



MID ILLINOIS COMPUTER RESOURCE
ORGANIZATION
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BLOOMINGTON - NORMAL MICRO NEWSLETTER
February 1985, Vol. 3, No. 2

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 February 21, March 21, April 18, May 16, and June 20, 1985.

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The program for February will consist of:

- * Our normal business meeting.
- * Reorganization and planning meeting.
- * "Personal Recordkeeping" by Sherwood Smith
- * Special Interest Group (SIG) Meetings.

%%%. PRESIDENTS NOTES %%%.

In an organization such as MICRO a lot depends on the membership and what that membership is willing to do. Based on the time I have been associated with MICRO I have seen a great deal of work being done by a small dedicated group of individuals. These individuals have served on committees, have made countless presentations, have become leaders of our special interest groups, and have served as officers of the club.

In starting of my term as President of Micro I would like to take this opportunity to thank all of these individuals for their past and hopefully future efforts. I would also like to challenge the bulk of the organization to get involved in one way or another. One of the main things I want to cover at our February meeting is a reorganization of our committees and get some of our new members involved.

To accomplish the task ahead of us I am asking that all members of the club attend the upcoming meeting. At this meeting we will be seeking volunteers for positions on committees and will try to organize activities for the coming months. The 1985 officers of MICRO and the small band of dedicated club members can not do all the work and we can no longer afford to have members sit along the sidelines and reap the benefits without participation. We ask for your help and look forward toward your cooperation.

Brian McFeeters

HAS CORCOMP COME BACK TO LIFE?... The club recently received a letter from CORCOMP INC. Remember those folks? They were the ones that were suppose to come out with the alternate expansion system for your 99/4A and was rumored to be developing the 99/8. Well, these guys had a few problems in 1984 which ultimately led to a reorganization of the corporation. According to the letter, the company has made the decision not to produce the large 99000 expansion system and is concentrating on the 9900 Micro Expansion System (hereafter called MES). The letter goes on to say that the company has worked out all of the bugs out of this system. Based on the reviews from the system test sites the unit sounds really great. More information on this system will be available at our meeting.

%%%%

MICRO GRANTED FEDERAL TAX EXEMPTION... Also in the mail this month was a letter from the IRS. Since MICRO was first organized in June of 1983 we have been operating as a non profit organization. But operating and being one under the law are two different things.

Thanks to the efforts of Roy Breedlove MICRO has finally received a letter recognizing us as a federally tax exempt organization. Along with not having to pay income taxes the club is now eligible for reduced postage rates and should be exempt from sales taxes. Thanks again Roy!

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128K BOARD ON SALE... Another item of interest for those people who have expansion systems is the announcement by Foundation Computing that they are running a User Group sale in February. During February the company is offering their 128K Memory Expansion Card and their Disk File Emulator Software for a total price of \$180.00. Total retail price on this package is \$259.95 so their sale will save you \$79.95. Information about ordering this equipment will be available at the February meeting.

%%%% 1885 MICRO OFFICERS %%%%

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|------------|-----------------|--------------|
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MICRO is a registered non-profit corporation whose goal is to promote the use and understanding of the TEXAS INSTRUMENTS 99/4A computer 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.

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.

ON BEING PRESIDENT OF MICRO... With the responsibilities of office behind me I can now take time to reflect on my term as President of MICRO.

For the most part I feel the experience was enjoyable and rewarding. I feel personally proud of the fact that our membership more than tripled in the last year and I am pleased that our special interest groups have gained the interest of our active members. On the other side of the coin, I feel saddened by the lack of participation at our meetings. I personally feel that the 1984 officers did everything short of dragging people to the meetings and we still could not get people to attend.

I know Brian and the rest of the officers have a great challenge ahead of them in 1985. If you want YOUR club to continue then you'll have to give your officers all the help you can. For starters why not plan to attend the February meeting and get involved?

Bill Hull

%%%

DUES INCREASE... At the January meeting the assembled membership voted to increase the 1985 dues to \$15.00. The increase is a direct reflection of the increased cost of printing the MICRO NEWS and postage. When you think about what you're getting it's still a bargain!

