OUR 4/A UNIVERSITY

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#8 EUNICE AND THE KIDS

or

LIFE AMONG THE LOGOPHILES

In this last session, Class, I wanted to spend some time explaining why the TI is still the best educational tool you can have in your homes or classrooms for young and old children. And everyone in between. By old, I mean in the 90's. Sister Pat Taylor's learners even include Centenarians! To learn more about this extraordinary woman and her extraordinary group of elderly computer buffs, write to her at 1050 Carmel Drive #456, Dubuque, Iowa, 52001. I don't know if Sister Pat calls her very active TI devotees an official user group, but they are. And they are probably the only All Nun User Group in America (The ANUGA Group of Iowa?).

And, yes, Class, I checked our map here at the university and there really is a place called Iowa.

Sister Pat is one of the two most active TIers with whom I have ever had the opportunity to correspond.

The other does officially operate the only All Kids TI User Group in America. No, not AKTIUGA, Mr. Shakespeare. It is the Oakland UG from Maine. And the enegetic and ingenious leader is Eunice Spooner (Webb Road, Box 3720, Waterville ME 04901). Though the group puts out a newsletter that includes delightful programs written by the students and though the kids take field trips to the Computer Museum in Boston and though there is a highly developed TI computing program in the schools as well, I am not going to discuss any of those achievements by Mrs. Spooner. Except to say they and others are considerable.

Instead, I want to focus this particular class on a particular specialty of that remarkable woman: LOGO.

Now, don't shake your heads and shut down, as if LOGO were beneath you. Especially you, Ms. Bronte, who keep pestering me about adult stuff. I can guarantee all of you — those with little kids somewhere, including inside of you, and those who were born elderly — that LOGO can fit everybody's need to learn, to discover, to create, to explore, to develop the intellectual discipline of logical reasoning. There just is not another tool like it.

The computer is the perfect tool for the learning that only LOGO can provide. The TI LOGO II, as you will see, is our perfect educational tool.

I'd like to begin our last session together by reading a recent review (ah, nice alliteration there) from NEW-AGE/99 about Eunice's video tape package:

"There is a great video now available to TI owners: the full-length LOGO video done by Eunice Spooner (RFD 1, Box 3720, Webb Road, Waterville, ME 04901). It is wonderful! It also comes with a disk full of lots of the items she demos and a hardcopy listing of the items and

footage for easy tape locations.

"Eunice is a certified elementary teacher and it is obvious on this tape. She's terrific: kind, patient, step-by-step logical, no panic; and she makes everything seem easy and fun. Which it is, if you do the things she suggests.

"I always liked LOGO. Then I put it away for a long time. After viewing this tape and trying her programs, I discovered I ♥ LOGO.

"If you own LOGO, get this package instantly. At $10 it is a total steal. And it is used as a fundraiser to support the only ALL KIDS TI USER GROUP IN THE WORLD! If you don't own LOGO, buy it instantly. (It's on sale everywhere CHEAP! Years ago I paid $119 for my first, and recently bought an unopened boxed one for $15.) But, new or used, pick one up for this video/disk set alone. You'll rediscover the joys of computing and the real fun (and learning, which is why it is fun) of your remarkable 4A. Don't delay."

But before I discuss Mrs. Spooner's extraordinary LOGO adventures, I'd like to give you a bit of LOGO's history.

A few years before the 4A was born, MIT Professor Seymour Papert formed a team to create a powerful, high-level computer language specifically designed for educational purposes involving some of the ideas from the field of Artificial Intelligence. Papert was a disciple of (and worked with) noted Swiss pyschologist Jean Piaget, the Father of Developmental Learning (creating learning environments in which learners learn naturally in the same way we all learned to walk and talk). Papert's classic book, MINDSTORMS, defines these ideas and explains the computer/learner relationship that led to his creating LOGO, still the most effective educational language — tool, if you will — that has ever been created. The book is still in paperback print. It should be in every computer buff's library, along with THE SECRET GUIDE TO COMPUTERS, which we mentioned a few sessions ago.

When TI asked Papert to create an enhanced version (with music, sprites, and the like, peculiar to the TI), the field testing and the results thereof made TI history. It is a singular module in that it, in effect, allows each user to create his/her own PERSONALIZED computer language.

