

THE R O M NEWSLETTER
 USERS GROUP OF ORANGE COUNTY
 17161 EDWARDS STREET
 HUNTINGTON BEACH, CA 92647



07/90
 Dallas TI Computer Group (DTIH)
 PO Box 20863
 Dallas,
 TX 75229



AUG 1990

SERVING THE TI 99/4A HOME COMPUTER COMMUNITY

WE MEET AT MERCURY

TIME AND PLACE OF MEETING

The FIRST Thursday of each month at
 MERCURY SAVINGS and LOAN
 7:30 PM

West of Beach at 7818 Edinger Ave.,
 Huntington Beach, Cal. Use the WEST
 entrance. Park on the west side of
 the building. All are welcome.

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 VICE-PRES ..EARL RAGUSE..... 847-5875
 SECRETARY ..EUGENE SMITH..... 847-3961
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 SILES BAZERMAN ..NEWSLETTER .897-2868
 BEN HATHEWAY..BULLETIN BOARD .751-4332
 BILL NELSON...HALL OF FAME .750-6425

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We solicit letters and articles of interest to the TI-99/4A user community. Material accepted may be edited for fit and format. No payment is offered nor intended (other than your byline).

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NEWSLETTER CONTRIBUTORS

NEWT ARMSSTRONG.....EDITOR EMERITUS
 EARL RAGUSE.....TI FORTH
 ADRIAN ROBINSON.....ASSEMBLY
 ROBERT SHAFFER.....CIRCULATION
 JIM SWEDLOW.....AT LARGE
 BILL NELSON.....GRAPHICS

TI CLUB ACTIVITIES

CLUB	ACTION	DATE	INFO
UGOC	GENERAL MEETING	AUG 02	626-2957
BUG	GENERAL MEETING	AUG 06	871-3405
UGOC	LIBRARY, FTNVLV	AUG 07	842-0859
UGOC	LIBRARY, FTNVLV	AUG 14	842-0859
UGOC	BOARD MEETING	AUG 16	626-2957
UGOC	NSLETTER LIBRARY	CALL	847-5875
UGOC	GRAPHICS SIG	NONE	750-6425

FROM THE PRESIDENT

by Ben Hatheway

For those of you who haven't heard, our illustrious treasurer, Jerry Rash, was married to Kris this past Saturday. Our best wishes are extended for happiness and a good life together.

I am currently typing this article on a borrowed Geneve 9640 as I wanted to see for myself what this machine was all about. So far, I like it. Although my screen really isn't capable of 80 column reproduction, it is good enough to allow a genuine appreciation of the 80 column Funlweb editor I am using.

There has been much controversy about the machine, but as I use it I agree with those who state that there is a future for it. With a RAM disk or hard drive attached, it can be a powerful computer. It certainly runs faster than 1 TI and sometimes requires that a slower speed be selected for some programs, but there is much it is capable of.

Having had a background in MS DOS, it is pleasing to see the similarities while acknowledging the differences, often towards simplicity.

I hope that we can demonstrate the machine more in the future and show that some really great software can be written for it, even with the quirks that accompany many varieties of computers. The Geneve may be where our future is heading. I know that I will be buying one. See you at the meeting..

Ben

MEMBERSHIP CORNER

by Bill Nelson

Our membership is currently fifty-six. Three members are currently ninety days in arrears; and will be dropped during the next month if dues are not paid. One member is currently sixty days in arrears. Seven members memberships are currently due.

I want to thank all the members that told me how nice it was to get their letters and how much they appreciated the club's interest. Let's hear what you want to see at the club's meetings. Or, if your having problems with a particular program, let us hear about it and we can help you out.

Did you know that there was a parking lot SIG after the meetings? That is

"Special Interest Group" (SIG). How about the Denneys SIG after that, most of the time.

At the last meeting many we had two visitors, Charles Stanton and Jonathan S. Tuttleman. It was good meeting you and we look forward to seeing you again at our next meeting.

Our club library has a large number of excellent programs now available so please patronize it if at all possible.

Are you receiving the ROM at your home? If not and you would like to, the ROM is sent to all members of the club, join us. To do so send \$20.00 (the first years membership) to:

Users Group of Orange County
Membership Chairmen
Bill Nelson
11692 Puryear Lane
Garden Grove, CA 92640

For more information, contact me on GENIE: B.NELSON7

JUNE BOARD MEETING

By Gene Smith, Secretary

The meeting was held Thursday, June 21st, 1990 in Costa Mesa, CA at the home of Ben Hatheway, who called the meeting to order at 7:00 P.M.