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SPEAKING OF DUES... Dues for 1985 are now due. Payment of your dues can be handled in person or by mailing your payment to our P. O. Box. Failure to renew your membership by April 1, 1985 will result in the loss of your membership. Sorry if that sounds tough but we must set some deadlines.

%%%

JANUARY COMPUTER SHOW A BIG SUCCESS... Once again MICRO put on a quality show at College Hills Mall. Aubrey Johnson was responsible for organizing this years show and it was really great. We had many fine demonstrations and still found some TI owners who didn't know we existed. Hopefully the show will result in new or renewed interest in the club. Thanks again Aubrey for job well done!

%%%

BASKETBALL CONFLICT... During our February meeting we are faced with a conflict with an ISU basketball game. Parking in the lot west of Turner Hall is not permitted however parking to the south of the building will be available. Plan on getting to the meeting early to get a good spot.

%%%

TWO GOOD ARTICLES... The following two articles were received of the mail since our last newsletter. One article called "CALL KEY" came from the December issue of the Mid Atlantic Ninty Niner's newsletter. The second article is "TIPS FROM THE TIGERCUB" by Jim Peterson. Both of these articles are well worth reading.

TIPS FROM THE TIGERCUB

#17

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TIGERCUB SOFTWARE
156 Collingwood Ave.,
Columbus OH 43213

Distributed by Tigercub Software to TI-99/4A Users Groups for promotional purposes and in exchange for their newsletters. May be reprinted by non-profit Users' Groups, with credit to Tigercub Software.

My new catalog \$5 is now available for \$1.00, which is deductible from your first order. It contains over 130 programs in Basic and Extended Basic at only \$3.00 each (plus \$1.50 per order for cassette, packing and postage, or \$3.00 for diskette, PP&M).

The entire contents of Tips from the Tigercub Nos. 1 through 14, with more added, are now available as a full disk of 50 programs, routines and files for only \$15.00 postpaid.

Nuts & Bolts is a diskfull of 100 (that's right, 100!) XBasic utility subprograms in MERGE 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, 8 pauses, 5 music, 2 protection, etc., etc., all for just \$19.95 postpaid!

And if you send an order before 31 December 1984 and mention your user group, you may take a 10% discount.

My 28-Column Converter, published in Tips #15, has a bug which causes a line to disappear if the wrap-around causes it to begin with a period and you are using the formatter option. Here is the fix -

```
Change line 300 to read: 300 FOR
M=1 TO 5 : READ CH$,R$
```

```
Change line 280 to read:
```

```
280 DATA @,(,.,^,*,.,,.,.,\
In other words, your DATA items will be the "at" sign above the 2, the left
```

brace on the front of the F key, the ampersand on the 7 key, the right brace on the front of the G, the carat sign above the 6, the tilde on the front of the W, the asterisk above the 8, the whatsit? on the front of the A, the period, and the backslash on the front of the Z.

A couple of other changes will automatically turn off the automatic fill and adjust, and turn it back on. At the end of line 180, add :: PRINT @2:".NF" and change line 270 to NEXT J :: PRINT @2:".FI;AD;";

```
:: CLOSE @2 :: CLOSE @1 :: EMD
```

Now, as long as the text strings in your program don't contain those oddball characters, all should be well. However, the program has one more bug which is common to all 28-column converter programs, and for which I can find no really good fix. If a program line is exactly 80 characters long, the next program line will follow immediately after it instead of starting on the next line. So, load the file in the Editor mode and scan it before you print it. If any of you whiz kids (or whiz grandpas) can figure out a way to program around that problem, please let me know!

A challenge in Tips #9 was to write a 1-line XBasic program which would take only 70 seconds to scramble the numbers from 1 to 255 into a completely random sequence without duplication. Richard Mitchell, the editor of Super 99 Monthly, came up with an algorithm which is shorter than mine and runs about 10 seconds faster - but it sure does chew up a lot of memory!

```
1 DIM A(255),C(254):: RANDOM
IZE :: CALL PEEK(-31808,B)::
IF B=0 OR A(B)=B THEN 1 ELS
E C(D)=B :: A(B)=B :: D=D+1
:: IF D=255 THEN END ELSE 1
```

And if you're not subscribing to Super 99 Monthly, you should be! It's only \$12 a year, and full of very useful programs, routines and tips. The address is Byteaster Computer Services, 171 Mustang Street, Sulphur LA 70663.

