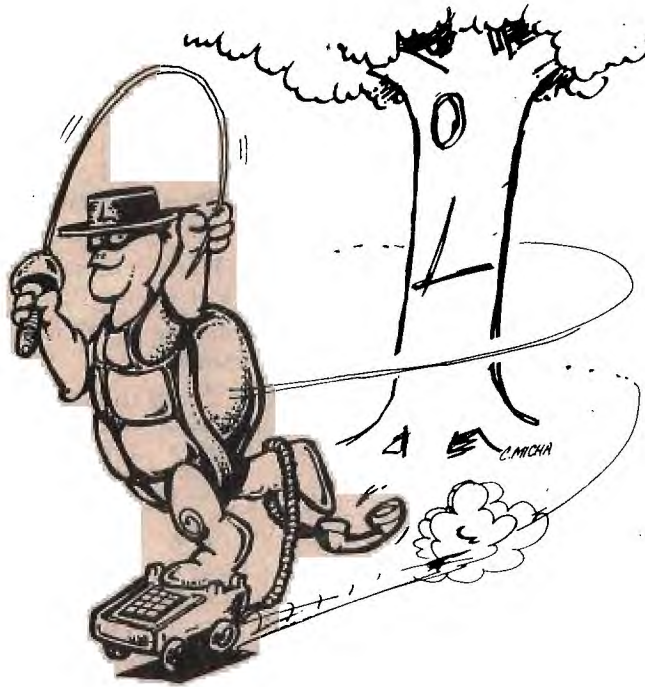# Meet the Midnight Turtle ...

He rides in the shadows of the night, leaving his magical mark on all he meets.

Watch out! Beware! You are about to enter the realm of ...

THE MIDNIGHT TURTLE

* _ * _ * _ * _ * _ *

Who was that masked man? He looks strangley familiar. Could it be? I wonder? Is it him?

Yes! It's Logy, the Midnight Turtle, riding the telephone lines to bring the Great Logo Adventure to the world of telecommunications.

Interested? Then join us as we explore the world of Logo, Pilot, BASIC, and microelectronics. Here are a few helpful hints to get you started:

Use CTRL-S to stop the scrolling, any key to continue.
Enter ? at any time to get to the system menu.
New users should enter NEW when asked for user ID.

OK, now ... on with the adventures of

*** THE MIDNIGHT TURTLE ***

The Midnight Turtle system is now on line. We now have a respectable bulletin board system through which members can communicate with each other about their own interests — Logo, Pilot, BASIC, microelectronics, or just talk. We also have electronic mail, news, chatting with us (not between users yet) and, most importantly, the up and downloading of Apple Logo software.

The Midnight Turtle is on line from 7 p.m. to 7 a.m. Central Time. The board can be reached at our regular office number (214) 783-7548. We're using a 108K Apple II+ with four drives and an Apple Cat II modem. If there is enough interest, we'll expand these hours. We can also add a toll free line if enough members are willing to pay a few dollars each month to help pay the expenses for this board.

But before we get to that, let me give you a tour of The Midnight Turtle.

Once you reach our number, you will read an introduction which includes some of the helpful hints you'll need to get around our bulletin board.

To stop the scrolling of the board at any time, just press Control-S. Then you can press any key to continue.

The first thing you are asked for is your ID Number. If you are new to the system, just enter "NEW." You'll then make up your own password and answer a few other questions.

New users can only look at some of the features of The Midnight Turtle system. The reason for this is that the full system is only available to YPLA members. Once we have the chance to check your membership, you will be able to look all around the system.

After you have signed on to the system, you'll see a colon — ":" — on the left. To get to the menu at any time, just enter a question mark — "?". When there is nothing to the right of the colon, you'll get to the main command level menu. If you are on one of the five bulletin boards, you'll get to the main bulletin board menu.

If you ever need HELP, just enter "H" at the main command level and a long list of instructions will appear on your screen. Here is a list of those instructions. You may want to keep these handy until you get to know the system better.

*** THE MIDNIGHT TURTLE ***

This sytem is based upon easy one or two letter commands which are entered at various prompts. These commands do various things, some of which are:

· Note: throughout these instructions "x" symbolizes an integer number.

The Midnight Turtle ...

(continued from page 3)

Main Command Level: (prompt of ":")

```
 "B"  - Enter Bulletin Command Level
"MR"  - Read personal mail (if you
         have any)
"MS"  - Send mail to some other user
         of the system.
 "S"  - Your status (caller no. access
         level, last call date, etc..)
 "I"  - Information about this system
 "H"  - These instructions
 "C"  - Call The System Operator to
         "chat" with you
 "T"  - Time information
 "R"  - Leave recommendations for the
         System Operator
 "L"  - List available TP files
"RN"  - Reread the latest news
 "U"  - Reread the new user message
 "?"  - Short summary of commands
"OFF"- Leave the system
```

If you enter "B" at the Main Command Level you will enter the Bulletin Command Level. The prompt for the Bulletin Command Level is "Bx:" where x stands for the number of the currently active board.

Bulletin Command Level:

```
 "R"  - Read next bulletin
"Rx"  - Read bulletin number x
"RN"  - Read all new bulletins since
         your last call (<Space Bar>
         aborts printing until the
         press of another key, "/"
         aborts totally).
 "P"  - Post a bulletin
 "K"  - Kill a bulletin
"Kx"  - Kill bulletin number x
 "T"  - List the titles of the next 5
         bulletins.
"Tx"  - List the titles of the next
         5 bulletins starting at
         bulletin number x.
 "L"  - List available boards with
         their corrosponding numbers.
 "B"  - Print the name of the
         currently active board.
 "Q"  - Quit and return to the Main
         Command Level
  x   - Change active board to board
         number x
```

After you have entered some mail, recommendations, or a bulletin you will be given a chance to edit your text. This is indicated by a prompt ending in an "E". For example "RE:" is the prompt given when you have the chance to edit recommendations to be sent to the System Operator.

Edit Command Level:

```
 "A"  - Abort entry of the message
 "C"  - continue entering lines onto
         the end of your message.
```

```
 "N"  - New your text and start
         reentering.
 "L"  - List entire text with line no.
 "R"  - Read entire text (no line no.)
 "S"  - Save message and return to
         outer command level
"Ex"  - Edit line x (Note if you
         accidently edit a line that
         that you didn't want to change
         press Ctrl-Q and no change
         will occur)
"Dx"  - Delete line number x
"Ix"  - Insert a blank line after line
         number x
```

Note: line numbers may be entered after "L" and "R" (In the form x or x,x or x,). This is similar to BASIC's list command.

Available at all command levels are the following commands:

All Command Levels:

```
 "OFF" - Leave the system
 "?"   - Print a list of major
           commands
Ctrl-W - Delete the last typed word.
Ctrl-X - Cancel line
Ctrl-U - (also forward arrow) cancel
           line
Ctrl-V - Retype the line entered so
           far and allow you to continue
           entering.
```

There are two more commands available at the Main Command Level. These are the TP command and the GO command.

The TP command is used to access various files that are available. The form is:

```
              TP <name>,<access no.>
```

For a list of available TP's enter "L" when at the main command level. This will print out a list of them with their access numbers and a short description of what they are.

The other command currently available is the "GO" command. This command is used to access various other parts of the system. The format is:

```
              GO <place name>
```

For a complete list of available places enter "TP GO PLACES,610" when at The Main Command level.

You may hit the space bar whenever anything is being printed out. This will cause printing to abort and you will return to the command level. The system does not print "Press Space Bar to abort" all the time because it gets just a little monotonous.

One last note you may enter "OFF" at any time to leave the system. Let me stress this — if you enter OFF at any time you will be given a chance to leave the system.

OK! Any questions?

Enjoy The Midnight Turtle!

We have five active bulletin boards going. The first is The Midnight Turtle. This is a public board open to anyone who wants to learn more about our Great Logo Adventure. The other four are private boards open to YPLA members only.

LOGY'S MAIL POUCH is our Logo bulletin board for comments, questions, answers, and suggestions about different versions of Logo. We'll do our best to find authoritative

JUST HATCHED

We have a variety of single-keystroke programs that different members have developed for preschoolers. One of our favorites is home-grown, The Toddler's Turtle. Developed originally for the TI computer, it has since been adapted to other versions of Logo.

The TI computer has four keys which double as "arrow keys," the E, S, D, and X. To add angles, the W, R, C, and Z were added.

When the procedures were adapted to other computers, we wondered if the lack of arrows would make any difference. Maybe we could provide arrows to paste on the keys. That proved to be totally unnecessary though.

One of the joys of working with kindergarten children is learning from them. One youngster acknowledged that the computer is smart, but she thought she was smarter.

Why?

"Because I can roller skate," she announced quite firmly.
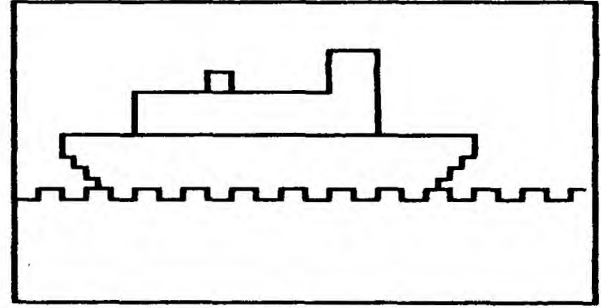
Who can argue with logic like that?

```
TO SHIP              TO BOAT
SEA                  N  S  S  S  S
BOAT                 S  S  S  S  Y
TOP                  W  W  W  W  E
END                  D  D  D  D  D
                     D  D  D  D  D
                     D  D  D  D  D
TO SEA               D  D  X  Z  Z
W  Z  S  W  Z  S     Z  Z  N  H  Y
W  Z  S  W  Z  S     END
W  Z  S  W  Z  S
D  R  C  D  R  C     TO TOP
D  R  C  D  R  C     N  E  E  E  D  D  D  Y
D  R  C  D  R        E  E  E  E  S  S  X  X
N  H  Y              S  S  S  S  S  S  S
END                  D  D  D  E  S  X  S  S
                     S  X  X  V
                     END
```

```
TO HELP
TEXTSCREEN
CLEARTEXT
PRINT [COPYRIGHT 1982, LARRY MULLER]
PRINT []
PRINT [PRESS THESE KEYS TO MOVE THE
    TURTLE.]
PRINT [E = FORWARD]
PRINT [X = BACK]
PRINT [D = RIGHT]
PRINT [S = LEFT]
PRINT [W = DIAGONAL UP TO THE LEFT.]
PRINT [R = DIAGONAL UP TO THE RIGHT.]
PRINT [Z = DIAGONAL DOWN TO THE LEFT.]
PRINT [C = DIAGONAL DOWN TO THE RIGHT.]
PRINT []
PRINT [P = ERASES MISTAKES]
PRINT [V = TURTLE VANISHES]
PRINT [T = TURTLE APPEARS]
PRINT [N = TURTLE STOPS WRITING]
PRINT [Y = TURTLE STARTS WRITING]
PRINT []
PRINT [PRESS RETURN TO CONTINUE.]
MAKE "KEY READLIST
CLEARTEXT
PRINT [OD = LARGE CIRCLE TO THE RIGHT]
PRINT [OS = LARGE CIRCLE TO THE LEFT]
PRINT [SOD = SMALL CIRCLE TO THE RIGHT]
PRINT [SOS = SMALL CIRCLE TO THE LEFT]
PRINT []
PRINT [H = HOME]
PRINT [HH = CLEARS SCREEN AND TEXT]
PRINT [G = PRINT GRAPHICS]
PRINT [F = NAME AND FILE PICTURES]
PR [SEE = RECALL PICTURE]
END
```

The Midnight Turtle ... *(continued from page 4)*

answers to any questions left here. The same goes for all of our bulletin boards.

