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The MID ILLINOIS COMPUTER RESOURCE ORGANIZATION
P. O. BOX 766 BLOOMINGTON, ILL. 61701-0766

BLOOMINGTON - NORMAL MICRO NEWSLETTER
July 1984, Vol. 2, No. 7

Welcome to the age of the computer in the home! Future meetings will be held the third thursday of each month at 7 P.M. in Room 200 Turner Hall, ILLINOIS STATE UNIVERSITY, Normal, Il. Future dates include July 19, August 6, September 20, and October 18, 1984.

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The program for July will consist of:

- * Our normal business meeting.
- * "PRINTER GRAPHICS" - by Lance Kwasny.
- * "AUTO DISK LOADING" - by Sid Smart.
- * "LIBRARY SOFTWARE DEMO" - by Wayne Johnson.

%%%% PRESIDENTS NOTES %%%%

As we get more and more into summer the thought of sitting down in front of the keyboard and writing some long, witty newsletter gets less and less appealing. Therefore, I intend to keep this one short.

For those of you who missed the June meeting I will venture to say that it was one of the best we ever had. After a short demonstration by Sherwood Smith the membership took time to celebrate MICRO's first birthday by having cake and ice tea. The meeting then resumed with the members arranging their chairs into a circle and discussing what direction we wanted to take the club. The discussion was lively and anyone who wanted to express his or her opinion got an opportunity. The biggest share of the discussion centered around the need to (1) have a greater interaction among the membership (2) stress education of the membership and (3) make the program more interesting to all. As a result of the discussions and a questionnaire passed out by Gorton Marsden several changes in our meeting format will take place starting in August with organizational meetings taking place during the July session. Starting in August, the general topics discussed as a group will be kept short while the bulk of the meeting time will go toward special interest group (SIG) discussions. As the SIG's will begin to get organized at the July meeting I urge everyone to attend. The more you participate the more you gain!

Bill Hull

COUNTDOWN CLOCK PROGRAM... Have you ever wanted a countdown clock on your screen? If so here is a short program written by our own Mike Werner that will do the trick.

```

10 REM *****
20 REM *      SCREEN CLOCK      *
30 REM * PUTS A COUNTDOWN CLOCK *
40 REM * ON TELEVISION SCREEN  *
50 REM *
60 REM *      BY MIKE WERNER    *
70 REM *****
100 CALL CLEAR
110 MINUTE=56
120 RIGHT=48
130 LEFT=48
140 GOSUB 230
150 FOR I=1 TO 1
160 NEXT I
170 GOSUB 280
180 IF MINUTE<>48 THEN 220
190 IF LEFT<>48 THEN 220
200 IF RIGHT<>48 THEN 220
210 GOTO 370
220 GOTO 140
230 CALL HCHAR(10,10,MINUTE,1)
240 CALL HCHAR(10,11,58,1)
250 CALL HCHAR(10,12,LEFT,1)
260 CALL HCHAR(10,13,RIGHT,1)
270 CALL RETURN
280 IF RIGHT>48 THEN 350
290 RIGHT=58
300 LEFT=LEFT-1
310 IF LEFT>47 THEN 350
320 LEFT=53
330 MINUTE=MINUTE-1
340 IF MINUTE>48 THEN 350
350 RIGHT=RIGHT-1
360 RETURN
370 RIGHT=48
380 GOSUB 230
390 END

```

%%%% 1984 MICRO OFFICERS %%%%

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VICE PRESIDENT	RON SECORD	662-1719
SECRETARY	SOPHRONIA BREEDLOVE	452-9746
TREASURER	ROY BREEDLOVE	452-9746
FAST PRESIDENT	JERRY WALKER	728-2493

MICRO is a registered non-profit corporation whose goal is to promote the use and understanding of the TEXAS INSTRUMENTS 99/4A and other TMS 99000 based computers through discussion and exchange of ideas. The MICRO NEWS is published monthly and is a benefits of regular membership in the organization. Members are encouraged to contribute articles for publication. Opinions expressed in the newsletter are those of the writer and not necessarily those of MICRO, its officers, editor or members.

