NEWSLETTER OF THE DECATUR 99er USERS' GROUP

FRESIDENT'S NOTES ... by L. R. Livergood

Once again our mailbox has been stuffed full of interesting new software, hardware and programming items you should know about. For example, OSRAM INDUSTRIES is advertising their new RAMPORT MODULE which adds an additional BK of RAM memory and offers a variety of other features.

Does the term FREEWARE mean anything to you? The latest issue of MICROpendium lists many of the excellent programs which will be sent to you for just postage and handling charges. If you decide you like the program then just send the programmer the amount requested or what ever you feel its worth. Most are asking for less than \$10.00 and many are worth much more than that. Here are some of the programs available:

<u>SUPER DISK DUPLICATOR</u>—-Copies about anything and everything including only those sectors which you want.

 $\overline{\text{TK WRITER}}$ --Loads TI-WRITER from Extended Basic or E/A module thus eliminating the need for the cartridge

NEATLIST--Utility program which formats you program listing for easy reading. Includes variable references.

MASSCOPY--Copies disks in 3 passes or less.

X DISASM--An Extended Basic disassembler utility.

If you are interested in any one of these or others, please see me at the next meeting. If they fulfill a need then I suggest that you complete your end of the deal and send something to the programmer or else it may be the last you'll ee. It's up to us to make a program like this work and besides, where else can you get quality software at these prices?

While reading one of the other newsletters I noticed a plea on behalf of Jim Peterson (TIGERCUB SOFTWARE). This person suggested that his group send \$100 to Jim for his contribution to the cause. If you don't know who Jim is then you haven't been reading our newsletter because he is the author of all those clever programming tips which help to fill two of our pages each month.

We are publishing his 21st tip sheet and I believe he deserves something in return. Although our budget limits us from making such a contribution, I feel we should do something. Probably the best thing would be to buy his software on an individual basis. If you've typed in any of his tips then you know you can count on his other programs which are selling for \$3.00 each. His catalog is available for ordering.

Before I forget, elections are this month so please plan to attend. Don't worry about being conned into doing something you don't want to do because

the election committee has aready talked to everyone who is running. On the other hand, if you are interested, let us know because we can always use your help. Either way everyone should show up to see who the new officers are going to be and to enjoy another good meeting. Also, you might see some new faces.

For those looking for a screen dump for Super Sketch, you may not have to look much longer. We'll have some information on one of these programs at the next meeting. If you are one of the people who have seen PRINT SHOP on another computer and wish they made it for the TI then you may be interested in reading the evaluation on CHARACTER SETS AND GRAPHICS DESIGN in this month's issue of MICROpendium. It looks to be quite similar.

After reading it you may want to take down the address of the magazine and subscribe because for \$15.00 per year it's well worth it. Advertising was way up this issue and there is talk of going to 48 pages in June.

There's much more to talk about but we have several programs to include in this issue so, rather than use up program space, you'll have to come to the meeting to get the rest. See you there!

NEW PURCHASES...by C. S. Stringer

Club members who were not present at the last meeting may not know that we have the opportunity to buy cartridge software and a few items of hardware at reasonable prices directly from the TI Learning Center in Chicago.

Members who ordered items at the last meeting are assured that the items they wanted have been reserved and will be brought to the next club meeting.

I had hoped to go to Chicago about May 15 to pick up the things, but for personal reasons that didn't happen. I now plan to go about June 11.

If anyone is interested in placing an additional order, please call me at 877-2780. All ofthe items on the original list are still available except for 'Terminal Emulator II'. Two items have been added ('Video Chess' and 'Personal Record Keeping') at the same price as the others--\$5.30 each.

We had hoped that there would be some more hardware by this time, but that doesn't look very promising. There are plenty of speech synthesizers and a few stand-alone expansion memories. There may be a few disc drive controllers, but no disc drives.

LIBRARY CORNER...by Jay Seaberg

Program descriptions

We have had many requests for short descriptions of programs available through the library. Beginning this month, every newsletter will contain a brief description of some of the programs we have in stock.

In addition, a complete list of all software is in the process of being written that will also give brief descriptions of the program.

EOO2 READFASTA program aiding reading skills. Gives choice of alpha and/or numeric screens, length of text, and speed. Requires Extended Basic

and tape or disk.

<u>6019 KRAZY KOALA</u> Game program with good speed and graphics. Help the bear rescue his friend stranded at the top while dodging birds and other dangers. Requires Extended Basic.

<u>GO3O SNAKES AND LADDERS</u> Same styled after Chutes and Ladders. Good graphics and neat little program. teaches counting skills and is fun to play. Console basic.

<u>UOOS PROGRAM COMPACTOR</u> A program for compacting programs written in basic or Extended Basic. Removes REM statements and shortens variable names. Requires Extended Basic and disk system.

<u>DOO4 BEETHOVEN</u> A program that shows off the graphics and music capability of your computer. Plays Beethoven's Variation on a theme with a graphic piano with moving keys. Requires Extended Basic

<u>---- ARTILLERY</u> A take-off of the old standard computer game with grpahics. Input firing angle in degrees and destroy the enemy before his incoming shell gets you. Console basic.

ACKNOWLEDGMENTS

In the past, we have printed articles from other sources without giving proper recognition to the author. The reason for this was usually due to the end-of-the-month printing squeeze which left little time for cut and pasting everything together.

We'd like to point out that it has never been our intention to deceive anyone by claiming them as ours. Sometimes we will print an article which has arrived by way of third or fourth generation, leaving no clue as to where it actually originated. Our apologies to those who may have picked up our newsletter and found their article without their name or their group name on it.

As a way of addressing this problem, we will try to indicate in this column who has contributed what in the form of outside articles. Please note that the group listed is only the one where the article appeared and is not necessarily the group with whom the author belongs. Hopefully this method will allow us to add to the list up to the time of printing the master.

