

KC 99'er

CONNECTION

A KANSAS CITY PUBLICATION



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--JULY ISSUE--

PICASSO -FAIREWARE OR NOT
(reprinted from Cleveland UG Newsletter)

There has been much controversy through the newsletters whether this program is or is not faireware. Some people have insisted that if you have a copy, you destroy it, because it was NOT intended as faireware. This past couple of months a couple of newsletters have even hinted that PICASSO itself is based upon a commercial TI drawing program in cartridge that was dumped to disl. The only one that came to mind was PAINT-N-PRINT and it is indded the one that is mentioned the most.

In fact some of the information I recently received would indicate that we possibly have a PICASSO-GATE on our hands. The whole thing has been badly handled and those of us who sent Mr. Henio money directly seem to be the ones left out in the cold. It seems that some are after Asgard to refund their money. So we are left with a choice of taking a pirated copy or paying twice for essentially the same piece of software. So, if you have not sent your money to Mr. Henio, please do not now. Order the commercial version from Asgard and hope it doesn't get pulled because of possible copyright violataions.

```

#####
|#                                     #|
|#                                     #|
|#          OUR NEXT MEETING          #|
|#          SUNDAY - JULY 10 1988     #|
|#          2:00 P.M.                 #|
|#          Arthur Mag Center behind M.R.I. #|
|#          Volker Boulevard & Rockhill Road #|
|#                                     #|
|#          STARTING XBASIC CLASSES   #|
|#                                     #|
|#                                     #|
#####

```

TI-KEYS IN REVIEW
by Steven DeGeare

TI-KEYS is just about the handiest program for programming I have seen. It is written in Assembly and loads into your lower memory. That is where it stays until you either turn off your computer or load in some other Assembly program.

Now what does TI-KEYS do anyhow is the question. First after you load the program which comes with a XB loader. You use the CNTRL Key to operate your commands. Hitting CNTRL and Quit will give you the menu, which looks like the following:

TI KEYS
BY
WES JOHNSTON
VERSION 3.0
COPYRIGHT 1984

PRESS

- 1 TO EDIT KEYS
- 2 TO SAVE KEYS
- 3 TO LOAD KEYS
- 4 TO TURN OFF MACRO
- 5 TO RETURN TO BASIC

By using the menu shown above you can enter TI-KEYS and change the default keys A-Z to any string up to 18 characters in length. Now keys 1-0 are known as the user defined keys. That is, these keys can set up any sort of string to the length of 32 character such as OPEN #3: "RS232/2.LF" to #1 and so forth.

Also you see on the menu a feature to save your custom designed keys to disk and can load any custom designed keys you may have previous done and wish to use for a particular program need. To enter back into XBASIC you press 5. Now you are back in command mode of XBASIC and can finish your programming using your newly created custom keys.

I have found this to be one of the most useful and beneficial programming aids available or that I have seen. It is a FAIREWARE program and

the author Wes Johnston is only asking \$10.00 for it. Besides that we have this in our own Users Exchange Library. Put in a program and take out this one and two more. For you get 3 for 1 in our Exchange Library.

=====

A couple more peculiarities of the computer

```
100 DISPLAY AT(3,8)ERASE ALL
:"POS PUZZLE #1": : "      f
rom Tigercub"
110 DISPLAY AT(9,1):"Why doe
s the computer say":"that X=
1 if you answer the":"prompt
with the Enter key":"(null-
string) ?"
120 DISPLAY AT(14,1):"110 IN
PUT M$"
130 DISPLAY AT(15,1):"120 X=
POS("TESTING",M$,1):":"PR
INT X :: GOTO 100"
140 !POS PUZZLE #1 - why doe
s the computer say that X=1
if you answer the prompt wit
h Enter (null-string) ?
150 INPUT M$
160 X=POS("TESTING",M$,1)::
PRINT X :: GOTO 140
```

=====

'ARE YOU GROUNDED'
by Tom Rockett
(from Mid-America Cursor)

Is your system really grounded with a three prong outlet? Yes you may even have the 3 pronged adaptor plugged into the outlet. But is your outlet grounded?

Without the proper 'ground wire', my entire system could have been destroyed by excessive voltage traveling through the house. The most common cause of excessive voltage entering your house is through lightning, during an electrical storm. However, a malfunction of a transformer on the main line may cause the very same trouble.

Testing your outlet may be done in several different ways.

