125 13F1                ;
003126 13F1 822ED2      .DB H'82,H'2E,H'D2 ; .R
003127 13F4 13CD          .DW DDOTR - 6
003128 13F6 05C2          DOTR: .DW NEST
003129 13F8 039D          .DW GR
003130 13FA 14F1          .DW STOD
003131 13FC 03AD          .DW RG
003132 13FE 13D3          .DW DDOTR
003133 1400 0379          .DW SEMIS
003134 1402                ;
003135 1402 8244AE      .DB H'82,H'44,H'AE ; D.
003136 1405 13F1          .DW DOTR - 5
003137 1407 05C2          DDOT: .DW NEST
003138 1409 05F2          .DW ZERO
003139 140B 13D3          .DW DDOTR
003140 140D 0807          .DW SPC
003141 140F 0379          .DW SEMIS
003142 1411                ;
003143 1411 81AE          .DW H'81AE ; . (DOT)
003144 1413 1402          .DW DDOT - 5
003145 1415 05C2          DOT: .DW NEST
003146 1417 14F1          .DW STOD
003147 1419 1407          .DW DDOT
003148 141B 0379          .DW SEMIS
003149 141D                ;
003150 141D 81BF          .DW H'81BF ; ?
003151 141F 1411          .DW DOT - 4
003152 1421 05C2          QUES: .DW NEST
003153 1423 04FA          .DW AT
003154 1425 1415          .DW DOT
003155 1427 0379          .DW SEMIS
003156 1429                ;
003157 1429 8255AE      .DB H'82,H'55,H'AE ; U.
003158 142C 141D          .DW QUES - 4
003159 142E 05C2          UDOT: .DW NEST
003160 1430 05F2          .DW ZERO
003161 1432 1407          .DW DDOT
003162 1434 0379          .DW SEMIS
003163 1436                ;
003164 1436 85564C4953D4 .DB H'85,"VLIS",H'D4 ; VLIST
003165 143C 1429          .DW UDOT - 5
003166 143E 05C2          VLIST: .DW NEST
003167 1440 05AB          .DW CR
003168 1442 0086          .DW LIT

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003169 1444 0080          .DW H'0080
003170 1446 06DB          .DW FOUT
003171 1448 051E          .DW EX
003172 144A 0700          .DW CNTX
003173 144C 04FA          .DW AT
003174 144E 04FA          .DW AT
003175 1450 06DB          VLIS1: .DW FOUT
003176 1452 04FA          .DW AT
003177 1454 0615          .DW CL
003178 1456 07E5          .DW GTR
003179 1458 00D0          .DW ZBRCH
003180 145A 1464          .DW VLIS2
003181 145C 05AB          .DW CR
003182 145E 05F2          .DW ZERO
003183 1460 06DB          .DW FOUT
003184 1462 051E          .DW EX
003185 1464 04B6          VLIS2: .DW DUP
003186 1466 0D2D          .DW ID
003187 1468 0807          .DW SPC
003188 146A 0807          .DW SPC
003189 146C 0896          .DW PFA
003190 146E 0862          .DW LFA
003191 1470 04FA          .DW AT
003192 1472 04B6          .DW DUP
003193 1474 03D2          .DW ZEQL
003194 1476 0597          .DW QTERM
003195 1478 030B          .DW FFOR
003196 147A 00D0          .DW ZBRCH
003197 147C 1450          .DW VLIS1
003198 147E 048D          .DW DROP
003199 1480 0379          .DW SEMIS
003200 1482                ;
003201 1482                ;
003202 1482 874D4553534147C5 .DB H'87,"MESSAG",H'C5 ; MESSAGE
003203 148A 1436          .DW VLIST - 8
003204 148C 05C2          MSG: .DW NEST
003205 148E 069A          .DW WRNG
003206 1490 04FA          .DW AT
003207 1492 00D0          .DW ZBRCH
003208 1494 14B2          .DW MESS1
003209 1496 0816          .DW MDUP
003210 1498 00D0          .DW ZBRCH
003211 149A 14AE          .DW MESS2
003212 149C 0086          .DW LIT
003213 149E 0004          .DW H'0004
003214 14A0 06F2          .DW OFST
003215 14A2 04FA          .DW AT
003216 14A4 0645          .DW BSCR
003217 14A6 119C          .DW SLASH
003218 14A8 07C1          .DW MINS
003219 14AA 1532          .DW DLINE
003220 14AC 0807          .DW SPC
003221 14AE 00BD          MESS2: .DW BRCH
003222 14B0 14BE          .DW MESS3
003223 14B2 0A68          MESS1: .DW PDQ
003224 14B4 07204D5347202320 .DB H'07," MSG # "
003225 14BC 1415          .DW DOT
003226 14BE 0379          MESS3: .DW SEMIS
003227 14C0                ;
003228 14C0                ;
003229 14C0 81C9          .DW H'81C9                ; I
003230 14C2 1482          .DW MSG - 10