TIPS FROM THE TIGERCUB by Jim Peterson (TIGERCUB SOFTWARE)

SHORT BASIC PROGRAMS from the OZARK 99'ER NEWS (authors unknown)

FRACTION FOR DECIMAL PROGRAM from the CLEVELAND AREA 99/4 U.G. (author unknown)

RABIDby Cullhane Gibbs (LOS ANGELES 99'ERS)

CIRCLESfrom Jack Schreiber (ATLANTA 99/4A COMPUTER USERS GROUP)

SELECTION GUIDEfrom the ATLANTA 99/4A COMPUTER USERS GROUP

FORTY-COLUMN SCREENby Roy T. Tamashiro, ED.D (CIN-DAY USER GROUP)

RE-DEFINE CURSORfrom OZARK 99'ER USERS GROUP (author unknown)

FILE PROCESSING R. K. Hallmark (HOOSIER USERS GROUP)

Thanks to all the above for their contribution.

```
100 REM **COLOR BONANZA**
                       110 CALL CLEAR
                      120 FOR A=40 TO 136 STEP 8
130 CALL CHAR(A, "55AA55AA55AA55AA")
140 NEXT A
                                FOR B=2 TO 14
CALL COLOR(B,1,1)
CALL VCHAR(1,2*B,24+B*B,22)
CALL VCHAR(1,2*B+1,24+B*B,22)
                       150
                       160
                       180
                       290 NEXT B
200 FOR C=2 TO 14
                       210 CALL SCREEN(INT(16#RND)+1)
220 FOR D=2 TO 14
                                CALL COLOR (D.D.C)
                       230
                       240 NEXT D
                       250 CALL KEY(0,K,S)
260 IF S<1 THEN 250
                       270 NEXT C
280 GOTO 200
                      100 REM **HAPPY BIRTHDAY**
110 CALL CLEAR
120 OPEN_#1: "SPEECH", DUTPUT
                       130 FOR T#1 TO 51
                       140 READ A$
                                PRINT #11A$
                       150
                       160 NEXT T
                                END
                       170
                      180 DATA //30, HAPPY, //28, BIRTH, //30, DAY, //23, T00, //25, Y0U, ,, 190 DATA //30, HAPPY, //28, BIRTH, //30, DAY, //21, T00, //23, Y0U, ,, 200 DATA //30, HAPPY, //13, BIRTH, //18, DAY, //23, HAPPY, //25, BIRTH, //28, DAY, ,, 210 DATA //17, HAPPY, //19, BIRTH, //23, DAY, //21, T00, //23, YOU
100 REM **A GLIMPSE OF REALITY FOR COMPUTER ADDICTS**
120 CALL CLEAR
                      120 CALL CHAR(96, "1018183C3C7E3C18")
140 CALL CHAR(112, "FFFFFFFFFFFFFFF")
150 CALL CHAR(120, "FFFFFFFFFFFFFF")
160 CALL CHAR(121, "5555555555555555")
170 CALL CHAR(122, "5D5D5D5D5D5D5D5D")
180 CALL CHAR(128, "000011925438FF5D")
                       190
                                H=22
                               CALL COLOR(9,16,1)
CALL COLOR(11,2,2)
CALL COLOR(12,13,1)
                      200
210
220
                      220 CALL CULUR(12,13,1)
230 CALL COLOR(13,14,1)
240 CALL VCHAR(4,16,112,3)
250 CALL HCHAR(4,17,112,3)
260 CALL VCHAR(4,20,112,18)
270 CALL HCHAR(22,1,120,96)
280 CALL HCHAR(3,18,112)
290 CALL HCHAR(2,17,112,3)
300 G=0
310 H=H-1
                       310 H=H-1
                      320 FOR Z=7 TO H-1
330 CALL VCHAR(Z,16,96)
340 CALL VCHAR(Z,16,32)
                       350 NEXT Z
                      350 NEXT Z

360 G=G+1

370 CALL SOUND(15, (H*150), 2)

380 CALL HCHAR(H,G,121)

390 IF G=32 THEN 300

400 IF H=7 THEN 410 ELSE 320

410 FOR F=3 TO 30 STEP 3

420 CALL HCHAR(7,F,128)

430 CALL VCHAR(8,F,122,14)

440 CALL SOUND(30,(F*200),2)

A=0 NEYT F
                                NEXT F
PRINT "NOW DO SOMETHING ABOUT IT!!"
                       45O
                       460
                       470 GOTO 470
```

TIPS FROM THE TIGERCUB

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The entire contents of Tips from the Tigercub Nos. through 14, with more added, are now available as a full disk of 50 programs, routines and files for just \$15.00 postpaid!

Muts Bolts is a diskfull of 180 (that's right, 100!) #Basic utility _subprograms in hER6E format, ready for you to merge into your own programs. Contents include 13 type fonts, 14 text display routines, 12 sorts and shuffles. 9 data saving and reading routines, 9 wipes, B pauses, 6 music, 2 protection, etc., and now also a tutorial on using subprograms, all for just \$19.95 postpaid!

And I have about 140 other absolutely original programs in Basic and XBasic at only \$3.00 each!(plus \$1.50 per order for casette, packing and postage, or \$3.00 for diskette, PPH) Some users groups charge their members that such for public domain programs! I will send you my descriptive catalog for a dollar, which you can then deduct from your first order.

This challenge **24** printed in Tips #21 -

166!The Uneristable Unkeyabl e Progras! 110!To shuffle the numbers i to 255 into a random sequen ce without duplication 129: The strings contain the ASCII characters 1 to 127 am d 128 to 255 130!Most of the ASCII charac ters below 32 or above 159 c annot be input from the keyb 148!So how was this program programmed? 15# R\$="

123456789:;<=>?@ABCDEF6HIJKL MNOPORSTUVWXYZ[\]^_'abcdefgh i iklanoporstuvexyz(1)~* 168 H28=*

178 MS=MS&M2\$ 186 L=LEN(MS):: RANDOMIZE :: X=INT(L&RND+1):: N=ASC(SE6\$ (Ms.X.1)):: Ms=SE6s(Ms.1,X-1) & SEG\$ (H\$, X+1, LEN (H\$)) 198 PRINT N::: IF LEN(MS)=8 THEN STOP ELSE 180

And here is the answer -It was written by a program that writes a program! Key this in and run it to create a MERGE format disk file. Then type NEW, then type MERGE DSK1.LONGSTRING and you will have a RUNable program consisting of lines 158-170 of the ouzzle!