Also be sure to get the National

Ninety-Niner from the 99ers Users Group Association (3535 So. M St. #93, Bakersfield CA 93304), also only \$12 a year. Their roster of writers is beginning to look like the Who's Who of the TI world.

Danny Michael has written an assembly language program which will dup a graphics screen to a dot matrix printer (Epson or Gemini, and probably others) in less than 50 seconds - and he's giving it away. Just send him an initialized disk in a diskette mailer with an address label back to you and enough return postage. His address is Route 9, Box 460, Florence AL 35630.

Please, can ANYONE tell me where I can buy diskette mailers at a decent price? The cheapest I have found are \$0.65 each for an 11" x 9" piece of cardboard!

Somebody said they liked my Alphabet Song in the last Tips, and somebody else wanted some more routines for the speech synthesizer, so I put it all together and here's what I came up with. If you can type the alphabet without a mistake, you get an encore.

```
100 CALL CLEAR
110 PRINT "      ALPHABET S
ONG"
120 FOR J=1 TO 20
130 PRINT
140 NEXT J
150 PRINT "      By J
e Peterson": "Wait, please"
:
160 OPEN #1:"SPEECH",OUTPUT
170 DIM T$(26,2)
180 DATA 12,12,4,4,1,1,4,7,7
,8,8,10,10,10,10,12,4,4,7,8,
8,10,4,8,8,10
190 FOR J=1 TO 26
200 READ I
210 T$(J,1)="*"*STR$(I)*" "
&STR$(I/10*32)
220 T$(J,2)=CHR$(J+64)
230 NEXT J
240 T$(23,2)="DOUBLE"&"!*&"
"&"U"
250 CALL CLEAR
260 PRINT "READY - TYPE THE
```

```

ALPHABET*
270 T=0
280 K2=64
290 CALL KEY(3,K,ST)
300 IF (ST<1)+(K<65)+(K>90)T
HEN 290
310 IF K<>K2+1 THEN 330
320 T=T+1
330 PRINT #1:T$(K-64,1):T$(K
-64,2)
340 CALL HCHAR(12,17,K)
350 K2=K
360 IF K<>90 THEN 290
370 IF T=26 THEN 390
380 GOTO 270
390 FOR K=65 TO 90
400 CALL HCHAR(12,17,K)
410 PRINT #1:T$(K-64,1):T$(K
-64,2)
420 NEXT K
430 PRINT #1:T$(1,1):"NOW IV
E":T$(3,1):"SAID MY":T$(5,1)
:"A B":T$(3,1):"SEEZ"
440 PRINT #1:T$(8,1):"WONT Y
OU":T$(10,1):"COME AND":T$(1
2,1):"PLAY WITH":T$(1,1):"ME
"
450 GOTO 270

```

Terry Atkinson's routine to redefine the cursor has aroused some interest, so I fiddled around and came up with this version to change the cursor automatically to whatever character, normal or redefined, that you input.

```

100 :CURSOR CHANGER by Jim P
eterson
110 INPUT A$ :: A=ASC(A$)::
CALL CHARPAT(A,A$):: FOR J=1
TO 16 STEP 2 :: H$=SE6$(A$,
J,2):: CALL HEX_DEC(H$,D)::
T=T+1 :: H(T)=D :: NEXT J ::
120 CALL INIT :: CALL LOAD(8
196,63,248)
130 CALL LOAD(16376,67,85,82
,63,79,82,48,8)
140 CALL LOAD(12288,H(1),H(2
),H(3),H(4),H(5),H(6),H(7),H
(8))
150 CALL LOAD(12296,2,0,3,24
0,2,1,48,0,2,2,0,8,4,32,32,3
6,4,91)
160 CALL LINK("CURSOR"):THAN
KS TO TERRY ATKINSON
170 SUB HEX_DEC(H$,D):: M=1
:: DEC=0

