



HOOSIER USERS GROUP HOOSIER USERS GROUP HOOSIER USERS GROUP HOOSIER USERS GROUP HOOSIER USERS GROUP
 USERS GROUP HOOSIER USERS GROUP HOOSIER USERS GROUP HOOSIER USERS GROUP HOOSIER USERS GROUP
 GROUP HOOSIER USERS HOOSIER USERS GROUP HOOSIER USERS GROUP HOOSIER USERS GROUP HOOSIER
 HOOSIER USERS GROUP HOOSIER USERS GROUP HOOSIER USERS GROUP HOOSIER USERS GROUP HOOSIER
 USERS GROUP HOOSIER GROUP HOOSIER USERS HOOSIER USERS GROUP HOOSIER USERS GROUP HOOSIER
 GROUP HOOSIER USERS GROUP HOOSIER USERS GROUP HOOSIER USERS GROUP HOOSIER USERS GROUP HOOSIER USERS

THE HUGgers
HOOSIER USERS GROUP

MARCH, 1985

THE HUGgers NEWSLETTER

VOLUME 2, NUMBER 12

THE OFFICER'S CORNER

You wouldn't believe it, but, our blizzard meeting was very busy! There was almost 30 people who admitted being (signed in) at the February Meeting. I had thought about canceling it, but the earlybirds were already there!

I have received confirmation from the Morgan County Repeater Association reserving table space at the Indiana Hamfest. We'll have a table set up for members who might want to sell any TI merchandise (at your own risk). The HamFest is March 10th at the State Fairgrounds (in the Pavillion Building). The flea market opens at 8:00 am and the Commercial area opens at 9:00 am. For those who aren't electronically inclined, a HamFest is a large electronic flea market. You could find electronic components, radio's, computers, printers, etc. Admission is \$5.00 at the door. Hope you can drop by!

While I'm on the subject of parts, Radio Shack is selling TI 99/4A power supplies, blonde keyboards, and if you're lucky enough to find them - modulators. If you're interested, the part numbers and prices are:

Power Supply.....#277-1016 \$4.95
 Keyboards.....#277-1017 \$2.95

As one member mentioned to me the other day: "This is Radio Shack's answer to the Cabbage Patch craze". If you intend on buying a keyboard or two, buy quick, because supplies are limited.

Our Nominating committee has come up with a slate of candidates for our upcoming elections. Actually everybody thinks we did such a great job in the past eleven months, that they want us to do an encore performance! Seriously, thy did come up with some ideas on committees which they feel our Users Group needs. Their article is on page 3.

Don't forget the March Monthly Meeting is on the 3rd Sunday - March 17th; same time, same place. Uh, and don't forget to wear green! See you on St. Patrick's Day!

THE NEXT MONTHLY MEETING WILL BE

MARCH 17, 1985

STARTING AT 2:00 PM AT CREATIVE LOGIC!

WORKSHOPS: BEGINNERS ORIENTATION
 DISK TECHNIQUES
 MAKING FLIPPIES
 BEGINNING ASSEMBLY

REGIONAL MEETINGS

South: March 23rd starting at 2:00 pm
 (Library Hour between 1:00 and 2:00 pm)

Western Indiana:

March 23rd starting at 2:00 pm

See page 2 for details

COMING EVENTS

Indiana Hamfest: March 10th
 Pavillion Building, Indiana State Fairgrounds

Class Productions'

Indianapolis Business and Computer Show
 March 19 and 20 at the Convention Center

YOUR ADDRESS LABEL!

Members, your contents of your address label is changing. Your address label will have your HUGbbs access code AND the month and year your membership expires. See example below:

Your membership expiration date
 Your HUGbbs access code

85/03 000AB

Your name
 Your street address
 Your city, state and zip code

If your address changes, PLEASE don't forget to send us a change of address notification too! The Post Office may not forward your newsletter if you move!

REGIONAL NEWS

HAPPY BIRTHDAY!

