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Voice of the '80

November 1984
Volume 5 Number 6

A s k A l a n

by Alan Abrahamson

This month I shall give you yet another Decimal to Hexidecimal to Binary conversion program. The main difference between this one and the many others that are around is that the limits of the program have been extended. In the decimal number base, numbers can be converted from 0 to 4,294,967,295. In the hexidecimal number base the range is from 0 to FFFF FFFF. In the binary number base the range is from 0 to 11111111 11111111 11111111 11111111.

The program is well trapped for improper input and input from any one base will be output in all other number bases. Another point of this program, that I find especially helpful,is the byte breakdown. This is displayed in decimal, after each computation. This feature breaks down for you the MSB (Most Significant), NMSB (Next Most Significant) and LSB (Least Significant) bytes of the value in question. (See Figure 1)

Due to the length of the code, I do not expect many of you to type this all in. Disk space allowing, I shall add this program to the downloads on the FCUG Bulletin Board (203) 846-6728. Anyone else who cannot access the board who desires this program, can give me a formatted disk at the next meeting and I shall place the program on your disk for you by the next meeting. If you need it sooner, please supply a mailer and adequate postage. On to the program:

HexDec2/Bin

```
1 REMarkable code by Alan B. Abrahamson - 02/06/84
                          Last Revision   - 02/07/84
5 CLEAR 1000: CLS:  PRINT TAB(5) "HexDec/Bin - NUMBER CONVERSION
PROGRAM - ABA Computes":  PRINT TAB(5) STRING$(53, 131)
10 DEFINT X, Y: DEFDBL A, T, H, V: DIM NB$, X, ER$, T, A$, TE$,
HX$, V, H, H1, TH, A, X1, H$, B$, G$, Q, W, Q$, W$, TH: H$ =
"0123456789ABCDEF": B$ = "abcdefabcdefabcdef": G$ =
"ABCDEFABCDEFABCDEF": Z1$ = "   %       %  %       %  %       %  %
%": Z2$ = "          %%         %%         %%         %%"
11 Z$ = "     #, ###, ###, ###": Z8$ = "          ###        ###
###        ###": Z9$ = "    ########     #####        ###
#": PL$ = "+ ": Z7$ = STRING$(26, 32) + "* MSB  *  Next MSB
Next MSB  - LSB  -": X9 = INSTR("1", "1")
100 S = 131: R = 189:  PRINT @132, CHR$(31) ;"Number base for
input <B>inary,  <D>ecimal,  <H>exadecimal ";
101 FOR X = 1 TO 7: NEXT: NB$ = INKEY$: IF NB$ = "" THEN  PRINT
@R, CHR$(RND(16) + 127) ;: GOTO 101 ELSE X9 = INSTR("BbDdHh",
```

```
NB$) : IF X9 = 0 THEN 100 ELSE  PRINT @R, CHR$(181) NB$
CHR$(186) ;: IF X9 = 1 OR X9 = 2 PRINT @219, STRING$(7, S) ;
ELSE IF X9 = 3 OR X9 = 4 PRINT @229, STRING$(8, S) ; ELSE  PRINT
@240, STRING$(12, S) ;
102 FOR X = 1 TO 4: SET(122+ X, 9) : NEXT: A$ = "":  PRINT @256,
;: LINEINPUT"Value to convert     =  = >     ";A$: IF LEN(A$)  = 0
THEN RUN ELSE A = VAL(A$) : ON X9 GOTO 108, 108, 103, 103, 105,
105
103 FOR X = 1 TO LEN(A$) : IF INSTR("0123456789", MID$(A$, X, 1)
) <1 THEN  GOSUB 5000: GOTO 102 ELSE NEXT
104 IF A = >0 AND A<4294967296 AND A = INT(A)  THEN  GOSUB 6000:
GOSUB 2000:  GOSUB 3000:  GOSUB 4000: GOTO 110 ELSE  GOSUB 5000:
GOTO 102
105 A1% = LEN(A$) : IF A1%>8 THEN  GOSUB 5000: GOTO 102 ELSE FOR
X = 1 TO LEN(A$) : X1 = INSTR(X, B$, MID$(A$, X, 1) )
106 IF X1 THEN MID$(A$, X, 1)  = MID$(G$, X1, 1) : NEXT ELSE
NEXT
107 FOR X = 1 TO A1%: IF INSTR(H$, MID$(A$, X, 1) ) >0 THEN
NEXT:  GOSUB 6000:  GOSUB 400: GOTO 110 ELSE  GOSUB 5000: GOTO
102
108 IF LEN(A$) >32 THEN 5000 ELSE FOR X = 1 TO LEN(A$) : IF
MID$(A$, X, 1) <>"0" AND MID$(A$, X, 1) <>"1" THEN  GOSUB 5000:
GOTO 102 ELSE NEXT
109  GOSUB 6000:  GOSUB 300: GOTO 110
110  PRINT @320, CHR$(31) ;Z7$;:  PRINT "Binary value        ==>
"USING Z1$;LEFT$(ER$, 8) , MID$(ER$, 9, 8) , MID$(ER$, 17, 8) ,
RIGHT$(ER$, 8) ;:  PRINT "
Hexadecimal value  ==> "USING Z2$;LEFT$(HX$, 2) , MID$(HX$, 3,
2) , MID$(HX$, 5, 2) , RIGHT$(HX$, 2) ;
111  PRINT "
Decimal value       ==>"USING Z$;V;
112 V2 = V:  GOSUB 7000:  PRINT :  PRINT STRING$(22, 140) + "
"+ STRING$(10, 140) + "  "+ STRING$(8, 140) + "  "+ STRING$(8,
140) + "  "+ STRING$(8, 140) "Decimal bytes       ==>";USING
Z8$;V1, V2, V3, V4;
114  PRINT "  Times factor      ==>"USING Z9$;16777216, 65536,
256, 1;
115 V5 = V1*16777216: V6 = V2*65536: V7 = V3*256:  PRINT "
Total per byte ==>"USING"  ########## !########  !#######
!#####";V5, PL$, V6, PL$, V7, PL$, V4;
120  PRINT @970, "Press <ENTER> for next value,  <BREAK> to
exit...";: FOR X = 1 TO 49: NEXT
121 EN$ = INKEY$: IF EN$ = "" THEN  PRINT @977, "     ";:  PRINT
@1001, "     ";: FOR X = 1 TO 19: NEXT: GOTO 120 ELSE IF EN$ =
CHR$(13)  THEN 100 ELSE 120
200 FOR X = 1 TO LEN(A$) :  PRINT ".";: Q(X)  = 0: W$(X)  = "":
W$(X)  = MID$(A$, X, 1) : Q(X)  = INSTR(H$, W$(X) ) -1: NEXT: ON
LEN(A$) GOTO 201, 202, 203, 204, 205, 206, 207, 208