003231 14C4 14C6          I: .DW * + 2
003232 14C6 12            INC R2
003233 14C7 19            INC R9

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003234	14C8	19		INC	R9
003235	14C9	19		INC	R9
003236	14CA	42		LDA	R2
003237	14CB	59		STR	R9
003238	14CC	29		DEC	R9
003239	14CD	02		LDN	R2
003240	14CE	59		STR	R9
003241	14CF	22		DEC	R2
003242	14D0	22		DEC	R2
003243	14D1	DC		SEP	RC
003244	14D2			;	
003245	14D2	84574152CD		.DB	H'84,"WAR",H'CD ; WARM
003246	14D7	14C0		.DW	I - 4
003247	14D9	14DB	WRM:	.DW	* + 2
003248	14DB	C01915		LBR	WARM
003249	14DE			;	
003250	14DE			;	
003251	14DE	84434F4CC4		.DB	H'84,"COL",H'C4 ; COLD
003252	14E3	14D2		.DW	WRM - 7
003253	14E5	14E7	CLD:	.DW	* + 2
003254	14E7	C01900		LBR	COLD
003255	14EA			;	
003256	14EA			;	
003257	14EA	84532D3EC4		.DB	H'84,"S->",H'C4 ; S->D
003258	14EF	14DE		.DW	CLD - 7
003259	14F1	14F3	STOD:	.DW	* + 2
003260	14F3	49		LDA	R9
003261	14F4	FE		SHL	
003262	14F5	33FB		BDF	SNEG
003263	14F7	F800		LDI	H'00
003264	14F9	30FD		BR	SSKP
003265	14FB	F8FF	SNEG:	LDI	H'FF
003266	14FD	19	SSKP:	INC	R9
003267	14FE	59		STR	R9
003268	14FF	19		INC	R9
003269	1500	59		STR	R9
003270	1501	29		DEC	R9
003271	1502	DC		SEP	RC
003272	1503			;	
003273	1503	86284C494E45A9		.DB	H'86,"(LINE",H'A9 ; (LINE)
003274	150A	14EA		.DW	STOD - 7
003275	150C	05C2	PLINE:	.DW	NEST
003276	150E	039D		.DW	GR
003277	1510	0086		.DW	LIT
003278	1512	0040		.DW	H'0040
003279	1514	0639		.DW	BBUF
003280	1516	11BC		.DW	SSMOD
003281	1518	03AD		.DW	RG
003282	151A	0645		.DW	BSCR
003283	151C	117D		.DW	STAR
003284	151E	03F7		.DW	PLUS
003285	1520	160A		.DW	BLOCK
003286	1522	03F7		.DW	PLUS
003287	1524	0086		.DW	LIT
003288	1526	0040		.DW	H'0040
003289	1528	0379		.DW	SEMIS
003290	152A			;	
003291	152A	852E4C494EC5		.DB	H'85,".LIN",H'C5 ; .LINE
003292	1530	1503		.DW	PLINE - 9
003293	1532	05C2	DLINE:	.DW	NEST
003294	1534	150C		.DW	PLINE
003295	1536	0A35		.DW	TRLG
003296	1538	0A07		.DW	TYPE
003297	153A	0379		.DW	SEMIS
003298	153C			;	

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003299 153C 835553C5          .DB H'83,"US",H'C5 ; USE (ADDR OF
003300 1540 152A              .DW DLINE - 8      ; NEXT BUFFER TO USE)
003301 1542 05CD              USE:  .DW VAR
003302 1544 4000              .DW FIRSTB
003303 1546                    ;
003304 1546 84505245D6        .DB H'84,"PRE",H'D6 ; PREV (ADDR OF
003305 154B 153C              .DW USE - 6       ; PREVIOUSLY USED BUFFER)
003306 154D 05CD              PREV: .DW VAR
003307 154F 4000              .DW FIRSTB
003308 1551                    ;
003309 1551 842B4255C6        .DB H'84,"+BU",H'C6 ; +BUF
003310 1556 1546              .DW PREV - 7     ; ADVANCE
003311 1558 05C2              PBUF: .DW NEST      ; BUFFER
003312 155A 0639              .DW BBUF
003313 155C 0086              .DW LIT
003314 155E 0004              .DW H'0004
003315 1560 03F7              .DW PLUS
003316 1562 03F7              .DW PLUS
003317 1564 04B6              .DW DUP
003318 1566 062D              .DW LIMIT
003319 1568 07CD              .DW EQL
003320 156A 00D0              .DW ZBRCH
003321 156C 1572              .DW PBUF1
003322 156E 048D              .DW DROP
003323 1570 0621              .DW FIRST
003324 1572 04B6              PBUF1: .DW DUP
003325 1574 154D              .DW PREV
003326 1576 04FA              .DW AT
003327 1578 07C1              .DW MINS
003328 157A 0379              .DW SEMIS
003329 157C                    ;
003330 157C 865550444154C5    .DB H'86,"UPDAT",H'C5 ; UPDATE
003331 1583 1551              .DW PBUF - 7
003332 1585 05C2              UPDAT: .DW NEST
003333 1587 154D              .DW PREV
003334 1589 04FA              .DW AT
003335 158B 04FA              .DW AT
003336 158D 0086              .DW LIT
003337 158F 8000              .DW H'8000
003338 1591 030B              .DW FFOR
003339 1593 154D              .DW PREV
003340 1595 04FA              .DW AT
003341 1597 051E              .DW EX