The easiest is to use an Ohms/Volt meter, also called a Multitester. Do follow the instructions which come with it. Another alternative would be to do a visual check. Go and flip your breakers to shut the power off to the outlet. You should plug a lamp into the outlet first to see that no power is coming through. Once this is done, remove the cover and check to see if you have 3 wires. A power wire, a ground wire and the negative wire. Return the cover and flip on the power.

If you find out that you already have a 'ground wire', then you merely need to get a Voltage Spike Protector. These can be purchased at Radio Shack.

In the event you are not grounded, you should install one right away, or have it done. Without the 'ground wire' the Spike Protector will not work.

REMEMBER, using a 3 pronged adaptor in your two prong receptable does not serve as a ground wire. Your system is easy prey for an excessive voltage surge. BAM!! Goes your whole system.

I enjoy my TI and hope to maintain it in the best possible ways. I also want my fellow '99'ers to know of any possible hazards towards our machines.

(editor note) If you have any helpful hints. Get them to me and I will publish them for all to read and use.

PROGRAMS THAT WRITE PROGRAMS

Part 5

by Jim Peterson

In addition to writing programs in MERGE format, the same techniques can be used to analyze or modify programs which have been SAVED in MERGE format. The D/V 163 file editor in Part 2 of this series was an example.

Here is a simple program to remove REM statements -

```
100 DISPLAY AT(3,5)ERASE ALL
:"REM REMOVER": : : "Program
```

```
must be SAVED in": "MERGE for
mat by": "SAVE DSK(filename),
MERGE"
```

```
110 DISPLAY AT(12,1): "FILENA
ME? DSK" :: ACCEPT AT(12,14)
:F# :: DISPLAY AT(14,1): "NEW
FILENAME? DSK" :: ACCEPT AT
(14,18):NF#
120 OPEN #1:"DSK"&F#,VARIABLE
E 163,INPUT :: OPEN #2:"DSK"
&NF#,VARIABLE 163,OUTPUT
130 LINPUT #1:M# :: A=POS(M#
,CHR$(131),1):: B=POS(M#,CHR
$(154),1):: A=MAX(A,B):: IF
A=3 THEN 130 :: IF A=0 THEN
PRINT #2:M# :: GOTO 150
140 PRINT #2:SEG$(M$,1,A-1)&
CHR$(0)
150 IF EOF(1)<>1 THEN 130 ::
CLOSE #1 :: PRINT #2:CHR$(2
55)&CHR$(255):: CLOSE #2
```

The REM statement will begin with either a !, which is CHR\$(131), or REM which is CHR\$(154). So, line 130 reads in the lines one at a time. A finds the position in the line of ! and B finds the position of REM; one or the other, or both, will not be present and will equal 0. Then MAX finds the larger of A and B, which will be whichever one is present, or 0 if neither.

If ! or REM is in the 3rd position, immediately after the 2-byte line number, we want to delete the line entirely, so we do not reprint it. If A=0 then neither ! nor REM is present, so we reprint the entire line in the new file.

Otherwise, the REM statement is obviously a tail remark, so we reprint to the new file the segment of it starting with the first character and consisting of the number of characters one less than the position of the ! or REM. And, since we have lopped off the end of the line, we do not forget to replace the end-of-line marker CHR\$(0).

If we have not reached the end of the file, we go back for the next line. Otherwise, we close the old file, but remember to add the end-of-file marker to the new file before we close that too.

(THIS END OUR PROGRAMMING SERIES)

THE BLOODBANK

Walter H. Blood
2032 North 32nd Street
Kansas City, Kansas 66104

JULY 1988

This month we have a program
which will print a poster of another
Peanuts character, Linus. I hope
you enjoy it!

~~~~~