A Happy Birthday to these members who joined in March, 1985! John & Jeff White, Kay Batta, Jeff Maxwell, Linda Reynolds, David Switzer, Asael Contreras, George Lottes, Herschel Woolman, Charles Elson, Matthew Kipper, Darwin Garrison, Chip Wilson, John & Gail Juerling, Mark Hackleman, John Teipen, Michael McGraw, Ralph Johnston, Jr., Jane Farber, Larry Rockafellow, Robert May, Mark & Rebecca Ward, and St. Ann School.

WELCOME!

The Hoosier Users Group welcomes these new members who joined the group in the past month: Vern Hines, Earl Pauley, Thomas Walker, and Marijane Smith.

WELCOME BACK!

We would also like to welcome back these renewing HUGgers: Bill Jones of Crawfordsville, Ken Burrell, Dan Eicher, Leonard & Mary Eubank, Frank & Mid Chase, Russell Pitz, Donald Taylor, Rene Torrella, Bill Godby, Paul Vollenweider, Bob Slomka, and Daniel Poe.

CHESS SPECIAL INTEREST GROUP, ANYONE?

by Phil Dubbs

Chess is a game that I enjoy and I am fascinated by programs that can play chess. I would like to suggest a get together of those like minded at the HUG Meeting in March. If anyone has some ideas on chess or strategy game playing programs or on perhaps a tournament by electronic mail let me know. Early in the history of the 99'er Magazine, they had a regular column on the TI Video Chess Module, but was dropped without explanation. Hope to hear from some of H.U.G.'s Chess enthusiasts!

FOR SALE

TI DISK CONTROLLER CARD with cables, Disk Manager II Module and manual. \$75.
Call 291-3995

TERRE HAUTE (WESTERN INDIANA) MEETING

A Western Indiana Chapter of the HUG is now being formed in Terre Haute (we presently have 4 interested people). If you would be interested in attending a meeting in Terre Haute, please contact:

Vic Kelson
2401 College Ave.
Terre Haute, IN

(812) 234-5533 (eves)
(812) 466-4277 x303 (days)

Our first meeting will be held in my home on March 23th starting at 2:00 pm. We haven't decided yet on a permanent meeting time, but future meetings will probably be held monthly on a weekend when there is no HUG meeting in Indy. Come on out and participate!!

SOUTH SIDE REGIONAL MEETING

Because the regular group meeting has been moved back to March 17th, the south side regional meeting will be held on Saturday, March 23rd. The Library Hour will be from 1:00 to 2:00. The meeting will begin at 2:00 P.M. Interested members can obtain the address and directions to our Greenwood area meeting by calling me at 881-5918.

At our February meeting, we tinkered with TE3 and down-loaded a program from the HUG Bulletin Board. Would you believe that none of us had ever down-loaded a program from the board before? The names of those members in attendance will be withheld to preserve their knowledgeable reputations.

A couple of southsiders are interested in BUSINESS APPLICATIONS for their TI's. Are there others in the group who may be interested in forming a discussion group for business applications??? Call me or any of the group's officers if you are interested.

Some people have said that they might be interested in the southside meeting on a week-day evening. Is there anyone who is interested in the southside group who can't make it on Saturdays?

Finally, one southsider is interested in more information about TI WRITER. If there are 2 or 3 others, we will arrange a tutorial on TI Writer. Call me if you are interested (881-5918).

LIBRARY BITS

by Dennis Sherfy

BX/RUN on Extended Basic 7 will read the program names on any disk, display them on the screen, and allow you to load and run any program by entering the program number. This is a sophisticated program, but it has one 'serious draw-back. It runs slowly. If you have a printout of your disk catalog, you could type in the program name more quickly than the program can perform its task. On the other hand, the elegance of this program makes it worthwhile. For those of you with an interest in programming, you will enjoy the use of CALL PEEK and CALL LOAD in lines 310 and 330. This program could be saved as LOAD and it will automatically load and list your programs upon entering Extended Basic.