100 OPEN 41: DSK1.LONGSTRING ". VARIABLE 163 110 LN=100 :: 60SUB 190 :: A \$=L\$&"M\$"&CHR\$(19@) 128 FOR J=1 TO 127 :: C\$=C\$& CHR\$(J):: NEXT J :: A\$=A\$&CH R\$ (199) &CHR\$ (127) &C\$&CHR\$ (#) 138 PRINT #1:A\$ 148 GOSUB 198 :: B\$=L\$&*#2\$* &CHR\$ (190) 158 FOR J=128 TO 255 :: D\$=D \$&CHR\$(J):: NEXT J :: B\$=B\$& CHR\$ (199) & CHR\$ (128) & D\$& CHR\$ (81 166 PRINT 41:85 178 60SUB 198 :: FS=LS&"MS"&

CHR\$ (198) & "N\$ " & CHR\$ (184) & "H2

s"&CHR\$(#) 180 PRINT 61:F6 :: PRINT 61: CHR\$ (255) & CHR\$ (255) :: CLOSE et is END 196 LS=CHRS (INT (LN/256)) &CHR s(LH-256#1NT(LN/256)):: LN=L N+10 :: RETURN

in the Now type remaining lines, and you mili have a speeded-up version of the Tigercub Scramble which was published in lips #10. It is still not as fast as the CALL PEEK versions but is such more (**#\$Z&*()#+,-./# useful because you can modify it to scramble a sequence of any length anywhere between 1 and 255. For example, to shuffle the numbers 100 to 150 into a random sequence without duplication, just add a line 175 M\$=SE6\$(M\$,100,50).

> The method of writing a *program that writes a program" was fully explained by John Clulow in the 99er eagazine Vol. 1 Nos. 3 and 4. It is a little-used but very valuable technique.

> For instance, Tips#9 the following contained routine to turn the alphabet uoside-down.

> 100 FOR CH=33 TO 127 :: CALL CHARPAT(CH.CHS):: FOR J=1 T 0 16 STEP 2 :: 14=SE64(CH4,J ,2) LX\$:: NEXT J :: CALL CHA R(CH, XS):: XS="" :: NEXT CH 110 INPUT AS :: 50TO 110

> The only trouble with that is that it takes about 50 seconds to run. Try this instead -

> 100 FOR CH=33 TO 127 :: CALL CHARPAT(CH.CH\$):: FOR J=1 T 0 16 STEP 2 :: 1\$=SE6\$(CH\$,J ,2)2X\$:: NEXT J :: CALL WRI TE(CH.X\$):: X\$="" :: NEXT CH 1966 SUB WRITE(CH, X\$):: IF F LA6=1 THEN 1010 :: FLA6=1 :: OPEN #1: "DSK1. WRITE", OUTPUT DISPLAY , VARIABLE 163 :: LN =3000 :: 60SUB 3000 1919 1=X+1 1: L\$=L\$&CHR\$(200

)4CHR\$(16)&I\$:: IF I(5 AND CHC127 THEN LS-LS&CHR\$(179): : SUBETIT 1828 X=8 :: PRINT 61:LSECHRS (8):: L6=** :: 1F CH=127 THE # 1838 :: 60SUB 3868 :: SUBE 111 1838 PRINT #1:CHR\$(255)&CHR\$ (255):: CLOSE 01 :: 60T0 301 3800 L1=1NT(LN/256):: L2=LM-2562L1 :: L\$=CHR\$(L1)&CHR\$(L 2) LCHR\$ (147):: LN=LN+1# :: R ETURN

3010 SUBEND

RUN that, type NEW, then MERGE DSKI.WRITE, and you will have a program αŧ consisting statements containing the hex codes for all the unside-down characters. Add a line 100 FOR CH=33 TO 127 READ CHS :: CALL CHAR(CH, CH\$):: NEXT CH, and you can turn everything upside-down in only 12 seconds.

Someone sent se a classified ad, clipped from publication, an unknown which read -

TI-WRITER COMPANION. Loaded with ingenious ways to make your TI-Writer more effective. Well written. Send \$2.50 to Dr. Bill Browning, 7541 Jersey Avenue North, Brooklyn Park, MN 55428. Koney back quarantee.

I sent off my money and have just received 29 pages, 3-hole punched, loaded with useful and ingenious tips and ideas for getting more II-Writer. out of recommend it - it's worth twice the soney and then Some !

The K-Town newsletter recently published a utility routine that is so useful that I want to pass it on to everyone. If a program is not resequenced after it is andified, this will compare it with the original and prepare a MEKGE forest file of all the changes, for the use of others to update their copy.

140 !Version 85.0406.1XB Requires disk drive. Compares two programs, gives list of all differences.

150 !SAVE old program in MERGE format (SAVE DSK1.(ol dfilename), MERGE). SAVE updated program in MERGE format(SAVE DSK1.(newfilename) , MERGE)

160 !RUN this program, answer prompts for OLD FILE name, NEW FILE name, and a different OUTPUT FILE name.