201 A = Q(1) : RETURN
202 A = Q(1) *16+ Q(2) : RETURN
203 A = Q(1) *256+ Q(2) *16+ Q(3) : RETURN
204 A = Q(1) *4096+ Q(2) *256+ Q(3) *16+ Q(4) : RETURN
205 A = Q(1) *65536+ Q(2) *4096+ Q(3) *256+ Q(4) *16+ Q(5) :
RETURN
206 A = Q(1) *1048576+ Q(2) *65536+ Q(3) *4096+ Q(4) *256+ Q(5)
*16+ Q(6) : RETURN
```

```
207 A = Q(1) *16777216+ Q(2) *1048576+ Q(3) *65536+ Q(4) *4096+
Q(5) *256+ Q(6) *16+ Q(7) : RETURN
208 A = Q(1) *268435456+ Q(2) *16777216+ Q(3) *1048576+ Q(4)
*65536+ Q(5) *4096+ Q(6) *256+ Q(7) *16+ Q(8) : RETURN
300 ER$ = A$:  GOSUB 3000: A = V:  GOSUB 4000: RETURN
400  GOSUB 200:  GOSUB 2000:  GOSUB 3000:  GOSUB 4000: : RETURN
2000 'Come in as decimal # in variable A#
2010 IF A<256 THEN ER$ = STRING$(8, "1")  ELSE IF A<4096 THEN
ER$ = STRING$(12, "1")  ELSE IF A<65536 THEN ER$ = STRING$(16,
"1")  ELSE IF A<1048576 THEN ER$ = STRING$(20, "1")  ELSE IF
A<16777216 THEN ER$ = STRING$(24, "1")  ELSE IF A<268435456 THEN
ER$ = STRING$(28, "1")  ELSE ER$ = STRING$(32, "1")
2020 T = A
2025 FOR X = 1 TO LEN(ER$) :  PRINT ".";
2030 IF T/2 = INT(T/2)  THEN MID$(ER$, X, 1)  = "0": T =
INT(T/2) : GOTO 2040
2031 T = INT(T/2)
2040 NEXT
2045 TE$ = "": FOR X = LEN(ER$)  TO 1STEP-1:  PRINT ".";: TE$ =
TE$+ MID$(ER$, X, 1) : NEXT
2050 ER$ = TE$
2060 RETURN
3000 TT$ = STRING$(32-(LEN(ER$) ) , "0") + ER$: V = 0: FOR X = 1
TO 32:  PRINT ".";
3010 IF VAL(MID$(TT$, X, 1) )  = 0 THEN 3020 ELSE ON
VAL(MID$(TT$, X, 1) ) + (X-1)  GOSUB 3086, 3087, 3088, 3089,
3090, 3091, 3092, 3093, 3094, 3095, 3096, 3097, 3098, 3099,
3100, 3101, 3102, 3103, 3104, 3105, 3106, 3107, 3108, 3109,
3110, 3120, 3130, 3140, 3150, 3160, 3170, 3180
3020 NEXT: ER$ = TT$
3030 RETURN
3086 V = V+ 2147483648: RETURN
3087 V = V+ 1073741824: RETURN
3088 V = V+ 536870912: RETURN
3089 V = V+ 268435456: RETURN
3090 V = V+ 134217728: RETURN
3091 V = V+ 67108864: RETURN
3092 V = V+ 33554432: RETURN
3093 V = V+ 16777216: RETURN
3094 V = V+ 8388608: RETURN
3095 V = V+ 4194304: RETURN
3096 V = V+ 2097152: RETURN
3097 V = V+ 1048576: RETURN
3098 V = V+ 524288: RETURN
3099 V = V+ 262144: RETURN
3100 V = V+ 131072: RETURN
3101 V = V+ 65536: RETURN
3102 V = V+ 32768: RETURN
3103 V = V+ 16384: RETURN
3104 V = V+ 8192: RETURN
3105 V = V+ 4096: RETURN
3106 V = V+ 2048: RETURN
3107 V = V+ 1024: RETURN
3108 V = V+ 512: RETURN
3109 V = V+ 256: RETURN
3110 V = V+ 128: RETURN
```

```
3120 V = V+ 64: RETURN
3130 V = V+ 32: RETURN
3140 V = V+ 16: RETURN
3150 V = V+ 8: RETURN
3160 V = V+ 4: RETURN
3170 V = V+ 2: RETURN
3180 V = V+ 1: RETURN
3190 RETURN
4000 TH$ = "": H1$ = "": H1 = 0: H = 0: FOR X = 1 TO 4:  PRINT
".";: H(X) = 0: NEXT: CT = 1: FOR X = 1 TO 4:  PRINT ".";:
H$(X) = MID$(EP$, CT, 8) : CT = CT+ 8: : NEXT: HX$ = ""
4005 FOR Y = 1 TO 4:  PRINT ".";: H1 = 0: H = 0: FOR X = 1 TO 8:
PRINT ".";
4010 IF MID$(H$(Y) , X, 1)  = "1" THEN ON VAL(MID$(H$(Y) , X, 1)
) + (X-1)  GOSUB 4110, 4120, 4130, 4140, 4150, 4160, 4170, 4180
4011 NEXT
4015 ON H + 1 GOSUB 4200, 4210, 4220, 4230, 4240, 4250, 4260,
4270, 4280, 4290, 4300, 4310, 4320, 4330, 4340, 4350
4016 TH$ = HX$: ON H1 + 1 GOSUB 4200, 4210, 4220, 4230, 4240,
4250, 4260, 4270, 4280, 4290, 4300, 4310, 4320, 4330, 4340, 4350
4017 HX$ = TH$+ HX$: H1$ = H1$+ HX$: NEXT: HX$ = H1$: RETURN
4110 H = H+ 8: RETURN
4120 H = H+ 4: RETURN
4130 H = H+ 2: RETURN
4140 H = H+ 1: RETURN
4150 H1 = H1+ 8: RETURN
4160 H1 = H1+ 4: RETURN
4170 H1 = H1+ 2: RETURN
4180 H1 = H1+ 1: RETURN
4200 HX$ = "0": RETURN
4210 HX$ = "1": RETURN
4220 HX$ = "2": RETURN
4230 HX$ = "3": RETURN
4240 HX$ = "4": RETURN
4250 HX$ = "5": RETURN
4260 HX$ = "6": RETURN
4270 HX$ = "7": RETURN
4280 HX$ = "8": RETURN
4290 HX$ = "9": RETURN
4300 HX$ = "A": RETURN
4310 HX$ = "B": RETURN
4320 HX$ = "C": RETURN
4330 HX$ = "D": RETURN
4340 HX$ = "E": RETURN
4350 HX$ = "F": RETURN
5000  PRINT @512, "Improper input value for base selected.
Decimal inputs should  be between 0 and 4, 294, 967, 295.
Hexadecimal inputs between 0 and FFFF FFFF.
Binary inputs between 0 and 11111111 11111111 11111111
11111111.";
5005  PRINT @970, "Press <ENTER> when input criteria
understood.";
5010 FOR X = 1 TO 50: NEXT: EN$ = INKEY$: IF EN$ = "" THEN
PRINT @977, "      ";: FOR X = 1 TO 20: NEXT: GOTO 5005:  ELSE
PRINT @256, CHR$(31) ;: RETURN
6000  PRINT @448, "Computing .........";: RETURN
```

```
7000 V = 0: T1$ = "": T2$ = "": T3$ = "": T4$ = "": T1$ =
LEFT$(ER$, 8) : T2$ = MID$(ER$, 9, 8) : T3$ = MID$(ER$, 17, 8) :
T4$ = RIGHT$(ER$, 8)
7005 TT$ = T1$:  GOSUB 7010: V1 = V: V = 0: TT$ = T2$:  GOSUB
7010: V2 = V: V = 0: TT$ = T3$:  GOSUB 7010: V3 = V: V = 0: TT$
= T4$:  GOSUB 7010: V4 = V: V = 0: RETURN
7010 FOR X = 1 TO 8: IF VAL(MID$(TT$, X, 1) )  = 0 THEN 7020
ELSE ON VAL(MID$(TT$, X, 1) ) + (X-1)  GOSUB 3110, 3120, 3130,
3140, 3150, 3160, 3170, 3180
7020 NEXT: RETURN
60000 SAVE"HexDec2/Bin"
```