ELIZA-XB is a Basic program on the Speech Synthesizer disk, and it is also available for down-load from the HUG Bulletin Board. The program does not utilize the speech synthesizer, but it seems to talk with you through written communication. I spent several hours learning how this program simulates human intelligence and responds to your questions and comments in a logical manner.

It performs this task by examining your question or statement for certain key words. It then responds in an appropriate manner, sometimes using your own words or ideas in its own phrase. This is a captivating program which will entertain your friends and family.

I don't want to exclude those of you who do not have Extended Basic. Basic-11 contains HOME SECRETARY. This is a program from Home Computer Magazine (Vol. 4, No. 2). This program will help you organize your personal telephone directory and maintain one or more inventories, such as household items, books, or your unregistered stock certificates. You can sort your files by any field, and list them on a printer if you have one. Files may be saved on disk or cassette tape. By utilizing TI's CALL SOUND capability, the program will even dial your friends if you have a push-button phone, and a stop watch routine will time your calls.

REPORT FROM THE NOMINATING COMMITTEE

by Helen Chastain

As the third year of the Hoosier Users Group draws to a close, the Nominating Committee has begun its duties.

The past year of the group has been a busy one. Our Officers have given great leadership in the past eleven months. Our Newsletter and Library has grown. Our new monthly meeting location at Creative Logic is spacious. With the creation of monthly workshops and the swap table has increased our Monthly Meeting attendance. And lets not forget the HUGbbs, since its first day on line almost a year ago, it is serving our group as clearing house of information and a place where members can stay in touch between meetings.

The candidates for our 1985-86 year are:

Steve Sims, President
Bill Cagle, Vice President
Barb Uhrig, Secretary
Bill Jones, Treasurer

We do feel, however, our Users Group needs committees in these areas:

Workshop Planning
Public Relations
Monthly Meeting Cleanup

We would like to hear your comments and suggestions about committees at this upcoming meeting. See you March 17th!

TI TIPS

The folling TI Tip was taken from our HUGbbs!

This little tip comes from the Piedmont Computer group in Greenville, SC

There are a lot of times when programs we write need to test for single key input from the keyboard. Usually, the line CALL KEY(0,K,S) or something similar is used. The problem here is that if we are looking for an upper case key and the user puts in a lower case when the alpha lock is up, he misses the intended input.

A solution to the dilemma is to change the statement to CALL KEY(3,K,S). Scanning this way ignores the alpha lock key and returns all keystrokes as upper case only.

When you're finished, add the statement: CALL KEY(5,K,S) to set the scan back to normal or it will cause some strange results.

The author says that it's in the XBASIC manual, but hard to find.

THE ASSEMBLY LANGUAGE FORUM - NUMBERS, NUMBERS, NUMBERS

by Vic Kelson

Well, I'm back from a wonderful week in sunny Cancun, Mexico, where I didn't even once think about computers -- it was great. As promised, though, I will make these articles monthly from now on.

For the next several months, I will use the column to present some of the basic concepts of assembly language (from now on, referred to as AL) programming. This information will be slanted toward the TMS9900, but is mostly applicable to other machines. If you're a BASIC, FORTH, or other language user, don't worry, these articles are intended for beginners, and even BASIC users can apply some of this stuff.

I intend to give a discussion at the meeting each month to cover the material in the newsletter article. This will give you a chance to ask questions, and a chance to get a more complete discussion of the material. Hope to see you there.

THIS MONTH'S TOPIC: Number Representation and Number Bases

In order to learn AL, (or really, for almost any language) you must first understand the way a computer looks at numbers. This is the topic for this article. I'm sure that you're all familiar with the binary system to some degree, so I won't talk much about decimal-binary conversions.

We'll start out with a look at the various units of memory. The smallest quantity of memory that we can deal with is the "bit". The word "bit" is a contraction of "binary digit". A single bit is either a 1 or a zero. The TI has several instructions which allow you to deal with individual bits.