What can LOGO do?

Well, you can write programs with it. You can write text with it that can rewrite itself in poetic ways. You can draw with it, including making animated films. You can use it for math activities, for problem-solving, for puzzles, games, logic activities, for creating musical scores. It does use all the various built-ins we take for granted on our TI's. For example, you can create a unique design in the turtle drawing mode and animate it; then create a pile of new sprites (beyond the few that are built in); then create bigger piles of new "tiles" which make up the character sets. Now, with your newly created animated design as background (with instant colors of your choice for back and foreground), you may now set those sprites you created loose. Each of the 32 sprites can be set in motion at different speeds, in four different directions at the same time (using word terms like "EAST" or directional numbers), and each can be color defined from the TI's 16 color palette. All this, Class, can be done easier than in any other computer language. As a matter of fact, the learner takes him/herself through the stages needed to achieve these very complex routines. According to the philosophy of the LOGO developers, "LOGO has no threshold, no ceiling." The beginner can immediately do meaningful, exciting things with the program, while the most adept can do some very advanced things.

And now we come back to Mrs. Spooner's tapes. There are two: the one

described earlier in the NEW-AGE/99 review and a second done at the recent Lima faire and part of Tape #2 (which can be ordered from Charles Good, Box 647, Venedocia OH 45894 for only $5). This latter tape is a gem. Mrs. Spooner teaches Dr. Good's first-grade daughter how to experience LOGO. Meaghan had never dealt with LOGO before, but she sits down confidently at the console, while Mrs. Spooner, in her wheelchair behind her, begins the lesson.

It's the perfect teacher doing a perfect job (with a perfect student, I might add). Step by step she works Meaghan from the opening "TELL TURTLE" through some very sophisticated LOGO-ing that I wouldn't have believed a six-year-old was capable of handling. And each mini-lesson builds upon the previous in such a way that Meaghan anticipates most of what would be happening after a very short time.

For all of you teachers in the room here, I can only say that watching such a pro at work is certainly inspirational. I only wish the people who made the tape had been able to keep the room noises down and had been able to get the camera closer and in better light. In spite of these preventable problems (which I hope they cure next year by finding a small, quiet room to tape Mrs. Spooner's teaching activities), the tape is one you'll watch again and again.

The tutorial tape and software Mrs. Spooner made for her club's release, however, is easy on the eyes and ears. Everything about the package is exceptional, including the price. I can't even begin to imagine anyone not leaping into LOGO after watching just a few minutes of it.

Don't worry, Ms. Bronte, you'll have a chance to see both of these tapes at the end of class. Then we'll all head for the lab, where we will all have more than enough time to get onto LOGO and play with some of the ideas we've learned.

That's why I save LOGO for our last class. One third of your mark will be based on how well you can program your turtle to create a flower.

Mrs. Spooner, by the way, begins her lesson with Meaghan and her tape tutorial by introducing the turtle and explaining how it has to take steps forward or back, how it needs to be told to move its head in the direction it is about to go, how it can be made to repeat its little learned activities in such a way that its expertise allows it to perform like no other turtle has ever performed.

Other LOGOphiles, however, think it's best to introduce this educational program through its Sprites and its Makeshape options. Still others feel its safest to start with the text and math PRINT options. Musically oriented types would probably feel the music learning should come first.

Having watched many teachers introduce LOGO in many different ways, including the ultimate mind-killer of learning all the terms first, I have to concur with Mrs. Spooner. The turtle seems the most logical, the easiest, the most fun. The turtle immediately allows the learner control of his/her environment with minimum instruction.

There is so much written about LOGO, so many manuals, so many tutorials.

After watching the tapes, look through the manuals which come with LOGO II and, after playing with the program a bit, load some of the samples that come with LOGO (disk and cassette come with the package, which, by the way, can still be purchased from TEXCOMP, at fairs, from clubs, and from vendors listed in newsletters and MICROpendium) and just enjoy and marvel. Call up the program and admire its efficiency. Then modify it and play some more.

For the TI? Yes, Mr. Shakespeare, there's a lot written on LOGO for

the TI. The BEST OF 99er has some good articles, but they're a bit techie and are best read after you've used LOGO for a long time.