Figure 1

```
HexDec/Bin - NUMBER CONVERSION PROGRAM - ABA Computes

Number base for input <B>inary, <D>ecimal, <H>exadecimal [H]

Value to convert    ==>    FFFFFFFF
                           * MSB  *  Next MSB  Next MSB  - LSB  -
Binary value        ==>    11111111  11111111  11111111  11111111

Hexadecimal value   ==>          FF        FF        FF        FF

Decimal value       ==>     4,294,967,295
=================================================================
Decimal bytes       ==>         255       255       255       255
  Times factor      ==>    16777216     65536       256         1
    Total per byte ==>  4278190080 +16711680  +  65280    +  255
          Press <ENTER> for next value, <BREAK> to exit...
```

```
HexDec/Bin - NUMBER CONVERSION PROGRAM - ABA Computes

Number base for input <B>inary, <D>ecimal, <H>exadecimal [D]

Value to convert    ==>    65536
                           * MSB  *  Next MSB  Next MSB  - LSB  -
Binary value        ==>    00000000  00000001  00000000  00000000

Hexadecimal value   ==>          00        01        00        00

Decimal value       ==>            65,536
=================================================================
Decimal bytes       ==>           0         1         0         0
  Times factor      ==>    16777216     65536       256         1
    Total per byte ==>           0 +    65536  +      0    +    0
          Press <ENTER> for next value, <BREAK> to exit...
```

The Mailbag

Date: Sun Sep 02, 1984 9:51 pm EST ** RECEIPT **
From: David R. McGlumphy / MCI ID: 181-7759

TO: * Alan B. Abrahamson / MCI ID: 195-8470

Subject: newsletter article(s)

(Note to editor: the assembly program should load into NEWDOS80/V2's EDTASM even though it reports a error when loading. Try it in spite of the error.)

Once upon a time, and once upon a place, I saw the question "How do you draw a line on a TRS-80?" Too easy for piddling with, thought I. Then for grins, I tried it. If you too think it's easy, try it before looking over my program. You may also find it harder than it sounds.

My thinking went like this: Suppose I want to draw a line from (0,47) to (127,0) which is from the lower left corner of the screen to the upper right corner. For every X position that I move to the right, I'd have to go up a fraction of a Y position, and that fraction would be the number of Y positions divided by the number of X positions. That sort of thinking is fine as long as the fraction is less than one. If it were greater than one, I'd get a gap (space) in the line. In that case, I'd just go along the Y axis instead of the X axis, and the fraction would be computed by dividing the number of X positions by the number of Y positions. I'd also have to take into account the sign of the change in positions. In this first case, the change in the X axis is positive (from left to right) while the change in the Y axis is negative (from bottom to top). If the line were to go from the lower right corner (47,127) to the upper left corner, (0,0), the change in both the X and Y axes would be negative. With that, let's proceed to the program.

Lines 40 and 50 pick two random points on the screen for using the SET and RESET commands to turn on or turn off a point. Remember that the minimum for both X and Y coordinates is zero, the maximum for X is 127, and the maximum for Y is 47.

As written, my program will draw a line, erase the same line, then draw another line starting where the first line ended. If you want to see the lines continued as though drawing without lifting a pencil from paper, make line 90 a REMark by inserting an apostrophe (') at the beginning of the line. In order to erase the line, I needed to save the two sets of coordinates, so that's what line 60 does.

Line 70 puts a 1 in variable SR. If SR has a 1, that

means to SET (turn on) a point. If SR has a 0, it means to RESET (turn off) a point. Line 70 then calls the routine at 120 which determines which of two "draw routines" to use.

Line 80 restores the original two sets of coordinates because they were corrupted in the drawing subroutines. Line 90 then goes over the same graphics points as was done by the GOSUB in line 70, but this time, the points are RESET (erased).

I decided always to draw from (X1,Y1) to (X2,Y2), so after I've done so, I let line 100 move the last set of coordinates to the first set so that I'll start drawing from that point on the next go-around via line 110 which sends me back to the beginning of the mainline routine, lines 50 thru 110.

Lines 120 thru 140 are the subroutine called from the mainline section. They compute the distance between the sets of coordinates and call one of two routines which actually do the drawing. Why two subroutines instead of just one? Remembering what I'd though about in the second paragraph, I wanted a solid line from point to point rather than one filled with gaps and spaces. Notice according to the remarks on lines 150 and 240 that one routine is used when the difference between the X coordinates is greater than the difference between the Y coordinates and another subroutine is used when the difference between the Y coordinates is greater than the difference between the X coordinates. Notice also that in the 150 subroutine, I vary the X coordinate one full integer at a time while in the subroutine at 240, it's the Y axis which gets varied at the rate of an integer per loop. The remaining axis in either subroutine varies at a decimal fraction. To put line 130 into English, "If the distance along the X axis varies faster than the distance along the Y axis, then use the drawing subroutine at line 150. Otherwise use the subroutine at line 240." Clear as mud, right? Anyway, it works.