MORF'S BASIC BAG is our BASIC and general programming bulletin board.

ORVILLE'S PILOT LOG is our bulletin board to talk about the use of Pilot.

MRTLE'S MAIL BAG is the place where you can talk about hardware and microelectronics. This is where we will leave hints on how to make better use of the system.

We know that things will go wrong. Murphy's Law tells us that if anything can go wrong, it will. And so, we're prepared. We have tried to work out all of the bugs but we're only on one end of this thing. We've tried it out with both an Atari 800 and a TI computer talking to the Apple II system.

So far, so good.

The rest is up to you!

SPECIAL THANKS TO NOVATION, INC.

This bulletin board has been a dream of ours for a long time. It has been hard to find the right software to do what we want it to do. And, we couldn't. It apparently is not available. But, through a lot of talking, looking, learning, and searching, we came up with a great place to start. This job was made a lot easier by the people at Novation, Inc., the makers of the modem we use.

It was the technical support people at Novation Inc. who led us to the software which got us started. Through their bulletin board and several they recommended, we have learned a lot more. And so, we want to publicly thank them for all of their assistance.

Apple Soft Keys ...

by Pete LeMay

From MINI-APP'LES

Function keys are found on many higher priced terminals. They are keys that can be programmed to represent almost anything the user wants. Because they are programmable, they are also called "soft keys."

Many of these terminals will also display labels which describe the function of each soft key. The labels are usually displayed on the bottom row (or rows) of the screen, and; in most cases, each label lines up with its corresponding soft key on the keyboard. This allows the user to visually connect the label with the key.

Soft keys can be programmed on the APPLE II. Special function keys are missing, but any key will serve. I've included an example that uses the numeric keys (1 thru 4). There may not be a direct label-to-key visual correspondence; but, with a small number of soft keys, it is not so important.

The listing shows a program, written in APPLESOFT, that illustrates a way of providing soft keys. The essential procedures are at line numbers 31100, 31200 and 31300. The rest of
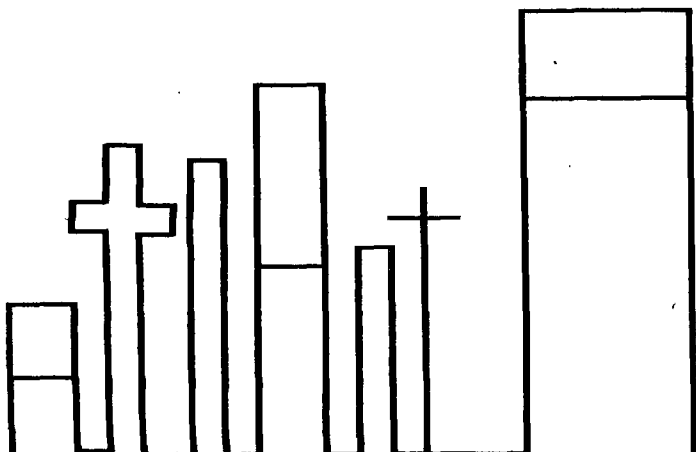

Dear YPLA,

I teach Logo to students in a nearby elementary school. One of my students has serious learning disabilities and is far behind her grade 4 classmates. In addition, she has many emotional problems as a result of being a foster child with three previous placements.

Though she has academic difficulties, Susan found Logo just her forte and designed this skyline of Atlanta. Would you please send her a t-shirt (girls large 12-14) and the jacket? I think she would enjoy the Apple Logo #5.

Hats off to your organization.

Sincerely yours,
Nancy White Kelly

the program is a demo which shows how to use the procedures. I will describe the procedures in more detail.

SET UP LABELS

This procedure, located at 31100, initializes the labels. It is here that you can give visual meaning to each label. This example allows for four labels of eight characters each, but you are not limited to that.

DISPLAY LABELS

To display the labels, first the cursor is moved to the bottom line. Then INVERSE mode is turned on, each label is printed, and the program is returned to NORMAL mode. POKE 35,23 causes the labels to be locked on the screen while scrolling occurs above them, and the VTAB 1 gets the cursor up out of the locked area of the screen.

GET RESULTS

Finally, in line 31300, we have the routines which input the results of pressing the soft keys. A GET is used, together with a one-character string variable, so that the user does not have to press the return key for each selection. If the key that is pressed is not one of the valid soft keys (1 thru 4 in this case), the GET is repeated. In 31300, the input character is converted to a number for use in the outer program (e.g. line 70). Before returning, the labels are unlocked.

The procedures shown here can be used in any Applesoft program which provides interactive choices to the user. If nothing else, they serve to further illustrate the flexibility of the APPLE.

```
5 REM   APPLESOFT KEYS
6 REM
7 REM   BY PETE LEMAY
8 REM
20 GOSUB 31100:REM SET UP LABELS
30 HOME
50 GOSUB 31200:REM DISPLAY LABELS
54 S$="PROMPT. "
55 GOSUB 500
57 HOME:VTAB 10:PRINT" USE KEYS 1 THRU 4"
58 VTAB 12:PRINT " TO SELECT FUNCTIONS"
60 GOSUB 31300:REM GET RESULTS
70 ON NR GOSUB 100,200,300,400
90 GOTO 30:REM REPEAT
100 S$=LA$(1)
120 GOSUB 500
190 RETURN
200 S$=LA$(2)
220 GOSUB 500
290 RETURN
300 S$=LA$(3)
320 GOSUB 500
390 RETURN
400 TEXT
410 END
500 FOR I=1 TO 200
510 PRINT S$;
520 NEXT I
```

Apple Soft Keys ...

(continued from page 6)

```
590  RETURN
591  REM
592  REM
31100 REM SET UP LABELS
31110 LA$(1)="LABEL1"
31120 LA$(2)="LABEL2"
31130 LA$(3)="LABEL3"
31140 LA$(4)=" EXIT "
31190 RETURN
31191 REM
31192 REM
31200 REM DISPLAY LABELS
31210 VTAB 24:INVERSE
31220 FOR I=1 TO 4
31222 HTAB (10*I-8)
31224 PRINT LA$(I);
31230 NEXT I
31240 NORMAL
31250 POKE 35,23:REM LOCK LABELS
31260 VTAB 1:REM GET CURSOR UP
31290 RETURN
31291 REM
31292 REM
31300 REM GET RESULTS
31310 GET NR$
31321 IF NR$="1" THEN 31330
31322 IF NR$="2" THEN 31330
31323 IF NR$="3" THEN 31330
31324 IF NR$="4" THEN 31300
31325 GOTO 31310
31330 NR=VAL(NR$)
31340 POKE 35,24:REM UNLOCK LABELS
31390 RETURN
31391 REM
```


" AND THEN...! "

TALK TO YOUR COMPUTER
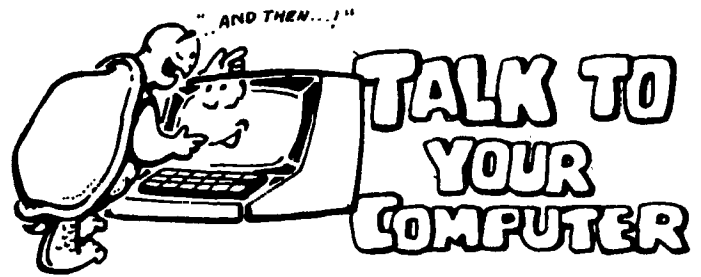
Graphics are fun, but talking to your computer can also be a lot of fun, too. Jim Smithers runs The Computer Learning Center in Caldwell, Idaho. One of his daughter's favorite things is making up "Madlibs." This one gives you some pretty good ideas on how you can use the SENTENCE, or SE command. This is written in Apple Logo, but should not be hard to do in other versions. The main thing you have to be careful about is when and when not to use the brackets.