003342 1599 0379              .DW SEMIS
003343 159B                    ;
003344 159B 8D454D5054592D42 .DB H'8D,"EMPTY-BUFFER",H'D3 ; EMPTY-BUFFER
      15A3 5546464552D3
003345 15A9 157C              .DW UPDAT - 9
003346 15AB 05C2              MTBUF: .DW NEST
003347 15AD 0 621              .DW FIRST
003348 15AF 062D              .DW LIMIT
003349 15B1 0473              .DW OVER
003350 15B3 07C1              .DW MINS
003351 15B5 0B6C              .DW ERS
003352 15B7 0379              .DW SEMIS
003353 15B9                    ;
003354 15B9                    ;
003355 15B9 864255464645D2    .DB H'86,"BUFFE",H'D2 ; BUFFER
003356 15C0 159B              .DW MTBUF - 16
003357 15C2 05C2              BUFFE: .DW NEST
003358 15C4 1542              .DW USE
003359 15C6 04FA              .DW AT
003360 15C8 04B6              .DW DUP
003361 15CA 039D              .DW GR
003362 15CC 1558              BUFF1: .DW PBUF

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003363 15CE 00D0      .DW ZBRCH
003364 15D0 15CC      .DW BUFF1
003365 15D2 1542      .DW USE
003366 15D4 051E      .DW EX
003367 15D6 03BD      .DW R
003368 15D8 04FA      .DW AT
003369 15DA 03EB      .DW ZLESS
003370 15DC 00D0      .DW ZBRCH
003371 15DE 15F2      .DW BUFF2
003372 15E0 03BD      .DW R
003373 15E2 0775      .DW PLUS2
003374 15E4 03BD      .DW R
003375 15E6 04FA      .DW AT
003376 15E8 0086      .DW LIT
003377 15EA 7FFF      .DW H'7FFF
003378 15EC 02F3      .DW FAND
003379 15EE 05F2      .DW ZERO
003380 15F0 1668      .DW RSLW
003381 15F2 03BD      BUFF2: .DW R
003382 15F4 051E      .DW EX
003383 15F6 03BD      .DW R
003384 15F8 154D      .DW PREV
003385 15FA 051E      .DW EX
003386 15FC 03AD      .DW RG
003387 15FE 0775      .DW PLUS2
003388 1600 0379      .DW SEMIS
003389 1602           ;
003390 1602 85424C4F43CB .DB H'85,"BLOC",H'CB ; BLOCK
003391 1608 15B9      .DW BUFBE - 9
003392 160A 05C2      BLOCK: .DW NEST
003393 160C 06F2      .DW OFST
003394 160E 04FA      .DW AT
003395 1610 03F7      .DW PLUS
003396 1612 039D      .DW GR
003397 1614 154D      .DW PREV
003398 1616 04FA      .DW AT
003399 1618 04B6      .DW DUP
003400 161A 04FA      .DW AT
003401 161C 03BD      .DW R
003402 161E 07C1      .DW MINS
003403 1620 04B6      .DW DUP
003404 1622 03F7      .DW PLUS
003405 1624 00D0      .DW ZBRCH
003406 1626 165A      .DW BLOC1
003407 1628 1558      BLOC2: .DW PBUF
003408 162A 03D2      .DW ZEQL
003409 162C 00D0      .DW ZBRCH
003410 162E 1642      .DW BLOC3
003411 1630 048D      .DW DROP
003412 1632 03BD      .DW R
003413 1634 15C2      .DW BUFBE
003414 1636 04B6      .DW DUP
003415 1638 03BD      .DW R
003416 163A 05FA      .DW ONE
003417 163C 1668      .DW RSLW
003418 163E 0602      .DW TWO
003419 1640 07C1      .DW MINS
003420 1642 04B6      BLOC3: .DW DUP
003421 1644 04FA      .DW AT
003422 1646 03BD      .DW R
003423 1648 07C1      .DW MINS
003424 164A 04B6      .DW DUP
003425 164C 03F7      .DW PLUS
003426 164E 03D2      .DW ZEQL
003427 1650 00D0      .DW ZBRCH

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003428	1652	1628		.DW BLOC2
003429	1654	04B6		.DW DUP
003430	1656	154D		.DW PREV
003431	1658	051E		.DW EX
003432	165A	03AD	BLOC1:	.DW RG
003433	165C	048D		.DW DROP
003434	165E	0775		.DW PLUS2
003435	1660	0379		.DW SEMIS
003436	1662			;
003437	1662	83522FD7		.DB H'83,H'52,H'2F,H'D7 ; R/W
003438	1666	1602		.DW BLOCK - 8
003439	1668	05C2	RSLW:	.DW NEST
003440	166A	0499		.DW SWAP
003441	166C	0086		.DW LIT
003442	166E	00FA		.DW H'00FA
003443	1670	118C		.DW SLMOD
003444	1672	04B6		.DW DUP
003445	1674	0086		.DW LIT
003446	1676	0003		.DW H'0003
003447	1678	07E5		.DW GTR
003448	167A	0086		.DW LIT
003449	167C	0005		.DW H'0005
003450	167E	08BE		.DW QERR
003451	1680	0499		.DW SWAP
003452	1682	0086		.DW LIT
003453	1684	0008		.DW H'0008
003454	1686	117D		.DW STAR
003455	1688	0086		.DW LIT
003456	168A	0001		.DW H'0001
003457	168C	03F7		.DW PLUS
003458	168E	0086		.DW LIT