You should wonder what the fudge factor is in lines 160 and 250. The best way to answer that is tell you to REMark out those two lines, REMark out line 90, install line 95 to say:

```
95 IF INKEY$="" THEN 95
```

which will cause a pause after each line is drawn. Then you can compare the difference. Suffice it to say I like the line image that I get with the fudge factor better than the image without the fudge factor.

So what's with the SGN stuff in lines 180 and 270? SGN(n) returns either a -1 or a +1 depending on the value of n when n is not 0. Therefore, in line 180, if the change in to X coordinate as I proceed from X1 to X2 is positive, I use "STEP +1", but if the change is negative, as when the second point is to the left of the first point, then I use "STEP -1".

So here it is. It works. Even if you don't understand it, you can use it to draw straight lines from one point on the screen to another.

How do you do it in assembly? I have absolutely no

idea, but I'd sure like to see it done. How about showing me!

LINE/BAS

```
10 '"LINE"  DRAWS FROM ONE POINT (X1,Y1) TO ANOTHER.
20 'DAVE MCGLUMPHY 4429 PAULA LN CHATTANOOGA TN 37415
21 '09/03/84    MCI# 191-7759
30 CLS
40 X1=RND(128)-1 : Y1=RND(48)-1 'End of initializations.
41 '
50 X2=RND(128)-1 : Y2=RND(48)-1
60 X3=X1 : X4=X2 : Y3=Y1 : Y4=Y2 'SAVE COORDINATES
70 SR=1 : GOSUB 120 '(SR MEANS SET(1) OR RESET(0))
80 X1=X3 : X2=X4 : Y1=Y3 : Y2=Y4 'RESTORE COORDINATES
90 SR=0 : GOSUB 120 'ERASE LINE
100 X1=X2 : Y1=Y2 'START NEXT LINE @ END OF PREV. LINE
110 GOTO 50 ' DO IT AGAIN.
111 '
120 DX=X2-X1 : DY=Y2-Y1
130 IF ABS(DX) > ABS(DY) THEN GOSUB 150 ELSE GOSUB 240
140 RETURN
141 '
150 'SUBROUTINE FOR WHEN ABS(DX) > ABS(DY)
160 Y1=Y1+.5
170 IF DX=0 THEN IY=1 ELSE IY=DY/DX
180 FOR J=0 TO DX STEP SGN(DX)
190 X=J+X1
200 Y=Y1+J*IY
210 IF SR=1 THEN SET(X,Y) ELSE RESET(X,Y)
220 NEXT J
230 RETURN
231 '
240 'SUBROUTINE FOR WHEN ABS(DX) < ABS(DY)
250 X1=X1+.5
260 IF DY=0 THEN IX=1 ELSE IX=DX/DY
270 FOR J=0 TO DY STEP SGN(DY)
280 Y=J+Y1
290 X=X1+J*IX
300 IF SR=1 THEN SET(X,Y) ELSE RESET(X,Y)
310 NEXT J
320 RETURN
```

After leaving the 'puter alone for quite a while to enjoy sailing, my withdrawal pains drove me crazy and I decided to write a subroutine to reverse a string. Will it EVER do anyone any good? Who cares. I had fun. Example: "This is a line." becomes ".enil a si sihT". I wrote my routine in assembly to satisfy my pseudo-masochistic (sic or sick) desires, and then figured out the DATA statement's numbers to allow me to pack the subroutine in a string. It'll handle BASIC strings of normal length, 240 or 255 or whatever it is. Voila!

REVSTR/BAS

```
10 'REVSTR 09/03/84 reverses a BASIC string.
20 'Dave McGlumphy 4429 Paula Ln Chattanooga Tn 37415
```

```
30 CLS
40 CLEAR 1000
50 DEFINT I-N
60 RV$="1234567891123456789212345678931 23"
70 K$="1234567891123456789212345678931 23"
80 K=VARPTR(RV$) : AD=PEEK(K+1) + (256*PEEK(K+2))
90 DEFUSR=AD
100 DATA 205,127,10,229,221,225,78,175,71,221,110,1,221,102
110 DATA 2,229,209,9,43,235,65,203,56,78,26,119,121,18,75
120 DATA 27,16,247,201
130 FOR J=0 TO 32 : READ JJ : POKE AD+J,JJ : NEXT J
140 CLS
150 LINEINPUT"What do you want reversed? ";A$
160 CLS
170 PRINT A$
180 X=USR(VARPTR(A$))
190 PRINT A$
200 GOTO 150
```

REVSTR/ASM

```
00100 ;CALLED FROM BASIC TO REVERSE A STRING.
00110 ;DAVID MCGLUMPHY     09/03/84
00120 ;4429 PAULA LN.
00130 ;CHATTANOOGA, TN.    37415
00140 ;
00150          ORG     0FFD6H
00160          CALL    0A7FH      ;GET VARPTR(STRING)
00170          PUSH    HL         ;PUT IT
00180          POP     IX         ; INTO IX
00190          LD      C,(HL)     ;LENGTH TO C
00200          XOR     A          ;ZERO OUT A
00210          LD      B,A        ;PUT IT IN B.
00220          LD      L,(IX+1)   ;ADDRESS
00230          LD      H,(IX+2)   ; TO HL
00240          PUSH    HL         ;PUT HL
00250          POP     DE         ;  INTO DE
00260          ADD     HL,BC      ;PT HL PAST LAST CHAR
00270          DEC     HL         ;PT HL TO LAST CHAR
00280          EX      DE,HL ;PT DE TO END, HL TO STRT
00290          LD      B,C        ;PUT LENGTH IN B
00300          SRL     B          ;DIVIDE IT BY TWO
00310 REVLP    EQU     $
00320          LD      C,(HL)     ;LEFT STRING PART
00330          LD      A,(DE)     ;RIGHT STRING PART
00340          LD      (HL),A     ;SWITCH
00350          LD      A,C
00360          LD      (DE),A     ; THEM
00370          INC     HL         ;POINT TO NEXT
00380          DEC     DE         ; CHAR PAIR
00390          DJNZ    REVLP
00400          RET                ;TO BASIC
00410          END
```

(This stuff is for a TRS-80 model 1. I use NEWDOS80/V2. These may work on a model III or IV with some other operating system.)

MINUTES OF THE ORGANIZATION MEETING OF FAIRFIELD COUNTY COMPUTER USERS GROUP, INC.

The organization meeting of the sole incorporator was held at the New Canaan Country School, New Canaan, Connecticut on September 4, 1984 at 7:30 p.m.