OK! Now see what you can do with "Mary had a little lamb."

```
TO MARY.POEM
PRINT [WHAT'S YOUR NAME?]
MAKE "NAME READLIST
PRINT (SE [WOW!] :NAME [IS A NEAT NAME.])
PRINT [WOULD YOU LIKE TO WRITE A MARY HAD A LITTLE LAMB
      POEM?]
MAKE "ANSWER READLIST
IF :ANSWER = [YES] [PR [I'M SO GLAD!] POEM]
IF :ANSWER = [NO] [PR [THAT'S TOO BAD, GOODBYE]] [STOP]
END

TO POEM
CLEARTEXT
TEXTSCREEN
PRINT [WHAT'S ANOTHER NAME BESIDES MARY?]
MAKE "MARY READLIST
PRINT ( SE :MARY [HAD A LITTLE WHAT?] )
MAKE "LAMB READLIST
PRINT ( SE :MARY [HAD A LITTLE] :LAMB ".
[WHAT'S ANOTHER COVERING BESIDES FLEECE?])
MAKE "FLEECE READLIST
PRINT ( SE :MARY [HAD A LITTLE] :LAMB ".
"IT'S :FLEECE [WAS....NAME ANOTHER COLOR BESIDES WHITE.])
MAKE "WHITE READLIST
PRINT ( SE :MARY [HAD A LITTLE] :LAMB ".
"ITS :FLEECE "WAS :WHITE [AS WHAT?] )
MAKE "SNOW READLIST
PRINT ( SE :MARY [HAD A LITTLE] :LAMB ".
"ITS :FLEECE "WAS :WHITE "AS :SNOW ".
[AND EVERYWHERE THAT] :MARY [WENT . HER] :LAMB [WAS SURE
    TO GO] )
END
?
```

```
10  REM   FOR THOSE WITH TI COMPUTERS HERE IS A GREETING FROM MILLER GRAPHICS
11  REM   TRANSLATED FROM EXTENDED BASIC TO TI BASIC
20  DATA 250,494,250,494,500,494,250,494,250,494,500,494,250,494,250,587,250,392,
250,440,1000,494,250,523,250,523
30  DATA 250,523,250,523,250,523,250,494,250,494,250,494,250,494,250,440,250,440,
250,494,500,440,500,587,250,494
40  DATA 250,494,500,494,250,494,250,494,500,494,250,494,250,587,250,392,250,440,
1000,494,250,523,250,523,250,523
50  DATA 250,523,250,523,250,494,250,494,250,494,250,587,250,587,250,523,250,440,
1000,392
60  RESTORE                      160  RESTORE
70  FOR T=1 TO 49                170  FOR T=1 TO 49
80  READ A,B                     180  READ A,B
90  CALL SOUND(A,B,4)            190  CALL SOUND(A,B,2,B*2,6)
100 NEXT T                       200  NEXT T
110 RESTORE                      210  RESTORE
120 FOR T=1 TO 49                220  FOR T=1 TO 49
130 READ A,B                     230  READ A,B
140 CALL SOUND(A,B,2,B/2,6)      240  CALL SOUND(A,B,2,B+5,4,B/2,6)
150 NEXT T                       250  NEXT T
                                 260  REM   FOR EXAMPLE: CALL SOUND(A*.9,B,2,.....)
```

Toys: From slingshots to Ms. Pac-Man

Who is the man on the cover?

Most of you know him as Santa Claus but he has many names all over the world. He is the one who puts all of the toys under the tree each year. And, he has been doing that for a long, long time. (See Santa program at end of this article.)

But did you know that that the toy industry has been around for a lot longer than Santa Claus? It has even been around a lot longer than Christmas. In fact, it is one of the oldest industries in the world.

No one knows where it really started. Maybe it was when a young cave-boy picked up a flat rock and discovered what fun it was to skip it across a pond. It could have easily been an inventive mother who wanted to train her daughter as a babysitter by using a "model baby." Or maybe it was a father who made a simple slingshot to train his son as a hunter.

We know that prehistoric people used dolls, toy bows, and slingshots. We also know that the ancient Egyptian Pharoahs asked to have their games included in their tombs so they could continue to play the games in their afterlife.

The earliest known toy factory was discovered in India. It dates back more than 5,000 years. It was in this part of the world that the game of chess was devised. Older children enjoyed chess and backgammon while younger children of ancient Asia enjoyed kites, tops, and dominoes.

Both the ancient Greeks and Romans were very fond of board games, especially dice games. The dice were not like those we use today, but similar.

Toys and Games in the New World

In this country, early settlers from Europe discovered that some Indian games and playthings — dolls, balls, bows and arrows — were surprisingly like their own.

During the first years in the harsh New World, there was little time for frivolity and early toys were made with materials at hand. Corncobs were made into dolls, and the dried kernels used as tokens in games. Tops, wooden balls and whistles could all be fashioned by a proficient whittler, and whittling them was part of the fun.

It wasn't until well after the American Revolution that the first companies began to produce individual playthings in quantity.

Perhaps the first American toy manufacturing business was The Tower Shop, later called the Tower Toy Company, started in the late 1830's by William S. Tower of South Hingham, Massachusetts. It was an association of craftsmen from different fields who pooled their various skills to provide a wide range of toy items, including doll furniture, toy tools and boats, mostly made of wood.

From that point the toy industry was on its way to
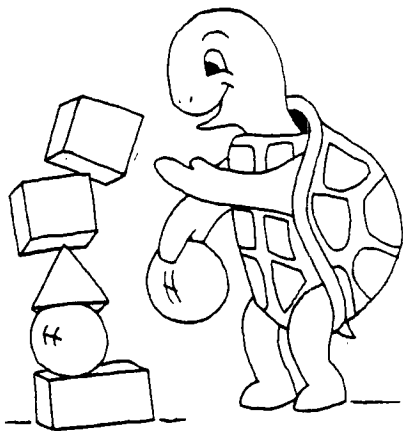
LOGO?

IN MY CLASSROOM?

Now there is a comprehensive, yet uncomplicated guide the K-6 teacher can use to implement a successful computer program. Successfully classroom tested **Teacher, Kids, and Logo** is a practical guide for teachers who are new to computers and/or to Logo. The authors, who are experienced Logo teachers have presented the material in easy to follow, grade-by-grade lesson plans. Direct teaching methods are combined with activities that encourage individual exploration and self-discovery. **Teacher, Kids, and Logo** gives the classroom teacher many creative ideas to develop a rich Logo environment including projects, scheduling bulletin boards, and off-computer lessons. The programming lessons are supplemented by math sequences that are directly related to the Logo concepts presented and the computer literacy strand which was designed to involve the students complete the interrelated curriculum. Illus., 160 pages . . . . $15.95. International orders — U.S. funds only.

To order **Teacher, Kids, and Logo**, fill out form and send to:

Name _____

Address _____

City, State, Zip _____

EduComp Publications
14242 Wyeth Ave.
Irvine, CA 92714

Teacher, Kids, and Logo $15.95. Add $2.00 shipping. California residents add 6% sales tax.

Attention Apple Logo users:

The Apple Tool Kit is available for order from EduComp. It consists of two disks enabling the user to print pictures, compose music, interface with the 6502 assembler, and other features . . . . $8.95 p.p.

Slingshots to Ms. Pac-Man

establishing a firm position in the country's business community. It grew steadily, despite a few temporarily alarming setbacks. Production slowed during the Civil War, for example, but the post-war period saw rapid growth. At the start of the war, there were 12 toy factories during $184,000 annual volume; by 1900, volume had jumped to over $4,000,000 by 500 companies.

The Golden Age

The golden age of mechanical toys occured during the second half of the 19th Century, when dolls walked and talked, bells rang, toy pianos tinkled, and tin toys ran by friction "motors" or wind-up springs. Between 1900 and 1919, toy production in the U.S. doubled, and in the next decade increased by 500 percent.

The most difficult time for the toy industry was triggered by the First World War. The Council of National Defense proposed the abolition of Christmas in the form of an embargo placed on the buying and selling of Christmas presents. However, the legislative Scrooge was thwarted when a delegation from the newly formed Toy Manufacturers of the U.S.A. (formed in 1916 and now known as Toy Manufacturers of America, Inc.), armed with the appeal of some of their best toys, traveled to Washington and persuaded the Council of National Defense to preserve the tradition of Christmas gift-giving. Thus, the American toy industry continued to grow and prosper.

In 1921, another crisis faced the toy business and spurred another delegation from the association to appear before the House Ways and Means Committee, this time to protest Germany's post-war flooding of the U.S. market with well-made toys at extremely low prices. The German competition threatened even the strongest American companies, driving some of the new firms out of business. Federal legislators invoked a higher protective tariff, effective in 1922, which meant survival and growth potential for relatively small business concerns and paved the way for new American toy companies to form and develop.

The toy business grew steadily throughout the 1920's, despite the despression, then endured a flattening-out period during World War II, due to severe material shortages.

The 20th Century saw exciting developments in the design and manufacture of toys, largely due to the introduction of batteries and plastics. Suddenly it was possible to mass-produce toys which were quite sophisticated, yet relatively inexpensive to manufacture. Toys and games were developed and modified to reflect the events of our times — the advent of automobiles, airplanes and the space program. The importance of licensing to the toy industry has all been incorporated into the creation of unique products, further vitalizing the industry. Mass production techniques and rugged competition in the manufacture of new gadgets and games have helped keep volume high and consumer prices low.

By far the most dramatic change in the toy industry has been sparked by a new interest in computer technology, with a dazzling array of electronic toys and games enjoying unprecedented popularity among consumers of all ages.

Video Games

The first major breakthrough in electronic game technology came in 1969 from Ralph Baer, then Manager of the Equip-

ment Design Division at Sanders Associates, Inc., in Nashua, N.H., a $200 million a year electronic systems development and manufacturing organization.

Baer had long puzzled over the possibilities of using the TV set as an avenue of profit. In a paper presented before the first Electronic Game Designer's Conference in San Francisco in 1977, Baer said, "The question of how to make use of home TV sets, other than watching over-the-air programs, had been bothering me since the early sixties. The fact is that even back then there were some 62 million TV homes — that is TV *homes*, not TV *sets*. There were well over 100 million TV sets in the U.S. alone by 1965 and about as many again in the rest of the Western world and places like Japan and Australia. The idea of attaching some device to even a small fraction of that many TV sets was a pretty powerful incentive for coming up with something, anything, on which people might actually want to spend their money.."

Baer built his own breadboard and checked out his initial ideas for generating player spots and moving them around a broadcast TV receiver under manual control. Soon it became obvious to him he had the elements of a fun game, and he was encouraged to push ahead.

A few months after Baer's experiments became an official research and development project at Sanders, Inc., he and his associates were playing target games, chase games, Ping-Pong and hockey. A short time later, they applied for a patent, but it wasn't until the summer of 1972 that they saw the results of their efforts on the market, when Magnavox came out with Odyssey, the first home video game. The price tag, at $100, was formidable, but it was the beginning of a video game craze that swept the country.

Nearly 100,000 Odysseys were sold that first season, but video games did not really catch on until 1975, when Atari offered models with more flamboyant visual symbology and sound effects. In 1976 the number and variety of models and manufacturers more than doubled and their prices nearly halved. The home video game was now within the reach of the pocketbook of a significant number of consumers who were intrigued with the novelty of the new electronic playthings. However, the technology was advancing so fast that by the time a product hit the market, it was obsolete. By 1977 some forty companies had come out with video games and the market was glutted. Many firms went under, saddled with millions of games they had to sell at little more than cost.

As a result, the tidal wave of home video games receded markedly in 1977, and some said the fad had run its course for good. Others disagreed.

Ralph Baer is currently at work on a further evolution of video game which would involve telephones and cable television. He foresees the day when people will be able to enjoy their favorite games over the telephone lines with each player watching the action on his own TV.