Others present were, Earl Raguse, Gene Smith, Jerry Rash, Bill Nelson, Siles Bazerman, and Stan Corbin.

The minutes of the MAY "BOARD" Meeting were read by the Secretary for the BOARD'S approval as read.

JERRY RASH, the TREASURER, submitted copies of the Treasurer's Report which indicated that our "GROUP" is definitely in the black.

SILES BAZERMAN, the ROM EDITOR, reported that there was definitely a NEED for articles for the ROM particularly RE: ASSEMBLY LANGUAGE for the AUGUST issue. He also stated that since the membership had indicated that they wanted the ROM to be mailed, the deadline for turning articles in for ROM publication would be the weekend before the BOARD Meeting. This is to allow time for organizing, printing and mailing.

BILL NELSON, the MEMBERSHIP CHAIRMAN, reported that we have one new member and encouraged EACH OF US to bring a guest to our meetings, in an effort to increase our membership. He said that we presently have 59 members.

BILL NELSON, who is also the HALL OF FAME CHAIRMAN, submitted the names of JOHN KOLDEN, LAURA BURNS, R.A. GREEN and BUD MILLS as nominees. The BOARD recommended Koloen, Burns and Green for nomination by our members, but decided to consider Mills at a later time. BILL is still finding it difficult to obtain the full background information concerning these nominees, so that he can present it to the "GROUP" and said that he would appreciate any information about any nominee that might be available from our members.

EARL RAGUSE, the NEWSLETTER LIBRARIAN, reported that the library is still in the process of being reorganized, that at least 15 loose-leaf binders are needed (2" to 3" preferred) so that this helpful data can be better utilized by our members. He also said that he has a number of NEWSLETTERS (out of date), that may be had for the asking.

The next GENERAL MEETING (July) will consist primarily of a RAG-MULTIPLAN DEMONSTRATION by Siles Bazerman and the DISK LIBRARY will also be open.

The meeting adjourned at 9:00 P.M.

UGOC HALL OF FAME

By: Bill Nelson and Siles Bazerman

This month's Hall of Fame selection is R. A. Green. Mr. Green has written RAGTIW, an enhanced TIW EDITOR and FORMATTER, disk based, with new commands. Also rag assembler, RAGLINKER (converts E/A3 to E/A 5 files.) New is RAGMP enhanced MULTIPLAN.

Innovative programming like the above mentioned programs makes our little wonder so much more. Mr. Green's programs make us all proud to be associated with the TI.

Thank you again Mr. Green for all of your support. People like you make having our orphan so much more fun.

UGOC HALL OF FAME REPLIES

Sorry, during the last month we didn't receive any a responses from Hall of Fame inductees watch for replies next month.

UGOC
BULLETIN
BOARD
300/1200/2400 BAUD
(714) 751-4332

AND SO FORTH #50

By Earl Raguse

MORE STRINGS

If all this seems a putup job, it isn't. I did not actually plan it so as to wait for ASF #50 to discuss the words on Screen #50. After having written 50 ASF columns, it does seem like 50 years. I am only kidding, I probably will continue to write ASF's even if I had planned to stop at #50 a long time ago.

Now on to Screen #50. GET#, on line 1, is another very simple word that I used to do an overkill on, until Lutz Winkler straightened me out. I used to call it GNUMB which used GSTR\$ to get a number string on the PAD, then convert it into a number on the stack, how gross, I hate to even think of it, but it worked.

That was one of my earlier (and I then thought great) accomplishments, to finally to be able to have Forth prompt me for a number, and wait for me to enter it. According to books, by experts, that I had read, that was not "good Forth style", Forth programmers were supposed to know when to put numbers on the stack before executing a word that needed them. I think they have now changed their opinion on that.

COMP\$ (a b n - f), line 2, expects two addresses a and b and a count n on the stack, and will leave a flag. COMP\$ is a very powerful word which can compare the first n bytes of strings a and b. If they are equal, a true flag is left on the stack, else a zero. COMP\$ can be very simply modified to do sorting, just delete the last 0=.