```

```

180 FOR J=1 TO LEN(H$):: A$=
SE6$(H$,LEN(H$)-J+1,1):: IF
ASC(A$)>58 THEN HT=ASC(A$)-5
5 ELSE HT=VAL(A$)
190 DEC=DEC+M*HT :: M=M*16 :
: NEXT J
200 IF DEC<>32768 THEN D=DEC
ELSE D=-165536-DEC
210 SUBEND

```

And of course you can always color the cursor with CALL COLOR(0,5,11) or whatever colors you like.

Most folks don't seem to know, and some folks refuse to believe, that the Memory Expansion can't store strings. If you are one of the disbelievers, plug in your Memory Expansion and try this -

```

100 FOR J=1 TO 255 :: M$=M$&
CHR$(J):: NEXT J
110 DIM A$(100):: X=X+1 :: A
$(X)=M$ :: PRINT X :: GOTO 1
10

```

Now RUN that. On my console, I get MEMORY FULL when X=43 although the SIZE command shows I have 24399 bytes of program space free (in the Expansion) - but only 204 bytes of free stack (in the console). Without the Memory Expansion I can get X up to 51, and in Basic to 53.

This can be a serious handicap if you are running a program which reads in a large number of strings from DATA statements, or generates strings while running.

Of course, when the Memory Expansion is attached, the program and the numeric variables are stored in the Expansion, leaving all the console memory available for strings - but if you do not generate strings, the console memory remains unused, because numeric data cannot overflow into it!

If your program generates more numeric variables than the Memory Expansion can hold, you can however store them in the console by converting them to strings, using STR\$, and convert them back to numbers with VAL. This will allow you store an additional 700 to 900 or more numbers. Try this -

```

100 DIM A(3040),A$(1000):: F
OR X=1 TO 3000 :: A(X)=99 ::
PRINT X :: NEXT X
110 Y=Y+1 :: A$(Y)=STR$(99)
:: PRINT Y :: GOTO 110

```

When you get MEMORY FULL, type SIZE.

Dave Kenkenberger sent me a neat little routine, and I played around with it a bit. For you who are not football fans, I'd better explain that the Wave is performed at football stadiums when the cheerleaders get the fans to stand and cheer, one seating section at a time, across the stadium - and those drunks on the roof are usually out of sequence.

90 !THE WAVE by David Kenken-
berger/modified by Jim Peter-
son

```

100 CALL CLEAR :: CALL SCREE
N(4)

```

```

110 A$="the wave!!"

```

```

120 DISPLAY AT(4,14-LEN(A$)/
2):A$

```

```

130 B$="press any key to stu
p"

```

```

140 DISPLAY AT(22,14-LEN(B$)
/2):B$

```

```

150 B$="995A3C3C3C3C2466"

```

```

160 A$="000018187E8D3C3C"

```

```

170 FOR CH=91 TO 118 :: CALL
CHAR(CH,A$):: M$=M$&CHR$(CH
):: NEXT CH :: FOR F=8 TO 12
:: DISPLAY AT(R,1):M$ :: NE
XT F

```

```

175 FOR T=1 TO 26 STEP 5 ::
DISPLAY AT(22,T):SE6$(M$,T,1
):: NEXT T

```

```

180 FOR CH=91 TO 123 :: CALL
CHAR(CH,B$):: CALL CHAR(CH-
5,A$):: CALL SOUND(-999,-7,5
&RND):: CALL KEY(3,K,ST):: I
F ST<>0 THEN STOP

```

```

190 NEXT CH :: GOTO 180

```

MEMORY FULL

Happy hackin'

Jim Peterson

CALL KEY

THE CALL KEY PROGRAM IN EXTENDED BASIC IS A VALUABLE TOOL BUT I FOUND THAT IT HAS TAKEN ME A LONG TIME TO REALLY UNDERSTAND IT'S PROPER USAGE. ONE THING THAT HELPED ME WAS THE FOLLOWING QUICK REFERENCE CHART WHICH I PASTED INTO MY EXTENDED BASIC MANUAL FOR QUICK REFERENCE. Joyce Corker, Waltham, Mass.