```
100 REM PEANUTS #10
110 REM LINUS
120 REM BY WALTER H. BLOOD
130 OPEN #1:"PI0"
140 PRINT #1:CHR$(27)&CHR$(48)
150 FOR L=1 TO 46
160 P$=""
170 READ N
180 FOR I=1 TO N
190 READ A,B$
200 FOR J=1 TO A
210 F$=P$&CHR$(32)
220 NEXT J
230 P$=P$&B$
240 NEXT I
250 PRINT #1:TAB(10);P$
260 NEXT L
270 FOR L=47 TO 51
280 PRINT #1
290 NEXT L
300 PRINT #1:TAB(20);"SECURITY IS A W
ARM BLANKET"
310 CLOSE #1
320 STOP
330 DATA 1,18,*****,2,14,****,7,***
,2,12,**,14,*,4,11,**,6,*,9,*,10,*
340 DATA 3,11,*,18,*,5,* * *,4,11,*,
5,*,13,* ***,5,*,5,10,*,8,**,10,*,2,
*,7,*
350 DATA 3,10,*,21,**,8,*,6,10,*,3,*,
5,***,4,*,4,*,9,*,4,10,*,2,* 00 *,4,
00 * *,10,*
360 DATA 5,10,*,2,*,5,*,8,* *,11,*,6,
10,*,3,*,5,* *,4,* *,5,**,4,*
370 DATA 4,9,*,19,*,4,*** *,3,*,4,9,*
,6,** ***,6,* *** * *,3,*
380 DATA 3,9,*,5,** ***,8,* ** * *
*,4,10,*,3,** ** *,7,* * *,3,* *
390 DATA 6,11,*,2,***,3,*,6,*,3,*,3,*
* *,4,9,*****,5,*,6,* *,3,* * *
400 DATA 3,8,*,11,*****,*,5,* * *,
3,7,*,11,***** *,7,** *
410 DATA 3,6,**,11,***** *,8,**,3,
```

```
5,*00*,9,*0000000* *,8,*
420 DATA 3,5,*000*,7,*00000000* *,0,*
,2,5,*000X*****XXXXXXXXX* *,6,*0
430 DATA 1,5,*0000XXXXXXXXXXXXXXXXX* *
** **0,2,6,**0000000000000000000* *,3,
*000*
440 DATA 2,8,*000000000000000000* *,3,*
000*,2,8,*000000000000000000* *,4,*0*
450 DATA 2,8,*XXXXXXXXXXXXXXXXXX* *,4,*
X*,2,8,*XXXXXXXXXXXXXXXXXX* *,4,*X*
460 DATA 2,7,*000000000000000000* *,4,
*0*,3,6,*000000000000000000* *,4,*0*,
6,**
470 DATA 4,5,*XXXXXXXXXXXXXXXXXXXXX* *,
4,*X*,4,*,3,*
480 DATA 3,5,*XXXXXXXXXXXXXXXXXXXXX* *,
4,*X* *,4,*
490 DATA 3,5,*#####* *,
4,*## *,4,*
500 DATA 3,5,*#####* *,
4,*## *,5,*
510 DATA 3,5,*#####* *
,3,*## * *,3,*
520 DATA 5,5,*#####*,3,
*,3,** **,3,*,3,*****
530 DATA 6,12,*,7,* *,3,* *,6,**,3,*
***,5,*
540 DATA 8,12,*,7,* *,3,*,3,*,4,* *,3
,**,7,*,3,***
550 DATA 3,12,*#####*,3,* *
*,11,***** ***,4,12,*,7,* *,5,*
* * *,23,*
560 DATA 2,5,*#####*
* ** *,24,*,5,3,**,11,**,12,* *,7,
***,14,***
570 DATA 3,1,**,11,**,15,*****
*****
580 DATA 1,0,*#####*
*****
~~~~~
```

This is the third in a series of
crossword puzzles I am including in
this column. This month's puzzle
has a holiday theme and comes from
the pages of "Family Computing"
magazine for the month of July
1987. In order to solve or print
out the puzzle, you must have the
master puzzle program which was
published in two instalments in the
January and February 1988 issues
of K.C. 99'er Connection. Copies of
that program are available on disk
for \$5.00 by writing to me at the
address above. Be sure to include
your name, address, and payment by
cash, check, or money order.

Fourth of July Puzzle Data

- A EAJA, NAOA, EBJB, OBAC, 1112
- B ECJC, ADAE, BECE, GEHE, 1096
- C IELE, MEMF, NFOF, DGGG, 1158
- D IGJG, EHGH, KHQH, FIGI, 1158
- E LIAJ, BJCJ, CKDK, HKIK, 1149
- F MRNK, ULFM, GMMK, FNKN, 1208
- G FOGO, KOZZ, ZZZZ, ZZZZ, 6353