The second unit of memory in the computer is called the "byte". A byte is a group of eight bits, and is the basic unit of memory used by computers such as the Commodore, Apple, and Z-80 systems.

The TI can deal with single bytes, but the basic unit of memory on the 9900 is a 16-bit "word". A word can be pictured like this:

MSB	LSB
0 1 1 0 0 0 1 1 0 0 1 0 1 1 0 1	
high order byte	low order byte

This word contains the hex value 632D, or 25,389 in decimal. The terms MSB and LSB stand for "most significant bit" and "least significant bit". The advantage of a 16-bit word over an 8-bit word is that you can handle larger numbers. An 8-bit word can handle values from 0 to 255, while a 16-bit word can hold values from 0 to 65,535.

BINARY ARITHMETIC

Arithmetic is very simple with binary numbers. There are only 2 binary digits (0 and 1), so here are the addition rules:

0	0	1	1
+0	+1	+0	+1
0	1	1	10

Notice that in the last case, a "1" is carried into the next higher digit. This is handled just like decimal addition:

	1	11	111
101	101	101	101
<u>111</u>	<u>111</u>	<u>111</u>	<u>111</u>
0	00	100	1100 (5+7=12! It works!)

step 1 step 2 step 3 step 4

You can see the carries in the addition problem above. One problem arises, though. A computer's word is 16 bits wide. What happens in this case:

111 1111	1 1	(carries)
0110110110001101		
+ 1110101101001001		
10101100011010110		

We have a 17-bit long result!! In this situation, the carried bit (pointed to by the arrow) is thrown away (into the "bit bucket") and not included in the sum:

111 1111	1 1	(carries)
0110110110001101		
+ 1110101101001001		
0101100011010110		(result)
	1	(bit bucket)

We'll get into the actual identity of the bit bucket next month.

Binary subtraction has similar rules:

10	1	1	0
-1	-1	-0	-0
1	0	1	0

When handling larger numbers, though, for example, two 16-bit numbers, you must borrow, just like decimal subtraction:

Sample problem: 7-8=-1

1111111111111111	(borrows)
^0000000000000111	
- 0000000000001000	
1111111111111111	(16-bit result)

You see, the arrow here points to a borrow from the 17th bit, which doesn't exist. In this case, the 16-bit result is returned, and the extra borrow falls into the bit bucket.

THE ASSEMBLY LANGUAGE FORUM, cont'd.

TWO'S COMPLEMENT NUMBERS

The last example raised an important question: What do all those "1"'s mean?? It seems strange to think that 7 minus 8 might be 65,535, doesn't it?

This problem is actually handled pretty simply. If we allow numbers to be either positive OR negative, then it seems obvious from the example that the number represented here is really -1. How can we generalize this result for all cases, and how do we represent negative numbers?

To allow for the use of positive and negative numbers (signed numbers), the TI (and most other machines) use a technique called "two's complement". Here's how it works:

- 1) The MSB (most significant bit) becomes the "sign bit". If MSB=0, then the number is positive. If the MSB=1, then the number is negative.
- 2) To negate (change the sign of) a number, first invert all the bits in the number (form the logical or one's complement), and then add 1.

Does it really work?? Let's try it:

Example: Negate the number 27 to get the binary two's complement, and then add it to 27 to check and see if it adds up to zero.

27 decimal=000000000011011

Inverting the bits.. (take one's complement)

one's comp=111111111100100

Finally, add 1 to the result to obtain two's complement negative

two's comp=111111111100101 (-27 decimal)

Now, add 27 to this...

```
1111111111111111 (carries)
^111111111100101
+ 000000000011011
0000000000000000 (16-bit result=0)
  1 (carry into bit bucket)
```

It works! You should notice two important properties of two's complement numbers:

- 1) In two's complement numbers, the MSB is the sign bit. For positive numbers, the MSB is zero; for negative numbers, it is one.
- 2) Regardless of the sign of the number (positive or negative), the LSB tells whether the number is even or odd. This property can be used in your programs to make the even/odd test. Simply test the LSB (we'll do it in a later lesson) - even numbers have a zero in the LSB; odd numbers have a one.