003459	1690	001A		.DW H'001A
003460	1692	118C		.DW SLMOD
003461	1694	075F		.DW DV
003462	1696	0535		.DW CEX
003463	1698	05FA		.DW ONE
003464	169A	07C1		.DW MINS
003465	169C	0499		.DW SWAP
003466	169E	0086		.DW LIT
003467	16A0	0040		.DW H'0040
003468	16A2	117D		.DW STAR
003469	16A4	03F7		.DW PLUS
003470	16A6	075F		.DW DV
003471	16A8	0768		.DW PLUS1
003472	16AA	0535		.DW CEX
003473	16AC	05F2		.DW ZERO
003474	16AE	075F		.DW DV
003475	16B0	0775		.DW PLUS2
003476	16B2	0535		.DW CEX
003477	16B4	075F		.DW DV
003478	16B6	0639		.DW BBUF
003479	16B8	07F3		.DW ROT
003480	16BA	00D0		.DW ZBRCH
003481	16BC	16C4		.DW RWELSE
003482	16BE	16D5		.DW BLKRD
003483	16C0	00BD		.DW BRCH
003484	16C2	16C6		.DW RWEND
003485	16C4	171F	RWELSE:	.DW BLKWT
003486	16C6	0379	RWEND:	.DW SEMIS
003487	16C8	0A424C4F434B2D52		.DB H'0A,"BLOCK-REA",H'C4 ; BLOCKREAD
	16D0	4541C4		
003488	16D3	1662		.DW RSLW - 6
003489	16D5	16D7	BLKRD:	.DW * + 2
003490	16D7	F883		LDI H'83
003491	16D9	B4		PHI R4

003492	16DA	B5		PHI	R5
003493	16DB	F864		LDI	H'64
003494	16DD	A4		PLO	R4
003495	16DE	F874		LDI	H'74
003496	16E0	A5		PLO	R5
003497	16E1			;	
003498	16E1	E2		SEX	R2
003499	16E2	9C		GHI	RC
003500	16E3	73		STXD	
003501	16E4	8C		GLO	RC
003502	16E5	73		STXD	
003503	16E6	49		LDA	R9
003504	16E7	B7		PHI	R7
003505	16E8	09		LDN	R9
003506	16E9	A7		PLO	R7
003507	16EA	29		DEC	R9
003508	16EB	29		DEC	R9
003509	16EC	09		LDN	R9
003510	16ED	AC		PLO	RC
003511	16EE	29		DEC	R9
003512	16EF	09		LDN	R9
003513	16F0	BC		PHI	RC
003514	16F1	1C		INC	RC
003515	16F2	1C		INC	RC
003516	16F3	29		DEC	R9
003517	16F4	09		LDN	R9
003518	16F5	A8		PLO	R8
003519	16F6	29		DEC	R9
003520	16F7	09		LDN	R9
003521	16F8	B8		PHI	R8
003522	16F9	29		DEC	R9
003523	16FA	29		DEC	R9
003524	16FB	D4	BLKRD2:	SEP	R4
003525	16FC	8502		.DW	H'8502
003526	16FE	9F		GHI	RF
003527	16FF	58		STR	R8
003528	1700	18		INC	R8
003529	1701	27		DEC	R7
003530	1702	97		GHI	R7
003531	1703	CA16FB		LBNZ	BLKRD2
003532	1706	87		GLO	R7
003533	1707	CA16FB		LBNZ	BLKRD2
003534	170A			;	
003535	170A	E2		SEX	R2
003536	170B	60		IRX	
003537	170C	72		LDXA	
003538	170D	AC		PLO	RC
003539	170E	F0		LDX	
003540	170F	BC		PHI	RC
003541	1710	DC		SEP	RC
003542	1711			;	
003543	1711	0B424C4F434B2D57		.DB	H'0B,"BLOCK-WRIT",H'C5 ; BLOCK-WRITE
	1719	524954C5			
003544	171D	16C8		.DW	BLKRD - 13
003545	171F	1721	BLKWT:	.DW	* + 2
003546	1721	F883		LDI	H'83
003547	1723	B4		PHI	R4
003548	1724	B5		PHI	R5
003549	1725	F864		LDI	H'64
003550	1727	A4		PLO	R4
003551	1728	F874		LDI	H'74
003552	172A	A5		PLO	R5
003553	172B			;	
003554	172B	E2		SEX	R2
003555	172C	9C		GHI	RC

003556	172D	73		STXD
003557	172E	8C		GLO RC
003558	172F	73		STXD
003559	1730	49		LDA R9
003560	1731	B7		PHI R7
003561	1732	09		LDN R9
003562	1733	A7		PLO R7
003563	1734	29		DEC R9
003564	1735	29		DEC R9
003565	1736	09		LDN R9
003566	1737	AC		PLO RC
003567	1738	29		DEC R9
003568	1739	09		LDN R9
003569	173A	BC		PHI RC
003570	173B	1C		INC RC
003571	173C	1C		INC RC
003572	173D	29		DEC R9
003573	173E	09		LDN R9
003574	173F	A8		PLO R8
003575	1740	29		DEC R9
003576	1741	09		LDN R9
003577	1742	B8		PHI R8
003578	1743	29		DEC R9
003579	1744	29		DEC R9
003580	1745	48	BLKWT2:	LDA R8
003581	1746	BF		PHI RF
003582	1747	D4		SEP R4
003583	1748	8500		.DW H'8500
003584	174A	27		DEC R7
003585	174B	97		GHI R7
003586	174C	CA1745		LBNZ BLKWT2
003587	174F	87		GLO R7
003588	1750	CA1745		LBNZ BLKWT2
003589	1753			;
003590	1753	E2		SEX R2
003591	1754	60		IRX
003592	1755	72		LDXA
003593	1756	AC		PLO RC
003594	1757	F0		LDX
003595	1758	BC		PHI RC
003596	1759	DC		SEP RC
003597	175A			;
003598	175A	844C4F41C4		.DB H'84,"LOA",H'C4 ; LOAD
003599	175F	1711		.DW BLKWT - 14
003600	1761	05C2	LOAD:	.DW NEST
003601	1763	06C8		.DW BLK
003602	1765	04FA		.DW AT
003603	1767	039D		.DW GR
003604	1769	06D1		.DW FIN
003605	176B	04FA		.DW AT
003606	176D	039D		.DW GR
003607	176F	05F2		.DW ZERO
003608	1771	06D1		.DW FIN
003609	1773	051E		.DW EX
003610	1775	0645		.DW BSCR
003611	1777	117D		.DW STAR