Fourth of July Puzzle Clues

Across

- 1A One of the unalienable rights
- 1F Contine
- 1K This is for horses
- 2A Comes in skeins
- 2F -----Kari (Japanese ritual suicide)
- 2K Ahab is one
- 3B National Electronics Corp., abbr.
- 3F "Often ----- up in my room reading ... " -- BENJAMIN FRANKLIN (2 words)
- 3K More current
- 4B How an atlas is organized
- 5D A rodent
- 5J Opposite of yes
- 5N French article
- 6A What the U.S. celebrates on July 4th
- 7A Organization of patriotic women
- 7E Compass direction
- 7K Type of sailboat
- 8A Actor Scarif
- 8H Creative craft
- 8L A language in Thailand
- 9A Conforming to the law
- 9H Pre-adult
- 9M Pouch
- 10D Dessert for Americans on July 4th (2 words)
- 11A Hawkeye's pal
- 11E Exclude
- 11I For each
- 12A faxation without -----
- 13A to go in Paris
- 13H Hearing organ
- 13L Send out
- 14A What Rip van Winkle did
- 14G Sharp taste
- 14L Anagram for rain
- 15A Sudsy
- 15H Trinket
- 15L Symbol on the American flag

Down

- 1A Suffix for relative or slow
- 1B Tr----le: three-sided figure
- 1C No charge

- 1D Additional performance
- 1F Number of American states in 1776
- 1G Tabula ----- (blank slate)
- 1H Accts. Rec./Accts. Pay., abbr.
- 1I Essential part
- 1K This last name is the largest signature on the Decl. of Independence
- 1L Length X width
- 1M Type of sailboat
- 2N Cymbal of liberty?
- 3D Type of bread or whiskey
- 4E Openings
- 4J Tavern
- 6A Object of worship
- 6D Title
- 6C Pull
- 6H One of Patrick Henry's options
- 6I Moray
- 7M A coarse cloth
- 7N Prepare food
- 8D Rhythm & Blues, abbr.
- 8I Color in the American flag
- 8J Rebellion in Boston
- 9E See 1A Across
- 9K No to Gorbachev
- 9D Condensed moisture
- 10F Egyptian sun-god/abbr. for radium
- 10G Three in Florence
- 10L Officers who proclaim court orders
- 11A Copper and zinc alloy
- 11B Brand-name gelatin dessert
- 12C Apology
- 12D Coarse-weave fabric or type of tie
- 12H Tidy
- 12I Edible root
- 12M Leave out
- 12N Name in a Hirschfeld drawing
- 13D Used with feathers for punishment or humiliation

Fourth of July Puzzle Solution

```

|LIFE*TRAP*HAY**|
|YARN*HARI*ARAB*|
|*NEC*ISAT*NEWER|
|*GEOGRAPHICALLY|
|***RAT***NO**LE|
|INDEPENDENCE***|
|DAR*SE**E**KETCH|
|OMAR*N*ART*LAO*|
|LEGAL**TEEN*POD|
|***BIRTHDAYCAKE|
|BJ**BAN**PER**W|
|REPRESENTATION*|
|ALLER**EAR*EMIT|
|SLEPT*TART*RIAN|
SOAFY**TOY*STAR

```

PRBASE BUG REPORT  
from William Warren

Despite my best efforts to make version 2.0 as bug free as possible, some minor bugs seem to have found their way into the program. Each documented below are easy to avoid or compensate for.

OUTPUT DEVICE NAME:

Most of the development work for version 2.0 was done with existing databases from version 1.2 in order to ensure upward compatibility. Also, I must have designed 50 different databases to test the code changes, but still failed to catch this bug until after release.

As you already know, if you have already assigned a default output device name when designing a data screen with CREATE. This output device will appear as the default whenever you edit or change your data screen. The problem is that on the first design, the old default is displayed as well, even though no former default existed. Hence, when using a freshly initialized diskette and designing a new database for this disk, when the program asks for "OUTPUT DEVICE NAME". It presents you with a field full of character 229's (>E5), which is what the format disk routine leaves all the disk sectors filled with. Since character 229 does not have any character definition in the character pattern table, it shows up looking like a space. If you try to output to a common device name like PIO, you are actually trying to output to a device name like PIOxxxxxxxxxxxx where x's are >E5's.

Many folks have mistakenly tried to work around this by using output device names like PIO.CR. Anytime you place a period in the output names, the ROM code just scans for the first two characters following the period, and then looks for another period (or something and equal sign)... You probably will not have trouble when using RS232 as the output device.