Look over your book list from your notes a couple sessions ago. In there I mentioned THE LAST WHOLE TI99/4A BOOK by Paul Garrison, ACADEMIC TI by Mowe and Mummaw, and Russ Walter's immense SECRET GUIDE. These are all excellent sources for LOGO-ing and lots of other educational and informational items. Don't confuse Garrison LAST book with THE LAST WORD ON THE TI-99/4A by Linda and Allen Schreiber, which is really lousy.

There are many, many other good LOGO books, though, some of which devote the entire book to LOGO.

But there are four LOGO books you should beg, borrow, or steal for, if you come across them:

TI's PROGRAMMING DISCOVERY IN TI LOGO STUDENT GUIDE. This was part of Texas Instruments Computer Advantage Club program. This 32-page 8X11 workbook is a quick tutorial and extremely handy quick reference guide, along with a presentation of all kinds of neato and peachy-keen Procedures (the term LOGO uses for Programs).

Scholastic's LOGO FUN by Pat Parker and Teresa Kennedy first shows you how one can easily convert Apple, Atari, Krell, Terrapin LOGOs to and from TI's. It's 112 pages (8X11) have large type, lots of pictures, lots and lots and lots of procedures and ideas. It's a super book, but it doesn't explore all the unique aspects of TI LOGO II.

A book that goes a lot farther along the LOGO line is Donna Bearden's A BIT OF LOGO MAGIC: Adventures for Intermediate Programmers. This is one of the most creative books ever written for any computer. (Actually, there are many versions out there.) The "TI" identification is on the front cover. Reston published our version in hard and paper (8X11). Donna also wrote 1,2,3, MY COMPUTER AND ME, a LOGO Funbook for Kids, which I would also highly recommend. This one, though, is a bit more advanced and is unique. It's written as a novel about Aristotle, a wise old wizard, and Little Bit, a mischievous dragon. Brad Foster's delightfully detailed drawings don't just enhance this "novel," but become an integral part. The chapter titles should give you an idea about how different this book is from any like it. Come to think of it, there aren't any like it. Here are some of the chapter titles: Elaborate Designs with Simple Shapes; Patterns, Tessellations, and Optical Illusions; Spider Webs and Other Magnificent Designs; Fractured Fables and Customized Cliches; An Adventure in the Dark Forest.

This book even teaches you how to create quizzes. This is the one book on LOGO I wish I had written. Ah, well.

And the last book is certainly not the least book. SPRITES, A TURTLE, AND TI LOGO by Jim Conlan and Don Inman (one of the original 4A manual writers) is the best (in the sense of complete) LOGO source you can buy. This is also published by Reston (which competed successfully with Hayden and COMPUTE! and SAMS to publish the most and best TI books on the market in our 4A's heyday.

This book, though, is unequalled, as far as anything I have seen, to make the best use of LOGO. Nothing touches its sections on math, tiles, sprites, and the use of joysticks with LOGO. Its 228 pages (6X9) in small type are jampacked with detailed tutorials on almost all phases of LOGO (nothing on music).

If you could couple some of these books with the LOGO manual, you would have a whole world to explore with your TI, still the best educational computer on or off the market.
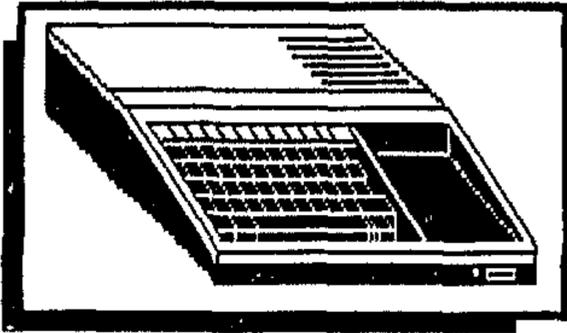
Anyway, Class, time is drawing nigh. You've been a good group. We'll be watching the Spooner videos next before we move to the lab for our final session.

Review all your notes and all your cassettes and disks and cartridges and texts and magazines and newsletters for our final next week.

What? Yes, Mr. Shakespeare, there was a LOGO I. Lots of people are still using it. But II has many more enhancements. It's a better tool and toy.