The following was present:
Robert W. Jackson
being the sole incorporator of the corporation.

Mr. Jackson was appointed chairman of the meeting and Charles T. Lee was appointed secretary. A waiver of notice of the meeting was presented to the Chairman and signed by him.

The secretary then presented to the meeting a copy of the certificate of incorporation and reported that on July 31, 1984 the original thereof was filed in the office of the Secretary of State of this State. The copy of the certificate of incorporation was ordered appended to the minutes of the meeting.

Upon motion duly made, seconded and carried, the following resolution was adopted:

> RESOLVED, that the Incorporator desires to, and hereby does, appoint as directors to serve until the annual meeting those persons elected as directors by the membership at the meeting held on September 4, 1984.

The Chairman then adjourned the incorporator's meeting and called to order the organizational meeting of the members. The roll of members was called, with sixty members in attendance. As a result, the quorum required by the by-laws was present.

The notice of the meeting was presented to the membership and, upon motion duly made, seconded and carried, a reading of the notice was waived.

The secretary then presented a proposed form of by-laws prepared by Charles T. Lee, counsel to the corporation. The proposed by-laws were read to the meeting, considered and upon motion duly made, seconded and carried, were adopted as and for the by-laws of the corporation and ordered appended to the minutes of the meeting.

The chairman then stated that nominations were in order for election of directors and officers of the corporation to hold office until the first annual meeting of members and until their successors shall be elected and shall qualify.

The following persons were nominated:

President - Robert Jackson

Vice-President	- Herman Parks
Treasurer	- Robert Gould
Secretary	- Patricia Brinson
Corresponding Secry.	- Edward Hicks
Membership Chm.	- Herbert Kanter
Progress Chm.	- Robert Jackson
Newsletter Editor	- Alan Abrahamson
At-large Director	- Sidney Gross

No further nominations being made, nominations were closed and a vote was taken.

After the vote had been counted, the chairman declared that the foregoing named nominees were elected directors and/or officers of the corporation.

The chairman of the meeting then called for the election of certain officers of the corporation. The following persons were nominated to the offices preceeding their name:

Purchasing Secretary - Michael Ciferri
Assistant Secretary - Charles Lee

No further nominations being made, the nominations were closed and the members proceeded to vote on the nominees. The chairman announced that the foregoing nominees were elected to the offices set before their respective names.

The chairman then stated that it was desirable to designate a depository for the funds of the corporation. Thereupon, a motion duly made, seconded and unanimously adopted, it was

RESOLVED, that the treasurer be and hereby is authorized to open a bank account in behalf of the corporation with the Bank of Stamford located at 45 Prospect Street, Stamford, Connecticut 06901, and that the President and Secretary are authorized to executed such Bank's form of resolution and shall enter such resolution in the record book.

Upon motion duly made, seconded and carried, it was

RESOLVED, that the treasurer of the corporation be and hereby is authorized to pay all charges and expenses incident to or arising out of the organization of the corporation and to reimburse any person who has made any disbursement therefor in accordance with the by-laws.

Upon motion duly made, seconded and carried, it was

RESOLVED, that Charles T. Lee, Esq. of 384 Cascade Road, Stamford, Connecticut be, and hereby is, designated as the Corporation's statutory agent for service.

There being no further business before the meeting, on motion duly made, seconded and carried, the meeting was adjourned.
Dated: September 4, 1984

Patricia J. Brinson, Secretary

******** Minutes for FCUG - September 4, 1984 *******

At the close of the formal meeting of organization of the Fairfield County Computer Users Group, Inc., a motion was made and carried to instate Charles Lee as an honorary member.

It was noted that at least two calculators were purchased as a result of Herman Park's article in this month's newsletter regarding the Casio FX-450 scientific calculator.

Alan Abrahamson alerted us to the approaching Tandy Model 1200 which will be IBM compatible. The IBM PC junior with 128k is now available for $700.

Our 24 hour club bulletin board has now been in effect for 2 weeks. Bob Gould has loaned the club a modem so that we may see if this venture is profitable before we dip further into the club treasury. (Many thanks, Bob.)

There is a software package to run the modem in the public domain. It is called MODEM/CMD and contains 4 programs. Alan Abrahamson has it available for the Model I on disk for $3.00. Herman Parks has converted it for the Model III.

Herman Parks then gave us all a very careful run through of the instructions to follow for using the FCUG bulletin board. He strongly cautioned us to be sure and use our name as listed in the user list if we wish to send a message to a person.

During the intermission Dick Carricato shared his new $200 ink jet printer with us. The print quality was certainly readable and the silence of the machine was golden!

We were sorry that Sid Gross was unable to attend the meeting and present his talk on powerful Basic commands, Peek and Poke. In his place Alan presented a demo showing how to speed up basic programs. He showed us that heeding the following points will cut the time for filling the screen with a light square as well as any other Basic program.

Six tricks to speed up basic:

1. Define variables as integers
2. Dimension the most used variables
3. Do NOT define Next statements
4. Pack code for efficiency
5. Go Sub up to low line number
6. Set constants to variables

The meeting was adjourned at 9:40.

Respectfully submitted,
Patricia J. Brinson, Secretary

ANALYSIS OF FCCUG SURVEY TAKEN JUNE 5, 1984. 45 TOTAL RESPONSES

Survey by R.W. Jackson. Analysis by H.D. Parks

PART A. What Do You Expect To Get Out Of The Club?
(Score is number of times mentioned).

36 - Exposure to new software.
34 - Exposure to new hardware.
26 - Comradeship.
20 - Learning disk file handling.
19 - Sub Groups.
19 - Learning Basic.
12 - Learning ML.
1 - Learning Pascal (write-in).
1 - Discussion of problems (write-in).

PART B. Do You Own A Color Computer?
7 have a Color Computer
4 have disk. 4 have cassette.
2 have regular Basic. 6 have extended basic.
4 want to join a CCSIG. 2 want to learn CC Basic.
6 want to see new software. 4 want to see new hardware.

PART C. I Use My Computer Mainly For...
(Scores somewhat confused by various interpretations of how to score. Some used single set of digits 1 to 5. Some omitted some digits. Some used same digit several times. Worst was those who simply put check marks next to items. Last caused me a problem. At first I assigned 1, 2, and 3 to these (a few cases) then I assigned 3 only to each checked item. (most cases).

Table shows number times each category was given the rating shown. Score is sum of weighted ratings (for Word Processing this is (5*14 + 4*13 +3*9 + 2*2 + 1*0 = 151). Categories are listed in descending order of popularity.