"Stretching our imagination a little further," says Baer, "We can visualize road-racing games in which our TV set becomes a convincing view through the windshield. While the pictorial imagery comes from the software program, we will do electronic processing of this video information to suite it to your video recording. The microcomputer will be able to react to such things as side-swiping or collisions or running off the road, perhaps by using the digital data to identify various pictorial objects in terms of their location on screen."

Electronic Toys and Games — The First Year

There is no doubt that during the height of the craze, the

Slingshots to Ms. Pac-Man

people in the traditional toy and games business were a bit uneasy about the fact that the fad was making an important dent in the family budget and leisure time. All the more reason, then to look toward other avenues of exploiting the public's burgeoning interest in computer games.

People invovled in the new direction of the toy industry tend to be young, innovative and bold. Most of them have a strong background in computer technology, and it's paying off. Such people are those like Bob and Holly Doyle, who found themselves casualties of the diminishing public interest in the space program a few years ago. Both were astronomers, Harvard Ph.D's working with high-level computers at their alma mater. When Kennedy's campaign about "man's future in space" began to lose momentum and then finally, public support, the Doyle's realized their future lay in fields other than astrophysics. For several years they had watched the cost of electronic equipment plummet, and became convinced that electronics would soon be cheap enough to mass-market in various forms.

In early 1975, Bob and Holly Doyle and Holly's brother Wendel Thomis, an IBM systems engineer, set up shop as MicroCosmos and went to work on their ideas for new concepts in fun and games, some of them off-shoots of their coffee-break computer fun during their astrophysicist days. Soon they came up with fifty or so which could be adapted to a small, relatively unsophisticated unit. They took prototypes for four of their ideas to Bill Dohrmann, R&D chief at Parker Brothers in Salem, Massachusetts.

The Doyles presented an articulate, persuasive argument for the future of electronic games, but even though the people at Parker Brothers were interested, they were also wary. As Dohrmann put it, "We'd spent ninety years pasting paper on cardboard, and suddenly we're dealing with computers." A quantum leap into the twentieth century was a giant step the conservative toy company approached with tip-toe caution.

Finally, in the fall of 1976, Parker Brothers agreed to go with a game the Doyles had submitted in late summer of 1975. CODE NAME: SECTOR featured a submarine which was a computer; the players had to track it down, determine its depth and fire. The fact that players plotted their ships' courses on a map made Parker Brothers feel a little more comfortable with the new venture; it could be construed as a board game, which kept it with the framework of Parker Brothers' more traditional products.

However, other toy companies were also moving with the growing computer craze and when CODE NAME: SECTOR was introduced to the trade at the annual Toy Fair in February, 1977, it wasn't the only electronic offering on display. Milton Bradley was showing COMP IV, a handheld computer game which had been compared favorably with the popular MASTERMIND, only it used numerical instead of color codes.

George Ditomassi, then manager of the company's game division, had his doubts about COMP IV, but had reluctantly followed the recommendations of Dorothy Worcester, Milton Bradley's vice-president in charge of market research. Her team had found what they felt to be a significant fact of today's family life: more only-children, and siblings who are farther apart in age. COMP IV might very well appeal to these children as a solitaire game.

Because of its rather sterile design and hefty nineteen dollar wholesale price tag, COMP IV's reception among retail buyers at Toy Fair was lukewarm. During the ensuing months, however, Ditomassi's informal research with COMP IV, which consisted of planting the game at various bars and restaurants in the New York area, then checking customer reaction with the bartenders, brought more encouraging results, and COMP IV ultimately proved itself in the marketplace.

One of the most significant developments to emerge from the 1977 Toy Fair came about when Ditomassi spied Parker's elaborate display of CODE NAME: SECTOR, and immediately picked up the gauntlet. After all, war games were Milton Bradley's specialty.

BATTLESHIP, based on the old favorite that sailors had played on graph paper for as long as anyone could remember, was the flagship of the Bradley line. The company's engineers had come up with a rough prototype of the plastic board game which they had planned to update with electronic sound effects simulating the noise of combat — whirs, pings, buzzes and a whopping battle cry at the end of the game. With CODE NAME: SECTOR threatening their territory, Milton Bradley signaled full speed ahead with the development of the new electronic BATTLESHIP. Milton Bradley won a battle, if not the war, because the following Christmas saw ELECTRONIC BATTLESHIP eke out ahead of Parker Brothers' entry. CODE NAME: SECTOR made a respectable showing, however, as did all of the electronic games presented to the toy-buying public in 1977.

With encouraging sales the first year, the big toy companies and their designers went into full swing in 1978 to develop newer, even more exciting playthings to tempt the growing consumer appetite for electronic gadgetry.

Spectacles of Sight and Sound

For those that have long been familiar with mechanical and electro-mechanical buzzers, bells and whistles, the concept of a tiny piece of silicon talking back, making music or simulating the sounds of a naval battle seems totally incomprehensible. Past attempts at electronic sound had been very expensive and not that reliable. Thus, the use of sound effects in small low-cost consumer products was severely limited.

The single-chip microcomputer was the technological breakthrough that opened the door to electronic sound, used independently or to control a complex sound generator circuit. Milton Bradley's ELECTRONIC BATTLESHIP was the first electronic game to take advantage of the new dimensions sound effects could add to a game. Here the microcomputer is used to control a complex sound generator that produces the unique sonar ping heard throughout the game, the fire control sequencing and firing signals, the whine of an incoming missile and the sound of an explosion as the opponent's ships are blown out of the water. A simulated victory blast signals the end of the game.

In MERLIN and SIMON, the sound effects are programmed into the microcomputer. The microcomputer program holds the output switches ON for a short period and OFF for an equal period. Done 440 times per second, for example, this produces a frequency for the note desired. This same concept is used in the Kenner Products PLAY 'N PLAYBACK organ introduced in 1978. Preschoolers have two octaves on which they can play their music, listen to eight preprogrammed nursery tunes, record and then playback their own compositions or music from the songbook included.

A slightly more sophisticated approach to electronic sound

Slingshots to Ms. Pac-Man

effects was the ELECTRONIC 300 BOWLING GAME from Marx-Aurora Toy Company. Using the full capabilities of the microcomputer, Marx simulated all of the sound effects and random pin action of a real bowling alley in a colorful table-top unit. The microcomputer is combined with some simple, external circuitry to provide the sound of one or more pins falling, a five note bugle call as reward for getting a spare, and a few bars of the William Tell Overture for getting a strike.

Dick DeLessio of Parker Brothers has commented that at some point in the future, all games will be electronic. It remains to be seen whether any of the current rivals will achieve the durable year-after-year saleability of a Monopoly game or a Barbie doll, but leaders in the business see a very bright future for the microcomputer in the toy world.

Randolph B. Barton, President of Parker Brothers, says, "We are very optimistic about the future of computerized toys and games. If manufacturers continue to use this technology creatively, and take their product story to the consumer via the media and innovative in-store promotion, the toy and game industry will change and grow dramatically as new frontiers in family entertainment are reached and exceeded."

It is clear, too, that opportunities abound for talented, imaginative newcomers who want to help expand those frontiers. Microelectronics, as an innovative novelty, is still only a short-term phenomenon. The name of the game is still creativity and magic. As electronics becomes as basic to toys and games as the spring-wound motor and spinners, good product applications will have to come from well thought-out product concepts and themes.

Here's the procedure for the Santa on the cover:

```
TO LIP
  PU SETX 14 PD PC 3 SETH 225
  REPEAT 9 [RCP 20] PC 1 PU HOME
  SETH 45 FD 50 PD SETH 135
  REPEAT 2 [RRAY 20] PU HOME
  SETH 45 FD 50 PD SETH 130
  REPEAT 2 [RRAY 20] PU HOME
  SETH 315 FD 50 PD SETH 225
  REPEAT 2 [LRAY 20] PU HOME
  SETH 315 FD 50 PD SETH 230
  REPEAT 2 [LRAY 20]
END


TO MOUSTACHE
  PU SETXY 0 ( - 10 ) PD SETH 90
  RRAY 25 SETX 0 PU SETXY 0 ( - 10 )
  PD SETH 270 LRAY 25 SETX 0
END


TO HAIR
  HAIR: PU SETXY 0 20 SETH :ANGLE
  FD 55 PD BEARD :ANGLE
  MAKE "ANGLE :ANGLE + 5
  IF :ANGLE < 226 THEN GO "HAIR
END
```

```
TO LRAY :R
  REPEAT 4 [LCP :R]
  REPEAT 4 [RCP :R]
END


TO RRAY :R
  REPEAT 4 [RCP :R]
  REPEAT 4 [LCP :R]
END


TO BEARD :ANGLE
  IF :ANGLE = 180 THEN STOP
  IF :ANGLE > 180 THEN GO "RTSIDE
  LTSIDE: SETH :ANGLE - 10
  REPEAT 2 [RRAY 30] STOP
  RTSIDE: SETH :ANGLE + 10
  REPEAT 2 [LRAY 30]
END


TO HAT
  SETH 0 PC 3
  REPEAT 8 [RCP 30] FD 10 PU
  SETXY - 35 42 SETH 0 PC 3 PD
  REPEAT 9 [RCP 50] FD 30
  REPEAT 3 [RCP 50] PC 1 SETH 0
  MAKE "R 15 RCIRCLE :R
  REPEAT 4 [SETX XCOR+3]
  MAKE "R :R - 3 RCIRCLE :R
  MAKE "ANGLE 135
END


TO LBROW
  LBROW:
  PU SETXY 14 17 SETH :ANGLE
  FD 10 PD REPEAT 5 [LCP 6]
  MAKE "ANGLE :ANGLE + 12
  MAKE "REPS :REPS + 1
  IF :REPS < 6 GO "LBROW
  PU HOME SETH 45 FD 50 PD
  MAKE "H 70 SETH 270
  REPEAT 2 [FD :H MAKE "H :H+2 SETY]
  YCOR + 1 BK :H MAKE "H :H + 2
  [SETY YCOR+1]
  REPEAT 2 [FD :H MAKE "H :H-2 SETY]
  YCOR + 1 BK :H MAKE "H :H - 2
  [SETY YCOR+1]
END


TO RCP :RADIUS
  RT 5
  FD :RADIUS * .17453
  RT 5
END


TO RBROW
  RBROW:
  PU SETXY - 14 17 SETH :ANGLE
  FD 10 PD REPEAT 5 [RCP 6]
```

SOFTWARE EXCHANGE

We have to apologize to those people who did not receive our catalog edition in September. When we switched printers and mailing companies, everything did not go exactly as planned. However, since then we have received about 50 more disks of software, 28 disks of Apple Software and about 20 disks of Commodore software.