176 !When finished, type NEW , then MERGE DSK1.(outputfil ename) and ENTER

180 !Can be MERGED into other copies of OLD program to update them

198 DEF @(ws)=ASC(SE6\$(@\$,1, 1))#256+ASC(SE6\$(@\$,2,1)) 200 As=CHK\$(255)#CHK\$(255)::

DISPLAY AT(1,1) ERASE ALL: "O LD FILE: ": "NEW FILE: ": "OUTPUT FILE:"

210 ACCEPT AT(1,13) BEEP:BS:
: ACCEPT AT(3,13) BEEP:CS::
ACCEPT AT(5,13) BEEP:DS:: OP
EM #1:BS,1NPUT ,VARIABLE 163
220 OPEN #2:CS,1NPUT ,VARIABLE
163 ... OPEN #3:DE OUTBUT

220 OPEN #2:C*,INPUT ,VARIABLE 163 :: OPEN #3:D*,OUTPUT,
VARIABLE 163

238 LINPUT #1:05 :: LINPUT # 2:E5 :: F5=SE6*(05,1,2):: 65 =SE6*(E5,1,2):: A=0(F5):: B= 0(65)

240 IF FS=AS AND 65=AS THEN CLOSE #1 :: CLOSE #2 :: PRIN T #3:AS :: CLOSE #3 :: STOP 250 IF B>A THEN PRINT #3:F\$& CHR\$(131)&" **DELETED LINE * **&CHR\$(0):: LINPUT #1 :: #5 :: FS=SE6\$(@\$,1,2):: A=@(F\$):: 6010 240

266 IF A/B THEN PRINT #3:E\$:: Linput #2:E\$:: 68=5E681E

Thanks to some ideas from Joyce Corker. I have made some more improvements to the Tigercub Menuloader, and I have used the above utility routine to list all the changes made since it was published in Tips#15.

188 !by A. Kludge/N. Gordon/ T. Boisseau/J. Peterson/etc. modified in Tips #22 182 OPTION BASE 1 :: BIN P68 (127), VV(127), VX(127):: GOTO 118 185 @.A.As,B.C.Ds,FLAG.I.J.K.,KD,KK,NS,NN,Ps,P68(),Ds,S,S T.TS(),TT,VT,VV(),VX(),Ws,X,X8,K2,S2 186 CALL INIT :: CALL LOAD : I CALL LINK :: CALL PEEK ::

: CALL LINK :: CALL PEEK :: CALL KEY :: CALL SCREEN :: C ALL COLOR :: CALL CLEAR :: C ALL VCHAR_:: CALL SOUND :: ! éP-

150 ! \$\$DELETED LINE \$\$
160 T\$(1)="d/f" :: T\$(2)="d/
v" :: T\$(3)="1/f" :: T\$(4)="
i/v" :: T\$(5)="pro" :: ON WA
RNING NEXT
170 IMAGE \$\$\$

170 IMAGE ### 180 DISPLAY AT(1,4):"TIGERCU B MENU LOADER"

218 D\$="D\$K1." :: OPEN #1:D\$
, INPUT ,RELATIVE, INTERNAL ::
 INPUT #1:N\$, A, J, K :: DISPLA
Y AT(1,2)SIZE(27):SE6\$(D\$,1,
4)&" - Diskname= "&N\$;

4)&" - Diskname= "&N%; 230 FOR X=1 TO 127 :: IF X/2 6<>INT(X/20)THEN 260 240 DISPLAY AT(24,1):"Type c

hoice or 0 for more 0" :: AC CEPT AT(24,27) VALIDATE(DIGIT) SIZE(-3):K :: IF K=0 THEN 2 50 :: IF VV(K)<>5 THEN 411 : : IF K>0 AND K<NN+1 THEN 420 ELSE 240

298 DISPLAY AT(X+4,2):USING 178:NN :: DISPLAY AT(X+4,6): P\$:: P68(NN)=P6 :: DISPLAY AT(X+4,18):USING 178:J :: DI SPLAY AT(X+4,22):T8(ABS(A)) 291 VV(NN)=ABS(A):: VI(NN)=A

295 15=" "&STR\$(B):: DISPLA

Y AT(X+4,26):SEGG(18,LEN(16)
-2,3):: VT=VT+3
350 DISPLAY AT(X+6,1):" C
holce?" :: ACCEPT AT(1+6,16)
SIZE(3) VALIDATE(DIGIT):K ::
IF K<>NM AND K<>MH+1 THEN 41
8
410 IF K<1 OR K>127 OR LEN(P

66(K))=0 THEN 320 411 1F VV(K)=5 OR(VV(K)=4 AN D VX(K)=254)THEN 420 412 ON ERROR 417 :: CALL CLE AR :: OPEN 82:D\$\(\frac{1}{2}\)FOS(K):: CA LL SCREEN(16) 413 LINPUT 82:N\$:: IF EOF(2

113 EIRPUT #21## :: IF EUF(2)THEN 416 :: PRINT #8 414 CALL KEY(8,K,S):: IF S=8 THEN 413

415 CALL KEY(0,K2,S2):: IF S 2(1 THEN 415 ELSE 413 416 CLOSE 01 :: CLOSE 02 :: END

417 DISPLAY AT(12,10): "UNLIS TABLE" :: CALL SOUND(200,110 ,0):: RETURN 400 430 ON ERROR 417 :: CALL INI

T :: CALL PEEK(-31952,A,B)::
CALL PEEK(A\$256+B-65534,A,B):: C=A\$256+B-65534 :: A\$=D\$
&P6\$(K):: CALL LOAD(C,LEN(A\$

now list up to 127 programs and files, showing the number of sectors in each and the file type, record

The Menu Loader will

type and record length of each file. It will stop at the end of each page, and continue on a default value of 0, or will stop for selection when any key is It gives disk eressed. name, number of sectors used and available. it adds up sectors actually used and gives a warning if all sectors are not accounted for. It will load and run any program which can be loaded from Extended Basic, displaying the program being loaded. It will delete any program or file, after first

displaying the filename and

requesting verification. It

will list any listable file

to the screen, pausing on

any key input, and can be

to a printer. If a file is not listable, it will inform you so, and restart the menu selection. It has the pre-scan option to speed it up.

Fairly often, the disk

very easily modified to list

directory will lose track of one or a few sectors during the process of loading records, even though the Disk Hanager showed all 358 That's were initialized. I put the checking MyA routine in the Menu Loader. The figure shown as "used" is actually 358 minus the nusber of sectors still available, and is checked against the total sectors of all files.

The loss of a few sectors is no serious matter, but once in a great while you may notice that the "available" and "used" sector quantities have obviously been reversed. I have found that this is a signal that the disk is about to go haywere and you had best back it up immediately!