Line 2, 2DUP + ROT computes and puts on the stack (a n b+n b) used for DO loop limits. Then when n bytes are compared, by subtraction, on line 3,

```
DO DROP 1+ DUP 1- C@ I C@ -
```

the value left is then converted to +/- 1 by

```
DUP IF DUP ABS / LEAVE THEN
```

a flag of -1 is set if a<b and 1 if a>b, and 0 if a=b. Now for line 5,

```
LOOP SWAP DROP 0= ;
```

LOOP closes the loop. The first DROP after the above DO drops the old flag, in the first pass, it drops the unused n. The SWAP DROP after LOOP could have been replaced by NIP if I had known it when I wrote COMP\$. You can do that.

The last \emptyset inverts the flag so that a true flag is set when a match is found. When you delete the \emptyset , call it SORT\$ and use the different flag values to control the sorting operations. (see ASF #17 and #18 in the Mar and Apr 1987 ROM's)

SEG\$ (a pos len - b len), line 6, is rather trivial, but very efficient. To get a segment of a Forth string, one needs only to increment the address by (pos-1), and take the required number (len) of bytes.

SWAP 1- +UNDER

SWAP 1- leaves (a len (pos-1)) on the stack, then +UNDER adds (pos-1) to a, leaving an address and count on the stack for TT (see later) or any other single string word. Very simple, and I get to use +UNDER again.

CENT\$ (a -), line 8, is likewise pretty simple, it just uses LEN\$ to get the length, then subtracts that from 4 \emptyset (CRT width), divides by 2, and SPACES over (tabs), ready to print. The original CR just puts the string on a different line from the command when used in the command mode. If you never use it that way, just delete the CR.

MOV\$ (a b -), line 10, just moves a string from a to b, uses LEN\$ to find out how long the a string is and uses CMOVE to move it. This is plagued by the same problem, as discussed in PACK\$. If address a plus LEN\$ should overlap address b, just use it twice with a temporary address like PAD. I could have used MOV\$ in PACK\$, but I hadn't defined it yet.

The reason Forth wants you to have a word defined before you use it in a definition, is because it needs the address to compile into the new definition. You can fool Forth, by defining a dummy word, to get an empty address, then filling it with something before execution. That's what I do in my two page DIRectionary and the discussion on vectoring. That's also what the words DEFER and IS do, (see the ROM, ASF #25 Dec 1987, and ASF #36 Jan 1989).

The word & (a b - a n), line 11, is a word I promised a while back. & expects two addresses on the stack, it 2DUPs them for later use and uses LEN\$ to get the lengths of both strings a and b in LA and LB respectively. OVER LA @ + computes the address to move string b to. The DUP LB @ BLANKS clears a place for string b, then LB @ CMOVE puts it there. Note that addresses a and b should not be overlapping, as previously discussed. LA @ LB @ + leaves the length of the result after

the remaining unused address a on the stack, ready to be used by TT, or similar single string words.

Now to Screen #51, POS\$ (a b cnt - pos) line 1, expects two addresses and a count on the stack, it will leave a position. POS\$ will find the position of string b, in string a, beginning cnt bytes into string a. POS\$ leaves the position POS on the stack.

A fair explanation is given in the comments, however, I just realized that I have changed POS\$ to use -ROT, which is loaded into my memory along with other UFW's, and not defined on Screens #48-#50. The definition of -ROT is simply:

: -ROT ROT ROT ;

It is in fact a reverse ROT. You will need to incorporate -ROT ahead of POS\$, or its equivalent in POS\$. Then LEN\$ is used to get the lengths of both strings in LA and LB, just as in & above, because they are frequently used and trying to keep track of them on the stack would make the sequence very difficult to follow. Next the variable POS is reset to \emptyset .

On lines 3 and 4, the limits of the DO LOOP are computed, this is a function of n the starting count and the length of string b. The stack manipulations are a bit complex, especially because it was necessary to save a copy of cnt on the stack at the end, and there must be a dummy \emptyset on the stack ahead of the limits, so it will be there after DO takes the limits off the stack.

The reason for this is that on successive loops, the \emptyset flag left by the prior pass must be dropped by DO (cnt b \emptyset) DROP in each pass. Notice that I have inserted the stack condition (cnt b \emptyset) immediately following the DO. Showing the stack condition at critical points is common practise among good Forth programmers, making the program more readable. It was necessary to put a \emptyset on the stack initially to be dropped by the first pass thru the loop.

Next POS is incremented by 1 POS +!, then DUP I SWAP LB @ COMP\$ is used in successive passes thru the loop, moving string b along looking for a match. If a match is found, IF POS @ LEAVE THEN, puts the position, relative to the starting point cnt, on the stack. The loop is exited.