	RATING					
	1	2	3	4	5	SCORE
Word Processing	14	13	9	1	0	151
Business	13	6	8	1	3	118
Database Work	7	10	10	2	5	114
Spread Sheets	5	9	8	3	1	92
Telecommunications	5	2	4	2	7	56
Arcade Games	3	0	3	2	8	36
Adult Education	1	0	5	2	9	33
Logic Games	2	0	2	3	6	28
Child Education	0	2	2	3	7	27

PART D. Equipment Used.
(Number of Mentions)
40 - Printer 39 - Disk Drive
21 - Modem 6 - Speech Sytnthesizer
5 - Hard Drive 5 - Plotter

Another Brand Of Computer? IBM, Model 4, Apple IIf, IBM, LNW, VM02, LNW B/I, Commodore 64, LNW 80, Model 100, Model F, Model 4 and 4P, OSI CP1.

A Little Lotto Luck

By George Saladino

Well, I just won $67 in the New York State Lottery. I had 4 winning numbers twice. Each paid $33.50. I hope by the time you read this article, I will have guessed more than 4 numbers, like 5 for a bigger prize or 6 numbers for the $4 million prize!

Anyway, here is a short program that I have included in this article, that I use on the Model 100 to pick the numbers for the Lottery. It picks 6 numbers between 1 and 44 and will not pick any the same. It also sorts them to put them in order. I have a feature also in the program that allows me to have the output go to a printer. If to the screen, you push any key to generate the next number. If to the printer, the numbers keep coming out till you push "BREAK" to stop the program.

Here is the program. You can change the range of numbers picked out in line 20.

```
1 CLS
2 Z = 0
3 DEFINT A-Z
4 IF PP = 1 THEN 8
5 PRINT @ 40,"Output to printer?"
6 PP$ = INKEY$ : IF PP$="" THEN 6
7 IF PP$ = "Y" OR PP$ = "y" THEN PP = 1 ELSE PP = 0
8 SEC = VAL( RIGHT$( TIME$,2 ) )
9 FOR I = 1 TO SEC
10 DUMMY = RND(1)
11 NEXT I
12 IF Z = 1 THEN RETURN
13 CLS
14 PRINT @ 47,"Your lucky Lotto numbers"
15 PRINT @ 132,"W O R K I N G"
16 Z = 1
17 S = RND(1) * 3
18 FOR R = 1 TO S
19 FOR XX = 1 TO 6
20 A = INT( RND( 1 ) * 44 + 1 )
21 IF A = A(1) OR A = A(2) OR A = A(3) OR A = A(4) OR A = A(5)
   OR A = A(6) THEN 20
22 A(XX) = A
23 GOSUB 8
24 NEXT XX
25 REM
26 NEXT R
28 GOSUB 36
29 IF PP <> 0 THEN 41 ELSE 30
30 PRINT @ 128, A(1); A(2); A(3); A(4); A(5); A(6)
31 PRINT : PRINT TAB(7)"Push any key for next set."
32 A$ = INKEY$ : IF A$ = "" THEN32
33 A = RND(0) : S = RND(0)
34 Z = 0
35 GOTO 8
```

```
36 REM SORT
37 FOR Y = 1 TO 5 : FOR X = 1 TO 5
38 IF A(X) > A(X+1) THEN AA = A(X) : A(X) = A(X+1) : A(X+1) = AA
39 NEXT X,Y
40 RETURN
41 REM
42 LPRINT A(1); A(2); A(3); A(4); A(5); A(6)
43 GOTO 33
```

Now that you have the program to type in I will tell you a secret. I did not win the Lotto with numbers from the Model 100, but from some numbers I generated on an IBM PC. Oh Well!

Last month, you read an article by me on Radio Shack. Let me say that I wrote it before the articles came out in the New York Times and other publications on Radio Shack that touched on their troubles. I hope I was not too harsh on Radio Shack, but they need some changes if they are going to continue in the computer business.

Enough of that. I saw the new IBM AT at a computer show. I really like it and the keyboard is much better. The keys are better laid out and now have lights that come on when you push lock keys such as the "Caps" lock. Also, the shift key is in a better position. These are two of the features I like on it. There is also the faster speed, multiple user feature (UNIX), etc. I think that it will be my next computer.

On Compuserve, there are always nice free programs on the Model 100 board that you can download. One I just recently downloaded is one called BCK-UP.BA and will back up all basic and ASCII files in the menu of the 100. First you run the program. It puts in the Paste buffer, the instructions to load the programs and save them to the tape recorder. Pushing the Paste button, in basic starts the process of saving the files. See the example below of the Paste file it made of my memory.

```
Load"BCK UP.BA"
Save"CAS:BCK-UP.BA"
Load"OHM   .BA"
Save"CAS:OHM   .BA"
Load"LLIST .BA"
Save"CAS:LLIST .BA"
Load"DNAME .BA"
Save"CAS:DNAME .BA"
Load"LOTTO .BA"
Save"CAS:LOTTO .BA"
load"bck-up.ba
run 100
```

The last two lines of the paste file above loads the program again and then saves the ASCII files in your memory.

Well back to my Lotto numbers. Hope you win a million.

FCUG TBBS System
(203) 846-6728

Editors Note: *Just to give those of you not using the system an idea as to the usefulness of the Bulletin Board. Here is what is what is being said on the Bulletin Board lately. The following messages have been excepted from the service. This is the most timely information source we have.*

Msg#: 219 *TBBS*
09/14/84 23:46:10 (Read 19 Times)
From: BOB JACKSON
To: ALL
Subj: NEWS
I was talking with Tom up at the Norwalk R/S store. He says R/S is on their feet again and everything is selling once again. 8 Model 2000 walked out the door in one day. Could this be Bull or a revival? R/S has lowered prices recently. Hard to say where this market is going. 64 K Apple II's are down to $595 for the keyboard unit. $165 for the drive.

Msg#: 228 *TBBS*
09/15/84 18:15:34 (Read 19 Times)
From: ALAN ABRAHAMSON
To: ALL
Subj: WHERE'S THE BEEF
Come on you guys. The Prez in his earlier message wants to know "Where's the Beef?" Don't any of you have problems or is it just me? Are you having any successes? After all what are you doing with those fancy electronic boxes that sit on your desks? Let's have some activity! Let's create a discussion! Let's do something!! As an instigator, let me try to start one. Radio Shack is now distributing Kim Watts Super Utility for the Models I,III & 4 under the name of the "TOOLBOX". This "classy" utility does NOT, like R/S, admit the existence of any DOS other than TRSDOS (1.3, 2.3, 2.7DD) or LDOS (5.x.x). Any other DOS does not exist to this program. Why anyone would want to spend good money on this TOOLBOX program when from PowerSoft they could buy the "REAL" thing (Super Utility 3.2), is beyond me. Mr. Watt is a great programmer, but R/S has tied his hands this time. What do youse guys think????