Although your projects are important and your lab work and, of course, your paper and your final, Class, THE most important thing you can take from this course is sharing your wisdom and newly-gained knowledge with some learners in your lives. Bring someone new to the TI: a spouce, friend, teacher, grandchild, grandparent, seventh cousin three times removed, Dan Quayle. Somebody. They are your next generation of 99ers. They and YOU are essential for our future. The 4A, itself, of course, is indestructable.

You've been a good class. Hope we meet again.

Adios.

My three Nuts & Bolts disks, each containing 100 or more subprograms, have been reduced to $5.00 each. I am out of printed documentation so it will be supplied on disk.

My TI-PD library now has almost 600 disks of fairware (by author's permission only) and public domain, all arranged by category and as well as possible, provided with loaders by full program name rather than filename, music programs converted to Basic, etc. The price is just $1.50 per disk(!), post paid if at least eight are ordered. TI-PD catalog #5 and the latest supplement is available for $1 which is deductible from the first order.

When I have finished reading Barry Traver's column in Computer Monthly, I like to take a look at whatever Dr. Michael Ecker is up to in his "Recreational Computing" column, although much of his math is beyond me and I can't always translate his GW Basic into TI Basic.

In the February issue, he had a routine to play Fibonacci modular music. This is the TI version; it is not very musical, but the notes are in the chromatic scale.

```
100 A=0 :: B=1 :: M=51
110 C=A+B :: C=C-M*INT(C/M):
: CALL SOUND(-100,110*2^(C/1
2),5):: A=B :: B=C :: GOTO 1
10
```

Dr. Ecker also had a challenge to swap two numbers without using a third vari-

able or the SWAP command - which TI Basic doesn't have anyway. The practical way, of course, is to use the 3rd variable, T=A :: A=B :: B=T, but just for the fun of it, if we are dealing with one-digit numbers -

```
100 A=1 :: B=2 :: A=A+B/10 :
: B=INT(A):: A=(A-INT(A))
:: PRINT A;B
```

But suppose we are dealing with numbers of any length - we can still do it with a one-liner, or a two-liner if we want to input the numbers from the keyboard -

```
100 INPUT A :: INPUT B
110 B=B/10^(LEN(STR$(B))):: 
A=A+B :: B=INT(A):: A=A-INT(
A):: A=A^(LEN(STR$(A))-1)
:: PRINT A;B :: GOTO 110
```

So you got smart and tried a negative number or a decimal? OK, how about this -

```
100 INPUT A$ :: INPUT B$
110 A$=A$&" "&B$ :: B$=SEG$(
A$,1,POS(A$," ",1)-1):: A$=S
EG$(A$,POS(A$," ",1)+1,255):
: PRINT A$;" ";B$ :: GOTO 11
0
```

And another challenge was to alternately assign X the value of A and B, without using IF...THEN or any outside help. That seems to require a two-liner -

```
100 A,X=77 :: B=132
110 X=ABS(X=A)*B+ABS(X=B)*A
:: PRINT X :: GOTO 110
```

The only honest way to compute interest on a loan is on the unpaid balance, although the banks and finance companies have devised more complicated and profitable ways. If you want to make an honest loan, here is how to do it -

```
100 DISPLAY AT(3,1)ERASE ALL
:"SIMPLE INTEREST CALCULATOR
":"":"For interest to be cal
```