003612	1779	06C8		.DW BLK
003613	177B	051E		.DW EX
003614	177D	0EE1		.DW INPT
003615	177F	03AD		.DW RG
003616	1781	06D1		.DW FIN
003617	1783	051E		.DW EX
003618	1785	03AD		.DW RG
003619	1787	06C8		.DW BLK
003620	1789	051E		.DW EX


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003621 178B 0379          .DW SEMIS
003622 178D                ;
003623 178D C32D2DBE      .DB H'C3,"--",H'BE ; -->
003624 1791 175A          .DW LOAD - 7
003625 1793 05C2          ARROW: .DW NEST
003626 1795 0937          .DW QLDG
003627 1797 05F2          .DW ZERO
003628 1799 06D1          .DW FIN
003629 179B 051E          .DW EX
003630 179D 0645          .DW BSCR
003631 179F 06C8          .DW BLK
003632 17A1 04FA          .DW AT
003633 17A3 0473          .DW OVER
003634 17A5 11AC          .DW MODD
003635 17A7 07C1          .DW MINS
003636 17A9 06C8          .DW BLK
003637 17AB 04C6          .DW PLUSS
003638 17AD 0379          .DW SEMIS
003639 17AF                ;
003640 17AF                ;
003641 17AF 834452B0      .DB H'83,H'44,H'52,H'B0 ; DR0
003642 17B3 178D          .DW ARROW - 6
003643 17B5 05C2          DRZER: .DW NEST
003644 17B7 05F2          .DW ZERO
003645 17B9 06F2          .DW OFST
003646 17BB 051E          .DW EX
003647 17BD 0379          .DW SEMIS
003648 17BF                ;
003649 17BF                ;
003650 17BF 834452B1      .DB H'83,H'44,H'52,H'B1 ; DR1
003651 17C3 17AF          .DW DRZER - 6
003652 17C5 05C2          DRONE: .DW NEST
003653 17C7 0645          .DW BSCR
003654 17C9 0086          .DW LIT                ; 250 SCREENS/DISK
003655 17CB 00FA          .DW H'00FA
003656 17CD 117D          .DW STAR
003657 17CF 06F2          .DW OFST
003658 17D1 051E          .DW EX
003659 17D3 0379          .DW SEMIS
003660 17D5                ;
003661 17D5                ;
003662 17D5 844C4953D4    .DB H'84,"LIS",H'D4 ; LIST
003663 17DA 17BF          .DW DRONE - 6
003664 17DC 05C2          LIST: .DW NEST
003665 17DE 09B2          .DW MDCML
003666 17E0 05AB          .DW CR
003667 17E2 04B6          .DW DUP
003668 17E4 06E5          .DW FSCR
003669 17E6 051E          .DW EX
003670 17E8 0A68          .DW PDQ
003671 17EA 06534352202320 .DB H'06,"SCR # "
003672 17F1 1415          .DW DOT
003673 17F3 0086          .DW LIT
003674 17F5 0010          .DW H'0010
003675 17F7 05F2          .DW ZERO
003676 17F9 0150          .DW PDO
003677 17FB 05AB          LIST1: .DW CR
003678 17FD 14C4          .DW I
003679 17FF 0086          .DW LIT
003680 1801 0003          .DW H'0003
003681 1803 13F6          .DW DOTR
003682 1805 0807          .DW SPC
003683 1807 14C4          .DW I
003684 1809 06E5          .DW FSCR
003685 180B 04FA          .DW AT

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003686 180D 1532 .DW DLINE
003687 180F 0597 .DW QTERM
003688 1811 00D0 .DW ZBRCH
003689 1813 1817 .DW LIST2
003690 1815 0389 .DW LVE
003691 1817 00EC LIST2: .DW LUPE
003692 1819 17FB .DW LIST1
003693 181B 05AB .DW CR
003694 181D 0379 .DW SEMIS
003695 181F ;
003696 181F ;
003697 181F 85494E4445D8 .DB H'85,"INDE",H'D8 ; INDEX
003698 1825 17D5 .DW LIST - 7
003699 1827 05C2 INDEX: .DW NEST
003700 1829 05AB .DW CR
003701 182B 0768 .DW PLUS1
003702 182D 0499 .DW SWAP
003703 182F 0150 .DW PDO
003704 1831 05AB INDE1: .DW CR
003705 1833 14C4 .DW I
003706 1835 0086 .DW LIT
003707 1837 0003 .DW H'0003
003708 1839 13F6 .DW DOTR
003709 183B 0807 .DW SPC
003710 183D 05F2 .DW ZERO
003711 183F 14C4 .DW I
003712 1841 1532 .DW DLINE
003713 1843 0597 .DW QTERM
003714 1845 00D0 .DW ZBRCH
003715 1847 184B .DW INDE2
003716 1849 0389 .DW LVE
003717 184B 00EC INDE2: .DW LUPE
003718 184D 1831 .DW INDE1
003719 184F 0379 .DW SEMIS
003720 1851 ;
003721 1851 8554524941C4 .DB H'85,"TRIA",H'C4 ; TRIAD
003722 1857 181F .DW INDEX - 8
003723 1859 05C2 TRIAD: .DW NEST
003724 185B 05AB .DW CR
003725 185D 0086 .DW LIT
003726 185F 0003 .DW H'0003
003727 1861 119C .DW SLASH
003728 1863 0086 .DW LIT
003729 1865 0003 .DW H'0003
003730 1867 117D .DW STAR
003731 1869 0086 .DW LIT
003732 186B 0003 .DW H'0003
003733 186D 0473 .DW OVER
003734 186F 03F7 .DW PLUS
003735 1871 0499 .DW SWAP
003736 1873 0150 .DW PDO
003737 1875 05AB TRIA1: .DW CR
003738 1877 14C4 .DW I
003739 1879 17DC .DW LIST
003740 187B 0597 .DW QTERM
003741 187D 00D0 .DW ZBRCH
003742 187F 1883 .DW TRIA2
003743 1881 0389 .DW LVE
003744 1883 00EC TRIA2: .DW LUPE
003745 1885 1875 .DW TRIA1
003746 1887 05AB .DW CR
003747 1889 0086 .DW LIT
003748 188B 000F .DW H'000F
003749 188D 148C .DW MSG
003750 188F 05AB .DW CR

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003751 1891 0379          .DW SEMIS
003752 1893              ;
003753 1893              ;
003754 1893 85464C5553C8 .DB H'85,"FLUS",H'C8 ; FLUSH
003755 1899 1851          .DW TRIAD - 8
003756 189B 05C2          FLUSH: .DW NEST
003757 189D 062D          .DW LIMIT
003758 189F 0621          .DW FIRST
003759 18A1 07C1          .DW MINS
003760 18A3 0639          .DW BBUF
003761 18A5 0086          .DW LIT
003762 18A7 0004          .DW H'0004
003763 18A9 03F7          .DW PLUS
003764 18AB 119C          .DW SLASH
003765 18AD 05F2          .DW ZERO
003766 18AF 0150          .DW PDO
003767 18B1 0086          FL1: .DW LIT
003768 18B3 7FFF          .DW H'7FFF
003769 18B5 15C2          .DW BUFBE
003770 18B7 048D          .DW DROP
003771 18B9 00EC          .DW LUPE
003772 18BB 18B1          .DW FL1
003773 18BD 0379          .DW SEMIS
003774 18BF              ;
003775 18BF              ;
003776 18BF 84544153CB    .DB H'84,"TAS",H'CB ; TASK
003777 18C4 1893          .DW FLUSH - 8
003778 18C6 05C2          TASK: .DW NEST
003779 18C8 0379          .DW SEMIS
003780 18CA              ;
003781 18CA              ;
003782 1900              .PAGE
003783 1900              ;
003784 1900              ;
003785 1900 F800          COLD: LDI (START + 12) >> 8
003786 1902 B7            PHI R7
003787 1903 F86A          LDI (START + 12)
003788 1905 A7            PLO R7
003789 1906 F80F          LDI (FRTH + 14) >> 8
003790 1908 B8            PHI R8
003791 1909 F868          LDI ((FRTH + 14) & H'00FF)
003792 190B A8            PLO R8
003793 190C 47            LDA R7
003794 190D 58            STR R8
003795 190E 18            INC R8
003796 190F 47            LDA R7
003797 1910 58            STR R8
003798 1911 F816          LDI H'16
003799 1913 3017          BR PUTF
003800 1915 F810          WARM: LDI H'10
003801 1917 AF            PUTF: PLO RF
003802 1918 F800          LDI (START + H'10) >> 8
003803 191A B7            PHI R7
003804 191B F86E          LDI (START + H'10)
003805 191D A7            PLO R7
003806 191E 47            LDA R7
003807 191F BD            PHI RD
003808 1920 B8            PHI R8
003809 1921 07            LDN R7
003810 1922 AD            PLO RD
003811 1923 A8            PLO R8
003812 1924 F86A          LDI (START + 12)
003813 1926 A7            PLO R7
003814 1927 47            WRMLP: LDA R7
003815 1928 58            STR R8

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003816 1929 18          INC R8
003817 192A 2F          DEC RF
003818 192B 8F          GLO RF
003819 192C 3A27        BNZ WRMLP
003820 192E F800        LDI NEXT >> 8
003821 1930 BC          PHI RC
003822 1931 F892        LDI NEXT
003823 1933 AC          PLO RC
003824 1934 F8C0        LDI ((ABORT + 2) & H'00FF)
003825 1936 AA          PLO RA
003826 1937 F80F        LDI (ABORT + 2) >> 8
003827 1939 BA          PHI RA
003828 193A C00367      LBR (RP1 + 2)
003829 193D            ;
003830 193D C4          LEND:  NOP                ; INITIAL FENCE IS HERE
003831 193E            ;
003832 193E            ; TO EXTEND THIS PORTION TO INCLUDE
003833 193E            ; NEW WORDS, FIRST USE
003834 193E            ;   HERE. TO FIND END OF YOUR NEW VERSION
003835 193E            ; THEN USE THE FOLLOWING:
003836 193E            ;
003837 193E            ;   LATEST 12 +ORIGIN !