Programs and files are the first loaded in available sector. and in the next continued If a available sector. number of small files are deleted from a disk, and a long file is then loaded, it may thus be fractured into many parts. If you have a work disk on which you continually add and delete files of various lengths, it will become badly fractured. This can cause disk errors, and it also badly overworks your drive. It is a good idea to recopy your work disk occasionally - file by file, not sector by sector with a quick copier.

MEMORY FULL! - Jia Peterson

Here is a good game to play if you're feeling bloodthirsty. It was written by one of our members, Cullhane Gibbs, who is only 13 years old. What you have to do is defend yourself from the rabid knife-wielding maniscs. You are equipped with a flamethrower. Good luck!

100 REH ************* 110 REM * RABIO 120 REH +BY CULLHANE GIBBS + 130 REM *IN EXTENDED BASIC * 148 REM *JOYSTICKS REQUIRED* 150 REM ************ 160 CALL MAGNIFY(2) 170 RANDOMIZE 180 CALL CHAR(47, "002277FFFF 2A00000") 190 CALL CHAR(94,"123422256F 800451") 200 CALL CHAR(64, "3838107CBB 292A2B") 210 CALL CHAR(124, "20502070A BBOARA4") · 220 CALL CLEAR :: CALL SCREE N(2) 230 FOR COLOUR=2 TO 12 :: CA LL COLOR(COLOUR, COLOUR+1,2): : NEXT COLOUR 240 PRINT " RABID": "BY C LILLHANE GIBBS": "NEEDS EXTEND ED BASIC": "AND JOYSTICKS" :: PRINT :: PRINT "INSTRUCTION 250 PRINT "AVOID RABID.": "KNIFE WEILDING MANIACS.":"T O DEFEND YOURSELF" 260 PRINT "PRESS YOUR FIREBU TTON": "TO RELEASE A SHORT FL AME": "WHICH WILL BURN YOUR": "ATTACKERS.": "NEW SCREEN STA RTS WHEN ALL" 270 PRINT "ATTACKERS ARE KIL LED.": "ONCE YOU ARE KILLED T HE": "GAME IS OVER. ": "YOU CAN FIRE ONLY": "IN ONE DIRECTIO

N-":"TO THE LEFT."

280 PRINT "PRESS ANY KEY"

290 FOR D=10 TO 50 :: CALL S

OUND(D,701,0):: CALL SOUND(-100,-8,0):: CALL SOUND(-50,-4,10):: CALL SOUND(-100,-2,0):: NEXT D

300 CALL KEY(D,KEP,SEP):: IF

SEP=0 THEN 300 ELSE 310

310 CALL CLEAR

320 PRINT "SCORECHART:" :: P

RINT

330 PRINT "@ MANIAC=100" :: PRINT :: PRINT "* YOU" :: PR INT 340 PRINT "PRESS ANY KEY TO BEGIN" 350 CALL SOUND(-1000,-8,0) 360 PRINT :: PRINT :: PRINT :: PRINT :: PRINT :: PRINT : : PRINT :: PRINT :: PRINT :: PRINT 370 CALL KEY(0,K,S):: IF S=0 THEN 370 ELSE 380 380 CALL CLEAR :: PRINT " GET READY, PLAYER!" :: PRINT : : PRINT :: PRINT :: PRINT :: PRINT :: PRINT :: PRINT 390 "OR TIME=1 TO 500 :: NEX TIME 400 SCORE=0 410 CALL CLEAR 420 CALL SPRITE(#11,124,4,70 .200) 430 FOR SPRIT=1 TO 4 :: CALL SPRITE(#SPRIT,64,5,121,89): : CALL MOTION(#SPRIT, INT(RND *10)+1,-INT(RND*10)+1):: NEX T SPRIT :: MANIC=4 440 DISPLAY AT(1,3):"SCORE:" : SCORE 450 CALL JOYST(1,X,Y):: CALL MOTION(#11,-Y+2,X+2):Y CALL SOUND(-3,-3,0)460 CALL POSITION(#11, YPOS1, XP051) 470 CALL KEY(1,KE,ST) 480 IF ST=-1 AND XPOS1 324 TH EN 490 ELSE 690 490 CALL SPRITE(#12,47,7,YPO \$1.XPO\$1-16) 500 CALL CDINC(#12,#1,20,A): : IF A=-1 THEN 510 ELSE 540 510 CALL SOUND(1000.340.0):: CALL PATTERN(#1,94):: SCORE =SCBRE+100 :: MANIC=MANIC-1 :: CALL DELSPRITE(#1) 520 CALL DELSPRITE(#12) 530 IF MANIC=0 THEN 430 ELSE 540

540 CALL CDINC(#12,#2,20,A): : IF A=-1 THEN 550 ELSE 590 550 CALL DELSPRITE(#12) 560 CALL SOUND(1000,340,0):: CALL PATTERN(#2,94):: SCORE =SCORE+100 :: MANIC=MANIC-1 :: CALL DELSPRITE(#2) 570 CALL DELSPRITE(#12) 580 IF MANIC=0 THEN 430 ELSE 590 CALL COINC(#12.#3.20.B): : IF B=-1 THEN 600 ELSE 640 600 CALL DELSPRITE(#12) 610 CALL SOUND(1000,340,0):: CALL PATTERN(#3,94):: SCORE =SCORE+100 :: MANIC=MANIC-1 :: CALL DELSPRITE(#3) 620 CALL DELSPRITE(#12) 630 IF MANIC=0 THEN 430 ELSE 640 CALL COINC(#12,#4,20,C): . IF C=-1 THEN 650 ELSE 700 650 CALL DELSPRITE(#12) 660 CALL SOUND(1000,340,0):: CALL PATTERN(#4,94):: SCORE =SCORE+100 :: MANIC=MANIC-1 :: CALL DELSPRITE(#4) 670 CALL DELSPRITE(#12) 680 IF MANIC=0 THEN 430 ELSE 690 CALL DELSPRITE(#12) 700 CALL COINC(#1,#11,16,T): : IF T=-1 THEN 740 ELSE 710 710 CALL COINC(#2,#11,16,U): : IF U=-1 THEN 740 ELSE 720 720 CALL COINC(#3,#11,16,V): : IF V=-1 THEN 740 ELSE 730 730 CALL CDINC(#4,#11,18,W): : IF W=-1 THEN 740 ELSE 780 740 FOR DIP=1 TO 28 :: CALL MOTION(#DIP,0,0):: NEXT DIP :: CALL SOUND(-1000,-8,0):: CALL PATTERN(#11,94):: FOR D EL=1 TO 50 :: NEXT DEL 750 CALL DELSPRITE(#11):: DI SPLAY AT(23.3):"GAME OVER-ST ART AGAIN Y OR Nº 11 CALL KE Y(0,P,S):: IF S=0 THEN 750 : : 1F P=ASC("n")THEN 770 760 IF P=ASC("y")THEN 400 EL SE 750 770 END 780 GOTO 450

CIRCLES

The program below which I modified from a Merry Xmas message to a Happy Mothers Day message is both special and unique. Its program displayes the formula for drawing a circle on the screen.

Look at lines 180 & 190, 230 & 240, and 280 & 290. Each pair of lines is the mathamatical equivalent of a circle. I hope you find this program of use.

100 REM 1984 FOR LEHIGH 99'E RS BY JACK SCHREIBER, LV99CS 110 CALL CLEAR :: FOR CX=5 T 0 8 :: CALL COLOR(CX,2,10):: NEXT CX :: CALL SCREEN(10) 120 CALL CHAR(42,"6CEEFEFETC 381000") 381000") 130 DISPLAY AT(7,9):"WISHING YOU" :: DISPLAY AT(9,14):"A " :: FOR DEL=1 TO 200 :: NEX T DEL :: J=1 140 FOR AA=6 TO 22 :: READ A 140 FOR AA=6 TO 22 :: READ A 150 DEL=1 TO 50 :: NEXT DEL 150 DATA H,A,P,P,Y,,M,O,T,H, E,R,S,,D,A,Y 160 RESTORE :: J=J+1 :: IF J 150 THEN 160 :: IF J>6 THEN J 170 FOR DELAY=1 TO 400 :: NE XT DELAY :: CALL CLEAR :: CA LL SCREEN(12):: CALL COLOR(2 ,7,1):: FOR N=1 TO 12 180 R=12-(08*SIN(N/J*FI)) 190 C=16-(08*COS(N/J*PI)) 200 CALL HCHAR(R,C,42) 210 NEXT N 220 FOR N=13 TO 25 230 FGR N=13 [U 25 230 R=12-(10*SIN(N/J*PI)) 240 C=16-(10*COS(N/J*PI)) 250 CALL HCHAR(R,C,42) 260 NEXT N 270 A=6 :: B=6 :: FOR N=25 T 0 37 280 R=12-(A*SIN(N/J*PI)) 290 C=16-(B*CDS(N/J*PI)) 300 CALL HCHAR(R, C, 42) 310 IF N=37 THEN GDSUB 340 320 IF A(1 THEN GOTO 350 330 NEXT N 340 A=A-2 :: B=B-2 :: N=25 : !_RETURN 350 CALL SCREEN(12):: FOR I= 1 TO 600 :: NEXT I :: CALL S CREEN(10):: FOR K=1 TO 600 : ! NEXT K :: GOTO 140

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SELECTION GUIDE FOR TI EDUCATIONAL SOFTWARE

AGE	SUBJECT	PROGRAM
Preschool (2-5 Years)	Early Learning	Early Learning Fun Early Logo Learning Fun
Early Elementary (5-7 Years)	Reading	Early Reading Reading Fun
	Spelling	Hangman
	Math	Number Magic Addition/Subtraction I Addition/Subtraction II Numeration I
	Απ	Video Graphs
Middle Elementary (8-9 Years)	Reading	Beginning Grammar Reading On Reading Roundup
	* Spelling	Scholastic Spelling Levels 3 & 4
	Math	Multiplication 1 Meteor Multiplication Division 1 Alligator Mix Minus Mission Alien Addition
Late Elementary (10-12 Years)	Reading	Reading Flight Reading Rally
	Spelling	Scholastic Spelling Levels 5 & 6
	Math	Demolition Division Dragon Mix Numeration II
	Music	Music Skills Trainer Computer Music Box
Early Elementary to Junior High (5-14 Years)		Addison-Wesley Computer Math Games II, III, IV, VI
	Math	Milliken Math Series: Addition, Subtraction, Multiplication, Division, Integers, Fractions, Decimals, Percents, Laws of Arithmetic, Equations, Measurement Formulas
	Computer Programming	TI LOGO II
Junior High to Adult	Logic	Video Chess
	Typing	Touch Typing Tutor
	Physical Fitness	Physical Fitness
	Business	Market Simulation (Disk)
	Computer Programming	Teach Yourself BASIC Beginner's BASIC Tutor Teach Yourself Extended BASIC

```
110 !
                                                     I would like to announce the next two meeting dates of the Cin-Day
120 FOR EXTENSED MAIC
                                                     User Group. The secting dates, times and locations are as follows:
130 !
140 !WRITTEN BY:
                                                                                                Saturday, June 29, 1985
                                                            Saturday, June 29, 1985
150 !
                                                                                                          Noon
                                                                      loon
160 PROY T. TAMASHIRG, ED.D
                                                                                                     Shillito/Rikes
                                                                 Shillite/Rikes
170 !
                                                                                                   Downtown Cincinnati
                                                                 Bountown Bayton
180 !WRITTEN:
                                                                                                Seventh and Ele Streets
                                                            Second and Ludlow Streets
190 !
                                                                                                  Sixth Floor Gallery
                                                              Fifth Floor Coin Room
200 !DECEMBER OF 1984
210 !
220 !REDUIRES:
230 !
                                                                                                 Saturday, July 27, 1985
                                                             Saturday, July 27, 1985
240 !EXTENDED BASIC AND
                                                                                                          Noon
                                                                      Noon
250 !
                                                                 Shillito/Rikes
                                                                                                     Shillitio/Rikes
260 !32K MEMORY EXPANSION
                                                                                                   Downtown Cincinnati
                                                                 Downtown Dayton
270 !
                                                                                                 Seventh and Ele Streets
                                                            Second and Ludlow Streets
280 !AND EITHER CASSETTE OR
                                                             Second Floor Auditorium
                                                                                                   Sixth Floor Gallery
290 !
300 !DISKETTE
310 !
320 CALL INIT
330 CALL LOAD(8196,63,216):: CALL LOAD(16344,66,83,67,82,78,32,50,108,68,73,83,80,76,32,48,190)
340 CALL LUAD(16360,73,78,80,85,84,32,49,36,67,76,83,32,32,32,48,78,70,79,82,84,89,32,48,38)
350 CALL LOAD(12288,8,31,16,0,50,190,0,0,0,1,108,51,188,0,0,0,0,0,0,2,12,50,116)
360 CALL LOAD(12312, 215, 32, 47, 190, 215, 32, 47, 191, 13, 0, 1, 108, 2, 107, 2, 224, 131, 224, 2, 1, 240, 129, 216, 1)
370 CALL LOAD(12336, 131, 212, 216, 1, 140, 2, 6, 193, 216, 1, 140, 2, 2, 1, 245, 135, 216, 1, 140, 2, 6, 193, 216, 1)
380 CALL LOAD(12360, 140, 2, 4, 96, 48, 86, 2, 224, 48, 0, 6, 160, 48, 98, 4, 224, 131, 124, 2, 224, 131, 224, 4, 96)
390 CALL LBAD(12384,0,112,4,192,2,1,128,0,4,32,32,32,5,128,2,128,3,192,22,250,4,91,2,1)
400 CALL LDAD(12408,0,1,4,192,4,32,32,12,200,32,131,74,48,36,192,224,48,36,2,67,0,255,2,2)
410 CALL LBAB(12432,255,216,2,34,0,40,6,3,22,252,200,2,48,34,2,1,0,2,4,192,4,32,32,12)
420 CALL LOAD(12456,200,32,131,74,48,36,192,96,48,36,2,65,0,255,6,1,168,1,48,34,4,91,2,224)
430 CALL LBAD(12480,48,0,6,160,48,118,2,1,255,0,216,1,50,189,2,1,0,3,4,192,2,2,50,189)
440 CALL LOAD(12504,4,32,32,20,4,197,209,96,50,189,6,197,2,6,50,190,192,32,48,34,6,160,49,28)
450 CALL LOAD(12528,4,193,192,86,2,33,96,0,4,32,32,5,128,6,160,49,28,6,5,19,9,6,193)
460 CALL LOAD(12552, 2, 33, %, 0, 4, 32, 32, 32, 5, 198, 5, 128, 6, 5, 22, 236, 4, %, 48, 96, 2, 128, 3, 192)
470 CALL LDAD(12576,21,251,4,91,2,224,48,0,2,2,1,0,2,1,32,0,216,129,50,190,6,2,22,252)
480 CALL LOAD(12600,6,160,48,118,2,1,0,255,192,32,48,34,160,64,2,129,3,192,18,2,2,1,3,192)
490 CALL LOAD(12624,200,1,48,36,4,196,193,64,2,1,32,0,217,1,50,191,2,1,126,0,4,32,32,32)
500 CALL LOAD(12648,2,1,5,0,216,1,131,116,6,160,50,34,216,32,131,117,48,32,4,193,208,96,131,117)
 510 CALL LDAD(12672,192,5,2,129,13,0,22,10,2,1,120,0,4,32,32,32,4,224,131,124,4,192,2,1)
520 CALL LOAD(12696,0,3,6,196,216,4,50,190,2,2,50,190,4,32,32,16,4,96,48,86,2,129,7,0)
 530 CALL LDAB(12720,22,13,2,1,32,0,217,1,50,191,2,33,96,0,4,32,32,32,6,0,6,4,22,245)
540 CALL LOAD(12744,4,96,49,36,2,129,8,0,22,17,2,1,32,0,217,1,50,191,2,33,96,0,4,32)
 550 CALL LDAD(12768, 32, 32, 6, 0, 6, 4, 128, 32, 48, 34, 18, 181, 5, 132, 5, 128, 4, 96, 49, 86, 2, 129, 9, 0)
 560 CALL LOAD(12792,22,2,2,1,32,0,2,129,32,0,17,169,217,1,50,191,2,33,%,0,4,32,32,32)
 570 CALL LDAD(12816, 5, 132, 5, 128, 136, 0, 48, 36, 18, 158, 6, 0, 6, 4, 4, 96, 49, 86, 4, 193, 2, 0, 32, 0)
 580 CALL LOAD(12840,2,2,255,0,4,32,32,28,144,32,131,124,19,26,144,160,131,117,19,243,2,3,0,5)
 590 CALL LDAD(12864,6,3,2,1,9,192,6,1,22,254,4,32,32,28,144,32,131,124,19,11,144,160,131,117)
 600 CALL LOAD(12888,19,228,4,32,32,28,192,195,22,239,152,32,48,32,131,117,22,220,4,91,2,224,48,0)
 610 CALL LDAD(12912,6,160,48,98,2,0,3,0,4,193,4,32,32,5,128,2,128,3,192,22,250,2,0)
 620 CALL LOAD(12936,224,1,216,0,131,212,6,192,4,32,32,48,2,0,3,32,4,32,32,48,2,0,7,23)
 630 CALL LBAD(12960,4,32,32,48,2,0,8,0,2,1,16,0,4,32,32,32,5,128,2,128,8,31,22,250)
 640 CALL LOAD(12984,4,96,48,86,0,255,0,32,32)
 100 CALL LINK("FORTY"):: CALL LINK("CLS"):: CALL LINK("DISPL",2,11, "FORTY COLUMN
 DISPLAY"):: CALL LINK("DISPL",8,1,"ENTER A FOREGROUND COLOR:")
110 CALL LINK("INPUT",8,27,A*):: A=VAL(A*):: CALL LINK("DISPL",10,1,"ENTER A BAC
KGROUND COLOR: ):: CALL LINK("INPUT", 10, 27, B+):: B=VAL(B+)
 120 CALL C(A,B):: CALL LINK("DISPL",14,1,"ENTER"):: CALL LINK("DISPL",16,3,"1
 TO REPEAT"):: CALL LINK("DISPL",18,3,"2 TO END")
130 CALL LINK("DISPL",20,1,"ENTER YOUR CHOICE:"):: CALL LINK("INPUT",20,20,C#)::
IF C#="1" THEN 100 ELSE IF C#="2" THEN CALL LINK("BSCRN")
 140 SUB C(A,B):: CALL LOAD(12350,16*(A-1)+(B-1)):: SUBEND
```