CALL KEY (0,KEY,STATUS)

0=becomes whatever mode was used by previous CALL KEY statement
KEY= is returned as ASC VALUE()
STATUS=-1 if NO KEY is pressed

CALL KEY(1,K,S)

Returns K values from LEFT SIDE of keyboard

CALL KEY(2,K,S)

Returns K values from RIGHT SIDE of keyboard

CALL KEY(3,KEY,STATUS)

3=TI/99 4 MODE (FORGIVING)
K=only UPPER CASE letter values are returned even if a lower case letter is pressed in error BUT only works with FUNCTIONS 1-15 - NO CONTROL KEYS

CALL KEY(4,K,S) PASCAL MODE

provides UPPER and LOWER case letter values
FUNCTIONS 129-143 - CONTROLS 1-31

CALL KEY(5,K,S)

5=BASIC mode for TI/994A
K=returns BOTH UPPER LOWER CASE letter values BUT if upper case answers are asked for and lower case are returned, the lower case answers won't be accepted.

STATUS KEY CHANGES (EXCEPT IN '0' MODE)

S=1 (NEW KEY PRESSED)
S=-1 (SAME KEY PRESSED)
S=0 (NO KEY PRESSED)

ACCESSING FUNCTION AND CONTROL KEYS AND ARROWS:

```
100 DISPLAY AT(3,3)ERASE ALL:"PRESS CONTROL KEY , "  
110 FOR DELAY=1 TO 600 :: NEXT DELAY  
120 CALL KEY(3,K,S)  
130 IF K=128 THEN PRINT "CONTROL,COMMA PRESSED"
```

```
OR: 100 DISPLAY AT(3,3)ERASE ALL:"PRESS FUNCTION RIGHT ARROW"  
130 IF K=9 THEN PRINT "RIGHT ARROW KEY PRESSED"
```

```
OR: 100 DISPLAY AT(3,3)ERASE ALL:"PRESS FUNCTION 0"  
130 IF K=6 THEN PRINT "FUNCTION 0 PRESSED"
```

CALL KEY COMBINATIONS

I ALSO KEEP A NOTEBOOK OF USEFUL (AND REUSEABLE) TIPS AND TRICKS FOR PROGRAMMING AND I'VE WORKED OUT A FEW USEFUL CALL KEY COMBINATIONS THAT I CAN PULL OUT AND USE WHENEVER I NEED THEM. OF COURSE, YOU CAN SUBSTITUTE LINE NUMBERS OR DIRECTIONS TO SUB PROGRAMS OR OTHER INSTRUCTIONS INTO THE LOGIC INSTRUCTIONS.

YES OR NO ANSWERS WITH CALL KEY 0

```
80 CALL CLEAR  
90 PRINT "Y OR N? "  
100 CALL KEY (0,K,S)  
110 IF K=78 THEN PRINT "NO" :: STOP  
120 IF K(>89) THEN 100 ELSE PRINT "YES"  
130 STOP :: END
```

SPACE BAR OR CARRIAGE RETURN (ENTER) ANSWERS WITH CALL KEY 3

```
100 DISPLAY AT(3,3)ERASE ALL:"PRESS SPACE BAR TO CONTINUE"  
110 FOR DELAY=1 TO 600 :: NEXT DELAY  
120 CALL KEY(3,K,S)  
130 IF K=32 THEN PRINT "SPACE BAR PRESSED" ELSE IF K(>13) THEN 120  
140 IF K=13 THEN PRINT "ENTER (C/R) WAS PRESSED"  
150 STOP :: END
```

RIGIDLY CONTROLLED ANSWERS WITH CALL KEY 5

```
100 DISPLAY AT(3,3)ERASE ALL:"PRESS Y FOR YES" ; ; " PRESS N FOR NO"  
110 FOR DELAY=1 TO 600 :: NEXT DELAY  
120 CALL KEY(5,K,S)  
130 IF K=89 THEN PRINT "YES,YES" ELSE IF K(>78) THEN 120  
140 IF K=78 THEN PRINT "NO,NO"  
150 STOP :: END
```

ALPHABET ANSWERS THAT ARE FORGIVING OF WRONG CASE ANSWERS WITH CALL KEY 3

```
100 DISPLAY AT(3,3)ERASE ALL:"PRESS R TO REPEAT" ; ;  
" PRESS P TO PRINT"  
110 FOR DELAY=1 TO 600 :: NEXT DELAY  
120 CALL KEY(3,K,S)  
130 IF K=82 THEN PRINT "HERE YOU WOULD GO TO YOUR REPEAT SUBPROGRAM" ELSE IF K(>80) THEN 120  
140 IF K=80 THEN PRINT "HERE YOU WOULD GO TO YOUR PRINT SUB PROGRAM"  
150 STOP :: END
```

YES OR NO ANSWERS WITH CALL KEY 3 THAT FORGIVE YOU IF YOU ANSWER AN UPPER CASE QUESTION WITH A LOWER CASE ANSWER.

```
100 DISPLAY AT(3,3)ERASE ALL:"PRESS Y FOR YES" ; ; " PRESS N FOR NO"  
110 FOR DELAY=1 TO 600 :: NEXT DELAY  
120 CALL KEY(3,K,S)  
130 IF K=89 THEN PRINT "YES, YES" ELSE IF K(>78) THEN 120  
140 IF K=78 THEN PRINT "NO,NO"  
150 STOP :: END
```

TI TIPS

1. EXTENDED BASIC - To load and run program

```
RUN "DSK1.EXAMPLE" - (FOR DISK ONLY)
RUN "CS1"          - (FOR CASSETTE ONLY)
```

BASIC AND EXTENDED BASIC - To delete program

```
DELETE "DSK1.EXAMPLE" - (FOR DISK ONLY)
```

2. To clear screen by sweeping from top to bottom -

```
10 CALL HCHAR(1,1,32,768)
```

To clear screen by sweeping from left to right -

```
10 CALL VCHAR(1,1,32,768)
```

3. Amount of memory available for your program -

| | | |
|----------------------|-------------|-----------------------------|
| Console basic | 14536 bytes | |
| Console basic & disk | 12448 bytes | |
| TE II | 14024 bytes | |
| Extended basic | 13928 bytes | |
| X-basic, 32K, & disk | 11840 bytes | PLUS 24448 bytes in the 32K |

4. While editing a line, if you mistakenly hit FCTN 3 (erase) when you meant to hit FCTN 2 (insert), the entire line will disappear. Don't worry, just hit FCTN 4 (clear), retype the line number, and hit FCTN X. Your line will return ready to edit.

5. To tell if the speech synthesizer is attached (requires x-basic & 32k)

```
100 CALL PEEK(-28672,SP)
110 PRINT "HELLO HOW ARE YOU"
120 IF SP=96 THEN CALL SAY("HELLO HOW ARE YOU")
130 rest of program
```

If sp=96, then the speech synthesizer is attached.

6. To disable FCTN QUIT (requires x-basic & 32k)

```
CALL INIT (press enter)
CALL LOAD(-31806,16) (press enter)
```

FCTN QUIT will be disabled until you turn off console or type in .bye.

7. To unprotect an extended basic program (requires x-basic & 32k)

```
LOAD PROGRAM
CALL INIT (press enter)
CALL LOAD(-32699,0) (press enter)
```

You can now list or save the program.

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```
*****  
*          MM      MM   IIIII  CCCCCC  RRRRRRRR  00000000  *  
*          MM M M MM    II    CC      RR      RR    00    00  *  
*          MM M M MM    II    CC      RRRRRRRR  00    00  *  
*          MM  M  MM    II    CC      RR      RR    00    00  *  
*          MM      MM   IIIII  CCCCCC  RR      RR    00000000  *  
*  
*          The MID ILLINOIS COMPUTER RESOURCE ORGANIZATION  *  
*****
```