Msg#: 235 *TBBS*
09/17/84 00:53:57 (Read 10 Times)
From: LARRY GILBERTI
To: ALL
Subj: THE END IS NEAR
Well guys, anyone using LNW had better get his seat belt fastened. Mr. Ciferri recently contacted IJG, who is the main distributor, and financier of LNW, and was told that THEY aren't handling the machine anymore. This month's issue of 80 Micro had the Langley CRT replacements on the back cover, instead of the usual LNW ad. (No other LNW ad anywhere else in 80 Micro either!) Wayne Green, baby, rebound a whole section of the 80 Micro TWICE in this same issue. Error, or a desperate attempt to give the appearance of thickness??? (Paranoid dreams coming true!) Meanstwhile, the latest LNW TEAM model doesn't support 8" drives under Model I software out of the box!! (DOSPLUS 4 only!!!) Master solderer Ciferri achieved a mod, with considerable help from the LNW service department, two schematics, and two shipments of odd pieces (crystals and the like). I thought I'd pass all of this info on to anyone in the club who might be similarly effected. It's like finding out that your typewriter, and the paper it uses, are about to be outlawed! Well, Mr. Instigator, I hope you're satisfied, although these bitches can't really be helped by anyone in the club. Hope to see you all next month, and, in the meantime . . . Take Care. Stay Happy. (. . . and hang on to your hats!)

Msg#: 242 *TBBS*
09/17/84 16:33:57 (Read 12 Times)
From: ALAN ABRAHAMSON
To: ALL
Subj: NEWS

```
# = # ################################# # = #
# = # ================================= # = #
# = # ################################# # = #
# = # N E W   H A R D W A R E   I T E M # = #
# = #   F O R   M O D E M   U S E R S   # = #
# = #       D A T A G U A R D           # = #
# = # DATAGUARD is a security and privacy # = #
# = # device for Modem users who don't # = #
# = # have a dedicated line. Once # = #
# = # DATAGUARD is installed, your modem # = #
# = # when logged on will always have # = #
# = # priority on the line. No one can # = #
```

```
‡ = ‡ accidentally  pick up another phone ‡ = ‡
‡ = ‡ on  the  same  line  and cause data ‡ = ‡
‡ = ‡ loss  or   disconnect.    DATAGUARD ‡ = ‡
‡ = ‡ requires  no  batteries  or  ON/OFF ‡ = ‡
‡ = ‡ switch,  and  can be  installed  in ‡ = ‡
‡ = ‡ less  than  2  minutes on any phone ‡ = ‡
‡ = ‡ that may interfere with your modem. ‡ = ‡
‡ = ‡   DATAGUARD comes in two models:    ‡ = ‡
‡ = ‡ 1) IN-PHONE  -     can be installed ‡ = ‡
‡ = ‡ using  a  screw  driver  and is not ‡ = ‡
‡ = ‡ visible after installation.         ‡ = ‡
‡ = ‡ 2) SNAP-IN  CORD    - is 12 feet in ‡ = ‡
‡ = ‡ length  and  simply   replaces your ‡ = ‡
‡ = ‡ regular  line   cord,  allowing you ‡ = ‡
‡ = ‡ portable   flexibility.   DATAGUARD ‡ = ‡
‡ = ‡ does not  disrupt  normal telephone ‡ = ‡
‡ = ‡ functions  and   does  not  isolate ‡ = ‡
‡ = ‡ phone  from  incoming  or  outgoing ‡ = ‡
‡ = ‡ calls.  DATAGUARD  is  FCC approved ‡ = ‡
‡ = ‡ with a full 1 year warranty.        ‡ = ‡
‡ = ‡       PRICE $39.95 each from:       ‡ = ‡
‡ = ‡        CONTROL    INDUSTRIES        ‡ = ‡
‡ = ‡         P.   O.   Box 6292          ‡ = ‡
‡ = ‡          Bend,  OR  97708           ‡ = ‡
‡ = ‡                                     ‡ = ‡
‡ = ‡ ################################### ‡ = ‡
‡ = ‡ =================================== ‡ = ‡
‡ = ‡ ######################################## = ‡
```

Msg#: 255 *TBBS*
09/18/84 23:42:11 (Read 10 Times)
From: LARRY GILBERTI
To: ALAN ABRAHAMSON (Rcvd)
Subj: REPLY TO MSG# 239 (THE END IS NEAR)

Dear Al and All, My contact for LNW equipment, other than Mike, is a fellow out in Suffolk County, N.Y. According to him, LNW was heavily financed by IJG. Soooo. . . for them to no longer be handling LNW is pretty important, as I always viewed LNW as their offspring. Michael has been getting a "busy" signal or no answer to LNW's phone for three days now. Our boy genius scored THREE used LNW's at the Jersey flea market, and I have them safely locked up in my attic. We are also buying out the only known New York supply of 5"/85"/8" LNW Doubler boards, as two of these babies have 5" Doublers only. Soooo. . ., as I sit here, and fondle my three new babes in the nursery here, I am thankful for this moment. These three machines should forestall the day that I have to put on my grey flannel suit (you know, the one with the IBM namebadge permanently sewn to the left lapel), for at least ten years. By then, maybe (and I do mean maybe!) I'll feel that I've gotten back some of the investment I've made in the last five years. I am also looking to put one LNW keyboard into stock, so if any reader knows of one up for sale, please advise. You know, Al, I'll be ------ if I'll roll over to this thing so easy. Many have said that I'm nuts to have invested in a fleet of "obsolete" machines. However, I have a matured system, with few software dreams to dream, and I'll be damned if I'm ready to believe that there's some new wondrous "magic" out there. These new integrated, one-program-does-all dreams offer, in one package, most of what the hell we (and I do mean WE) sweat to put together in more than four years, but then all of the component choices are gone, and you as is in someone else's hands. Also noteworthy is the "printing error" made by 80 Micro this month. They "accidentally" repeated some 30+ pages. If they hadn't the damn thing would be skinnier than the Pennysaver they stuff in my fence. Take Care. Stay Happy. Larry Gilberti

Msg#: 260 *TBBS*
09/19/84 08:50:53 (Read 14 Times)
From: ALAN ABRAHAMSON
To: LARRY GILBERTI (Rcvd)
Subj: REPLY TO MSG# 255 (THE END IS NEAR)

Message understood. I think that in your case, you did the right thing to Protect Your --- in this manner. Besides, in all likelihood you will be able to back out of your investment, within a reasonable period of time, without much of a NET loss on the hardware product.