Mext Meetines: by Ed York

100 !FORTY-COLUMN SCREEN

By R. K. Hallmark

iditor's Mote: The fellowing article was copied from the July, 1984 Issue of "The Suncoast Beeper", Newsletter of the Suncoast Mer's of St. Petersburg, Florida.

files, Records, and Fields:

File—A file is the way basic programs communicate data with external storage devices. Some typical external devices are:

PRICE File Name CS1 or CS2 Cassette Recorders DSX1 to 3 Disk Drives Parallel Port **P10** Serial Ports RS232/1 or 2

Record-A group of data items which are stored together in a file.

Field-A single data item in a record. Each wariable in your program will occupy one field of a record.

A file consists of one or more records and these records consist of one or more fields. When the computer transmits data to one of the devices listed above it sends one record at a time.

File Attributes:

Files may be organized in a number of different ways depending upon the device being used and what the file is being used for. The organization and other charactheristics of a file are called its attributes. When data files are opened in BASIC (using an OPEN statement) you describe the file and its attributes to the computer. In the discussion below the order of the attributes and the terms used are the same as in your BASIC manual.

It is not always necessary to specify each of the attributes. In many cases the computer will select what is called a "default value" if you do not chose one. The default value that the computer will use depends upon both the device selected and the other attributes of the file.

- A. File M-May be any number from 1 to 255. (File MO is the screen for output and the keyboard for input.)
- B. Device Name-See list above.
- C. File Organization-the file organization refers to way individual records within the file can be accessed.
 - 1. SEQUENTIAL-Data is read to or written from a file starting at the beginning and going through the file one record at a time, you cannot skip around. All files except disk files can only be sequential. Sequential is the default for file organization.
 - 2. RELATIVE-True random access files. The records can be written to or read from in any order. Disk files can be either relative or sequential.
- D. File Type-this refers to the format in which the data is stored.
 - 1. INTERNAL-The data is stored in the binary form in which it can be most easily used by the computer. Files stored on cassette or disk should be internal format.
 - 2. DISPLAY-The data is stored in ASCII format. This format is used for sending data to the parallel and serial interfaces. Display is the default for file type.

- E. Open Mode-Describes whether the file may be written to, 🔪 read from, or both.
 - 1. UPDATE-The file may be both written to or read from.
 - This is the default for open mode.
 - 2. QUIPUT-The file may only be written to.
 - 3. DAPUT-The file may only be read from.
 - 4. APPEND-Allows you to add additional records to the end of the file.
- F. Record Type-Describes whether the file has FIXED or WARIABLE length records. All relative files have fixed length records.
 - 1. Cassette Files-These files may be specified as fixed or variable but the computer actually uses fixed length records which may be 192, 128, or 64 bytes long. The default for cassettes is VARIABLE with a maximum length of 64 bytes. The computer actually uses FIXED with 64 as the
 - 2. Disk Files-SEQUENTIAL disk files have the default length of 80 bytes and a maximum length of 254 bytes . RELATIVE disk files must be of fixed length and may be up to 255 bytes in length.
 - 3. The printer ports (RS232 and PIO have the default record type of FIXED with a length of 80 characters. Other lengths may be used.

Sample Cassette Programs:

Data Inset: 106 OPEN #1:"CS1", SEQUENTIAL, INTERNAL,

- OUTPUT, FIXED 192
- 118 INPUT "NUMBER OF NAMES: ": NUMBER 120 FOR I=1 TO NUMBER
- 138 INPUT "LAST NAME: ":UNAMES
- 140 INPUT "FIRST NAME: ":FNAMES
- 150 INPUT "ADDRESS: ":ADDRESS\$
- 146 INPUT "CITY: ":CITY\$
- 170 INPUT "STATE: ":STATES
- 186 INPUT "ZIP: "ZIP
- 190 PRINT #1:LNYHES, PAYMES, ADDRESSS,
- CITYS, STATES, 21P
- 208 NEXT I
- 218 CLOSE #1
- 229 END

Data Output:

- 100 OPEN #1:"CS1", SEGUENTIAL, INTERNAL,
- INPUT, FIXED 192
- 118 INPUT "NUMBER OF NAMES :":NUMBER
- 120 FOR I=1 TO NUMBER
- 130 INPUT #1:LNAMES,FNAMES,ADDRESSS,
- CITYS, STATES, 21P
- 148 PRINT PHAMES: " "; LINAMES
- 150 PRINT ADDRESSS
- 160 PRINT CITY\$;",";STATE\$;" ";ZIP
- 170 FOR DELAY=1 TO 2000
- 180 NEXT DELAY
- 190 NEXT I
- 200 CLOSE #1
- 210 END

```
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```

```
10 REM PROGRAM GIVING FRACTION FOR DECIMAL INPUT.
20 REM REVISED FROM MAY'85 ARTICLE IN BYTE MAGAZINE
30 CALL CLEAR
40 PRINT "DECIMAL?"
  INPUT A
68 B=8
78 C=1
80 D=ABS(A-INT(A))
90 IF D=0 THEN 160
100 E=1/0
110 F=C
120 C=INT(E) #C+B
130 B=F
140 D=E-INT(E)
150 IF A*C() INT(A*C) THEN 100
160 PRINT : "FRACTION" "
170 PRINT : A*C; "/"; C
180 INPUT "AGAIN?": Z$
198 GOTO 38
```

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OLLOWING MEETING DATE: 1985 HURSDAY, JULY 11, 1985

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