Anyway using PIO.CR causes all the >E5's to be ignored, but also sets a software switch, suppressing the carriage return-line feed pair that are normally sent at the end of each line of text. Not sending the CRLF pair requires that you space fill each printer line (send out a full 80 characters on an 80 column printer) to cause the printer to move on the next line. This need for space filling will totally mess up your column alignment. I suspect that a lot of folks who are using this method are just getting along with the P command screen dumps, and are not taking advantage of PRBASE's tabular report capabilities.

The fix is simple:

At the finish of designing or editing the data screen and have advanced to where CREATE asks for OUTPUT DEVICENAME. Press FCTN 3 (ERASE). This clears out all the >E5's from the field, and fills with true spaces. Once this is done you will not have to do again.

Some folks have written about problems with misalignment of columns in Lab Reports. Go to CREATE and work your way through till you get to the headers for changes. Retype the header, taking care to use the space bar and not an arrow key.

REMEMBER do not use the right arrow key!!! Using the space bar fills the header field, whereas using the right arrow key will sometimes leave nulls (ASCII 0's), which are subsequently ignored by the printer, and as such foul up your header alignment. Serves me right for clearing the screen with nulls instead of spaces.

I hope this report of bugs is useful to those of you who use PRBASE. If a user still needs help, I will be glad to try and provide an answer. That is if that sends me the problem diskette for my examination.

William Warren

# PUTTING IT ALL TOGETHER #1

by Jim Peterson

The hardest part of learning to program is not in learning what the various commands do - it is in learning how to put them all together to do what you want them to do!

Key in this simple routine and run it, to see what it does. Then read the explanations of each line and see how they do what they do!

```
100 CALL CLEAR :: RANDOMIZE
110 B=INT(5*RND+2):: IF B=B2
 THEN 110 ELSE B2=B
120 F=INT(5*RND+2):: IF F=F2
 THEN 120 ELSE F2=F
130 D=INT(5*RND+2):: IF D=D2
 THEN 130 ELSE D2=D
140 X=F*B*D
150 BB=INT(5*RND+2):: IF BB=
BB2 OR BB=B THEN 150 ELSE BB
2=BB
160 DD=INT(5*RND+2):: IF DD=
DD2 OR DD=D THEN 160 ELSE DD
2=DD
170 F=F*BB*DD
180 DISPLAY AT(3,1)ERASE ALL
:"IF";B;"BOYS CAN CATCH";X;"
FROGS IN";D;"DAYS,"
190 DISPLAY AT(6,1):"HOW MAN
Y FROGS CAN";BB;"BOYS": "CATC
H IN";DD;"DAYS?"
210 ACCEPT AT(7,19):Q
220 IF Q=F THEN DISPLAY AT(9
.1):"THAT'S RIGHT!" :: GOTO
110
230 DISPLAY AT(9,1):"NO, THA
T'S WRONG."
240 DISPLAY AT(11,1):"IF";B;
"BOYS CAN CATCH";X;"FROGS IN
";D;"DAYS"
250 DISPLAY AT(13,1):"THEN U
NE BOY CAN CATCH";X/B;"FROGS
IN";D;"DAYS"
260 DISPLAY AT(15,1):"AND ON
E BOY CAN CATCH";X/B/D;"FROG
S IN ONE DAY."
270 DISPLAY AT(17,1):"SO, IF
ONE BOY CAN CATCH";X/B/D;"F
ROGS IN ONE DAY,"
280 DISPLAY AT(19,1):"THEN";
BB;"BOYS CAN CATCH";X/B/D*BB
;"FROGS IN ONE DAY"
290 DISPLAY AT(21,1):"AND";B
B;"BOYS CAN CATCH";X/B/D*BB*
DD;"FROGS IN";DD;"DAYS."300
DISPLAY AT(24,1):"PRESS ANY
KEY" :: CALL KEY(O,K,S):: IF
S=0 THEN 300 ELSE 110
```

Clear the screen and insure that selection of random numbers will be different each time. RND gives a random number between 0 and .999... Therefore RND\*5 gives a random number between 0 and 4.99999.... INT drops the decimal part of a number, so INT(RND\*5) gives a random whole number between 0 and 4, and INT(RND\*5+2) gives a whole number between 2 and 6.