As regards the last issue of 80-Micro, October 1984, my issue is not as you describe. Perhaps you were sent the special "heavyweight" version. My issue is "very thin". In fact, as I look towards the shelf that houses my back issues of 80-Micro, each month's copy gets thinner and thinner over the past 12-18 months. It seems that the only HOT magazines in the R/S realm are HOT CoCo and Rainbow, both for the CoCo user. One CoCo magazine did fold last month.

Seems that my rumor of last month might be based on some fact, in that the "boys" at the local R/S computer center are "talking" about the Tandy 1200. No additional information at this time, except that it will be IBM "compatible" and probably a self contained unit, ala Model 4.

Msg#: 277 *TBBS*
09/21/84 09:50:12 (Read 7 Times)

```
From: ALAN ABRAHAMSON
To: ALL
Subj: FOR SALE
(((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
) )))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))) (
) ( FOR SALE: Model I, 32K, lower case, 1 35 track drive, ) (
) (    monitor, Okidata printer and assorted software.    ) (
) (                    CALL: Bob Brown                    ) (
) (                    (203) 622-9008                     ) (
) (                    ASKING: $850.00                    ) (
) ((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((((
))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))))
```

```
 Msg#:   278 *TBBS*
09/21/84 14:36:25 (Read 9 Times)
From: ALAN ABRAHAMSON
To: ALL
Subj: NEW MEMBERS

<>>>
```

Msg#: 304 *TBBS*
09/22/84 14:26:11 (Read 3 Times)
From: LARRY GILBERTI
To: ALL
Subj: MODEL I FOR SALE
Dear All, I have the last of my venerable (the last kept, and most dependable) Dinosaurs up for adoption. (Loving Applicants only.) No Disk, with Percom Doubler II, Lower Case, 48K.
Perfect Condition. Extra Power Supplies Included. Hard Green Screen on the Monitor, (once again, the clearest of the the three I once owned). Asking $500, but will be happy to "hondle" any reasonable offer. If interested, Please Call Larry or Linda Gilberti Collect, if you wish, at . . . Area 718 961-2397 Thank You.
Larry Gilberti

Msg#: 305 *TBBS*
09/22/84 14:31:38 (Read 2 Times)
From: LARRY GILBERTI
To: AL ABRAHAMSON
Subj: LINEFEEDS IN TBBS?
Dear Al, I see that you've mastered (as usual) the ability to obtain linefeeds in your TBBS messages. Despite my time with this system, I haven't been able to figger that one out. Would you be willing to share your secrets? It would be nice to be able to format one's messages. Anxiously awaiting the reply of the guru . . . Take Care. Stay Happy. Larry Gilberti

Msg#: 306 *TBBS*
09/22/84 16:27:05 (Read 3 Times)
From: ALAN ABRAHAMSON
To: LARRY GILBERTI
Subj: REPLY TO MSG# 305 (LINEFEEDS IN TBBS?)

Glad to hear that you think I am the "guru" on word wrap. Mr. Ebert has created a monster here, I am afraid. However, our esteemed SYSOP, Dick Carricato, has shed some light on the method for me which I will gladly pass on to all others who are interested.
This should be a new line of text on your screen, regardless of how you have set your terminal configurations. Why you will ask? Because the line has a "BLANK SPACE" in front of the word "This". The word wrap algorithm says, "Start a new line!" There are other nuances to Ebert's word wrap algorithm as well which use some special characters to format text, like the "<" and ">" used in <M>enus. This will cause a new line as well.
The way to leave a blank line is to just enter a "SPACE" on a message prompt line, rather than a "null" (C/R) <ENTER>.
As far as the fancy-schmancy messages that I have put up for some of the FOR SALE and other notices, I am using a public domain program called "NOBUG" to do this. If you or others want it, I shall add it to the download list as soon as we get some more disk space. This will probably be right after the next meeting.
This is really a neat program. It is a mini word processor and will write files to disk for upload from your buffer to TBBS in the "blind" entry <B>lock, unprompted mode. It does right justification, centers, merges, saves and loads and either adds or deletes borders to your text. It's lots of fun, easy to use and makes for professional looking messages.
P.S. Note to all: Correct message name for me is as in the users log: ALAN ABRAHAMSON
P.P.S. Only 474 bytes to go, will end now, thanks for all the LNW info Larry. I have left the messages on for others to read. This is the kind of thing that I would like to see stimulated on this service. Best to Linda.

The President's Page

```
+++++++++   NEXT MEETING    +++++++++
++++                           ++++
++++ DATE  :   November 6, 1984 (Tuesday) ++++
++++                           ++++
++++ TIME  :   7:30 pm         ++++
++++                           ++++
++++ PLACE:    New Canaan Country School  ++++
++++                           ++++
+++++++++++++++++++++++++++++++++++++++++++++++
```

Our illustrious President, Bob Jackson, will enlighten us in the use of a new software product from the Alternate Source. The software is called ABASIC, which, I believe, stands for ADVANCED BASIC. ABASIC supports the following concepts:

(1) Modular programming in BASIC
(2) No line numbers necessary
(3) Support structured constructs
(4) Edit with your word processor
(5) Create libraries of relocatable code
(6) Label Routines and Subroutines

This Basic has many enhancements over the standard Basic's we have grown to know and love, so I am certain you won't want to miss this presentation.

Our next presenter, will be John Bethel. John will explain to us the use of the newest word processing system available for the TRS-80 line of computers. This system, called ALL-WRITE was written by PRO-SOFT, the creators of NewScript and is a complete rewrite from the old system. Totally written in machine language for speed, ALL-WRITE is certainly one of the most sophisticated text editors available. Keep up with the latest in software and attend this demonstration.

The "Voice" needs your help. In order to continue bringing you a high quality newsletter each month that contains useful tips, hints, programs, etc., information is required from you the membership. Please make a concerted effort to submit to me your material, preferably in machine readable form, whenever you are able. In this way, we can continue to be one of the leaders in users information for computers. Thank you.

Alan Abrahamson

Voice of the '80
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The Voice of the '80 is a publication of the Fairfield County Computer Users Group, Inc. Permission to reprint is granted for non profit and non-commercial uses. Credit is appreciated. Submissions should be sent to the Editor at the address below:

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This Newsletter printed by Sir Speedy Printing Center, Wilton CT
<<<<<<<< This months cover art by Michael Ciferri >>>>>>>
Licking, sticking, folding & stapling by: Herman and Jeff Parks

FAIRFIELD COUNTY COMPUTER USERS GROUP
% Alan Abrahamson
10 Richlee Road
Norwalk, CT 06851

FCUG

FIRST CLASS

TO: