INSTRUCTIONS FOR MICRO-BASIC VERSION 1.3

EDITING AND LINE FORMATS

1. Line numbers must be between 1 and 65535
2. Lines are appended and/or inserted
3. Line number alone followed by C/R deletes the line
4. Blanks are immaterial, except key words must contain no imbedded blanks
5. Control "X" deletes entire line if entered before C/R
6. Control "0" deletes the last character
7. The system prompts with a "#"
8. Multiple statement lines are not permitted

COMMANDS

1. NEW - Deletes all lines and data
2. LIST - Lists the program as follows:
   A. LIST C/R - Lists entire program
   B. LIST X - Lists line labeled with X
   C. LIST X,Y - Lists all lines between labels X and Y
3. SIZE - Prints two decimal numbers
   A. Number of bytes used by program
   B. Number of bytes of RAM memory remaining (variable storage is not included until program has been run)
4. RUN - Executes program consisting of the numbered statements
5. Any line without a line number is executed immediately
   Example: PRINT (47+56) *15
   (Caution: A basic program could contain the statement:
   100 NEW which would be suicidal)
6. A "Break" will terminate program execution and return to "#"

INPUT/OUTPUT

1. INPUT Statement
   A. INPUT X
   B. INPUT X,Y,Z
   C. System prompts with "?" on an input command
   D. If the input list defines more input than is entered an additional "?" is prompted
   E. Numbers inputed must be separated by a comma
   F. Entry of numbers out of the range ± 32762 causes an error
1. PRINT statement
   A. PRINT - Prints a blank line
   B. PRINT A,B,C
   C. PRINT "LITERAL STRING"
   D. PRINT A; "TIMES"; B; "EQUALS"; A*B
   E. A semicolon creates a single space between elements whereas a comma is used for zone spacing. (See tab function)
   F. A semicolon at the end of the print line suppresses C/R and LF

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VARIABLES

1. 26 Variable names A,B,C,D ....Z are allowed
2. Can be subscripted (See 5 below)
3. ± 32762
4. No string variables (Strings can only be used in print statements)
5. DIM statement: One or two dimensions. Array arguments can be expressions
   A. Example: DIM X(5,10), Y(A+30)
   B. Maximum subscript size 255
   C. No minus or zero subscripts allowed

EXPRESSIONS

A. X
B. X+Y *(5-Z)
C. (X+Y) * (X-Y)/(X * Y)
D. Divide by zero causes error printout
E. Abbreviated below as "EXPR" to show how statements work
F. Double byte integer math only
G. Overflow over/under ± 31762 causes error on multiply and divide no error on addition or subtraction overflow.

ASSIGNMENT STATEMENTS

A. LET (VARIABLE)=EXPR
   Examples:
   ```
   LET X = Y
   LET Y = 10+C
   LET A(10,X) = (X+Y)*5 - (Z+3)*50
   ```
B. Can be implied
   Example:
   ```
   Y = A*B + 1976
   ```

RELATIONSHIP TEST

A. IF EXPR (RELATIONSHIP) EXPR (STATEMENT)
B. RELATIONSHIP can be:
   <, >, =, <>, ><, <=, >=
C. Examples:
   ```
   IF X = Y GOTO 30
   IF X+5 = 2*Y-7 LET X=Y
   IF A(10,Y) <> B(10,Z) PRINT "WRONG"
   ```

CONTROL STATEMENTS

1. GOTO (EXPR)
   Examples:
   ```
   GOTO 35
   GOTO R+50
   ```
2. GOSUB (EXPR)
   Examples:
   ```
   GOSUB 8000
   GOSUB Z*1000
   ```

3. While there is no "ON" EXPR "GOTO" command, using the calculating ability shown above gives one the same effect.
4. RETURN
   A. Must be preceded by a GOSUB
5. FOR and NEXT
   A. FOR (VARIABLE) = (EXPR) TO (EXPR)
   B. Examples:
      FOR J = 1 TO 20
      FOR A(5) = T+3 TO Y*10
   C. Step is 1 only
   D. FOR Loops can be nested
   E. Branching out of the loops without indexing the variable is not permitted due to stack control problems
6. NEXT Variable:
   A. Examples:
      NEXT A(5)
      NEXT J
   B. Indexes the FOR variable by one.

FUNCTIONS

1. TAB (EXPR) - Starts next print element at position specified by EXPR
   A. Examples:
      PRINT TAB (20); I; TAB (40); "YES"
      PRINT TAB (X+5); "*"
   B. If print element is past point defined, printing starts at present print position

2. RND - Random number generator creates a random number between 1 and 32762
   A. Examples:
      X = RND
      Y = 30+2=RND/1000
   B. No arguments allowed

PROGRAM FILE AND SYSTEM CUSTOMIZING

1. The program is stored starting at location $OCA4
2. The next available core location is stored in $002A and $0028
3. Location $0046 and $0047 contain the high end of memory. This is set to $1FFF (8 K) and must be changed if you have more or less. (The system will run in 4K, but you will have room for only about 35 statements)
4. Memory location $43 contains $48 (Decimal 72) (And must be changed per different print line lengths)
5. Memory location $44 contains $OF (Backspace control)
6. Memory location $45 contains $18 (Cancel control)

ERROR MESSAGES

1. ERROR #_____ IN LINE #_____
   A. If LINE # = 00000 error was in direct execution statement
2. Error Codes:
   1. Input line over 72 characters
   2. Numeric overflow
   3. Illegal character or variable
   4. No ending " in print literal
   5. Dimensioning error
   6. Illegal arithmetic
   7. Line number not found
   8. Divide by zero attempted
   9. Excessive subroutine nesting (max is 8)
   10. RETURN without prior GOSUB
   11. Illegal variable
   12. Unrecognizable statement
   13. Parenthesis error
   14. Memory full
   15. Subscript error
   16. Excessive FOR loops active (Max is 8)
   17. NEXT "X" without FOR loop defining "X"

SAVING MICROBASIC PROGRAMS ON TAPE

1. The Microbasic Interpreter and program to be saved must be in memory prior to this sequence.
2. Enter Mikbug using the Microbasic PATCH command. Do not use the RESET button.
3. Examine and record the data stored in memory locations 002A and 0028.
4. Load memory locations A002 thru A005 with the sequential data: OC, A4, data in 002A, data in 0028.
5. If you are using the AC-30 Audio Cassette Interface make sure the RECORD light is initially out, the LOCAL/REMOTE switch is in the REMOTE position, and that the interface is in the MANUAL motor control position. Start the recorder in the RECORD mode and advance past the leader.
6. Enter P for punch. Do not stop the recorder when the RECORD light goes out, but instead proceed to the next step.
7. Load memory locations A002 thru A005 with the sequential data: 00, 2A, 00, 33.
8. Enter P for punch. Do not stop the recorder when the RECORD light goes out, but instead proceed to the next step.
9. If you are using the AC-30 Audio Cassette Interface, flip the LOCAL/REMOTE switch to LOCAL, manually set the RECORD light ON, and type on the terminal's keyboard S9. Now reset the RECORD light out, flip the LOCAL/REMOTE switch back to REMOTE, and stop the recorder. The tape has now been generated.

LOADING MICADBASIC PROGRAMS FROM TAPE

1. The Microbasic Interpreter must of course be resident at the time of loading, but get into Mikbug using the PATCH command.
2. Load the tape into the reader. If you are using the AC-30 the LOCAL/REMOTE switch must be set for REMOTE. and the motor control switch set for MANUAL. Start the recorder in the PLAY mode.
3. Type an L for load on the terminal's keyboard. The paper tape loads must be ended with a S9 entered from the keyboard. AC-30 cassette loads automatically respond with, * upon loading and do not require the S9 since it is recorded on the tape.
4. Use the memory change function to set the data in memory locations A048 and A049 to 06 and 62 respectively.
5. Type G for go then LIST to see if the program loaded correctly.
6. Typing RUN as done with a normal Microbasic program should start program execution.

NOTE

Any questions you might have, please contact Mr. Robert Uiterwyk, 4402 Meadowwood Way, Tampa, Florida 33624.

```
                        NAM    MICRO  MICROBASIC

                       *          *****VERSION 1.3A *****
                       *
                       *      BY ROBERT H UITERWYK, TAMPA, FLORIDA
                       *
                       *THIS PROGRAM ASSUMES THAT THE
                       *MOTOROLA MIKBUG ROM IS INSTALLED
                       *AND THAT ITS ASSOCIATED 128 BYTE
                       *RAM IS ALSO PRESENT
                       *THE SP AND XSTACK WILL HAVE TO
                       *BE MOVED IF THIS IS NOT THE CASE

0020                   ORG    $20
0020 00 00     INDEX1  FDB    $0000
0022 00 00     INDEX2  FDB    $0000
0024 00 00     INDEX3  FDB    $0000
0026 00 00     INDEX4  FDB    $0000
0028 00 00     SAVESP  FDB    $0000
002A 0C A4     NEXTBA  FDB    END
002C 0C A4     WORKBA  FDB    END
002E 0C A4     SOURCE  FDB    END
0030 00 00     PACKLN  FDB    $0000
0032 00 00     HIGHLN  FDB    $0000
0034 00 00     BASPNT  FDB    $0000
0036 00 00     BASLIN  FDB    $0000
0038 00 00     PUSHTX  FDB    $0000
003A A0 7F     XSTACK  FDB    $A07F
003C 00 00     RNDVAL  FDB    $0000
003E 00 00     DIMPNT  FDB    $0000
0040 00 00     DIMCAL  FDB    $0000
0042 00        PRCNT   FCB    0
0043 48        MAXLIN  FCB    72
0044 0F        BACKSP  FCB    $0F
0045 18        CANCEL  FCB    $18
0046 1F FF     MEMEND  FDB    $1FFF
0048 00 00     ARRTAB  FDB    $0000
004A 00 00     KEYWD   FDB    $0000
004C 00        TSIGN   FCB    0
004D 00        NCMPR   FCB    0
004E 00        TNUMB   FCB    0
004F 00        ANUMB   FCB    0
0050 00        BNUMB   FCB    0
0051 02 1A     AESTK   FDB    ASTACK
0053 00 69     FORPNT  FDB    FORSTK
0055 01 03     VARPNT  FDB    VARTAB
0057 00 59     SBRPNT  FDB    SBRSTK
0059           SBRSTK  RMB    16
0069           FORSTK  RMB    48
0099 01 03     DIMVAR  FDB    VARTAB


00AC                   ORG    $00AC
00AC 00 B0     BUFNXT  FDB    $00B0
00AE 00 B0     ENDBUF  FDB    $00B0
00B0                   ORG    $00B0
00B0           BUFFER  RMB    $50

0100                   ORG    $0100
0100 7E 06 46  PROGM   JMP    START
0103           VARTAB  RMB    78
0151 1E                FCB    $1E
0152 52        COMMAN  FCC    /RUN/
0153 55 4E
0155 1E                FCB    $1E
0156 06 C0             FDB    RUN
0158 4C                FCC    /LIST/
0159 49 53
015B 54
015C 1E                FCB    $1E
015D 06 EE             FDB    CLIST
015F 4E                FCC    /NEW/
0160 45 57
0162 1E                FCB    $1E
0163 06 46             FDB    START
0165 50                FCC    /PAT/
0166 41 54
0168 1E                FCB    $1E
0169 07 30             FDB    PATCH
016B 47        GOLIST  FCC    /GOSUB/
016C 4F 53
016E 55 42
0170 1E                FCB    $1E
0171 08 1C             FDB    GOSUB
0173 47                FCC    /GOTO/
0174 4F 54
0176 4F
0177 1E                FCB    $1E
0178 08 3F             FDB    GOTO
017A 47                FCC    /GO TO/
017B 4F 20
017D 54 4F
017F 1E                FCB    $1E
```

```
0180 08 3F              FDB    GOTO
0182 53                 FCC    /SIZE/
0183 49 5A
0185 45
0186 1E                 FCB    $1E
0187 0A 68              FDB    SIZE
0189 54                 FCC    /THEN/
018A 48 45
018C 4E
018D 1E                 FCB    $1E
018E 0C 28              FDB    IF2
0190 50                 FCC    /PRINT/
0191 52 49
0193 4E 54
0195 1E                 FCB    $1E
0196 09 40              FDB    PRINT
0198 4C                 FCC    /LET/
0199 45 54
019B 1E                 FCB    $1E
019C 0A 44              FDB    LET
019E 49                 FCC    /INPUT/
019F 4E 50
01A1 55 54
01A3 1E                 FCB    $1E
01A4 08 89              FDB    INPUT
01A6 49                 FCC    /IF/
01A7 46
01A8 1E                 FCB    $1E
01A9 0C 13              FDB    IF
01AB 45                 FCC    /END/
01AC 4E 44
01AE 1E                 FCB    $1E
01AF 06 62              FDB    READY
01B1 52                 FCC    /RETURN/
01B2 45 54
01B4 55 52
01B6 4E
01B7 1E                 FCB    $1E
01B8 08 52              FDB    RETURN
01BA 44                 FCC    /DIM/
01BB 49 4D
01BD 1E                 FCB    $1E
01BE 0A 8A              FDB    DIM
01C0 46                 FCC    /FOR/
01C1 4F 52
01C3 1E                 FCB    $1E
01C4 0B 46              FDB    FOR
01C6 4E                 FCC    /NEXT/
01C7 45 58
01C9 54
01CA 1E                 FCB    $1E
01CB 0B B6              FDB    NEXT
01CD 45                 FCC    /EEM/
01CE 45 4D
01D0 1E                 FCB    $1E
01D1 0A 84              FDB    REMARK
01D3 50         PAUMSG  FCC    /PAUSE/
01D4 41 55
01D6 53 45
01D8 1E                 FCB    $1E
01D9 08 68              FDB    PAUSE
01DB 20                 FCB    $20
01DC 1E         COMEND  FCB    $1E
01DD 0A 44      IMPLET  FDB    LET
01DF                    RMB    60
021A            ASTACK  EQU    *-1
021B 0D         RDYMSG  FCB    $0D
021C 0A                 FCB    $0A
021D 15                 FCB    $15
021E 0A                 FCB    $0A
021F 15                 FCB    $15
0220 52                 FCC    /READY/
0221 45 41
0223 44 59
0225 1E                 FCB    $1E
0226 23         PROMPT  FCB    $23
0227 00                 FCB    $00
0228 1E                 FCB    $1E
0229 1E                 FCB    $1E
022A 10         PGCNTL  FCB    $10
022B 16                 FCB    $16
022C 1E                 FCB    $1E
022D 1E                 FCB    $1E
022E 1E                 FCB    $1E
022F 45         ERRMS1  FCC    /ERROR# /
0230 52 52
0232 4F 52
0234 23 20
0236 1E                 FCB    $1E
0237 20         ERRMS2  FCC    / IN LINE /
0238 49 4E
023A 20 4C
023C 49 4E
023E 45 20
0240 1E                 FCB    $1E
```

```
0241 86 3F     KEYBD   LDA A  #$3F
0243 8D 4D             BSR    OUTCH
0245 CE 00 B0  KEYBD0  LDX    #BUFFER
0248 C6 0A             LDA B  #10
024A 8D 4B     KEYBD1  BSR    INCH
024C 81 00             CMP A  #$00
024E 26 06             BNE    KEYB11
0250 5A                DEC B
0251 26 F7             BNE    KEYBD11
0253 7E 06 62  KEYB10  JMP    READY
0256 91 45     KEYB11  CMP A  CANCEL
0258 27 26             BEQ    DEL
025A 81 0D             CMP A  #$0D
025C 27 2B             BEQ    IEXIT
025E 81 0A     KEYBD2  CMP A  #$0A
0260 27 E8             BEQ    KEYBD1
0262 81 15             CMP A  #$15
0264 27 E4             BEQ    KEYBD1
0266 81 13             CMP A  #$13
0268 27 E0             BEQ    KEYBD1
026A 91 44     KEYB55  CMP A  BACKSP
026C 26 08             BNE    KEYBD3
026E 8C 00 B0          CPX    #BUFFER
0271 27 D7             BEQ    KEYBD1
0273 09                DEX
0274 20 D4             BRA    KEYBD1
0276 8C 00 F7  KEYBD3  CPX    #BUFFER+71
0279 27 CF             BEQ    KEYBD1
027B A7 00             STA A  0,X
027D 08                INX
027E 20 CA             BRA    KEYBD1
0280 8D 34     DEL     BSR    CRLF
0282 CE 02 26  CNTLIN  LDX    #PROMPT
0285 8D 28             BSR    OUTNCR
0287 20 BC             BRA    KEYBD0
0289 86 1E     IEXIT   LDA A  #$1E
028B A7 00             STA A  X
028D DF AE             STX    ENDBUF
028F 8D 25             BSR    CRLF
0291 39                RTS

0292 8D 06     OUTCH   BSR    BREAK
0294 7E E1 D1          JMP    OUTEEE
E1D1           OUTEEE  EQU    $E1D1

0297 7E E1 AC  INCH    JMP    INEEE

029A 7E 02 9D  BREAK   JMP    BREAK1
029D 36        BREAK1  PSH A
029E B6 80 04          LDA A  PIAD
8004           PIAD    EQU    $8004
02A1 2B 03             BMI    BREAK2
02A3 7E 06 62          JMP    READY
02A6 32        BREAK2  PUL A
02A7 39                RTS
E1AC           INEEE   EQU    $E1AC
02A8           OUTPUT  EQU    *
02A8 8D 05             BSR    OUTNCR
02AA 20 0A             BRA    CRLF
02AC 8D E4     OUTPU2  BSR    OUTCH
02AE 08        OUTPU3  INX
02AF A6 00     OUTNCR  LDA A  0,X
02B1 81 1E             CMP A  #$1E
02B3 26 F7             BNE    OUTPU2
02B5 39                RTS
02B6 8D 12     CRLF    BSR    PUSHX
02B8 CE 02 C0          LDX    #CRLFST
02BB 8D F2             BSR    OUTNCR
02BD 8D 20             BSR    PULLX
02BF 39                RTS
02C0 00        CRLFST  FCB    $00
02C1 0D                FCB    $0D
02C2 0A                FCB    $0A
02C3 15                FCB    $15
02C4 1E        CREND   FCB    $1E
02C5 FF                FCB    $FF,$FF
02C6 FF
02C7 FF                FCB    $FF,$FF
02C8 FF
02C9 1E                FCB    $1E
02CA DF 38     PUSHX   STX    PUSHTX
02CC DE 3A             LDX    XSTACK
02CE 09                DEX
02CF 09                DEX
02D0 DF 3A             STX    XSTACK
02D2 36                PSH A
02D3 96 38             LDA A  PUSHTX
02D5 A7 00             STA A  0,X
02D7 96 39             LDA A  PUSHTX+1
02D9 A7 01             STA A  1,X
02DB 32                PUL A
02DC DE 38             LDX    PUSHTX
02DE 39                RTS
02DF DE 3A     PULLX   LDX    XSTACK
02E1 EE 00             LDX    0,X
02E3 7C 00 3B          INC    XSTACK+1
02E6 7C 00 3B          INC    XSTACK+1
02E9 39                RTS
02EA 36        STORE   PSH A
02EB 37                PSH B
02EC 8D DC             BSR    PUSHX
02EE BD 04 70          JSR    PULLAE
02F1 DE 51             LDX    AESTK
02F3 08                INX
02F4 08                INX
02F5 DF 51             STX    AESTK
02F7 09                DEX
02F8 EE 00             LDX    0,X
02FA A7 00             STA A  0,X
02FC E7 01             STA B  1,X
02FE 8D DF             BSR    PULLX
0300 33                PUL B
0301 32                PUL A
0302 39                RTS
0303 8D C5     IND     BSR    PUSHX
0305 36                PSH A
0306 37                PSH B
0307 DE 51             LDX    AESTK
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```
0309 08              INX
030A 08              INX
030B DF 51           STX    AESTK
030D 09              DEX
030E EE 00           LDX    0,X
0310 A6 00           LDA A  0,X
0312 E6 01           LDA B  1,X
0314 BD 04 65        JSR    PUSHAE
0317 33              PUL B
0318 32              PUL A
0319 8D C4           BSR    PULLX
031B 39              RTS
031C DE 2A     LIST  LDX    NEXTBA
031E DF 2C           STX    WORKBA
0320 DE 2E           LDX    SOURCE
0322 20 02           BRA    LIST1
0324 DE 24     LIST0 LDX    INDEX3
0326 9C 2C     LIST1 CPX    WORKBA
0328 27 05           BEQ    LEXIT
032A 8D 04           BSR    OUTLIN
032C 08              INX
032D 20 F7           BRA    LIST1
032F 39        LEXIT RTS
0330 A6 00     OUTLIN LDA A  0,X
0332 7F 00 42        CLR    PRCNT
0335 08              INX
0336 E6 00           LDA B  0,X
0338 08              INX
0339 7F 00 4C        CLR    TSIGN
033C BD 09 FD        JSR    PRN0
033F 8D 22           BSR    PRINSP
0341 A6 00     OUTLI1 LDA A  0,X
0343 08              INX
0344 8D 84           BSR    PUSHX
0346 CE 01 52        LDX    #COMMAN
0349 DF 4A           STX    KEYWD
034B 97 4B           STA A  KEYWD+1
034D DE 4A           LDX    KEYWD
034F 09              DEX
0350 09        OUTLI2 DEX
0351 A6 00           LDA A  0,X
0353 81 1E           CMP A  #$1E
0355 26 F9           BNE    OUTLI2
0357 08              INX
0358 08              INX
0359 08              INX
035A BD 02 AF        JSR    OUTNCR
035D BD 02 DF        JSR    PULLX
0360 7E 02 A8        JMP    OUTPUT
0363 36        PRINSP PSH A
0364 86 20           LDA A  #$20
0366 BD 02 92        JSR    OUTCH
0369 32              PUL A
036A 39              RTS
036B 08        RANDOM INX
036C 08              INX
036D A6 00           LDA A  0,X
036F 81 44           CMP A  #'D
0371 26 65           BNE    TSTVER
0373 BD 02 CA        JSR    PUSHX
0376 96 3C           LDA A  RNDVAL
0378 D6 3D           LDA B  RNDVAL+1
037A CE 00 00        LDX    #0000
037D E9 01     RAND1 ADC B  1,X
037F A9 00           ADC A  0,X
0381 08              INX
0382 08              INX
0383 8C 00 3C        CPX    #RNDVAL
0386 26 F5           BNE    RAND1
0388 84 7F           AND A  #$7F
038A 97 3C           STA A  RNDVAL
038C D7 3D           STA B  RNDVAL+1
038E DF 20           STX    INDEX1
0390 96 20           LDA A  INDEX1
0392 D6 21           LDA B  INDEX1+1
0394 7E 04 46        JMP    TSTV9
0397 BD 05 E7  TSTV  JSR    SKIPSP
039A BD 02 9A        JSR    BREAK
039D BD 04 4F        JSR    TSTLTR
03A0 24 01           BCC    TSTV1
03A2 39              RTS
03A3 81 52     TSTV1 CMP A  #'R
03A5 26 06           BNE    TSTV2
03A7 E6 01           LDA B  1,X
03A9 C1 4E           CMP B  #'N
03AB 27 BE           BEQ    RANDOM
03AD BD 02 CA  TSTV2 JSR    PUSHX
03B0 80 40           SUB A  #$40
03B2 97 56           STA A  VARPNT+1
03B4 48              ASL A
03B5 9B 56           ADD A  VARPNT+1
03B7 97 56           STA A  VARPNT+1
03B9 DE 55           LDX    VARPNT
03BB 96 55           LDA A  VARPNT
03BD D6 56           LDA B  VARPNT+1
03BF 6D 02           TST    2,X
03C1 26 03           BNE    TSTV20
03C3 7E 04 46        JMP    TSTV9
03C6 EE 00     TSTV20 LDX    0,X
03C8 DF 3E           STX    DIMPNT
03CA 08              INX
03CB 08              INX
03CC DF 40           STX    DIMCAL
03CE BD 02 DF        JSR    PULLX
03D1 BD 05 ED        JSR    INXSKP
03D4 81 28           CMP A  #'(
03D6 27 03           BEQ    TSTV22
03D8 7E 08 D4  TSTVER JMP    DBLLTR
03DB 08        TSTV22 INX
03DC BD 04 BF        JSR    EXPR
03DF BD 02 CA        JSR    PUSHX
03E2 BD 04 70        JSR    PULLAE
03E5 4D              TST A
03E6 27 03           BEQ    TSTV3
03E8 7E 0A D7  SUBER1 JMP    SUBERR
03EB DE 3E     TSTV3 LDX    DIMPNT
03ED 5D              TST B
03EE 27 F8           BEQ    SUBER1
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03F0 E1 00           CMP B  0,X
03F2 22 F4           BHI    SUBER1
03F4 A6 01           LDA A  1,X
03F6 97 4F           STA A  ANUMB
03F8 27 30           BEQ    TST666
03FA DE 40           LDX    DIMCAL
03FC 5A       TSTV4  DEC B
03FD 27 09           BEQ    TSTV6
03FF 96 4F           LDA A  ANUMB
0401 08       TSTV5  INX
0402 08              INX
0403 4A              DEC A
0404 26 FB           BNE    TSTV5
0406 20 F4           BRA    TSTV4
0408 DF 40    TSTV6  STX    DIMCAL
040A BD 02 DF        JSR    PULLX
040D BD 05 E7        JSR    SKIPSP
0410 81 2C           CMP A  #',
0412 26 C4           BNE    TSTVER
0414 08              INX
0415 BD 04 BF        JSR    EXPR
0418 BD 02 CA        JSR    PUSHX
041B BD 04 70        JSR    PULLAE
041E 4D              TST A
041F 26 C7           BNE    SUBER1
0421 DE 3E           LDX    DIMPNT
0423 5D              TST B
0424 27 C2           BEQ    SUBER1
0426 E1 01           CMP B  1,X
0428 22 BE           BHI    SUBER1
042A DE 40    TST666 LDX    DIMCAL
042C 08       TSTV7  INX
042D 08              INX
042E 5A              DEC B
042F 26 FB           BNE    TSTV7
0431 09              DEX
0432 09              DEX
0433 DF 40           STX    DIMCAL
0435 BD 02 DF        JSR    PULLX
0438 BD 05 E7        JSR    SKIPSP
043B 81 29    TSTV8  CMP A  #')
043D 26 99           BNE    TSTVER
043F BD 02 CA        JSR    PUSHX
0442 96 40           LDA A  DIMCAL
0444 D6 41           LDA B  DIMCAL+1
0446 BD 02 DF TSTV9  JSR    PULLX
0449 08              INX
044A BD 04 65        JSR    PUSHAE
044D 0C              CLC
044E 39              RTS
044F 81 41    TSTLTR CMP A  #$41
0451 2B 0C           BMI    NONO
0453 81 5A           CMP A  #$5A
0455 2F 0A           BLE    YESNO
0457 81 30    TESTNO CMP A  #$30
0459 2B 04           BMI    NONO
045B 81 39           CMP A  #$39
045D 2F 02           BLE    YESNO
045F 0D       NONO   SEC
0460 39              RTS
0461 0C       YESNO  CLC
0462 39              RTS
0463 8D 0B    PULPSH BSR    PULLAE
0465 9F 28    PUSHAE STS    SAVESP
0467 9E 51           LDS    AESTK
0469 37              PSH B
046A 36              PSH A
046B 9F 51           STS    AESTK
046D 9E 28           LDS    SAVESP
046F 39              RTS

0470 9F 28    PULLAE STS    SAVESP
0472 9E 51           LDS    AESTK
0474 32              PUL A
0475 33              PUL B
0476 9F 51           STS    AESTK
0478 9E 28           LDS    SAVESP
047A 39              RTS
047B BD 05 E7 FACT   JSR    SKIPSP
047E BD 03 97        JSR    TSTV
0481 25 04           BCS    FACT0
0483 BD 03 03        JSR    IND
0486 39              RTS
0487 BD 08 D9 FACT0  JSR    TSTN
048A 25 01           BCS    FACT1
048C 39              RTS
048D 81 28    FACT1  CMP A  #'(
048F 26 0C           BNE    FACT2
0491 08              INX
0492 8D 2B           BSR    EXPR
0494 BD 05 E7        JSR    SKIPSP
0497 81 29           CMP A  #')
0499 26 02           BNE    FACT2
049B 08              INX
049C 39              RTS
049D C6 0D    FACT2  LDA B  #13
049F 7E 06 94        JMP    ERROR
04A2 8D D7    TERM   BSR    FACT
04A4 BD 05 E7 TERM0  JSR    SKIPSP
04A7 81 2A           CMP A  #'*
04A9 26 07           BNE    TERM1
04AB 08              INX
04AC 8D CD           BSR    FACT
04AE 8D 41           BSR    MPY
04B0 20 F2           BRA    TERM0
04B2 81 2F    TERM1  CMP A  #'/
04B4 26 08           BNE    TERM2
04B6 08              INX
04B7 8D C2           BSR    FACT
04B9 BD 05 44        JSR    DIV
04BC 20 E6           BRA    TERM0
04BE 39       TERM2  RTS
04BF BD 05 E7 EXPR   JSR    SKIPSP
04C2 81 2D           CMP A  #'-
04C4 26 08           BNE    EXPR0
04C6 08              INX
04C7 8D D9           BSR    TERM
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04C9 BD 05 8F          JSR    NEG
04CC 20 07             BRA    EXPR1
04CE 81 2B     EXPR0   CMP A  #'+
04D0 26 01             BNE    EXPR00
04D2 08                INX
04D3 8D CD     EXPR00  BSR    TERM
04D5 BD 05 E7  EXPR1   JSR    SKIPSP
04D8 81 2B             CMP A  #'+
04DA 26 08             BNE    EXPR2
04DC 08                INX
04DD 8D C3             BSR    TERM
04DF BD 05 A5          JSR    ADD
04E2 20 F1             BRA    EXPR1
04E4 81 2D     EXPR2   CMP A  #'-
04E6 26 08             BNE    EXPR3
04E8 08                INX
04E9 8D B7             BSR    TERM
04EB BD 05 A3          JSR    SUB
04EE 20 E5             BRA    EXPR1
04F0 39        EXPR3   RTS
04F1 8D 32     MPY     BSR    MDSIGN
04F3 86 0F             LDA A  #15
04F5 A7 00             STA A  0,X
04F7 5F                CLR B
04F8 4F                CLR A
04F9 64 03     MPY4    LSR    3,X
04FB 66 04             ROR    4,X
04FD 24 0B             BCC    MPY5
04FF EB 02             ADD B  2,X
0501 A9 01             ADC A  1,X
0503 24 05             BCC    MPY5
0505 86 02     MPYERR  LDA A  #2
0507 7E 06 94          JMP    ERROR
050A 68 02     MPY5    ASL    2,X
050C 69 01             ROL    1,X
050E 6A 00             DEC    0,X
0510 26 E7             BNE    MPY4
0512 4D                TST A
0513 2B F0             BMI    MPYERR
0515 7D 00 4C          TST    TSIGN
0518 2A 03             BPL    MPY6
051A BD 05 9C          JSR    NEGAB
051D E7 04     MPY6    STA B  4,X
051F A7 03             STA A  3,X
0521 BD 02 DF          JSR    PULLX
0524 39                RTS
0525 BD 02 CA  MDSIGN  JSR    PUSHX
0528 4F                CLR A
0529 DE 51             LDX    AESTK
052B 6D 01             TST    1,X
052D 2A 04             BPL    MDS2
052F 8D 5E             BSR    NEG
0531 86 80             LDA A  #$80
0533 08        MDS2    INX
0534 08                INX
0535 DF 51             STX    AESTK
0537 6D 01             TST    1,X
0539 2A 04             BPL    MDS3
053B 8D 52             BSR    NEG
053D 8B 80             ADD A  #$80
053F 97 4C     MDS3    STA A  TSIGN
0541 09                DEX
0542 09                DEX
0543 39                RTS
0544 8D DF     DIV     BSR    MDSIGN
0546 6D 01             TST    1,X
0548 26 09             BNE    DIV33
054A 6D 02             TST    2,X
054C 26 05             BNE    DIV33
054E C6 08             LDA B  #8
0550 7E 06 94          JMP    ERROR
0553 86 01     DIV33   LDA A  #1
0555 4C        DIV4    INC A
0556 68 02             ASL    2,X
0558 69 01             ROL    1,X
055A 2B 04             BMI    DIV5
055C 81 11             CMP A  #17
055E 26 F5             BNE    DIV4
0560 A7 00     DIV5    STA A  0,X
0562 A6 03             LDA A  3,X
0564 E6 04             LDA B  4,X
0566 6F 03             CLR    3,X
0568 6F 04             CLR    4,X
056A E0 02     DIV163  SUB B  2,X
056C A2 01             SBC A  1,X
056E 24 07             BCC    DIV165
0570 EB 02             ADD B  2,X
0572 A9 01             ADC A  1,X
0574 0C                CLC
0575 20 01             BRA    DIV167
0577 0D        DIV165  SEC
0578 69 04     DIV167  ROL    4,X
057A 69 03             ROL    3,X
057C 64 01             LSR    1,X
057E 66 02             ROR    2,X
0580 6A 00             DEC    0,X
0582 26 E6             BNE    DIV163
0584 7D 00 4C          TST    TSIGN
0587 2A 02             BPL    DIV169
0589 8D 04             BSR    NEG
058B BD 02 DF  DIV169  JSR    PULLX
058E 39                RTS
058F 36        NEG     PSH A
0590 37                PSH B
0591 BD 04 70          JSR    PULLAE
0594 8D 06             BSR    NEGAB
0596 BD 04 65          JSR    PUSHAE
0599 33                PUL B
059A 32                PUL A
059B 39                RTS
059C 43        NEGAB   COM A
059D 53                COM B
059E CB 01             ADD B  #1
05A0 89 00             ADC A  #0
05A2 39                RTS
05A3 8D EA     SUB     BSR    NEG
05A5 BD 04 70  ADD     JSR    PULLAE
05A8 D7 50     ADD1    STA B  BNUMB
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05AA 97 4F            STA A  ANUMB
05AC BD 04 70         JSR    PULLAE
05AF DB 50            ADD B  BNUMB
05B1 99 4F            ADC A  ANUMB
05B3 BD 04 65         JSR    PUSHAE
05B6 0C               CLC
05B7 39               RTS
05B8 96 32     FINDNO LDA A  HIGHLN
05BA D6 33            LDA B  HIGHLN+1
05BC D0 31            SUB B  PACKLN+1
05BE 92 30            SBC A  PACKLN
05C0 25 1C            BCS    HIBALL
05C2 DE 2E     FINDN1 LDX    SOURCE
05C4 BD 04 63  FIND0  JSR    PULPSH
05C7 E0 01            SUB B  1,X
05C9 A2 00            SBC A  0,X
05CB 25 13            BCS    FIND3
05CD 26 03            BNE    FIND1
05CF 5D               TST B
05D0 27 0F            BEQ    FIND4
05D2 08        FIND1  INX
05D3 8D 18     FIND2  BSR    INXSKP
05D5 81 1E            CMP A  #$1E
05D7 26 FA            BNE    FIND2
05D9 08               INX
05DA 9C 2A            CPX    NEXTBA
05DC 26 E6            BNE    FIND0
05DE DE 2A     HIBALL LDX    NEXTBA
05E0 0D        FIND3  SEC
05E1 DF 2C     FIND4  STX    WORKBA
05E3 BD 04 70         JSR    PULLAE
05E6 39               RTS
05E7 A6 00     SKIPSP LDA A  0,X
05E9 81 20            CMP A  #$20
05EB 26 03            BNE    SKIPEX
05ED 08        INXSKP INX
05EE 20 F7            BRA    SKIPSP
05F0 39        SKIPEX RTS
05F1 BD 08 F4  LINENO JSR    INTSTN
05F4 24 05            BCC    LINE1
05F6 C6 07            LDA B  #7
05F8 7E 06 94         JMP    ERROR
05FB BD 04 63  LINE1  JSR    PULPSH
05FE 97 30            STA A  PACKLN
0600 D7 31            STA B  PACKLN+1
0602 DF AC            STX    BUFNXT
0604 39               RTS
0605 DE 34     NXTLIN LDX    BASPNT
0607 A6 00     NXTL12 LDA A  0,X
0609 08               INX
060A 81 1E            CMP A  #$1E
060C 26 F9            BNE    NXTL12
060E DF 36            STX    BASLIN
0610 39               RTS
0611 8D D4     CCODE  BSR    SKIPSP
0613 DF 26            STX    INDEX4
0615 9F 28            STS    SAVESP
0617 CE 01 51         LDX    #COMMAN-1
061A 9E 26     LOOP3  LDS    INDEX4
061C 34               DES
061D 08        LOOP4  INX
061E 32               PUL A
061F E6 00            LDA B  0,X
0621 C1 1E            CMP B  #$1E
0623 27 13            BEQ    LOOP7
0625 11               CBA
0626 27 F5            BEQ    LOOP4
0628 08        LOOP5  INX
0629 8C 01 DC         CPX    #COMEND
062C 27 12            BEQ    CCEXIT
062E E6 00            LDA B  0,X
0630 C1 1E            CMP B  #$1E
0632 26 F4            BNE    LOOP5
0634 08        LOOP6  INX
0635 08               INX
0636 20 E2            BRA    LOOP3
0638 08        LOOP7  INX
0639 9F AC            STS    BUFNXT
063B 9F 34            STS    BASPNT
063D 9E 28     LOOP8  LDS    SAVESP
063F 39               RTS
0640 9E 28     CCEXIT LDS    SAVESP
0642 CE 01 DD         LDX    #IMPLET
0645 39               RTS
0646 DE 2E     START  LDX    SOURCE
0648 DF 2A            STX    NEXTBA
064A DF 2C            STX    WORKBA
064C DF 48            STX    ARRTAB
064E 09               DEX
064F 4F               CLR A
0650 08        START2 INX
0651 A7 00            STA A  0,X
0653 9C 46            CPX    MEMEND
0655 26 F9            BNE    START2
0657 4F        START1 CLR A
0658 97 30            STA A  PACKLN
065A 97 31            STA A  PACKLN+1
065C 97 42            STA A  PRCNT
065E DE 30            LDX    PACKLN
0660 DF 32            STX    HIGHLN
0662 8E A0 45  READY  LDS    #$A045
0665 CE 02 1B         LDX    #RDYMSG
0668 BD 02 A8         JSR    OUTPUT
066B 8E A0 45  NEWLIN LDS    #$A045
066E CE A0 7F         LDX    #$A07F
0671 DF 3A            STX    XSTACK
0673 7F 00 42         CLR    PRCNT
0676 BD 02 82  NEWL3  JSR    CNTLIN
0679 CE 00 B0         LDX    #BUFFER
067C BD 05 E7         JSR    SKIPSP
067F DF AC            STX    BUFNXT
0681 BD 04 57         JSR    TESTNO
0684 25 03            BCS    LOOP2
0686 7E 07 42         JMP    NUMBER
0689 81 1E     LOOP2  CMP A  #$1E
068B 27 DE            BEQ    NEWLIN
068D BD 06 11         JSR    CCODE
0690 EE 00            LDX    0,X
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0692 6E 00            JMP    0,X
0694 8E A0 45 ERROR   LDS    #$A045
0697 BD 02 B6         JSR    CRLF
069A CE 02 2F         LDX    #ERRMS1
069D BD 02 AF         JSR    OUTNCR
06A0 4F               CLR A
06A1 BD 04 65         JSR    PUSHAE
06A4 BD 09 E2         JSR    PRN
06A7 CE 02 37         LDX    #ERRMS2
06AA BD 02 AF         JSR    OUTNCR
06AD 5F               CLR B
06AE 96 36            LDA A  BASLIN
06B0 27 06            BEQ    ERROR2
06B2 DE 36            LDX    BASLIN
06B4 A6 00            LDA A  0,X
06B6 E6 01            LDA B  1,X
06B8 BD 09 FD ERROR2  JSR    PRN0
06BB BD 02 B6         JSR    CRLF
06BE 20 A2            BRA    READY
06C0 DE 2E    RUN     LDX    SOURCE
06C2 DF 36            STX    BASLIN
06C4 CE 00 59         LDX    #SBRSTK
06C7 DF 57            STX    SBRPNT
06C9 CE 00 69         LDX    #FORSTK
06CC DF 53            STX    FORPNT
06CE CE A0 7F         LDX    #$A07F
06D1 DF 3A            STX    XSTACK
06D3 DE 2A            LDX    NEXTBA
06D5 DF 48            STX    ARRTAB
06D7 4F               CLR A
06D8 09               DEX
06D9 08       RUN1    INX
06DA A7 00            STA A  0,X
06DC 9C 46            CPX    MEMEND
06DE 26 F9            BNE    RUN1
06E0 CE 01 03         LDX    #VARTAB
06E3 C6 4E            LDA B  #78
06E5 A7 00    RUN2    STA A  0,X
06E7 08               INX
06E8 5A               DEC B
06E9 26 FA            BNE    RUN2
06EB 7E 07 F5         JMP    BASIC
06EE CE 02 2A CLIST   LDX    #PGCNTL
06F1 BD 02 A8         JSR    OUTPUT
06F4 DE 34            LDX    BASPNT
06F6 BD 05 E7 CLIST1  JSR    SKIPSP
06F9 81 1E            CMP A  #$1E
06FB 27 2C            BEQ    CLIST4
06FD BD 08 F4         JSR    INTSTN
0700 DF 34            STX    BASPNT
0702 BD 05 C2         JSR    FINDN1
0705 DF 24            STX    INDEX3
0707 DE 34            LDX    BASPNT
0709 36               PSH A
070A BD 05 E7         JSR    SKIPSP
070D 81 1E            CMP A  #$1E
070F 32               PUL A
0710 26 05            BNE    CLIST2
0712 BD 04 65         JSR    PUSHAE
0715 20 04            BRA    CLIST3
0717 08       CLIST2  INX
0718 BD 08 F4         JSR    INTSTN
071B 4F       CLIST3  CLR A
071C C6 01            LDA B  #1
071E BD 05 A8         JSR    ADD1
0721 BD 05 C2         JSR    FINDN1
0724 BD 03 24         JSR    LIST0
0727 20 03            BRA    CLIST5
0729 BD 03 1C CLIST4  JSR    LIST
072C 7E 0A 84 CLIST5  JMP    REMARK
072F 01               NOP

0730 BD 06 05 PATCH   JSR    NXTLIN
0733 CE 07 F5         LDX    #BASIC
0736 FF A0 46         STX    $A046
0739 8E A0 40         LDS    #$A040
073C BF A0 08         STS    SP
A008          SP      EQU    $A008
073F 7E E0 E3         JMP    CONTRL
E0E3          CONTRL  EQU    $E0E3
0742 BD 05 F1 NUMBER  JSR    LINENO
0745 BD 05 B8 NUM1    JSR    FINDNO
0748 24 0A            BCC    DELREP
074A DE 2C            LDX    WORKBA
074C 9C 2A            CPX    NEXTBA
074E 27 1E            BEQ    CAPPEN
0750 8D 50            BSR    INSERT
0752 20 17            BRA    NEXIT
0754 DE AC    DELREP  LDX    BUFNXT
0756 BD 05 E7         JSR    SKIPSP
0759 81 1E            CMP A  #$1E
075B 26 0A            BNE    REPLAC
075D DE 2A            LDX    NEXTBA
075F 9C 2E            CPX    SOURCE
0761 27 08            BEQ    NEXIT
0763 8D 11            BSR    DELETE
0765 20 04            BRA    NEXIT
0767 8D 0D    REPLAC  BSR    DELETE
0769 8D 37            BSR    INSERT
076B 7E 06 6B NEXIT   JMP    NEWLIN
076E 8D 32    CAPPEN  BSR    INSERT
0770 DE 30            LDX    PACKLN
0772 DF 32            STX    HIGHLN
0774 20 F5            BRA    NEXIT
0776 9F 28    DELETE  STS    SAVESP
0778 DE 2C            LDX    WORKBA
077A 9E 2A            LDS    NEXTBA
077C C6 02            LDA B  #2
077E 08               INX
077F 08               INX
0780 34               DES
0781 34               DES
0782 A6 00    DEL2    LDA A  0,X
0784 34               DES
0785 08               INX
0786 5C               INC B
0787 81 1E            CMP A  #$1E
0789 26 F7            BNE    DEL2
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078B 9F 2A             STS    NEXTBA
078D 9F 48             STS    ARRTAB
078F DE 2C             LDX    WORKBA
0791 F7 07 99          STA B  DEL5+1
                * IN AT OBJECT TIME
0794 9C 2A     DEL4    CPX    NEXTBA
0796 27 07             BEQ    DELEX
0798 A6 00     DEL5    LDA A  0,X
079A A7 00             STA A  0,X
079C 08                INX
079D 20 F5             BRA    DEL4
079F 9E 28     DELEX   LDS    SAVESP
07A1 39                RTS
07A2 DE AC     INSERT  LDX    BUFNXT
07A4 BD 06 11          JSR    CCODE
07A7 DF 4A     INS1    STX    KEYWD
07A9 D6 AF             LDA B  ENDBUF+1
07AB D0 AD             SUB B  BUFNXT+1
07AD CB 04             ADD B  #$04
07AF F7 07 CC          STA B  OFFSET+1
07B2 DB 2B             ADD B  NEXTBA+1
07B4 86 00             LDA A  #$00
07B6 99 2A             ADC A  NEXTBA
07B8 91 46             CMP A  MEMEND
07BA 22 34             BHI    OVERFL
07BC D7 2B             STA B  NEXTBA+1
07BE 97 2A             STA A  NEXTBA
07C0 DE 2A             LDX    NEXTBA
07C2 DF 48             STX    ARRTAB
07C4 9C 2C     INS2    CPX    WORKBA
07C6 27 07             BEQ    BUFWRT
07C8 09                DEX
07C9 A6 00             LDA A  0,X
07CB A7 00     OFFSET  STA A  0,X
07CD 20 F5             BRA    INS2
07CF DE 2C     BUFWRT  LDX    WORKBA
07D1 9F 28             STS    SAVESP
07D3 96 30             LDA A  PACKLN
07D5 A7 00             STA A  0,X
07D7 08                INX
07D8 96 31             LDA A  PACKLN+1
07DA A7 00             STA A  0,X
07DC 08                INX
07DD 96 4B             LDA A  KEYWD+1
07DF A7 00             STA A  0,X
07E1 08                INX
07E2 9E AC             LDS    BUFNXT
07E4 34                DES
07E5 32        BUF3    PUL A
07E6 A7 00             STA A  0,X
07E8 08                INX
07E9 81 1E             CMP A  #$1E
07EB 26 F8             BNE    BUF3
07ED 9E 28             LDS    SAVESP
07EF 39                RTS
07F0 C6 0E     OVERFL  LDA B  #14
07F2 7E 06 94          JMP    ERROR
07F5 DE 36     BASIC   LDX    BASLIN
07F7 9C 2A             CPX    NEXTBA
07F9 26 03             BNE    BASIC1
07FB 7E 06 62  BASIC0  JMP    READY
07FE 7D 00 36  BASIC1  TST    BASLIN
0801 27 F8             BEQ    BASIC0
0803 08                INX
0804 08                INX
0805 A6 00             LDA A  0,X
0807 08                INX
0808 DF 34             STX    BASPNT
080A CE 01 52          LDX    #COMMAN
080D DF 4A             STX    KEYWD
080F 97 4B             STA A  KEYWD+1
0811 CE 02 1A          LDX    #ASTACK
0814 DF 51             STX    AESTK
0816 DE 4A             LDX    KEYWD
0818 EE 00             LDX    0,X
081A 6E 00     BASIC2  JMP    0,X
081C DE 36     GOSUB   LDX    BASLIN
081E DF 20             STX    INDEX1
0820 BD 06 05          JSR    NXTLIN
0823 DE 57             LDX    SBRPNT
0825 8C 00 69          CPX    #SBRSTK+16
0828 26 05             BNE    GOSUB1
082A C6 09             LDA B  #9
082C 7E 06 94          JMP    ERROR
082F 96 36     GOSUB1  LDA A  BASLIN
0831 A7 00             STA A  0,X
0833 08                INX
0834 96 37             LDA A  BASLIN+1
0836 A7 00             STA A  0,X
0838 08                INX
0839 DF 57             STX    SBRPNT
083B DE 20             LDX    INDEX1
083D DF 36             STX    BASLIN
083F DE 34     GOTO    LDX    BASPNT
0841 BD 04 BF          JSR    EXPR
0844 BD 05 C2          JSR    FINDN1
0847 24 05             BCC    GOTO2
0849 C6 07             LDA B  #7
084B 7E 06 94          JMP    ERROR
084E DF 36     GOTO2   STX    BASLIN
0850 20 A3             BRA    BASIC
0852 DE 57     RETURN  LDX    SBRPNT
0854 8C 00 59          CPX    #SBRSTK
0857 26 05             BNE    RETUR1
0859 C6 0A             LDA B  #10
085B 7E 06 94          JMP    ERROR
085E 09        RETUR1  DEX
085F 09                DEX
0860 DF 57             STX    SBRPNT
0862 EE 00             LDX    0,X
0864 DF 36             STX    BASLIN
0866 20 8D             BRA    BASIC
0868 CE 01 D3  PAUSE   LDX    #PAUMSG
086B BD 02 AF          JSR    OUTNCR
086E BD 03 63          JSR    PRINSP
0871 DE 36             LDX    BASLIN
0873 A6 00             LDA A  0,X
0875 08                INX
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0876 E6 00           LDA B  0,X
0878 08              INX
0879 BD 09 FD        JSR    PRN0
087C BD 02 97 PAUSE1 JSR    INCH
087F 81 0D           CMP A  #$0D
0881 26 F9           BNE    PAUSE1
0883 BD 02 B6        JSR    CRLF
0886 7E 0A 84 PAUSE2 JMP    REMARK
0889 96 34    INPUT  LDA A  BASPNT
088B 26 04           BNE    INPUT0
088D C6 0C           LDA B  #12
088F 20 20           BRA    INPERR
0891 BD 02 41 INPUT0 JSR    KEYBD
0894 CE 00 B0        LDX    #BUFFER
0897 DF AC           STX    BUFNXT
0899 DE 34           LDX    BASPNT
089B BD 03 97 INPUT1 JSR    TSTV
089E 25 2C           BCS    INPEX
08A0 DF 34           STX    BASPNT
08A2 DE AC           LDX    BUFNXT
08A4 8D 43    INPUT2 BSR    INNUM
08A6 24 14           BCC    INPUT4
08A8 09              DEX
08A9 A6 00           LDA A  0,X
08AB 81 1E           CMP A  #$1E
08AD 27 05           BEQ    INPUTS
08AF C6 02           LDA B  #2
08B1 7E 06 94 INPERR JMP    ERROR
08B4 BD 02 41 INPUTS JSR    KEYBD
08B7 CE 00 B0        LDX    #BUFFER
08BA 20 E8           BRA    INPUT2
08BC BD 02 EA INPUT4 JSR    STORE
08BF 08              INX
08C0 DF AC           STX    BUFNXT
08C2 DE 34           LDX    BASPNT
08C4 BD 05 E7        JSR    SKIPSP
08C7 08              INX
08C8 81 2C           CMP A  #',
08CA 27 CF           BEQ    INPUT1
08CC 09       INPEX  DEX
08CD 7F 00 42        CLR    PRCNT
08D0 81 1E           CMP A  #$1E
08D2 27 B2           BEQ    PAUSE2
08D4 C6 03    DBLLTR LDA B  #3
08D6 7E 06 94        JMP    ERROR
08D9 8D 19    TSTN   BSR    INTSTN
08DB 25 06           BCS    TSTN0
08DD BD 04 70        JSR    PULLAE
08E0 4D              TST A
08E1 2A 02           BPL    TSTN1
08E3 0D       TSTN0  SEC
08E4 39              RTS
08E5 BD 04 65 TSTN1  JSR    PUSHAE
08E8 39              RTS
08E9 BD 05 E7 INNUM  JSR    SKIPSP
08EC 97 4C           STA A  TSIGN
08EE 08              INX
08EF 81 2D           CMP A  #'-
08F1 27 04           BEQ    INNUM0
08F3 09              DEX
08F4 7F 00 4C INTSTN CLR    TSIGN
08F7 BD 05 E7 INNUM0 JSR    SKIPSP
08FA BD 04 57        JSR    TESTNO
08FD 24 01           BCC    INNUM1
08FF 39              RTS
0900 09       INNUM1 DEX
0901 4F              CLR A
0902 5F              CLR B
0903 08       INNUM2 INX
0904 36              PSH A
0905 A6 00           LDA A  0,X
0907 BD 04 57        JSR    TESTNO
090A 25 26           BCS    INNEX
090C 80 30           SUB A  #$30
090E 97 4E           STA A  TNUMB
0910 32              PUL A
0911 58              ASL B
0912 49              ROL A
0913 25 18           BCS    INNERR
0915 D7 50           STA B  BNUMB
0917 97 4F           STA A  ANUMB
0919 58              ASL B
091A 49              ROL A
091B 25 10           BCS    INNERR
091D 58              ASL B
091E 49              ROL A
091F 25 0C           BCS    INNERR
0921 DB 50           ADD B  BNUMB
0923 99 4F           ADC A  ANUMB
0925 25 06           BCS    INNERR
0927 DB 4E           ADD B  TNUMB
0929 89 00           ADC A  #0
092B 24 D6           BCC    INNUM2
092D C6 02    INNERR LDA B  #2
092F 7E 06 94        JMP    ERROR
0932 32       INNEX  PUL A
0933 7D 00 4C        TST    TSIGN
0936 27 03           BEQ    INNEX2
0938 BD 05 9C        JSR    NEGAB
093B BD 04 65 INNEX2 JSR    PUSHAE
093E 0C              CLC
093F 39              RTS
0940 DE 34    PRINT  LDX    BASPNT
0942 BD 05 E7 PRINT0 JSR    SKIPSP
0945 81 22           CMP A  #'"
0947 26 18           BNE    PRINT4
0949 08              INX
094A A6 00    PRINT1 LDA A  0,X
094C 08              INX
094D 81 22           CMP A  #'"
094F 27 5A           BEQ    PRIN88
0951 81 1E           CMP A  #$1E
0953 26 04           BNE    PRINT2
0955 C6 04           LDA B  #4
0957 20 34           BRA    PRINTE
0959 BD 02 92 PRINT2 JSR    OUTCH
095C BD 09 D2        JSR    ENLINE
095F 20 E9           BRA    PRINT1
```

```
0961 81 1E     PRINT4  CMP A  #$1E
0963 26 14             BNE    PRINT6
0965 09                DEX
0966 A6 00             LDA A  0,X
0968 08                INX
0969 81 3B             CMP A  #';
096B 27 06             BEQ    PRINT5
096D BD 02 B6          JSR    CRLF
0970 7F 00 42          CLR    PRCNT
0973 08        PRINT5  INX
0974 DF 36             STX    BASLIN
0976 7E 07 F5          JMP    BASIC
0979 81 54     PRINT6  CMP A  #'T
097B 26 28             BNE    PRINT8
097D E6 01             LDA B  1,X
097F C1 41             CMP B  #'A
0981 26 22             BNE    PRINT8
0983 08                INX
0984 08                INX
0985 A6 00             LDA A  0,X
0987 81 42             CMP A  #'B
0989 27 05             BEQ    PRINT7
098B C6 0B             LDA B  #11
098D 7E 06 94  PRINTE  JMP    ERROR
0990 08        PRINT7  INX
0991 BD 04 BF          JSR    EXPR
0994 BD 04 70          JSR    PULLAE
0997 D0 42             SUB B  PRCNT
0999 23 10             BLS    PRIN88
099B BD 03 63  PRIN77  JSR    PRINSP
099E 8D 32             BSR    ENLINE
09A0 5A                DEC B
09A1 26 F8             BNE    PRIN77
09A3 20 06             BRA    PRIN88
09A5 BD 04 BF  PRINT8  JSR    EXPR
09A8 BD 09 E2          JSR    PRN
09AB BD 05 E7  PRIN88  JSR    SKIPSP
09AE 81 2C             CMP A  #',
09B0 26 10             BNE    PRIN99
09B2 08                INX
09B3 96 42     PRLOOP  LDA A  PRCNT
09B5 16                TAB
09B6 C4 F8             AND B  #$F8
09B8 10                SBA
09B9 27 0C             BEQ    PRI999
09BB BD 03 63          JSR    PRINSP
09BE 8D 12             BSR    ENLINE
09C0 20 F1             BRA    PRLOOP
09C2 81 3B     PRIN99  CMP A  #';
09C4 26 04             BNE    PREND
09C6 08                INX
09C7 7E 09 42  PRI999  JMP    PRINT0
09CA 81 1E     PREND   CMP A  #$1E
09CC 27 93             BEQ    PRINT4
09CE C6 06             LDA B  #6
09D0 20 BB             BRA    PRINTE
09D2 36        ENLINE  PSH A
09D3 96 42             LDA A  PRCNT
09D5 4C                INC A
09D6 91 43             CMP A  MAXLIN
09D8 26 04             BNE    ENLEXT
09DA BD 02 B6          JSR    CRLF
09DD 4F                CLR A
09DE 97 42     ENLEXT  STA A  PRCNT
09E0 32                PUL A
09E1 39                RTS
09E2 BD 03 63  PRN     JSR    PRINSP
09E5 8D EB             BSR    ENLINE
09E7 86 FF             LDA A  #$FF
09E9 97 4C             STA A  TSIGN
09EB BD 04 70          JSR    PULLAE
09EE 4D                TST A
09EF 2A 0C             BPL    PRN0
09F1 BD 05 9C          JSR    NEGAB
09F4 36                PSH A
09F5 86 2D             LDA A  #'-
09F7 BD 02 92          JSR    OUTCH
09FA 8D D6             BSR    ENLINE
09FC 32                PUL A
09FD BD 02 CA  PRN0    JSR    PUSHX
0A00 CE 0A 3A          LDX    #KIOK
0A03 7F 00 4E  PRN1    CLR    TNUMB
0A06 E0 01     PRN2    SUB B  1,X
0A08 A2 00             SBC A  0,X
0A0A 25 05             BCS    PRN5
0A0C 7C 00 4E          INC    TNUMB
0A0F 20 F5             BRA    PRN2
0A11 EB 01     PRN5    ADD B  1,X
0A13 A9 00             ADC A  0,X
0A15 36                PSH A
0A16 96 4E             LDA A  TNUMB
0A18 26 0A             BNE    PRN6
0A1A 8C 0A 42          CPX    #KIOK+8
0A1D 27 05             BEQ    PRN6
0A1F 7D 00 4C          TST    TSIGN
0A22 26 0A             BNE    PRN7
0A24 8B 30     PRN6    ADD A  #$30
0A26 7F 00 4C          CLR    TSIGN
0A29 BD 02 92          JSR    OUTCH
0A2C 8D A4             BSR    ENLINE
0A2E 32        PRN7    PUL A
0A2F 08                INX
0A30 08                INX
0A31 8C 0A 44          CPX    #KIOK+10
0A34 26 CD             BNE    PRN1
0A36 BD 02 DF          JSR    PULLX
0A39 39                RTS
0A3A 27 10     KIOK    FDB    10000
0A3C 03 E8             FDB    1000
0A3E 00 64             FDB    100
0A40 00 0A             FDB    10
0A42 00 01             FDB    1
0A44 DE 34     LET     LDX    BASPNT
0A46 BD 03 97          JSR    TSTV
0A49 24 05             BCC    LET1
0A4B C6 0C     LET0    LDA B  #12
0A4D 7E 06 94  LET00   JMP    ERROR
0A50 BD 05 E7  LET1    JSR    SKIPSP
```

```
0A53 08                 INX
0A54 81 3D              CMP A  #'=
0A56 27 04              BEQ    LET3
0A58 C6 06      LET2    LDA B  #6
0A5A 20 F1              BRA    LET00
0A5C BD 04 BF   LET3    JSR    EXPR
0A5F 81 1E              CMP A  #$1E
0A61 26 F5              BNE    LET2
0A63 BD 02 EA           JSR    STORE
0A66 20 1C              BRA    REMARK
0A68 D6 49      SIZE    LDA B  ARRTAB+1
0A6A 96 48              LDA A  ARRTAB
0A6C D0 2F              SUB B  SOURCE+1
0A6E 92 2E              SBC A  SOURCE
0A70 BD 09 FD           JSR    PRN0
0A73 BD 03 63           JSR    PRINSP
0A76 D6 47              LDA B  MEMEND+1
0A78 96 46              LDA A  MEMEND
0A7A D0 49              SUB B  ARRTAB+1
0A7C 92 48              SBC A  ARRTAB
0A7E BD 09 FD           JSR    PRN0
0A81 BD 02 B6           JSR    CRLF
0A84 BD 06 05   REMARK  JSR    NXTLIN
0A87 7E 07 F5           JMP    BASIC
0A8A DE 34      DIM     LDX    BASPNT
0A8C BD 05 E7   DIM1    JSR    SKIPSP
0A8F BD 04 4F           JSR    TSTLTR
0A92 24 03              BCC    DIM111
0A94 7E 0B 2B           JMP    DIMEX
0A97 80 40      DIM111  SUB A  #$40
0A99 97 9A              STA A  DIMVAR+1
0A9B 48                 ASL A
0A9C 9B 9A              ADD A  DIMVAR+1
0A9E 97 9A              STA A  DIMVAR+1
0AA0 BD 02 CA           JSR    PUSHX
0AA3 DE 99              LDX    DIMVAR
0AA5 6D 00              TST    0,X
0AA7 26 1C              BNE    DIMERR
0AA9 6D 01              TST    1,X
0AAB 26 18              BNE    DIMERR
0AAD 6D 02              TST    2,X
0AAF 26 14              BNE    DIMERR
0AB1 96 49              LDA A  ARRTAB+1
0AB3 A7 01              STA A  1,X
0AB5 96 48              LDA A  ARRTAB
0AB7 A7 00              STA A  0,X
0AB9 A7 02              STA A  2,X
0ABB BD 02 DF           JSR    PULLX
0ABE BD 05 ED           JSR    INXSKP
0AC1 81 28              CMP A  #'(
0AC3 27 05              BEQ    DIM2
0AC5 C6 05      DIMERR  LDA B  #5
0AC7 7E 06 94   DIMER1  JMP    ERROR
0ACA 08         DIM2    INX
0ACB BD 04 BF           JSR    EXPR
0ACE BD 04 63           JSR    PULPSH
0AD1 5D                 TST B
0AD2 27 03              BEQ    SUBERR
0AD4 4D                 TST A
0AD5 27 04              BEQ    DIM3
0AD7 C6 0F      SUBERR  LDA B  #15
0AD9 20 EC              BRA    DIMER1
0ADB 8D 55      DIM3    BSR    STRSUB
0ADD A6 00              LDA A  0,X
0ADF 81 2C              CMP A  #',
0AE1 26 12              BNE    DIM6
0AE3 08                 INX
0AE4 BD 04 BF           JSR    EXPR
0AE7 BD 04 63           JSR    PULPSH
0AEA 5D                 TST B
0AEB 27 EA              BEQ    SUBERR
0AED 4D                 TST A
0AEE 26 E7              BNE    SUBERR
0AF0 8D 40              BSR    STRSUB
0AF2 BD 04 F1           JSR    MPY
0AF5 4F         DIM6    CLR A
0AF6 C6 02              LDA B  #2
0AF8 BD 04 65           JSR    PUSHAE
0AFB BD 04 F1           JSR    MPY
0AFE A6 00              LDA A  0,X
0B00 81 29              CMP A  #')
0B02 26 C1              BNE    DIMERR
0B04 08                 INX
0B05 D6 49              LDA B  ARRTAB+1
0B07 96 48              LDA A  ARRTAB
0B09 BD 05 A8           JSR    ADD1
0B0C 4F                 CLR A
0B0D C6 02              LDA B  #2
0B0F BD 05 A8           JSR    ADD1
0B12 BD 04 70           JSR    PULLAE
0B15 91 46              CMP A  MEMEND
0B17 23 03              BLS    DIM7
0B19 7E 07 F0           JMP    OVERFL
0B1C 97 48      DIM7    STA A  ARRTAB
0B1E D7 49              STA B  ARRTAB+1
0B20 BD 05 E7           JSR    SKIPSP
0B23 81 2C              CMP A  #',
0B25 26 04              BNE    DIMEX
0B27 08                 INX
0B28 7E 0A 8C           JMP    DIM1
0B2B 81 1E      DIMEX   CMP A  #$1E
0B2D 26 96              BNE    DIMERR
0B2F 7E 0A 84           JMP    REMARK
0B32 BD 02 CA   STRSUB  JSR    PUSHX
0B35 DE 99              LDX    DIMVAR
0B37 EE 00              LDX    0,X
0B39 6D 00      STRSU2  TST    0,X
0B3B 27 03              BEQ    STRSU3
0B3D 08                 INX
0B3E 20 F9              BRA    STRSU2
0B40 E7 00      STRSU3  STA B  0,X
0B42 BD 02 DF           JSR    PULLX
0B45 39                 RTS
0B46 DE 34      FOR     LDX    BASPNT
0B48 BD 03 97           JSR    TSTV
0B4B 24 03              BCC    FOR1
0B4D 7E 0A 4B           JMP    LET0
0B50 DF 34      FOR1    STX    BASPNT
```

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0B52 BD 04 63          JSR    PULPSH
0B55 DE 53             LDX    FORPNT
0B57 8C 00 99          CPX    #FORSTK+48
0B5A 26 05             BNE    FOR11
0B5C C6 10             LDA B  #16
0B5E 7E 06 94          JMP    ERROR
0B61 A7 00      FOR11  STA A  0,X
0B63 08                INX
0B64 E7 00             STA B  0,X
0B66 08                INX
0B67 DF 53             STX    FORPNT
0B69 DE 34             LDX    BASPNT
0B6B BD 05 E7          JSR    SKIPSP
0B6E 08                INX
0B6F 81 3D             CMP A  #'=
0B71 27 03             BEQ    FOR3
0B73 7E 0A 58  FOR2    JMP    LET2
0B76 BD 04 BF  FOR3    JSR    EXPR
0B79 BD 02 EA          JSR    STORE
0B7C 08                INX
0B7D 81 54             CMP A  #'T
0B7F 26 F2             BNE    FOR2
0B81 A6 00             LDA A  0,X
0B83 08                INX
0B84 81 4F             CMP A  #'O
0B86 26 EB             BNE    FOR2
0B88 BD 04 BF          JSR    EXPR
0B8B BD 04 70          JSR    PULLAE
0B8E DF 34             STX    BASPNT
0B90 DE 53             LDX    FORPNT
0B92 A7 00             STA A  0,X
0B94 08                INX
0B95 E7 00             STA B  0,X
0B97 08                INX
0B98 DF 53             STX    FORPNT
0B9A DE 34             LDX    BASPNT
0B9C A6 00             LDA A  0,X
0B9E 81 1E             CMP A  #$1E
0BA0 26 D1      FOR8   BNE    FOR2
0BA2 08                INX
0BA3 DF 36             STX    BASLIN
0BA5 DE 53             LDX    FORPNT
0BA7 96 36             LDA A  BASLIN
0BA9 A7 00             STA A  0,X
0BAB 08                INX
0BAC D6 37             LDA B  BASLIN+1
0BAE E7 00             STA B  0,X
0BB0 08                INX
0BB1 DF 53             STX    FORPNT
0BB3 7E 07 F5          JMP    BASIC
0BB6 DE 34      NEXT   LDX    BASPNT
0BB8 BD 03 97          JSR    TSTV
0BBB 24 03             BCC    NEXT1
0BBD 7E 0A 4B          JMP    LET0
0BC0 BD 05 E7  NEXT1   JSR    SKIPSP
0BC3 81 1E             CMP A  #$1E
0BC5 26 D9             BNE    FOR8
0BC7 08                INX
0BC8 DF 36             STX    BASLIN
0BCA CE 00 69          LDX    #FORSTK
0BCD BD 04 63          JSR    PULPSH
0BD0 9C 53      NEXT2  CPX    FORPNT
0BD2 27 3A             BEQ    NEXT6
0BD4 A1 00             CMP A  0,X
0BD6 26 2E             BNE    NEXT5
0BD8 E1 01             CMP B  1,X
0BDA 26 2A             BNE    NEXT5
0BDC BD 03 03          JSR    IND
0BDF BD 04 63          JSR    PULPSH
0BE2 E0 03             SUB B  3,X
0BE4 A2 02             SBC A  2,X
0BE6 25 05             BCS    NEXT4
0BE8 DF 53             STX    FORPNT
0BEA 7E 07 F5  NEXT3   JMP    BASIC
0BED BD 04 70  NEXT4   JSR    PULLAE
0BF0 CB 01             ADD B  #1
0BF2 89 00             ADC A  #0
0BF4 BD 02 CA          JSR    PUSHX
0BF7 EE 00             LDX    0,X
0BF9 A7 00             STA A  0,X
0BFB E7 01             STA B  1,X
0BFD BD 02 DF          JSR    PULLX
0C00 EE 04             LDX    4,X
0C02 DF 36             STX    BASLIN
0C04 20 E4             BRA    NEXT3
0C06 08        NEXT5   INX
0C07 08                INX
0C08 08                INX
0C09 08                INX
0C0A 08                INX
0C0B 08                INX
0C0C 20 C2             BRA    NEXT2
0C0E C6 11      NEXT6  LDA B  #17
0C10 7E 06 94          JMP    ERROR
0C13 DE 34      IF     LDX    BASPNT
0C15 BD 04 BF          JSR    EXPR
0C18 8D 17             BSR    RELOP
0C1A 97 4D             STA A  NCMPR
0C1C BD 04 BF          JSR    EXPR
0C1F DF 34             STX    BASPNT
0C21 8D 4A             BSR    CMPR
0C23 24 03             BCC    IF2
0C25 7E 0A 84          JMP    REMARK
0C28 DE 34      IF2    LDX    BASPNT
0C2A BD 06 11          JSR    CCODE
0C2D EE 00             LDX    0,X
0C2F 6E 00             JMP    0,X
0C31 BD 05 E7  RELOP   JSR    SKIPSP
0C34 08                INX
0C35 81 3D             CMP A  #'=
0C37 26 03             BNE    RELOP0
0C39 86 00             LDA A  #0
0C3B 39                RTS
0C3C E6 00     RELOP0  LDA B  0,X
0C3E 81 3C             CMP A  #'<
0C40 26 13             BNE    RELOP4
0C42 C1 3D             CMP B  #'=
0C44 26 04             BNE    RELOP1
0C46 08                INX
```

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 0C47 86 02             LDA A  #2
 0C49 39                RTS
 0C4A C1 3E     RELOP1  CMP B  #'>
 0C4C 26 04             BNE    RELOP3
 0C4E 08        RELOP2  INX
 0C4F 86 03             LDA A  #3
 0C51 39                RTS
 0C52 86 01     RELOP3  LDA A  #1
 0C54 39                RTS
 0C55 81 3E     RELOP4  CMP A  #'>
 0C57 27 05             BEQ    REL44
 0C59 C6 06             LDA B  #6
 0C5B 7E 06 94          JMP    ERROR
 0C5E C1 3D     REL44   CMP B  #'=
 0C60 26 04             BNE    RELOP5
 0C62 08                INX
 0C63 86 05             LDA A  #5
 0C65 39                RTS
 0C66 C1 3C     RELOP5  CMP B  #'<
 0C68 27 E4             BEQ    RELOP2
 0C6A 86 04             LDA A  #4
 0C6C 39                RTS
 0C6D 96 4D     CMPR    LDA A  NCMPR
 0C6F 48                ASL A
 0C70 48                ASL A
 0C71 B7 0C 7F          STA A  FUNNY+1
 0C74 CE 0C 80          LDX    #CMPR1
 0C77 BD 05 A3          JSR    SUB
 0C7A BD 04 70          JSR    PULLAE
 0C7D 4D                TST A
 0C7E 6E 00     FUNNY   JMP    0,X
 0C80 27 18     CMPR1   BEQ    MAYEQ
 0C82 20 12             BRA    NOCMPR
 0C84 2B 12             BMI    OKCMPR
 0C86 20 0E             BRA    NOCMPR
 0C88 2B 0E             BMI    OKCMPR
 0C8A 20 F4             BRA    CMPR1
 0C8C 26 0A             BNE    OKCMPR
 0C8E 20 0F             BRA    MYNTEQ
 0C90 27 0D             BEQ    MYNTEQ
 0C92 2B 02             BMI    NOCMPR
 0C94 2A 02             BPL    OKCMPR
 0C96 0D        NOCMPR  SEC
 0C97 39                RTS
 0C98 0C        OKCMPR  CLC
 0C99 39                RTS
 0C9A 5D        MAYEQ   TST B
 0C9B 27 FB             BEQ    OKCMPR
 0C9D 20 F7             BRA    NOCMPR
 0C9F 5D        MYNTEQ  TST B
 0CA0 26 F6             BNE    OKCMPR
 0CA2 20 F2             BRA    NOCMPR

 0CA4           END     EQU    *
 A048                   ORG    $A048
 A048 01 00             FDB    PROGM
                        END

NO ERROR(S) DETECTED
```

SYMBOL TABLE:

ADD	05A5	ADD1	05A8	AESTK	0051	ANUMB	004F	ARRTAB	0048
ASTACK	021A	BACKSP	0044	BASIC	07F5	BASIC0	07FB	BASIC1	07FE
BASIC2	081A	BASLIN	0036	BASPNT	0034	BNUMB	0050	BREAK	029A
BREAK1	029D	BREAK2	02A6	BUF3	07E5	BUFFER	00B0	BUFNXT	00AC
BUFWRT	07CF	CANCEL	0045	CAPPEN	076E	CCEXIT	0640	CCODE	0611
CLIST	06EE	CLIST1	06F6	CLIST2	0717	CLIST3	071B	CLIST4	0729
CLIST5	072C	CMPR	0C6D	CMPR1	0C80	CNTLIN	0282	COMEND	01DC
COMMAN	0152	CONTRL	E0E3	CREND	02C4	CRLF	02B6	CRLFST	02C0
DBLLTR	08D4	DEL	0280	DEL2	0782	DEL4	0794	DEL5	0798
DELETE	0776	DELEX	079F	DELREP	0754	DIM	0A8A	DIM1	0A8C
DIM111	0A97	DIM2	0ACA	DIM3	0ADB	DIM6	0AF5	DIM7	0B1C
DIMCAL	0040	DIMER1	0AC7	DIMERR	0AC5	DIMEX	0B2B	DIMPNT	003E
DIMVAR	0099	DIV	0544	DIV163	056A	DIV165	0577	DIV167	0578
DIV169	058B	DIV33	0553	DIV4	0555	DIV5	0560	END	0CA4
ENDBUF	00AE	ENLEXT	09DE	ENLINE	09D2	ERRMS1	022F	ERRMS2	0237
ERROR	0694	ERROR2	06B8	EXPR	04BF	EXPR0	04CE	EXPR00	04D3
EXPR1	04D5	EXPR2	04E4	EXPR3	04F0	FACT	047B	FACT0	0487
FACT1	048D	FACT2	049D	FIND0	05C4	FIND1	05D2	FIND2	05D3
FIND3	05E0	FIND4	05E1	FINDN1	05C2	FINDNO	05B8	FOR	0B46
FOR1	0B50	FOR11	0B61	FOR2	0B73	FOR3	0B76	FOR8	0BA0
FORPNT	0053	FORSTK	0069	FUNNY	0C7E	GOLIST	016B	GOSUB	081C
GOSUB1	082F	GOTO	083F	GOTO2	084E	HIBALL	05DE	HIGHLN	0032
IEXIT	0289	IF	0C13	IF2	0C28	IMPLET	01DD	INCH	0297
IND	0303	INDEX1	0020	INDEX2	0022	INDEX3	0024	INDEX4	0026
INEEE	E1AC	INNERR	092D	INNEX	0932	INNEX2	093B	INNUM	08E9
INNUM0	08F7	INNUM1	0900	INNUM2	0903	INPERR	08B1	INPEX	08CC
INPUT	0889	INPUT0	0891	INPUT1	089B	INPUT2	08A4	INPUT4	08BC
INPUTS	08B4	INS1	07A7	INS2	07C4	INSERT	07A2	INTSTN	08F4
INXSKP	05ED	KEYB10	0253	KEYB11	0256	KEYB55	026A	KEYBD	0241
KEYBD0	0245	KEYBD1	024A	KEYBD2	025E	KEYBD3	0276	KEYWD	004A
KIOK	0A3A	LET	0A44	LET0	0A4B	LET00	0A4D	LET1	0A50
LET2	0A58	LET3	0A5C	LEXIT	032F	LINE1	05FB	LINENO	05F1
LIST	031C	LIST0	0324	LIST1	0326	LOOP2	0689	LOOP3	061A
LOOP4	061D	LOOP5	0628	LOOP6	0634	LOOP7	0638	LOOP8	063D
MAXLIN	0043	MAYEQ	0C9A	MDS2	0533	MDS3	053F	MDSIGN	0525
MEMEND	0046	MPY	04F1	MPY4	04F9	MPY5	050A	MPY6	051D
MPYERR	0505	MYNTEQ	0C9F	NCMPR	004D	NEG	058F	NEGAB	059C
NEWL3	0676	NEWLIN	066B	NEXIT	076B	NEXT	0BB6	NEXT1	0BC0
NEXT2	0BD0	NEXT3	0BEA	NEXT4	0BED	NEXT5	0C06	NEXT6	0C0E
NEXTBA	002A	NOCMPR	0C96	NONO	045F	NUM1	0745	NUMBER	0742
NXTL12	0607	NXTLIN	0605	OFFSET	07CB	OKCMPR	0C98	OUTCH	0292
OUTEEE	E1D1	OUTLI1	0341	OUTLI2	0350	OUTLIN	0330	OUTNCR	02AF
OUTPU2	02AC	OUTPU3	02AE	OUTPUT	02A8	OVERFL	07F0	PACKLN	0030
PATCH	0730	PAUMSG	01D3	PAUSE	0868	PAUSE1	087C	PAUSE2	0886
PGCNTL	022A	PIAD	8004	PRCNT	0042	PREND	09CA	PRI999	09C7
PRIN77	099B	PRIN88	09AB	PRIN99	09C2	PRINSP	0363	PRINT	0940
PRINT0	0942	PRINT1	094A	PRINT2	0959	PRINT4	0961	PRINT5	0973
PRINT6	0979	PRINT7	0990	PRINT8	09A5	PRINTE	098D	PRLOOP	09B3
PRN	09E2	PRN0	09FD	PRN1	0A03	PRN2	0A06	PRN5	0A11
PRN6	0A24	PRN7	0A2E	PROGM	0100	PROMPT	0226	PULLAE	0470
PULLX	02DF	PULPSH	0463	PUSHAE	0465	PUSHTX	0038	PUSHX	02CA
RAND1	037D	RANDOM	036B	RDYMSG	021B	READY	0662	REL44	0C5E
RELOP	0C31	RELOP0	0C3C	RELOP1	0C4A	RELOP2	0C4E	RELOP3	0C52
RELOP4	0C55	RELOP5	0C66	REMARK	0A84	REPLAC	0767	RETUR1	085E
RETURN	0852	RNDVAL	003C	RUN	06C0	RUN1	06D9	RUN2	06E5
SAVESP	0028	SBRPNT	0057	SBRSTK	0059	SIZE	0A68	SKIPEX	05F0
SKIPSP	05E7	SOURCE	002E	SP	A008	START	0646	START1	0657
START2	0650	STORE	02EA	STRSU2	0B39	STRSU3	0B40	STRSUB	0B32
SUB	05A3	SUBER1	03E8	SUBERR	0AD7	TERM	04A2	TERM0	04A4
TERM1	04B2	TERM2	04BE	TESTNO	0457	TNUMB	004E	TSIGN	004C
TST666	042A	TSTLTR	044F	TSTN	08D9	TSTN0	08E3	TSTN1	08E5
TSTV	0397	TSTV1	03A3	TSTV2	03AD	TSTV20	03C6	TSTV22	03DB
TSTV3	03EB	TSTV4	03FC	TSTV5	0401	TSTV6	0408	TSTV7	042C
TSTV8	043B	TSTV9	0446	TSTVER	03D8	VARPNT	0055	VARTAB	0103
WORKBA	002C	XSTACK	003A	YESNO	0461				