003838 193E            ;   HERE 28 +ORIGIN !
003839 193E            ;   HERE 30 +ORIGIN !
003840 193E            ;   HERE FENCE !
003841 193E            ;
003842 193E            ; THEN USE   BYE TO GET BACK TO YOUR MONITOR
003843 193E            ; THEN USE YOUR MONITOR ROUTINES TO SAVE MEMORY
003844 193E            ; FROM 0000 TO END ADDRESS
003845 193E            ;
003846 193E            ; THIS PROCEDURE WILL ALLOW YOU TO CONTINUE
003847 193E            ; BUILDING ON YOUR FORTH VOCABULARY WITHOUT THE
003848 193E            ; DISC INTERFACE
003849 193E            ;
003850 193E            ;
003851 193E            ;
003852 193E            ;
003853 193E            ;
003854 193E            .END

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ABORT	=0FBE	DCSP	=08AB	FOUT	=06DB	MSLAS	=1157	R2	=0002	TYP1	=0A17
ABS	=1106	DDOT	=1407	FRST	=0215	MSMOD	=11DF	R3	=0003	TYPE	=0A07
AGAIN	=12BB	DDOTR	=13D3	FRTH	=0F5A	MSTAR	=113A	R4	=0004	UDOT	=142E
ALLOT	=0794	DELIM	=0238	FSCR	=06E5	MTBUF	=15AB	R5	=0005	UNTIL	=1299
ARROW	=1793	DFN	=0F7A	FSPAT	=033D	NEST	=05C2	R6	=0006	UOUT	=02A5
AT	=04FA	DGT	=016B	FXOR	=0324	NEXCHR	=01AD	R7	=0007	UPDAT	=1585
BACK	=1218	DIG	=1390	GR	=039D	NEXT	=0092	R8	=0008	USE	=1542
BAD	=0188	DIG1	=13AC	GTR	=07E5	NFA	=0880	R9	=0009	USER	=05DF
BAD2	=0186	DIGS	=13BB	HERE	=0784	NMB1	=0C71	RA	=000A	USLSH	=02B2
BADCHR	=01D4	DIGS1	=13BD	HLD	=0756	NMB2	=0C97	RB	=000B	USR	=0E2F
BADLEN	=01D3	DLINE	=1532	HOLD	=0B8C	NMB3	=0CA1	RBK	=0975	USTAR	=0278
BASE	=0725	DLTL	=0E98	I	=14C4	NMBR	=0C53	RC	=000C	VAR	=05CD
BBUF	=0639	DLTL1	=0EA8	ID	=0D2D	NO	=00DD	RD	=000D	VARB	=0E1E
BCOMP	=104A	DMIN	=0458	IFF	=12EB	NONE	=03DE	RE	=000E	VB1	=0F52
BDIGS	=1352	DO	=125A	IMMED	=1068	NULL	=022A	REPEA	=12D2	VBLY	=0F32
BEGIN	=1226	DOK	=017C	INDE1	=1831	OFST	=06F2	RF	=000F	VL	=06BE
BL	=060B	DOSEG	=0E53	INDE2	=184B	ONE	=05FA	RG	=03AD	VLIS1	=1450
BLK	=06C8	DOT	=1415	INDEX	=1827	ORGN	=0652	RNU	=074C	VLIS2	=1464
BLKRD	=16D5	DOTQ	=1014	INPT	=0EE1	OVER	=0473	RO	=0676	VLIST	=143E
BLKRD2	=16FB	DOTQ1	=1034	KEY	=0578	PABRT	=0CD7	ROT	=07F3	WARM	=1915
BLKWT	=171F	DOTQ2	=103C	KEY1	=057E	PAD	=0BA4	RP1	=0365	WBR	=0096
BLKWT2	=1745	DOTR	=13F6	LB	=0967	PAREN	=1078	RSLW	=1668	WD1	=0BCB
BLNK	=0B7D	DP	=06AF	LBLD	=0E43	PBUF	=1558	RSTACK	=0002	WD2	=0BCF
BLOC1	=165A	DPL	=072F	LEND	=193D	PBUF1	=1572	RWELSE	=16C4	WHILE	=1324
BLOC2	=1628	DPLUS	=042A	LESS	=07D9	PCODE	=09C8	RWEND	=16C6	WIDTH	=068C
BLOC3	=1642	DPM	=10F4	LFA	=0862	PDO	=0150	SEMIC	=1001	WORD	=0BB7
BLOCK	=160A	DPM1	=10FE	LIMIT	=062D	PDQ	=0A68	SEMIS	=0379	WRM	=14D9
BOK	=01E7	DRONE	=17C5	LIMITB	=6C2C	PFA	=0896	SIGN	=137A	WRMLP	=1927
BRANCH	=00BF	DROP	=048D	LIST	=17DC	PLINE	=150C	SIGN1	=138A	WRNG	=069A
BRCH	=00BD	DRZER	=17B5	LIST1	=17FB	PLOOP	=1283	SKIP	=0232	X	=0B0F
BSCR	=0645	DUP	=04B6	LIST2	=1817	PLUPE	=0124	SKP9A	=02A0	X1	=0B3B
BUFF1	=15CC	DUZ1	=0E5F	LIT	=0086	PLUS	=03F7	SKPD8	=02DE	X2	=0B3F
BUFF2	=15F2	DV	=075F	LOAD	=1761	PLUS1	=0768	SLASH	=119C	XEND	=0B43
BUFFE	=15C2	EDIGS	=1361	LOOP	=126D	PLUS2	=0775	SLMOD	=118C	ZBRCH	=00D0
BYE	=120B	ELSEE	=1302	LOOP1	=01A4	PLUSS	=04C6	SMDG	=098A	ZEQAL	=03D2
CAT	=050D	EMIT	=054A	LOOP2	=01B6	PM	=10E2	SNEG	=14FB	ZERO	=05F2
CCMA	=07B1	ENCL	=01FE	LOP1	=020D	PM1	=10EC	SO	=066D	ZLESS	=03EB
CEND	=0113	END2	=026E	LOP2	=0220	PNM1	=0C40	SP1	=0350	ZONE	=03DA
CEX	=0535	ENDD	=12AD	LP7B	=0281	PNM2	=0C46	SPACS	=1335		
CFA	=0872	ENDIFF	=1238	LPC5	=02CB	PNMBR	=0C08	SPAX1	=134B		
CL	=0615	EQL	=07CD	LT1	=0E8B	POP	=04D7	SPAX2	=1345		
CLD	=14E5	ERR1	=0CF3	LTL	=0E7B	PORGN	=0660	SPC	=0807		
CMOVE	=0246	ERROR	=0CE5	LTST	=0852	PREV	=154D	SSKP	=14FD		
CMPL	=0951	ERS	=0B6C	LUPE	=00EC	PT1	=0F05	SSLA	=11CD		
CNST	=0E09	EX	=051E	LUPE1	=0140	PT2	=0EFB	SSMOD	=11BC		
CNT	=09F4	EXC	=08F0	LUUP	=0265	PT3	=0EFF	STAR	=117D		
CNTX	=0700	EXE	=00A6	LVE	=0389	PT4	=0F1F	START	=005E		
CODE	=09DE	EXPT	=0A85	MAX	=1123	PT5	=0F19	STOD	=14F1		
COLD	=1900	EXPT1	=0ABF	MAX1	=1131	PT6	=0F1D	STOR	=03E0		
COLON	=0DC4	EXPT2	=0AE5	MDCML	=09B2	PUTF	=1917	STT	=071A		
COMMA	=07A0	EXPT3	=0AD7	MDUP	=0816	Q1	=0FB0	SWAP	=0499		
COMP	=0100	EXPT4	=0A8F	MESS1	=14B2	Q2	=0F97	TASK	=18C6		
CONST	=05D6	EXPT5	=0AD9	MESS2	=14AE	QCMP	=08D8	TGLE	=04E3		
CR	=05AB	FAND	=02F3	MESS3	=14BE	QCSP	=091A	THEN	=124F		
CR1	=05AE	FFOR	=030B	MF1	=0CCB	QERR	=08BE	THREE	=1086		
CR2	=05B7	FILL	=0B4C	MFIND	=0CAB	QLDG	=0937	TIB	=0680		
CRNT	=070E	FIN	=06D1	MHEX	=099C	QPR	=0907	TICK	=108E		
CRT1	=0D8A	FIND	=0196	MIN	=0D15	QSTK	=0EB3	TR1	=0831		
CRTE	=0D64	FIRST	=0621	MINOS	=0416	QTERM	=0597	TRIA1	=1875		
CSEND	=0552	FIRSTB	=4000	MINS	=07C1	QUER	=0AF7	TRIA2	=1883		
CSEND1	=0565	FL1	=18B1	MINUS	=0412	QUES	=1421	TRIAD	=1859		
CSP	=0743	FLD	=0739	MN1	=0D23	QUIT	=0F8D	TRL1	=0A3D		
CSTACK	=0009	FLUSH	=189B	MODD	=11AC	R	=03BD	TRLG	=0A35		
DABS	=1115	FNCE	=06A6	MON	=11FB	R0	=0000	TRVS	=082D		
DCODE	=0DEC	FORG	=10A7	MSG	=148C	R1	=0001	TWO	=0602		

.DW PLINE - 9
003293 1532 05C2
003294 1534 150C
003295 1536 0A35

DLINE: .DW NEST
.DW PLINE