culated monthly on unpaid balance."
```
110 DISPLAY AT(9,1):"Printe
? PIO" :: ACCEPT AT(9,10)SIZ
E(-20):P$
120 DISPLAY AT(11,1):"Amoun
loaned? $" :: ACCEPT AT(11
17)VALIDATE(NUMERIC):A
130 DISPLAY AT(13,1):"Inter
st rate?      %" :: ACCEPT A
(13,16)SIZE(4)VALIDATE(NUME
IC):X
140 IF X<1 THEN DISPLAY AT(
2,1):"Enter as a percentage
:: GOTO 130
150 DISPLAY AT(15,1):"Month
y payments of $" :: ACCEPT
T(15,22)VALIDATE(NUMERIC):P
160 DISPLAY AT(17,1):"Begin
ing in month (1-12)   of ye
r"
170 ACCEPT AT(17,27)VALIDAT
(DIGIT):M :: ACCEPT AT(18,9
VALIDATE(DIGIT):Y
180 DATA JAN,FEB,MAR,APR,MA
,JUN,JUL,AUG,SEP,OCT,NOV,DE
190 X=X/100 :: DIM M$(12)::
FOR J=1 TO 12 :: READ M$(J)
: NEXT J
200 OPEN #1:P$,VARIABLE 254
:: PRINT #1:CHR$(27)&"E"&CH
$(27)&"G"&CHR$(27)&"N"&CHR$(
6)&CHR$(27)&"M";
210 PRINT #1:"$";STR$(A);" 
INANCED AT ";STR$(X0);"%
WITH MONTHLY PAYMENTS OF $";
STR$(P);" BEGINNING ";M$(M);
Y:"
220 I=A*X/12 :: TI=TI+I :: A
=A+I-P
230 PRINT #1:M$(M);Y;" PAYME
NT $";STR$(P);" OF ";
240 PRINT #1,USING "$###.##"
:I;:: PRINT #1:" INTEREST AN
D ";
250 PRINT #1,USING "$####.##
":P-I;:: PRINT #1:" PRINCIPA
L - BALANCE OF ";
260 PRINT #1,USING "$####.##
":A
270 M=M+1 :: IF M=13 THEN M=
1 :: Y=Y+1
280 IF A>=P THEN 220
290 PRINT #1,USING "FINAL PA
YMENT $###.##":A :: PRINT #1
,USING "TOTAL INTEREST PAYED
$####.##":TI
```

Thanks to Bruce Harrison, here is a neat subprogram to

sort strings into sequence as they are entered -

```
100 CALL CLEAR :: DIM W$(100
)
110 FOR J=1 TO N :: W$(J)=""
 :: NEXT J :: INPUT "N=? ":N
120 INPUT I$ :: IF I$="" THE
N 130 ELSE CALL INSORT(W$(),
I$,N):: GOTO 120
130 FOR J=1 TO N :: PRINT W$
(J):: NEXT J :: GOTO 110
30020 SUB INSORT(W$(),I$,N):
: FOR T=1 TO N :: IF I$>W$(T
)THEN 30030 ELSE 30040
30030 NEXT T :: GOTO 30050
30040 FOR J=N TO T STEP -1 :
: W$(J+1)=W$(J):: NEXT J
30050 W$(T)=I$ :: N=N+1 :: S
UBEND
```

In the test routine in lines 100-130, give N the value of 0, input some words and then just press enter.

To start a new array, use FOR J=1 TO N :: W$(J)="" :: NEXT J, then reset N to 0. If you want to sort in reverse sequence, change the > to <. If you need to sort numbers, delete all the $, change the "" in line 120 to 0, and input a 0 when you are when finished inputting.