The first time the program is run, B2 has never been given a value, so it equals 0. Since B is between 2 and 6, it does not equal B2; the program continues, B2 is given the value of B. When the next random problem is selected, if the same value happens to be selected again for B, B2 will equal B and the program will go back to make another selection. This prevents the "stupid computer syndrome" of the same question being asked twice in a row.

B was the number of boys in the first question. In the same way, F is selected to be the number of frogs that one boy can catch in one day, and D is selected to be the number of days in the first question.

In line 140, F is multiplied by B by D to find the total number of frogs in the first question. This method insures that all calculations will be in whole numbers.

In lines 150 and 160, BB and DD are randomly selected as the numbers of boys and days in the second question. These values are rejected if they are the same as the previous time or if they are the same as were selected for the first question.

Line 170 then multiplies the number of frogs that one boy can catch in one day by the number of boys and days in the second question. The rest is merely a matter of screen formatting. Note that numeric variables can be incorporated in string text, by separating them with semicolons; they will print out their value with a blank space before and after. Note also that numeric calculations can be performed within the DISPLAY AT statements, and will print the numeric result of the calculation preceded and followed by a blank space.

#####

```

: KC 99ER OFFICERS FOR 1988 :
:
: WALTER BLOOD - PRESIDENT :
: 371-1092 :
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: JOHN DILLY - VICE-PRESIDENT :
: 441-2422 :
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: STEVEN DEGEARE - EDITOR :
: 753-8461 :
:
: GARY BURNS - KC 99ER BBS :
: 436-7661 SYSOP 436-9074 :
:
: TOM STEPHANIAK - TREASURER :
: 897-9604 :
:
:-----:

```

#####

```

ttttt rrr iii v v iii a
t r r i v v i a a
t rrr i v v i aaaaa
t rr i v v i a a
t r r iii v iii a a

```

"TI 99 TRIVIA"  
(by Bill Gaskill TidBits NL)

Some of what you will read here you may already have seen before. All of it is simply a collection of facts, figures and other trivia collected from the innumeralbe publications that have covered or even mentioned the TI Home Computer Era. The majority of this comes from the actual publications that I have perused in compiling the Master Index of 99/4 and 4A information. Here we go...

The TI 99/4 was unveiled in June of 1979 but did not actually make it to market until early 1980 because of pre-production bugs that couldn't be worked out in time for the Christmas season.

The TI 99/4A was unveiled in June of 1981, at the Summer Consumer Electronics Show in Chicago.

It is the 'A' in the TMS9918A Video Display Processor chip that gave the 99/4A its name. The 99/4 screen controller chip is the TMS9918.

On April 25, 1983 TI began offering a free FE Box to anyone purchasing any three of the following: RS232 card, a Disk Controller card, a Disk Drive, a 32K Memory card, a P-Code card, TI-Writer, or Multiplan.

The home computer 'Shake-out' battle between TI and Commodore began in earnest in August of 1982. By July of 1983 it was clear that TI had lost the battle. They reported over a \$100 million loss in the second quarter of 1983 alone. Despite losing so much money on the 99/4A, the entire product line accounted for only 5% of TI sales.

Plans to introduce the TI-99/2 (4.2K RAM competitor to the TIMEX-Sinclair computer) were cancelled in May of 1983 after prices for the 99/4A fell to a point where they encroached upon the 99/2's target market.

Plans to introduce the TI-99/8 (the 64K upgrade computer for 4A owners) were shelved in June 1983 and the introduction was cancelled completely in November 1983 because of the 'bailout'.

The TI-99/8 came with Extended Basic and Pascal in ROM chips like the 4A has TI basic.

The beige colored 99/4A console appeared in June of 1983.

TI announced the end of the TI 99/4A computer on October 28, 1983. Total production actually stop or ended in 1984 though.  
(more to come)



ANALYSIS OF SORTING ROUTINES by Jim Peterson

Number of value changes made is shown above the number of value comparisons made. All sorts were made on the same portions of the same random array.

Number of records - 10 to 100

|         | 10  | 20  | 30   | 40   | 50   | 60   | 70   | 80   | 90   | 100  |
|---------|-----|-----|------|------|------|------|------|------|------|------|
| BUBBLE  | 208 | 316 | 1018 | 1868 | 3218 |      |      |      |      |      |
|         | 52  | 182 | 450  | 805  | 1269 |      |      |      |      |      |
| SHAKER  | 109 | 311 | 1009 | 1855 | 3195 |      |      |      |      |      |
|         | 55  | 152 | 417  | 755  | 1172 |      |      |      |      |      |
| SWAP    | 52  | 130 | 207  | 286  | 354  | 457  | 539  | 642  |      |      |
|         | 54  | 209 | 464  | 819  | 1274 | 1829 | 2484 | 3239 |      |      |
| SHUTTLE | 73  | 224 | 735  | 1360 | 2357 |      |      |      |      |      |
|         | 27  | 83  | 260  | 475  | 813  |      |      |      |      |      |
| EASY    | 102 | 323 | 611  | 979  | 1297 |      |      |      |      |      |
|         | 45  | 137 | 254  | 407  | 538  |      |      |      |      |      |
| QUICK   | 121 | 318 | 400  | 653  | 816  | 1032 |      |      |      |      |
|         | 108 | 292 | 440  | 613  | 764  | 969  |      |      |      |      |
| RESORT  | 43  | 120 | 317  | 552  | 911  | 1197 |      |      |      |      |
|         | 30  | 87  | 264  | 479  | 818  | 1084 |      |      |      |      |
| SHELL   | 35  | 109 | 206  | 351  | 557  | 633  | 691  | 857  | 1071 | 1156 |
|         | 30  | 92  | 150  | 226  | 364  | 422  | 485  | 581  | 683  | 756  |
| WAZZIT? | 59  | 184 | 345  | 578  | 775  | 1005 |      |      |      |      |
|         | 55  | 210 | 465  | 820  | 1275 | 1830 |      |      |      |      |
| INSERT  | 49  | 126 | 323  | 558  | 917  | 1203 |      |      |      |      |
|         | 21  | 60  | 235  | 440  | 769  | 1020 |      |      |      |      |

Observations: the Wazzit? sort is one that I wrote, but I presume it has been done before under some other name. Some others of these may also be known under other names. The popular Bubble Sort is obviously the least efficient of them all, even for small arrays. The Quick Sort is not very quick. The Shell Sort is by far the best general-purpose sort when the file may be of any length and degree of randomness.

(this series will continue next month)

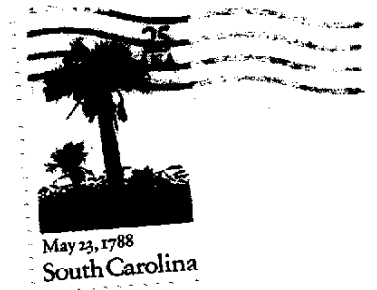
(editor note)

Sorry for the repetitive use of Jim Peterson in our Newsletter. But I was pressed for time and did not have enough material ready to go for our newsletter. Any help will be welcome with great appreciation.

KANSAS CITY TI99/4A COMPUTER USERS' GROUP  
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NORTH KANSAS CITY, MISSOURI 64116



FIRST CLASS MAIL



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FEATURING IN THIS ISSUE

BLOODBANK  
ARE YOU GROUNDED  
PICASSO ???  
WRITE PROGRAMS 5  
TI TRIVIA  
TI KEYS REVIEW

JMAMFJ88N0SAB7  
DALLAS TI HOME  
Computer Group  
P. O. Box 29863  
Dallas TX 75229



NOTICE  
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Coming up for the August meeting. We will be having our (now annual) User Group Picnic. The location is in Raytown. Be looking for the map in the next issue of KC 99'er CONNECTION.

ARTICLES, ARTICLES IS WHAT I NEED. IF THOSE OF YOU WHO ARE CREATIVE WOULD BE WILLING TO TAKE HOME SOME OF OUR WONDERFUL AND INFORMATIVE EXCHANGE NEWSLETTERS. THEN BROWSE THROUGH OR EVEN READ THEM AND TYPE IN WHAT YOU THINK WOULD BE GOOD MATERIAL TO BE PUBLISHED IN OUR NEWSLETTER, THEN GO FOR IT. THE FOLLOWING FORMAT IS NEEDED. EITHER TYPE IT IN 80 COLUMN WITH TABS OF 2 AND 78. OR ELSE YOU CAN TYPE IT IN THE 34 COLUMN FORMAT WITH TABS OF 2 AND 34. YOUR EDITOR WOULD APPRECIATE ANY HELP HE CAN GET. THANKS FOR SUPPORTING YOUR TI USER GROUP.

editor - Steven DeGeare