Permission to use original articles or programs published in the MICRO NEWS is hereby granted to all TI User Groups as long as proper credit is given to the author and to The Mid Illinois Computer Resource Organization (MICRO).

Advertising by software/hardware manufacturers is accepted and encouraged. Rates for each publication are:

\$20.00 for a full page ad.
 \$12.00 for a half page ad.
 \$7.00 for a 1/4 page ad.

All advertising submitted by manufacturers must be camera ready and cut to size based on 8 1/2 x 11 inch copy format.

A SORTING ALGORITHM

In handling sets of numbers, or letters, we often find that we have to arrange them in some particular order. This is desirable if we have to search through a set of numbers or letters many times, since we can then make use of efficient searching techniques. For example, since we often have a name and need the corresponding phone number, telephone directories are sorted into alphabetical order by name. In some cases it may be desirable to have a phone directory sorted by phone number.

We actually do a lot of sorting in our day-to-day living. Arranging the volumes of an encyclopedia on a shelf, the cards of a bridge hand, bills to be paid, etc, all require sorting which we do manually.

There are many algorithms for efficient sorting methods. Some use very little storage in the computer while sorting, but are rather slow. Others are very fast, but use more storage space.

One of the fastest sorting algorithms in BASIC for sorting data is QUICK SORT. It is somewhat complicated, yet is very efficient. It achieves order by first choosing the item on the left end of the list and placing it in its proper place relative to the other items in the list. Then, all of the items of lesser value are placed to its left; and items of greater value are placed to its right. The list has now been divided into right and left lists. These two lists are repeatedly divided with items being exchanged until the entire array is sorted.

Reference:

Five Sorting Algorithms, Doug Hapeman, 99'er Home Computer Magazine, July 1983.

The Language of Computers, Bernard A. Galler. 1962.

```
100 REM quick sort
110 DIM A(100)
120 N=100
130 CALL CLEAR
140 REM GET RANDOM ITEMS
150 FOR I=1 TO N
160 REM
170 A(I)=INT(RND*100)+1
180 PRINT A(I);
190 NEXT I
192 PRINT :::::::
194 PRINT "QUICK SORT"
200 P=1
210 L(P)=1
220 R(P)=N
230 IF P<=0 THEN 610
240 LB=L(P)
250 RB=R(P)
260 P=P-1
270 IF RB<=LB THEN 230
280 I=LB
290 J=RB
300 T=A(I)
310 IF J<1 THEN 350
320 IF T>=A(J) THEN 350
330 J=J-1
340 GOTO 310
350 IF J>I THEN 380
360 A(I)=T
370 GOTO 500
380 A(I)=A(J)
390 I=I+1
400 IF I>N THEN 440
410 IF A(I)>=T THEN 440
420 I=I+1
430 GOTO 400
440 IF J<=I THEN 480
450 A(J)=A(I)
460 J=J-1
470 GOTO 320
480 A(J)=T
490 I=J
500 P=P+1
510 IF I-LB>=RB-I THEN 560
520 L(P)=I+1
530 R(P)=RB
540 RB=I-1
550 GOTO 270
560 L(P)=LB
570 R(P)=I-1
580 LB=I+1
590 GOTO 270
610 FOR I=1 TO N
620 PRINT A(I);
630 NEXT I
640 STOP
0
```

PROBLEMS AT HOME COMPUTER MAGAZINE?... Is HOME COMPUTER MAGAZINE going out of business? That is a question being asked by many subscriber and by many user group editors across the nation. Since the first of the year HCM has only produced three issues, not a very good average for a monthly magazine. I have read newsletters stating that HCM personnel are aloof and will not return phone calls, have ignored letters and have not shipped program tapes. One newsletter editor say he has inside information that HCM is in serious trouble. Another editor printed a form to send into HCM requesting a refund on your subscription. This editor also provided a simple program to determine how much to ask for when making your refund request.

In discussions with HCM personnel they have indicated to me that their problems do not stem from a decline in readership but from the change to a multi computer format. HCM, like most of us was caught of guard by TI's departure from the market. With production on the 99/4A terminated they had to look at other computers for continued growth of their magazine. As a result, HCM had to look for new advertisers, new software authors and had to gear up their publishing operation to accommodate the increased load.