This has created some problems.

First of all, the YPLA has to join those who have become a bit put out by the reliability of the Commodore 64 and the VIC 1541 disk drives. These problems have been widely reported in the computer industry news media. Some local dealers are experiencing 20% returns from disk failures. In particular, we have been having trouble with our disk drives. Copying disks has been very difficult. This is especially true with Commodore Logo. For reasons no one can accurately define, we can not copy Commodore Logo disks reliably. It doesn't do anyone any good to get disks which won't load.

Printing Commodore Logo graphics has proven to be next to impossible using our Prowriter printer and a graphics interface manufactured by an independent company. Hopefully, we will be able to work with the interface manufacturer to solve this problem. Then we can address the questions we have received from others having similar problems.

Our drives are currently being gone over again and hopefully the problem will also be solved soon. In the meantime, we will update the catalog again with the next issue, to bring everyone up to date.

Thanks for your patience.

SANTA PROGRAM

(continued from page 11)

```
MAKE "ANGLE :ANGLE - 12
MAKE "REPS :REPS + 1
IF :REPS < 6 GO "RBROW
MAKE "ANGLE ( - 20 )
MAKE "REPS 0
END


TO RCIRCLE :RADIUS
  REPEAT 36 [RCP :RADIUS]
END


TO EYES
  PU SETXY - 20 17 PD RCIRCLE 6
  PC 5 PU SETXY - 18 17 PD RCIRCLE 3
  PC 1 PU SETXY 8 17 PD RCIRCLE 6
  PC 5 PU SETXY 10 17 PD RCIRCLE 3
  PC 1 MAKE "ANGLE 20 MAKE "REPS 0
END


TO LCP :RADIUS
  LT 5
  FD :RADIUS * .17453
  LT 5
END


TO NOSE
  PU SETXY - 4 4 SETH 180 PD
  FD 4 RT 90 REPEAT 18 [LCP 4]
  FD 8 REPEAT 18 [LCP 4] RT 90 FD 4
END


TO SANTA
  FULLSCREEN
  CS PC 1
  PU HOME SETH 45 FD 50
  SETH 135 PD
  REPEAT 27 [RCP 50]
  NOSE
  EYES
  RBROW
  LBROW
  HAT
  HAIR
  MOUSTACHE
  LIP
END
```
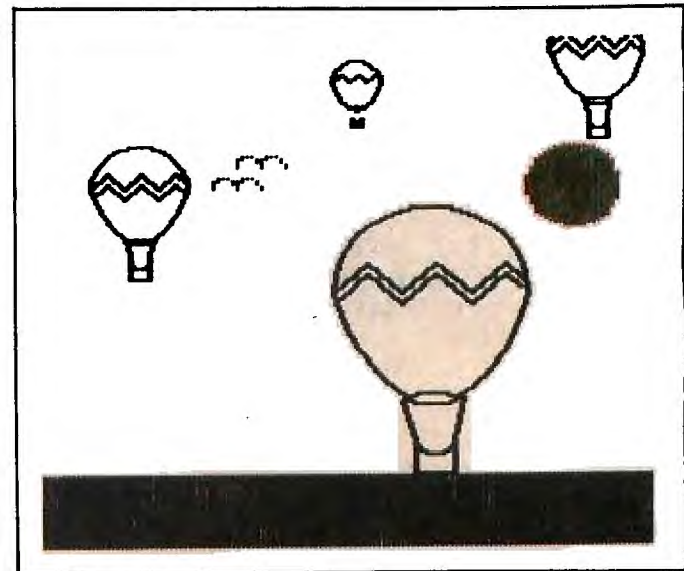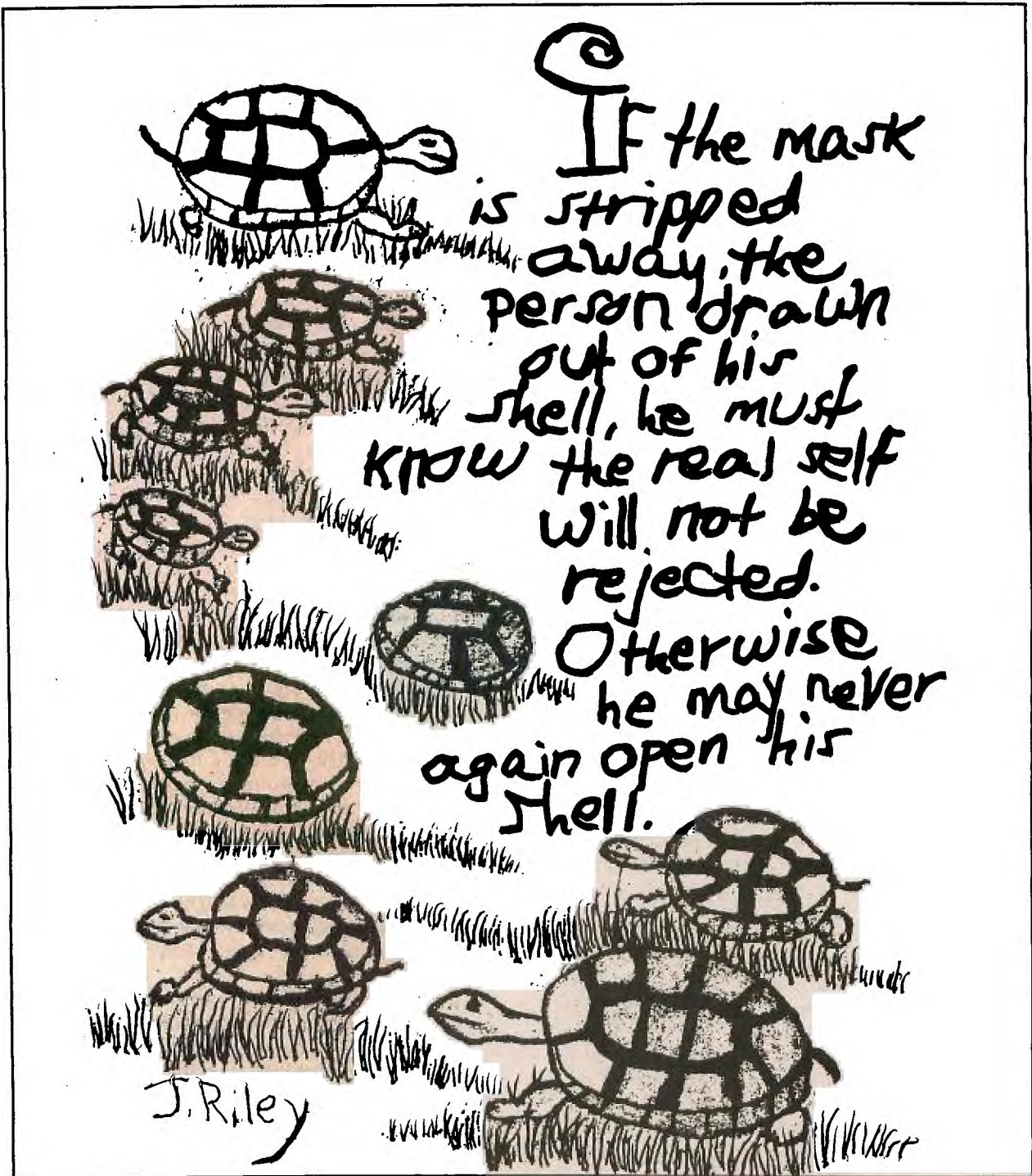
Up, up and away

Balloons are beginning to land in Richardson. These came from Lawrence, Kansas, thanks to John Catlin. This reminds me of the morning we all went up to Plano, Texas, to see the Balloon Festival celebrating the 200th birthday of balloon flight.

If any of you are interested in ballooning and would like to learn more about it, read the December issue of National Geographic magazine. They have a beautiful article on the 200th celebration in Paris, France, including a picture of the replica of the first balloon which lifted off from Paris in 1783.

We'll be printing more ballooning pictures in coming months as our Logo aeronauts send in more procedures.

Thanks to all of you who are participating.

If the mask is stripped away, the person drawn out of his shell, he must know the real self will not be rejected. Otherwise he may never again open his shell.

J. Riley

A very special picture ... from a very special lady

Jean Riley is a very special lady, a very special talent. She appears to be confined to a wheelchair. Her cerebral palsy appears to cripple her. Her speech is difficult to understand, her muscular control appears to be quite limited.

At first meeting, it is pretty easy to feel sorry for her.

But that's a waste of time. Because Jean is a very active writer and artist. She makes her Franklin computer do things many of us only dream of doing.

She slides out of her wheelchair and onto the floor to develop some extraordinary artwork — artwork of enough significance to warrant a one-person show recently.

Graphics on the computer are a problem for Jean. I hope Logo and Turtle Graphics will help unleash that phenomenal imagination.

The body can be such a fragile thing. Vanity can mask the person inside. But then you meet people like Jean Riley and Jack Kishpaugh, and you find out just how beautiful people can be.

It is to them and all of the other beautiful people that we wish a very happy and productive holiday season and new year.

PILOT *for parents (and other busy people)*

by Ruth Ellsworth

Having a computer in the home presents wonderful possibilities in the way of educational experience and enrichment. PILOT opens up such opportunities to parents, teachers, and others who are either too busy or not interested in the intricacies of computer languages or the machine itself. It is easy to learn and can easiy be used to create electronic versions of existing standard educational materials, as well as to develop programs which encourage creativity and discovery type learning.

PILOT was written specifically to fill the need of educators to create electronic learning media. Because of this the commands used to translate traditional materials to electronic media are basic to PILOT, forming a jumping off point to more exciting programming.

We have been using PILOT in our home for over a year and have found it an exciting and useful tool for learning, especially with our younger children. This article is the first in a series on PILOT, and PILOT and LOGO. The technical skills covered are those which the children and I have mastered. It is our hope that they will encourage families to overcome any hesitation to use the computer. With the exception of this article, most will include pre-school programming in order to fill what we view as a serious void in public domain software.

Because of the way PILOT was designed, we found that the easiest way for the adult or older child to begin programming with PILOT is to translate standard educational materials into programmed learning. There are several reasons for beginning in this way. It basically requires only a few commands. Such programming does not require creativity, allowing one to concentrate on mastering the commands. And one can immediately begin to use the program created.

Teacher's editions of text books are a good source of material which can easily be programmed for use in the home. Children's homework and discussions of class work are also good source material to be used by parents. It is usually fairly easy to construct questions and information from such materials, and we have found the older children enjoy using the computer to "teach" their younger brothers and sisters.

The rule of thumb in creating standard electronic programmed learning materials is that information follows the T: command, input (answers) follow the A: command, and input is evaluated by the M: command. For example, if I were preparing a program for my fourth grade speller, the following might be used:

    10 T: Type a word that means born again.
    20 A:
    30 M: reborn _
    40 TY: Very good!
    50 TN: The answer is reborn. Better luck next time.
    (etc.)

In this example the T: command tells the computer to type what follows on the screen. The A: accepts any input given followed by a return. The return key allows the computer to determine that input has been terminated. The M: command checks the input to determine if it is the desired answer. In this case an exact match is wanted and a space must preceed the answer which is followed by an underline to assure that there is no chance of the computer misreading input. The TY:

command types what follows if the input matches (it means type if yes there was a match). The TN: command types what follows if the input does not match (it means type if no match). This type of program could contain instructional materials using the T: command, as well as other types of input (graphics, etc.). If more than one attempt to answer correctly is allowed the JM: command will need to be used instead of the TY: and TN: commands.

The FAMILY SQUARES "quiz show" game example at the end of this article is designed to show some of the way only a few commands can be used to present review material in a fun way. The children especially like to each pick out a set number of questions to be included in the game.

PILOT is basically modular. It should be noted that each module is indicated by the * preceeding its name. The children find it easiest to think that a module is like a story or planned activity. It has a beginning (noted by an *), a middle (the lines which tell what is to be done in order), and an end (E:).

In constructing PILOT programs of any length, one should put the most frequently used modules first. PILOT searches for called modules from the top down so that PILOT programs run fastest the nearer to the top the used modules are located. We do, however, usually put what we call the *BEGIN module at the top for ease in reading our programs and print-outs.

The BEGIN module sets the counters needed in the program to 0. This is called initializing the counters, and is necessary for such programs to function properly. The BEGIN module also lists the modules to be used which set the program into operation.

Modules *I through *A place the player's mark in the square desired. They also test to see if the square is already marked and to see if there is a win. The command POS: tells the computer where to place the mark. This program uses the oversize text mode, therefore, WRITE:S, is used instead of the T: command.

The *Questions module is basically a pointer telling the computer where to go to find a question. In order to keep the computer from repeating a question a counter is used. The program jumps to the question indicated by the value of the counter #Q. This module could have had a random selection. We will be demonstrating the random commands in both PILOT and LOGO in another article and will present that module at that time.

We have used only three modules to demonstrate types of questions that could be used. *ONE is a straight question and answer module. *TWO is a fill in the blank and could be modified to actually place the answer into the slot. Note that on *TWO we did not require an exact answer, anything starting with B will be accepted. *THREE is an example of multiple choice questions in PILOT. In these modules correct the answer to appear and return the program to the next question.

We chose to write this program in oversize text because the input lines would have all required POS: statements in Graphics 0 in order to prevent disturbance to the tic-tac-toe board. @B1373=16 sets the oversize text mode with a text window for input at the bottom. @B1374=2 sets the size of the text; there is a choice of size 1 or 2. In oversize text the input to

PILOT for parents ...

(continued from page 14)

the black area of the screen requires a WRITE:S, statement instead of a T: command.

The *START module checks byte 53279 to see if it has received the value of the start key. Byte 53279 is the location for input from the yellow keys on the ATARI 400 and 800 machines. To keep the machine in the start module until the start key is pressed, the module must be directed to return to itself if the start key is not pressed. Otherwise the program would proceed immediately to the next instruction, or in this case it would end.

One of the nicest things about creating family educational software is that they can be personalized. We often tailor correct answers to the child who will be using the program. In this case the *WIN module is very standardized, but could contain all kinds of fun surprises for the children. In this case *WIN merely allows the children to decide whether to play again. If the answer is yes, the *Y module clears the screen and jumps to the *BEGIN module. If the answer is no, *N ends the game.

```
10  P:FAMILY SQUARES
20  R:THIS GAME IS FUN FOR THE WHOLE
       FAMILY BECAUSE THOSE THAT
       DON'T PLAY GIVE
30  R:POSSIBLE ANSWERS,
40  R:CHILDREN ENJOY CHOOSING AND
       PROGRAMMING QUESTIONS TO BE
       USED,
45  *BEGIN
50  C:#Q=0
60  C:#M=0
70  C:#N=0
80  C:#O=0
90  C:#P=0
100 C:#W=0
110 C:#R=0
120 C:#V=0
130 C:#T=0
140 C:#U=0
150 U:*BOARD
151 T:>
160 T:THIS GAME IS A TIC-TAC-TOE
       GAME WITH
161 T:QUESTIONS.  PRESS START TO
       BEGIN.
170 U:*START
180 E:
190 *I
200 J(#U=1):*CHOOSE
210 J(#U=2):*CHOOSE
220 T:>
230 T:TYPE EITHER X OR O
240 A:
250 M:X,O
260 JM:*IP1,*IP2
270 E:
280 *IP1
290 POS:13,8
300 WRITE:S,X
310 C:#U=1
320 J(#V+#T+#U=3):*WIN
330 J(#U+#W+#M=3):*WIN
340 J(#U+#R+#O=3):*WIN
350 J:*QUESTIONS
360 E:
370 *IP2
380 POS:13,8
390 WRITE:S,O
400 C:#U=2
410 J(#V+#T+#U=6):*WIN
420 J(#U+#W+#M=6):*WIN
430 J(#U+#R+#O=6):*WIN
440 J:*QUESTIONS
450 E:
460 *H
470 J(#T=1):*CHOOSE
480 J(#T=2):*CHOOSE
490 T:>
500 T:TYPE EITHER X OR O
510 A:
520 M:X,O
530 JM:*HP1,*HP2
540 E:
550 *HP1
560 POS:9,8
570 WRITE:S,X
580 C:#T=1
590 J(#V+#T+#U=3):*WIN
600 J(#T+#W+#N=3):*WIN
610 J:*QUESTIONS
620 E:
630 *HP2
640 POS:9,8
650 WRITE:S,O
660 C:#T=2
670 J(#V+#T+#U=6):*WIN
680 J(#T+#W+#N=6):*WIN
690 J:*QUESTIONS
700 E:
710 *G
720 J(#V=1):*CHOOSE
730 J(#V=2):*CHOOSE
740 T:>
750 T:TYPE EITHER X OR O
760 A:
770 M:X,O
780 JM:*GP1,*GP2
790 E:
800 *GP1
810 POS:5,8
820 WRITE:S,X
830 C:#V=1
840 J(#V+#T+#U=3):*WIN
850 J(#V+#P+#M=3):*WIN
860 J(#V+#W+#O=3):*WIN
```

PILOT *for parents ...*

```
870  J:*QUESTIONS
880  E:
890  *GP2
900  POS:5,8
910  WRITE:S,O
920  C:#V=2
930  J(#V+#T+#U=6):*WIN
940  J(#P+#V+#M=6):*WIN
950  J(#V+#W+#O=6):*WIN
960  J:*QUESTIONS
970  E:
980  *F
990  J(#R=1):*CHOOSE
1000 J(#R=2):*CHOOSE
1010 T:>
1020 T:TYPE EITHER X OR O
1030 A:
1040 M:X,O
1050 JM:*FP1,*FP2
1060 E:
1070 *FP1
1080 POS:13,5
1090 WRITE:S,X
1100 C:#R=1
1110 J(#O+#R+#U=3):*WIN
1120 J(#P+#W+#R=3):*WIN
1130 J:*QUESTIONS
1140 E:
1150 *FP2
1160 POS:13,5
1170 WRITE:S,O
1180 C:#R=2
1190 J(#O+#R+#U=6):*WIN
1200 J(#P+#W+#R=6):*WIN
1210 J:*QUESTIONS
1220 E:
1230 *E
1240 J(#W=1):*CHOOSE
1250 J(#W=2):*CHOOSE
1260 T:>
1270 T:TYPE EITHER X OR O
1280 A:
1290 M:X,O
1300 JM:*EP1,*EP2
1310 E:
1320 *EP1
1330 POS:9,5
1340 WRITE:S,X
1350 C:#W=1
1360 J(#W+#N+#T=3):*WIN
1370 J(#W+#M+#U=3):*WIN
1380 J(#W+#V+#O=3):*WIN
1390 J(#W+#R+#P=3):*WIN
1400 J:*QUESTIONS
1410 E:
1420 *EP2
1430 POS:9,5
1440 WRITE:S,O
1450 C:#W=2
1460 J(#W+#N+#T=6):*WIN
1470 J(#M+#W+#U=6):*WIN
1480 J(#W+#V+#O=6):*WIN
1490 J(#W+#R+#P=6):*WIN
1500 J:*QUESTIONS
1510 E:
1520 *D
1530 J(#P=1):*CHOOSE
1540 J(#P=2):*CHOOSE
1550 T:>
1560 T:TYPE EITHER X OR O
1570 A:
1580 M:X,O
1590 JM:*DP1,*DP2
1600 E:
1610 *DP1
1620 POS:5,5
1630 WRITE:S,X
1640 C:#P=1
1650 J(#P+#W+#R=3):*WIN
1660 J(#P+#M+#V=3):*WIN
1670 J:*QUESTIONS
1680 E:
1690 *DP2
1700 POS:5,5
1710 WRITE:S,O
1720 C:#P=2
1730 J(#P+#W+#R=6):*WIN
1740 J(#P+#M+#V=6):*WIN
1750 J:*QUESTIONS
1760 E:
1770 *C
1780 J(#O=1):*CHOOSE
1790 J(#O=2):*CHOOSE
1800 T:>
1810 T:TYPE EITHER X OR O
1820 A:
1830 M:X,O
1840 JM:*CP1,*CP2
1850 E:
1860 *CP1
1870 POS:13,2
1880 WRITE:S,X
1890 C:#O=1
1900 J(#O+#R+#U=3):*WIN
1910 J(#O+#W+#V=3):*WIN
1920 J(#O+#M+#N=3):*WIN
1930 J:*QUESTIONS
1940 E:
1950 *CP2
1960 POS:13,2
1970 WRITE:S,O
1980 C:#O=2
1990 J(#O+#R+#U=6):*WIN
2000 J(#O+#W+#V=6):*WIN
2010 J(#O+#M+#N=6):*WIN
```

PILOT for parents ...

(continued from page 16)

```
2020  J:*QUESTIONS
2030  E:
2040  *B
2050  J(#N=1):*CHOOSE
2060  J(#N=2):*CHOOSE
2070  T:>
2080  T:TYPE EITHER X OR O
2090  A:
2100  M:X,O
2110  JM:*BP1,*BP2
2120  E:
2130  *BP1
2140  POS:9,2
2150  WRITE:S,X
2160  C:#N=1
2170  J(#N+#W+#T=3):*WIN
2180  J(#N+#M+#O=3):*WIN
2190  J:*QUESTIONS
2200  E:
2210  *BP2
2220  POS:9,2
2230  WRITE:S,O
2240  C:#N=2
2250  J(#N+#W+#T=6):*WIN
2260  J(#N+#M+#O=6):*WIN
2270  J:*QUESTIONS
2280  E:
2290  *A
2300  J(#M=1):*CHOOSE
2310  J(#M=2):*CHOOSE
2320  T:>
2330  T:TYPE EITHER X OR O
2340  A:
2350  M:X,O
2360  JM:*AP1,*AP2
2370  E:
2380  *AP1
2390  POS:5,2
2400  WRITE:S,X
2410  C:#M=1
2420  J(#M+#N+#O=3):*WIN
2430  J(#M+#W+#U=3):*WIN
2440  J(#M+#P+#V=3):*WIN
2450  J:*QUESTIONS
2460  E:
2470  *AP2
2480  POS:5,2
2490  WRITE:S,O
2500  C:#M=2
2510  J(#M+#N+#O=6):*WIN
2520  J(#M+#W+#U=6):*WIN
2530  J(#M+#P+#V=6):*WIN
2540  J:*QUESTIONS
2550  E:
2560  *QUESTIONS
2570  T:>
2580  C:#Q=#Q+1
2590  J(#Q=1):*ONE
2600  J(#Q=2):*TWO
2610  J(#Q=3):*THREE
2620  R:USE AS MANY MODULES AS
      QUESTIONS, WE FIND 20 QUESTIONS
      ARE USUALLY ENOUGH
2630  E:
2640  *ONE
2650  T:HOW MANY CENTIMETERS ARE IN
      A METER?
2660  A:
2670  M: 10
2680  JM:*CHOOSE
2690  T:THE ANSWER IS 10
2700  J:*QUESTIONS
2710  E:
2720  *TWO
2730  T:RED AND _____ MAKE PURPLE
2740  A:
2750  T:THE ANSWER IS BLUE
2760  M:B
2770  JM:*CHOOSE
2780  J:*QUESTIONS
2790  E:
2800  *THREE
2810  T:THE FIRST PRESIDENT OF THE
      U.S. WAS:
2820  T: a.GEORGE WASHINGTON  b.JAMES
      MADISON  c. ABRAHAM LINCOLN
2830  A:
2840  M:A
2850  JM:*CHOOSE
2860  T: a. GEORGE WASHINGTON
2870  J:*QUESTIONS
2880  E:
2890  *CHOOSE
2900  T:>
2910  T:CHOOSE THE SQUARE YOU WOULD
      LIKE
2920  T:THEY ARE NUMBERED 1 TO 9
2930  A:
2940  M:1,2,3,4,5,6,7,8,9
2950  JM:*A,*B,*C,*D,*E,*F,*G,*H,*I
2960  E:
2970  *BOARD
2980  C:@B1373=16
2990  C:@B1374=2
3000  POS:7,0
3010  WRITE:S,
3020  POS:7,1
3030  WRITE:S,!
3040  POS:7,2
3050  WRITE:S,!
3060  POS:7,3
3070  WRITE:S,!
3080  POS:7,4
3090  WRITE:S,!
```

PILOT for parents ...

(continued from page 17)

```
3100 POS:7,5
3110 WRITE:S,!
3120 POS:7,6
3130 WRITE:S,!
3140 POS:7,7
3150 WRITE:S,!
3160 POS:7,8
3170 WRITE:S,!
3180 POS:11,1
3190 WRITE:S,!
3200 POS:11,2
3210 WRITE:S,!
3220 POS:11,3
3230 WRITE:S,!
3240 POS:11,4
3250 WRITE:S,!
3260 POS:11,5
3270 WRITE:S,!
3280 POS:11,6
3290 WRITE:S,!
3300 POS:11,7
3310 WRITE:S,!
3320 POS:11,8
3330 WRITE:S,!
3340 POS:13,3
3350 WRITE:S,=
3360 POS:14,3
3370 WRITE:S,=
3380 POS:4,3
3390 WRITE:S,=
3400 POS:5,3
3410 WRITE:S,=
3420 POS:6,3
3430 WRITE:S,=
3440 POS:7,3
3450 WRITE:S,=
3460 POS:8,3
3470 WRITE:S,=
3480 POS:9,3
3490 WRITE:S,=
3500 POS:10,3
3510 WRITE:S,=
3520 POS:11,3
3530 WRITE:S,=
3540 POS:12,3
3550 WRITE:S,=
3560 POS:13,6
3570 WRITE:S,=
3580 POS:14,6
3590 WRITE:S,=
3600 POS:4,6
3610 WRITE:S,=
3620 POS:5,6
3630 WRITE:S,=
3640 POS:6,6
3650 WRITE:S,=
```

```
3660 POS:7,6
3670 WRITE:S,=
3680 POS:8,6
3690 WRITE:S,=
3700 POS:9,6
3710 WRITE:S,=
3720 POS:10,6
3730 WRITE:S,=
3740 POS:11,6
3750 WRITE:S,=
3760 POS:12,6
3770 WRITE:S,=
3780 E:
3790 *START
3800 J(@B53279<>6):*START
3810 J(@B53279=6):*QUESTIONS
3820 E:
3830 *WIN
3840 T:>
3850 T: YOU WIN!
3860 T:
3870 T: DO YOU WANT TO PLAY AGAIN?
3880 A:
3890 M:Y,N
3900 JM:*Y,*N
3910 E:
3920 *Y
3930 WRITE:S,>
3940 J:*BEGIN
3970 E:
3980 *N
3990 T: COME AGAIN
4000 E:
```

For TI computer users ...

```
10 REM   --> MORE GOODIES FOR THE TI COMPUTER
20 REM   FROM ED YORK, CIN-DAY USER GROUP
30 REM   THIS PROGRAM SHOWS YOU HOW TO PUT A
         32 COLUMN
40 REM   "ACCEPT AT" STATEMENT ON THE SCREEN
         IN EITHER
50 REM   BASIC OR EX-BASIC.
60 REM   THERE IS NO ALLOWANCE FOR THE
         FUNCTION-ERASE.
70 REM   CAN YOU ADD THIS TO THE PROGRAM?
80 REM   CONTACT ED YORK AT CIN/DAY USER
         GROUP,BOX 519,
90 REM   WEST CHESTER, OH 45069-0519
100 CALL CLEAR
110 CALL CHAR(96,"7E")
120 FOR A=1 TO 32
130 CALL KEY(0,B,C)
140 IF C<1 THEN 130
150 IF B=13 THEN 210
160 IF LEN(A$)=32 THEN 240
170 A$=A$&CHR$(B)
180 CALL HCHAR(12,A,B)
190 NEXT A
200 GOTO 130
210 A$=""
220 CALL HCHAR(12,1,32,32)
230 GOTO 120
240 A=32
250 GOTO 130
260 END
```

LadyBug — FREE LOGO graphics for the IBM PC

by David N. Smith
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I have been reading about LOGO for several years. I first discovered it in Mindstorms, then in the book Turtle Graphics. Although I used computers all day at work, they were mainframes and were not available for implementing LOGO.

When I got a personal computer a year and a half ago it was an IBM Personal Computer. It is a fine machine but there was no LOGO for it.

Like the bus driver who takes a vacation on a bus, I am a programmer who relaxes from a day of programming by programming. It finally occurred to me that programming a LOGO was probably not very hard, especially if I limited myself to the graphics parts. Certainly that was the place where any LOGO beginner would want to be.

As it turned out it was not very hard to program LOGO on the PC. I used Advanced Basic and in a few weeks I had something running. With time it grew into a fairly complete implementation of the graphics part of Apple LOGO. Finally, I had to compile it to speed it up enough so that it was not sluggish.

I gave it out to a few friends who urged me to document it and distribute it to others. I have done so using a variation of a concept known as FreeWare™. Since there are expenses coupled with the distribution I chose to ask for donations from those users who liked and used LadyBug. My expenses have included printing manuals since I have distributed hardcopy documents at times, and postage since often the self addressed mailers I get have too little postage. However, I do not view LadyBug as a business. Home computing is my hobby, although an expensive one, and I want to share what I do with others.

I encourage people to freely copy and distribute LadyBug. I have given the Young Peoples' LOGO Association (YPLA) permission to distribute LadyBug to its members. But please note that LadyBug is NOT in the public domain. I hold the copyright to it and will enforce my rights against anyone that sells copies or otherwise profits from it.

In this article I describe the LadyBug language. Since most of it is standard LOGO, I often just list the keywords. When LadyBug has a nonstandard feature, I give a brief description of it.

Not described are the procedures which come with LadyBug. The procedures constantly change and the list is expanded. I also am working with YPLA to convert some of the more useful YPLA library procedures so that they run on LadyBug and IBM LOGO. These will be distributed by YPLA.

About LadyBug

LadyBug is a graphics language based on LOGO Turtle Graphics. It contains most of the graphics commands, procedure making commands, and control commands from the Apple II implementation of LOGO done by Terrapin, Inc. This version is described in the book *LOGO For the Apple II*, by Harold Abelson, published by McGraw-Hill in 1982. It is compatible with IBM Logo to the extent that most graphics procedures should work.

LadyBug is available from YPLA or the author. Details are at the end of the article.

C. MICHA

Compared to Apple LOGO, LadyBug in general has:
- Most of the graphics commands.
- Most of the mathematical computations.
- Most of the control commands.

In addition it has:
- A library of procedures adapted from a variety of sources.
- Painting of areas.
- Clipping of drawings (as well as wraparound).
- A fast full screen editor.
- Support for using both displays if both are present.
- Sounds — PLAY statement like Basic.
- Printing of the screen.