Someone sent me a program to figure days between dates but it would not count leap dates, so I decided to write one that would.

```
100 DISPLAY AT(2,5)ERASE ALL
:"DAYS BETWEEN DATES":"":"
including leap year days" ::
 M$(1)="From" :: M$(2)="To
" :: R=13
110 DATA 31,28,31,30,31,30,3
1,31,30,31,30,31
120 DIM L(12):: FOR J=1 TO 1
2 :: READ L(J):: NEXT J
130 FOR J=1 TO 2 :: DISPLAY
AT(R-1,1):M$(J):"year      m
onth    day   " :: ACCEPT AT(
R,6)VALIDATE(DIGIT)SIZE(4):Y
(J)
140 ACCEPT AT(R,17)VALIDATE(
DIGIT)SIZE(2):M(J):: IF M(J)
<1 OR M(J)>12 THEN 140
150 ACCEPT AT(R,24)VALIDATE(
```

```
DIGIT)SIZE(2):D(J):: IF D(J)
<1 OR D(J)>31 THEN 150
160 CALL LEAP(Y(J),X):: L(2)
=L(2)-X :: IF D(J)>L(M(J))TH
EN 150
170 L(2)=28 :: R=R+3 :: NEXT
 J :: R=13 :: IF Y(1)>Y(2)TH
EN T=Y(1):: Y(1)=Y(2):: Y(2)
=T :: T=M(1):: M(1)=M(2):: M
(2)=T :: T=D(1):: D(1)=D(2):
: D(2)=T
180 IF Y(1)=Y(2)AND M(1)>M(2
)THEN T=M(1):: M(1)=M(2):: M
(2)=T :: T=D(1):: D(1)=D(2):
: D(2)=T
190 L(2)=28 :: IF Y(2)>Y(1)T
HEN 220
200 IF M(1)=M(2)THEN B=ABS(D
(2)-D(1)):: GOTO 260
210 CALL LEAP(Y(1),X):: FOR
J=M(1)+1 TO M(2)-1 :: B=B+L(
J)+X*(M(1)=2):: NEXT J :: B=
B+L(M(1))+X*(M(1)=2)-D(1)+D(
2):: GOTO 260
220 CALL LEAP(Y(1),X):: B=L(
M(1))-D(1)+X*(M(1)=2)
230 FOR J=M(1)+1 TO 12 :: B=
B+L(J)+X*(J=2):: NEXT J
240 FOR J=Y(1)+1 TO Y(2)-1 :
: CALL LEAP(J,X):: B=B+365-X
 :: NEXT J
250 FOR J=1 TO M(2)-1 :: CAL
L LEAP(Y(2),X):: B=B+L(J)+X*
(J=2):: NEXT J :: B=B+D(2)
260 DISPLAY AT(20,1):B;"days
 between" :: B=0 :: GOTO 130
270 SUB LEAP(Y,X):: X=(Y/400
=INT(Y/400)):: IF X=-1 THEN
SUBEXIT ELSE X=(Y/4=INT(Y/4)
):: IF X=0 THEN SUBEXIT ELSE
 X=(Y/100<>INT(Y/100))
280 SUBEND
```

A leap year is a year that is evenly divisible by 4 unless it is evenly divisible by 100 but not evenly divisible by 400. The subprogram in lines 270-280 will give X a value of -1 if Y is a leap year.

Gene Hitz of Arcade Action Software reports another undocumented feature of TI Extended Basic. The manual says that you can only enter a subprogram by a CALL and only leave it by a SUBEXIT or SUBEND, but the manual is

wrong. You can GOSUB to a subroutine within a subprogram, providing it does not contain a SUBEXIT, and return; and you can GOSUB from within a subprogram to a subroutine in the main program, and return. In this way, you can transfer variables in and out of a subprogram without putting them in a parameter list. See for yourself -

```
100 CALL CLEAR
110 INPUT M$ :: CALL SUB(M$)
:: PRINT M$ :: GOSUB 140 ::
PRINT "M$ IS";X;"CHARACTERS
LONG" :: GOTO 110
120 M$="SEE WHAT I TOLD YOU?
" :: RETURN
130 SUB SUB(M$):: GOSUB 120
:: GOSUB 140 :: SUBEXIT
140 X=LEN(M$):: RETURN
150 SUBEND
```

If you are among the lonely few who have purchased my TI-PD disks, you will know that most of them load from a menu by full program name, not those abbreviated filenames. Those menus are prepared quickly and easily by my Catwriter program which was published in Tips #47 and in MICROpendium and is available on TI-PD 1105.2.

I was asked if there was a way to dump those full program names to the printer. There is, but it requires a big program - like this -

```
1 OPEN #1:"DSK2.TI-PD/CAT",A
PPEND
2 DISPLAY AT(12,1)ERASE ALL:
"TI-PD# ?" :: ACCEPT AT(12,1
0):N
14 FOR J=1 TO X-1 :: READ X$
 :: PRINT #1:X$;TAB(30);N ::
 NEXT J :: CLOSE #1 :: STOP
17 REM
```

Save that on an empty disk by SAVE DSK2.C,MERGE. Put your TI-PD disk in drive 1, boot its LOAD program, break it with FCTN 4 and enter MERGE DSK2.C, then RUN. Put

in the next TI-PD disk and do the same. You will have a D/V80 file of all the programs, followed by their TI-PD disk number. Run the file through Sort Experiment or TI-Sort or whatever, and you can print them out in alphabetical sequence.