USE OF SIGNED AND UNSIGNED NUMBERS

On the TI, in AL, it is possible to treat any 16-bit quantity as either signed (positive or negative 15 bit numbers, plus a sign bit) or unsigned (16 bit positive numbers). Some high level languages (FORTH, for example) also allow both signed and unsigned operations on 16 bit data. It is important to remember that the range of signed numbers is [-32766,32767], while the unsigned range is [0,65535].

Challenge: What decimal number does the following binary number represent?? (hint: negate it)

1000000000000000 (16 bit word)

HEXADECIMAL NOTATION

I hope that you've tried doing some binary arithmetic on your own, particularly negating and subtracting numbers (have you tried negating and adding to see if the result is the same as subtracting??). If you have, you've probably found that binary numbers are a real hassle. That's why we use hexadecimal notation. Why hexadecimal instead of decimal?? Look at the following table:

binary	hex	binary	hex
0000	0	1000	8
0001	1	1011	9
0010	2	1010	A
0011	3	1011	B
0100	4	1100	C
0101	5	1101	D
0110	6	1110	E
0111	7	1111	F

Using four bits, it is possible to form numbers in the range [0,15]. By using a number system with 16 digits, we can map the numbers from binary to hex easily:

Example: Convert to hex:

1001 1100 0011 0101 binary
9 C 3 5 hex

This is done by looking up the four bit sections in the table. Try converting the binary to decimal - it's a lot harder, because you handle each bit separately. Hex to decimal is much easier. By the way, you can do the same mapping with octal (base 8) to binary. Hex is more convenient because there are exactly $16/4=4$ hex digits per word.

IN CONCLUSION

I'm sure that many readers have seen most of this stuff before, but in order to introduce more users to AL, this is a necessary step. If you want to learn AL, (or advanced FORTH) or just to improve your other programming, you should practice, and become comfortable with the use of decimal, binary and hexadecimal numbers. If you have any questions, ask me or any of the other assembly or FORTH users at the meeting. I'm sure anyone would be happy to help.

Next month, I'll continue with the AL tutorial, by introducing the TMS9900's registers and flags. SEE YOU AT THE MEETING!! Vic...

PERSONAL REPORT GENERATOR

by Dennis Sherfy

Most people are familiar with Personal Record Keeping (PRK), especially with the series of articles written by Don Donlan. Personal Report Generator, (PRG), a software cartridge from TI, is a valuable companion to PRK.

PRK is great for setting up files, adding and deleting records, and sorting files. However, it only allows you to print the data in three formats. Two of the formats are data tables. But what if you want to use the data for other purposes, such as printing address labels for your Christmas card list?

PRG is exactly what you need. PRG allows you to design reports in ANY format you wish. You can include text or spaces on any line, and print values from your data file within the text. Instead of numbers at the top of data columns, as produced by PRK, you can print titles above your columns. PRG does not print the data structure at the beginning of each printout, as does PRK. PRG prints field number 0, (the record or page number), only if you want it to do so.

In addition, PRG lets you add new fields to your file, lets you delete large numbers of records at one time, (such as delete pages 10-56), and combines two or more compatible files into one large file.

I have used PRG to print mailing labels. The "page" is defined as 6 lines long. This prints an address on each label, then skips to the proper starting position on the next label.

PRK allowed about 200 records per file, but my file was about 400 records in size. I entered the records in alphabetical order, creating two, 200-record files. With PRG, I was able to divide the files into four sets and merge the two low Zip-code sets and the two high Zip-code sets to form two new files which would print 400 labels in Zip-code sequence.

PRG is also used with the Statistics Module and has been available for about \$12.

TI LOGO II LEARNING IS REAL FUN

by Walt Maes

The following article was copied from "Suncoast Beeper", Newsletter of the Suncoast 99'ers, 945 Montocello Blvd., North, St., St. Petersburg, Florida 33703.