The lady I spoke to at HCM indicated to me that they expect to be back on a monthly schedule beginning with the August issue. In addition, I have noticed that HCM is trying to make the best of a bad situation by extending our subscriptions to compensate for the lost issues. Instead of asking for a refund and cutting off my only link to information about the 99/4A, I think I'll stick it out.

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NEW SOFTWARE IN THE LIBRARY... Surprisingly enough we have received yet another CARE package from TI. The package we received in the mail this month is called ADVANCED ASSEMBLY LANGUAGE DEBUGGER and was a product that was announced prior to TI's decision to withdraw from the market. Like FORTH, TI has issued the following disclaimer:

Texas Instruments Incorporated (hereinafter "TI") hereby relinquishes any and all proprietary claims to the software language know as "Advanced Assembly Language Debugger" to the public for free use thereof, without reservations on the part of TI. It should be understood that the Advanced Assembly Language Debugger software is not subject to any warranties of fitness, either expressed or implied, by TI, and TI makes no representations as to the fitness of the Advanced Assembly Language Debugger software for any intended application by the user. Any use of the Advanced Assembly Language Debugger software is specifically at the discretion of the user who assumes the entire responsibility for such use.

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LOGO DESIGN CONTEST WINNER ANNOUNCED... In case you hadn't noticed our newsletter now has a logo. The winning logo was designed by Lance Kwasny and was developed using only a Basic language program. Lance will demonstrate how he designed the logo and printed it using the bit image graphics mode on his Gemini 15X printer at the July meeting.

SPECIAL INTEREST GROUP SURVEY RESULTS

I have divided the survey results into two categories, "Special Interest Group Topics", and "General Meeting Topics". Based on the responses, I have selected five possible interest group subjects which we will use at the next meeting as a starting point to see which groups will begin meeting in August. If a special interest group is not started in your area of interest, feel free to contact those people who have indicated that interest in the survey results below.

SPECIAL INTEREST GROUP TOPICS

Beginning Programming

Ray Hinrichsen
Susan Gruel
Tara Gruel
Leah Montgomery
Carl Raper
James Curtis
Roy Breedlove
Sophronia Breedlove

Extended Basic Programming

Gorton Marsden
Lance Kwasny
Wayne Johnson
Tom Carson
Brian McLeeters
Ed Torbert
Ray Fisher
Sophronia Breedlove
Roy Breedlove
Carl Raper
Tara Gruel
Ray Hinrichsen

Assembly Language Programming

Carl Raper
Lance Kwasny
Bill Dekowski
Sam Shank
Sid Smart
Pat Donahue
Tim Carol Harshbarger

Graphic or Display Tricks

James Curtis
Leah Montgomery
Susan Gruel
Gorton Marsden
Tara Gruel
Sid Smart
Bill Dekowski
Lance Kwasny

Game Programming

Sophronia Breedlove
Tom Carson
Wayne Johnson
Lance Kwasny
Tara Gruel
Susan Gruel
Leah Montgomery

Word Processing

Gorton Marsden
Bill Dekowski
Ed Torbert
Ray Hinrichsen
Tim Carol Harshbarger
Sam Shank
Tara Gruel
Lance Kwasny
Wayne Johnson
Sophronia Breedlove

Business Programs

James Curtis
Leah Montgomery

Forth Programming

Sid Smart
Pat Donahue

Educational Programming

Gorton Marsden
Carol Harshbarger

GENERAL MEETING TOPICS

responses

- 6--Non-TI Hardware Review or Demo
- 9--Printer Demo
- 6--Modems
- 1--Joysticks
- 3--Editing
- 5--User Friendly Techniques
- 11--Debugging Approaches
- 7--MICRO Library Software Demo
- 8--Database--What is it? What software?
- 1--Open Close Statements
- 1--Multiplan
- 1--Structured Programming
- 1--Question and Answer Session
- 1--Outside magazines, services, stores

STARTING LIST FOR SPECIAL INTEREST GROUP SUBJECTS

- Beginning Programming
- Advanced Programming--Ext. Basic, Editing, Debugging, etc.
- Assembly Language Programming
- Graphic/Game Programming
- Wordprocessing

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