If you have only one drive just change that DSK2. to DK1. and swap disks after breaking the LOAD program.

Of course, this won't work with fairware disks which have the author's own loader or some other disks which do not have my Catwriter load for one reason or another. You'll have to type those into the file.

Another user asked me if there was anyway to key in the ASCII above 127 into TI-Writer's Editor. Many of those ASCII can be entered from the keyboard by using the CTRL and FCTN keys - try this -
100 INPUT N$ :: PRINT ASC(N$ :: GOTO 100
- but the Editor has been programmed to refuse them because so many of those FCTN and CTRL combinations are used as edit commands.

I had a bright idea - I thought. I wrote a little program to create 127 files, named 128 through 255, each containing just the ASCII of the same number. Now, I thought, when I want to put in such an ASCII I will just LF that file into the next line and CTR 2 to pop it into place. But the Editor refused to even load a file that began with an ASCII above 127!

I'll fool you, I thought. I created those files again, but with an asterisk before the high ASCII. Now they loaded alright - but each ASCII above 127 became an ASCII 128 numbers lower! It is too bad that the Editor does not have a command to

add 127 to an ASCII, just as CTRL U subtracts 64, but if you want those graphics characters in your text you will just have to transliterate them and print through the Formatter.

Folks take it for granted that my Nuts & Bolts disks are only useful for programmers, but they contain many routines so simple to use that anyone can use them to dress up their favorite program. For instance -

20083 SUB TITLE(S,T$):: CALL SCREEN(S):: L=LEN(T$):: CALL MAGNIFY(2)
20084 FOR J=1 TO L :: CALL SPRITE(#J,ASC(SEG$(T$,J,1)),J +1-(J+1=S)+(J+1=S+13)+(J>14) ,J*(170/L),10+J*(200/L)):: : NEXT J
20085 SUBEND

Key that in and save it by SAVE DSK1.TITLE,MERGE . Load your favorite program. Enter MERGE DSK1.TITLE . Make sure your program does not have a line 1 or 2 - if so, RES it. Type in -
1 CALL CLEAR :: CALL TITLE(5 ,"MY PROGRAM")
2 FOR D=1 TO 1000 :: NEXT D :: CALL DELSPRITE(ALL)

And try it. Instead of "MY PROGRAM", put the name of your program. Instead of 5, put the number of whatever screen color you would like, from 2 to 16 - check your Basic manual. Change 1000 to whatever delay you want - if you have selected a screen color that will leave text legible, use -
2 DISPLAY AT(24,1):"PRESS AN Y KEY" :: DISPLAY AT(24,1):" press any key" :: CALL KEY(0 ,K,S):: IF S=0 THEN 2 ELSE C ALL DELSPRITE(ALL)

You might also need a CALL SCREEN(8) to restore normal screen color.
Oops! Memory full! - Jim P

WHAT THE HECK IS A BERNOULLI BOX?

A Bernoulli Box is removable disk system f IOMEGA Corp that conne the personal compu through a Small Compu System Interface (SCSI). stores 20 to 40 Mbites on 5 1/4" disk. The name co from the 18th cent scientist Daniel Bernoul whose principle of fl dynamics is demonstrated the disk mechanism. W the floppy disk is spun high speed, it "bends and maintains a thin band air between it and read-write head. Unlik hard disk in which read-write head flies ove rigid disk, a floppy disk a Bernoulli Box flies up a rigid read-write head. the event of power failu a hard disk has to retr the read-write head prevent a recording fail or a head crash. The flo disk in a Bernoulli box, the other ha automatically bends down.

news notes

They have developed portable machine t combines the functions computer, printer, scann fax,VCR, TV, ster microwave, and telepho It requires two batter the size of a 747, "Batteries not included".

Computer Bulletin Boa will never replace the fr of the refrigerator.