Don was over to my house last night and I was having a problem with page 36 of the Logo II book. It shows you the commands to make a perfect triangle. Then it shows you six triangles with a common point and then six more triangles with the same point, but starting 30 degrees from the other. We started out just to make the six triangles from one point. We tried all kinds of angles and line lengths, and tested each one. You never seen triangles put into so many ways as we did. We built bridges, windmills, and many other things before we finally got the answer. After we did get the six triangles from one point we sat back to look at our work and found we had drawn a perfect 3 D cube.

The great thing about learning Logo is nothing is ever wrong, you have just found out another way to draw a picture. It maybe in modern art or classic art. That is for you to decide but it's fun to reach your goal. One of error messages is "Tell Me More", now how nice can a machine be?

If any of you have wondered how to stop at a given number of times like building stairs, that will go on endless if you use their commands and then try this:

```
TO STAIRS :SIZE :COUNT
REPEAT :COUNT [ RSQUARE :SIZE
MOVE :SIZE ]
END
```

As you know, size is the length of a line in the square and count is the number of stairs you want. Now you must have RSQUARE and move in your dictionary already to make this work.

To make the 3 D cube, enter this:

```
TO CUBE
REPEAT 3 [ TRI RT 120 ]
RT 60
REPEAT 3 [ TRI RT 120 ]
END
```

To make this work, you must have put TRI in your dictionary.

That's as far as I have gotten this month. Lets see what I learn by next month.

TIPS FROM THE TIGERCUB

#17

Copyright 1984

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 \$5.00 each (plus \$1.50 per order for cassette, packing and postage, or \$3.00 for diskette, P&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 W=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 b, the tilde on the front of the W, the asterisk above the B, 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:AU;"

:: CLOSE #2 :: CLOSE #1 :: END

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 69 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
1ZE :: CALL PEEK(-31808,8)::
IF B=0 OR A(B)=B THEN 1 ELS
E C(D)=D :: 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 Bytemaster 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. W 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 dump a graphics screen to a dot matrix printer (Epson or Gemini, and probably others) in less than 30 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 Ji
m feterson": : "Wait, please"
;
160 OPEN #1:"SPEECH",OUTPUT
170 DIM T$(26,2)
180 DATA 12,12,4,4,1,1,4,7,7
,8,8,10,10,10,10,12,4,4,7,8,
6,10,4,8,8,10
190 FOR J=1 TO 26
200 READ X
210 T$(J,1)="///"&STR$(X)&" "
&STR$(X/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
MEN 290
310 IF K<>K2+1 THEN 320
320 T=T+1
330 PRINT #1:T$(K-64,1):T$(K
-64,2)
340 CALL MCHAR(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 MCHAR(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$(8,1):"WUNT Y
OU":T$(10,1):"COME AND":T$(1
2,1):"PLAY WITH":T$(1,1):"NE
"
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$=SEG$(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
,83,79,82,48,B)
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):: N=1
:: DEC=0

```