NIP, line 1, gets rid of the excess address, SWAP - subtracts cnt, to make the position relative to the string start address, 1- is just a correction needed because we like to say a string

Starts at the first position of an address, when in fact it starts at the zeroth position.

If no match is found, ELSE 0 THEN, on line 7, puts a zero on the stack and the loop is repeated, unless the loop limit is reached, in which case the loop is exited with a 0 on the stack.

The final 0 < IF 0 THEN, on line 8, makes the final result 0 if no match was found. Sounds complex doesn't it. I did a lot of stack analysis before I got it working right.

TT (a n -), line 9, expects an address and a count on the stack, and is just an abbreviation for -TRAILING TYPE.

TT\$ (a -), line 10, requires an address on the stack and uses LEN\$ to find the count and then TT's it.

TTC (a -), line 11, also requires an address on the stack and uses COUNT to get the count, and then TT's it.

TT& (a b -), line 12, requires two addresses on the stack. It SWAPs these to get at the first, uses TT\$, puts in 1 SPACES, then TT\$'s the second string.

This is a fallacy if you wished to concatenate two words into one with no space, but the fix is easy, just change it to 0 SPACES. Otherwise concatenate the two words first with & and then use TT\$ to print it.

Lastly, .CENT just uses the above words to print a string centered on the CRT. XDIR is not worth discussing, so I won't.

Redefining IT makes sure that these words, once loaded will not be forgotten by the next application being loaded. Remember that I always FORGET IT at the beginning of a new set of screens to insure that I don't overload the available memory. If you must get the memory back, you can FORGET \$\$, which is what marks the boundary, then

```
: IT ;
```

so the next set will load without the system crashing, and saying IT?

C U next time, May the FORTH be with U.

SCR #50

```
0 \ STRING WORDS #2 EGR 3/28/90
1 : GET# QUERY INTERPRET ; \ get number on stack
2 : COMP$ ( a b n ) 2DUP + ROT \ ( a n b+n b )
3 DO DROP 1+ DUP 1- C@ 1 C@ - \ compare bytes, if not eq
4 DUP IF DUP ABS / LEAVE THEN \ DUP ABS / leaves +/- 1
5 LOOP SWAP DROP 0= ; \ eq leaves 0, 0= inverts
6 : SEG$ ( a pos len - b len ) \ get part of
7 SWAP 1- +UNDER ; \ a string
8 : CENT$ ( a - ) CR LEN$ 40 SWAP - \ locate offset to
9 2 / SPACES ; \ center the string
10 : MOV$ ( a b - ) OVER LEN$ CMOVE ; \ move string a to
11 : & ( a b - a n ) 2DUP LEN$ LB ! \ concatenate two strings
12 LEN$ LA ! OVER LA @ + DUP \ (addr to put b)
```

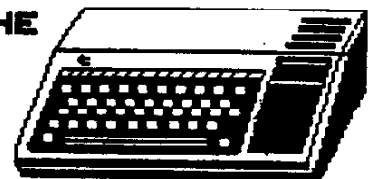
SCR #51

```
0 \ STRING WORDS #3 EGR 3/28/90
1 : POS$ ( a b cnt - pos ) DUP >R -ROT \ ( cnt a b )
2 2DUP LEN$ LB ! LEN$ LA ! # \ ( cnt a b # )
3 POS ! SWAP DUP R> + 1 SWAP \ ( cnt b a cnt 1 a )
4 LA @ LB @ - + 2+ # -ROT SWAP \ ( cnt b # see # below)
5 DO ( cnt b # ) DROP 1 POS +! DUP \ do loop, drop # incr P
6 1 SWAP LB @ COMP$ IF POS @ LEAVE \ check match, if found
7 ELSE # THEN LOOP NIP + 1- ; \ POS+cnt on stack el
8 : TT ( a n - ) -TRAILING TYPE ; \ just shorthand
9 : TT$ ( - ) DUP LEN$ TT ; \ type uncounted string
10 : TTC ( - ) COUNT TT ; \ type packed string
11 : TT& ( b s - ) SWAP \ type concatenated string
12 TT& 1 SPACES TT$ ;
13 : .CENT ( a - ) DUP CENT$ TT$ ; \ print string centered
14 : XDIR 4 22 AT ." DIR returns you to Directory"
```

Fest West 91



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Fest West 91 Committee
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