[Above reprinted from SUNCOAST BEEPER, June 199

UNCH OFFICERS AND NUMBERS (all in 508 area unless noted)

resident	W.C. Wyman	865-1213	
ice President	Bruce Willard	852-3250	MUNCH DUES
ecretary	Jim Cox		
reasurer	Jim Cox	869-2704	NEW MEMBERSHIP $25.00
cting Editor	Jim Cox		RENEWAL MEMBERSHIP $15.00
dv.Prog. Chair	Dan Rogers	248-5502	NEWSLETTER ONLY
ibrary	OPEN		SUBSCRIPTION $13.00
isk Librarian	Lou Holmes	617 965/3584	
ape Librarian	Walter Nowak	413 436/7675	
EW-AGE/99	Jack Sughrue	476/7630	

IARCH MEETING. Jack forgot how to read a calendar, so this month's meeting was ine of game playing. It was a lot of fun. There were eleven members and one juest in attendance. Ben won the raffle.

iPRIL MEETING. This month Jack says he will be here and he will have the new DM .000 Version ?. Jack will demo it and it will be the DOM. We will also have our 'inal preparations for Saturday's fair.

3AFFLE. Every month we have a raffle to help defer the rental cost of our ieeting hall. A typical raffle will have game and utility programs T-Shirts,)ooks, bumper stickers, blank discs and all sorts of odds and ends for the T.I.

_IBRARY NOTICE. Please return any items borrowed from our library. If you can iot come to a meeting or give these items to someone who will be at the ieeting.

3EPRINTS. Reprints are permitted as long as credit is given to M.U.N.C.H.

iRTICLES. I am always looking for articles for this newsletter, anything which interests you will probably interest other members of the TI community, so)lease share your ideas and opinions with all of us.

3ISK LIBRARY. The disk library will be at the meetings from now on. We have :opies of all disks in the library and they are available to members for just #1.50 each for single discs, $2.00 flippies, $3.00 double discs and $4.00 double flippie.

=OR SALE. The group has a TI Count Business Software package available for =ale. If interested contact Jim Cox at the above number or the club address. Ne also have blank disks for sale. The price is $6.00 for a package of 25 3isks.

3ISK OF THE MONTH. This month Disk will be the new version of the Disk Manager if we receive it in time. This will be DOM #116. DOM #115 was the Best of U.K. 3ames #1.

THE TONY FALCO CLASSICS will be our fundraiser for 1993. The cost to members is #5.00 add $3.00 for First Class postage. The regular price is $8.95 post paid, but add $3.00 for First Class postage. I expect to have some of these five disk sets ready for the February meeting.

WELCOME NEW MEMBER. Welcome to George J. Clark of Point Claire, Quebec. Our first Canadian member.

We have received a 10 page letter about the PC to TI emulator, which Mike Wright demoed at our meeting in January. I will have copies of this letter at the meeting. If you want a copy sent to you, just drop me a line and I will get it out to you.

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Mass Users of the Ninety-nine and Computer Hobbyis

APRIL   1993 Monthly Newsletter Version 12.04

The New England
TI99/4A
Home Computer Fair

NEW ENGLAND'S PREMIER COLLECTION
OF TI SUPPORT

Hard Drives, Ram Disks, 80 Column Upgrades, Databases
Desk Top Publishing, High Res Graphics, Communications
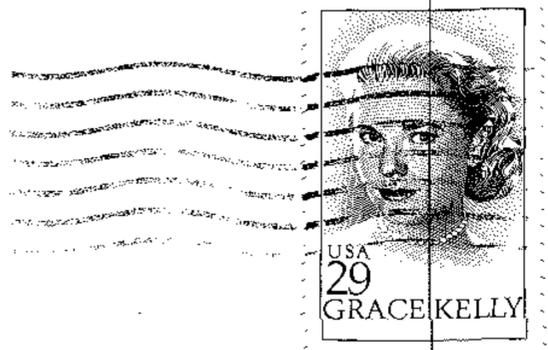Word Processing, Spreadsheets, Games and much, much more.

SATURDAY APRIL 17, 1993
10AM~4PM
WALTHAM HIGH SCHOOL
617 LEXINGTON ST.
WALTHAM, MA

$3.00 Admission ($2.00 for BCS Members-Kids under 10 Free)

NEW ADDRESS:

M.U.N.C.H.
C/O J.W. COX
905 EDGEBROOK DR.
BOYLSTON, MA. 01505

Next Meeting APRIL   13th.

POSTMASTER: Forwarding and Address Correction Requested.