```

180 FOR J=1 TO LEN(H$):: A$=
SEG$(H$,LEN(H$)-J+1,1):: IF
ASC(A$)>58 THEN HT=ASC(A$)-5
5 ELSE HT=VAL(A$)
190 DEC=DEC+N*HT :: N=N*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 Henkenberger 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 Henken
berger/modified by Jim Peter
son
100 CALL CLEAR :: CALL SCRE
N(4)
110 A$="!!the wave!!"
120 DISPLAY AT(4,14-LEN(A$)/
2):A$
130 E$="press any key to sto
p"
140 DISPLAY AT(22,14-LEN(E$)
/2):E$
150 E$="4458A3C3C3C3C2466"
150 A$="000018187E2D3C3C"
170 FOR CH=91 TO 118 :: CALL
CHAR(CH,A$):: M$=M$&CHR$(CH
):: NEXT CH :: FOR R=8 TO 12
:: DISPLAY AT(R,1):M$ :: NE
XT R
175 FOR T=1 TO 26 STEP 5 ::
DISPLAY AT(22,T):E$*(M$,T,1
):: NEXT T
180 FOR CH=91 TO 123 :: CALL
CHAR(CH,E$):: CALL CHAR(CH-
5,A$):: CALL SOUND(-779,-7,5
&RND):: CALL KEY(3,K,ST):: 1
F ST<> THEN STOP
190 NEXT CH :: GOTO 180

```

MEMORY FULL

Happy hackin'

Jim Peterson

HOOSIER USERS GROUP DIRECTORY

HOOSIER USERS GROUP OFFICERS

President.....Steve Sims 631-7255
Vice-President.....Bill Cagle
Secretary.....Barb Uhrig 357-8268
Treasurer.....Bill Jones

HUGbbs INFORMATION

317-631-994A

The HUGbbs operates on a 24 hour basis.

COMMITTEE CHAIRPERSONS

Regional Centers:

South.....Dennis Sherfy 881-5918
West Indiana..Vic Kelson 812-234-5533

Documents.....Don Donlan 882-4544
Membership.....Pam Sims 631-7255
Newsletter.....Pam Sims 631-7255

MONTHLY MEETING LOCATION

Creative Logic
8240 Indy Lane
Indianapolis, IN 46224

(About 1800 North Country Club Road)

NEWSLETTER EXCHANGE

The Hoosier Users is participating in a Newsletter Exchange program with other TI Users Groups. This offer is made with the understanding that, with proper credit, your Users Group can reprint articles from the Hoosier Users Group Newsletter, and with proper credit, we can reprint articles from other TI Users Groups Newsletters.

PRINTOUTS

Library listings can be ordered for \$.25 & a 6x9 self addressed envelope with \$.66 postage. The HUGbbs Reference Guide can be ordered for \$.50 and a 4x9 self addressed envelope with \$.22 postage. Please send orders to our P.O. Box. SORRY, PRINTOUTS WILL BE SENT TO ACTIVE MEMBERS ONLY!

SPONSOR THE HUGbbs: Any member or retail business can sponsor the HUGbbs. For a \$5.00 donation, you get 5 (40 column) lines on the Log-On Title Screen for a week (or for a \$10.00 donation, you get 10 (40 column) lines) plus a 24 line by 40 character ad in the Sales option of the File Module. To sponsor the HUGbbs, send a check or money order to our P.O. Box (or turn in at our Monthly Meeting) specifying how many weeks (and how many lines) you want to sponsor, your name (or company name), address, phone, what you want to say, and the week (and an alternate week) you want the ad to appear.*

BACK ISSUES

Back Issues purchased at the monthly meeting is \$1.00 each. Mail order price is \$1.50 per Newsletter (postage included). Orders will be filled within 3 weeks of receipt by the Documents Committee.

ADVERTISING POLICIES

There will be no charge for advertisements submitted to the HUGger Newsletter by members (for private sale only). Format for the advertisements is 45 characters wide by 10 lines long. The Ad should be typed or hand printed exactly how it is to appear in the Newsletter. Deadline for an ad to appear in next month's Newsletter is the 2nd Saturday of the month.*

For companies who wish to advertise in the HUGger Newsletter, our rates are as follows:

- Pre-Printed Inserts (one page) \$20.00
One Full Page (one sided) Ad: \$25.00
One Half Page Ad: \$13.00
One Quarter Page Ad: \$7.00

All ads must be in a ready to print condition. Advertisements must be in our P.O. Box before the 2nd Saturday of the month to appear in the following month's Newsletter.*

*NOTE: The Officers of the Hoosier Users Group reserve final approval on all advertisements submitted for the HUGger Newsletter and the HUGbbs. The Officers and the Newsletter committee are not responsible for typographical errors due to illegible advertisements. All proceeds are accepted as donations to the Hoosier Users Group.

MAR: 6 1985