The major features missing are:
- List manipulation.
- Variable numbers of parameters to primitives.
- Saving screen images.

This article describes LadyBug version 1.0. It differs somewhat from a preliminary version (0.90) which was distributed fairly extensively. Version 1.0 will be available from the author in early January 1984 and from YPLA shortly thereafter.

The LadyBug Environment

LadyBug displays drawings on its graphics screen. The screen is 300 units high by 500 units wide with the center in the origin.

The text screen replaces the graphics screen when text mode is entered. In text mode, LadyBug does not allow graphics but does allow a full screen of text.

The editing screen replaces whichever screen is active when the EDIT command is given. When editing ends, the previous screen type is restored but the screen is clear.

If present, the monochrome display is used as the editing screen. The graphics display always contains the graphics screen.

Users enter procedures and store data in a workspace. Workspaces can be saved on disk and loaded again later. Workspaces can be merged into other workspaces.

LadyBug — Free LOGO graphics ...

(continued from page 19)

Commands

LadyBug commands are based on Aple LOGO commands but with a lot of features from MIT LOGO as well.

Graphics Commands

The LadyBug graphics commands move and turn the ladybug, paint areas, and control which colors are used. These commands are valid in graphics mode. Only the names of commands are given below when the command is standard on all LOGO systems Standard abbreviations are also supported but are not described.

> Command: BACKGROUND color

Takes a number from 0 through 15 as a color and changes the background to that color.

> Command: CLEARSCREEN

Clears the graphics screen but does not change LadyBug's position or direction.

> Command: CLIP / NOCLIP

Tells LadyBug that lines drawn by the lady bug are to be trimmed at the edge of the screen. The screen acts like a window onto a large flat sheet on which the lady bug draws. Only that part which is visible through the window is seen.

> Command: DRAW / NODRAW

DRAW clears the graphics screen and resets LadyBug to her home position and direction. NODRAW exits from graphics mode to text mode.

> Command: PAINT paintcolor bordercolor

Paint the area below the lady bug with the painting color. Painting is done in each direction until the border color is reached (or the edge is reached). Painting colors are the same as pen colors; see PENCOLOR for information.

> Command: PALETTE palettenumber

Takes one input, a zero or a one. Sets the palette number. See PENCOLOR for information on the colors in each palette.

> Command: PENCOLOR color

Takes one input, a number fromm 0 to 3. The number is the color of the lines that the lady bug will draw. The colors are:

```
      --- Palette ---
color       0        1
  1      Green    Cyan
  2      Red      Magenta
  3      Brown    White
```

A color of zero is the same color as the background.

> Command: WRAP / NOWRAP

WRAP causes the lady bug to "wrap around" when it is moved past an edge. For example, a path that goes off the top of the screen will continue at the bottom of the screen. WRAP is the default condition.

Other commands include:

```
BACK length
CLEARSCREEN
FORWARD length
HIDEBUG
HIDETURTLE
HOME
LEFT angle
PENDOWN
```

```
PENUP
RIGHT angle
SETHEADING angle
SETX xcoord
SETXY xcoord ycoord
SETY ycoord
SHOWBUG
SHOWTURTLE
```

Commands That Make Sounds

> Command: BEEP

Play one short note on the speaker.

> Command: PLAY string

The PLAY statement is the word "PLAY" followed by a string which contains special music commands. These commands define notes to play, or tell PLAY how to play the notes. LadyBug supports the full IBM Advanced BASIC PLAY statement.

Example:

> play "cdecdecdefggg"

Input and Output Commands

The commands are:

```
CLEARTEXT
CLEARINPUT
CURSOR column row
PRINT word
PRINT1 word
TEXTCOLUMNS columns
```

Control Commands

> Command: EDIT procname ...

Takes a variable number of inputs. Enters the full screen editor to edit the procedures.

> Command: END

Mark the end of a procedure which is entered from the editor.

> Command: LOCAL variablename

Defines a variable as being local to the current procedure.

> Command: TO procname

Read successive lines from the input until an END statement is found; the lines then become a procedure.

Other commands are:

```
GOODBYE
IF test THEN act
IF test THEN [act]
IF test THEN act1
          ELSE act2
IF test [act1] [act2]
LOCAL varname
MAKE "varname value
OUTPUT value
RANDOMIZE number
REPEAT number list
RUN list
STOP
TEST condition
```

LadyBug — Free LOGO graphics ...

```
IFTRUE [action]
IFFALSE [action]
TOPLEVEL
WAIT time
WHILE test [action]
```

Commands to Manage the Workspace

Command: CATALOG

Prints the names of files contained on the current disk.

Command: CLEARWS

Clears all variables and procedures from the workspace.

Command: READ/LOAD filename

Load the named workspace and add its variables and procedures to the workspace. (READ and LOAD do the same thing.) The workspace is saved on disk as a sequence of commands which could be entered by hand for the same result. Using a separate file editor, a disk file can be created with arbitrary commands in it and then loaded. When LadyBug starts up, it automatically loads a file named PROFILE which can take any desired action including providing a special environment. Files being loaded can themselves load other files.

(I also distribute a file editor named FRED — FRee EDitor — which can be used to create such files. The full screen LadyBug editor and FRED work the same. See the end of the article for ordering information.)

Command: SAVE filename

Other commands are:

```
DEFINE "name list
EDIT procname ...
ERASE procname
ERASE ALL
ERASEFILE filename
ERNAME varname
ERNAME ALL
PRINTOUT varname
PRINTOUT procname
```

Numbers and Computations

Numeric values come in two types, integer, and floating point.

Integer numbers have only whole number values. These values must be in the range of -32768 to 32767.

Floating point numbers have whole number and fractional values. Their value may range from 2.9E-39 to 1.7E38.

Numeric Values

These words take ;no inputs and return a numeric value:

BACKGROUND   HEADING   PALETTE
PENCOLOR   XCOR   YCOR

Mathematical Values

These LadyBug words take one value (an expression) and return a number.

ABS   ARCTAN   COS   EXP   INTEGER
LOG   RANDOM   SIGN   SIN   SQRT   TAN

Graphics Words

STICK n (or PADDLE n)

Takes a number from 0 to 3 which corresponds to one of four joysticks and returns a number from 0 to 255 which represents it's setting.

STICKBUTTON n (or PADDLE n)

Takes a number from 0 to 3 which corresponds to one of four joysticks and returns TRUE or FALSE depending upon whether or not the button or the particular joystick has been pressed since the last time PADDLEBUTTON was used.

Others are:

RC?   PENUP?   PENDOWN?   SHOWING?
HIDDEN?

String and List Words

LadyBug does not have a rich set of primitives for manipulation of lists and strings. These are supported:

NUMBER? value
WORD value value
SENTENCE word list

Expressions Resulting in Numbers

Numbers can be combined into expressions. Expressions are evaluated from left to right with no operator hierarchy. Parentheses may be used to group operations which should be performed first.

Expressions are taken, word by word, with only blanks separating words. Operators, numbers, and parentheses must be separated by blanks to be properly recognized.

Expressions may occur anywhere that LadyBug is looking for a number. Even though an expression may have many words in it, the expression is still considered as one input.

Normally, operations on integers result in integers and operations on floating point numbers result in floating point numbers. When one operand is integer, it is converted to floating point.

The operators are:

```
+       −       *       /       ^       \
```

The caret raises a number to a power and the backslash takes the modulus of a number.

Example:

```
forward 3 * ( 2 + 5 )
right 5 * :x
right ( 5 * :x )
print integer 100 * sin 4 + :angle
print integer
    ( 100 * sin ( 4 + :angle ) )
```

The last two lines print the same result.

Expressions Resulting in True or False

Logical operations have the following form:

value1 op value2

where the values are numbers, variables, or expressions and "op" is one of the following relational operators:

```
<       <=      >       >=      <>      =
```

In addition AND, OR, and NOT are supported.

Example:

```
2 + :b    >    ( :a * 5 )
and    :b > 2        :c > 5
```

LadyBug — Free LOGO graphics ...

The LadyBug Editor

The LadyBug Editor is a full screen editor for procedures. It displays one or more procedures totalling up to 200 lines long and with lines up to 254 characters long on a monochrome display or 40 or 80 column graphics display. The screen is a window onto the file. The window can move up, down, left and right. Lines which are longer than the screen are partly displayed. If you insert data, characters seem to be lost off of the end of the line; they are not lost but are just no longer displayed. Move the cursor off of the screen to the right and they will reappear as the window moves.

The editor is invoked with a variable number of procedure names. The procedures named are displayed, one after another, each ending with an END statement. Lines may be changed, added, deleted, or moved. When multiple procedures are being edited, lines may be moved between procedures. The following functions are supported:

- Enter, delete, and replace characters on the screen.
- Position the cursor in a variety of ways.
- Insert a new line into or after a procedure.
- Scroll the screen in any direction.
- Delete the lines.
- Move or delete blocks of lines.
- Split or join lines.
- "Undo" changes to a line.

How to Get LadyBug

LadyBut is distributed as "User-Supported" software which means that you do not have to pay for it. You can copy it, give it away, or do anything else with it except sell it.

If you find that it is useful, you are invited to make a donation or contribution to the author. An amount of $35 is suggested but you are free to send whatever you wish. The author is:

> David N. Smith
> 44 Ole Musket Lane
> Danbury, CT 06810

Source

LadyBug is distributed as compiled Basic; source is *not* distributed nor is it available.

Ordering LadyBug

LadyBug is available from the YPLA library for the normal distribution charge or from the author. To get it from the author, send a postage paid mailer and:

> ONE diskette for double sided drives, or
> TWO diskettes for single sided drives.

You get LadyBug with its 60 page documentation on disk. One single sided drive is sufficient for running LadyBug. *Send no money; it's free.*

If ordering from the author specify version 0.90 which is available immediately, or version 1.0 which will be available in early January 1984.

The file editor FRED is available only from the author. Send one post paid self addressed mailer with a diskette.

LadyBug Requirements

LadyBug requires a system with at least:
- 128K of memory.
- One single sided disk drive.
- A graphics adaptor.
- A graphics display of any kind. (Color is supported only on a color display; 80 column editing is supported only on a high resolution monitor.)
- DOS 1.1, 2.0, or 2.1

Systems supported include the IBM PC, the IBM PC/XT, the IBM PC/370 when running as an IBM PC/XT, the PCjr (but I have not tried one yet), and many compatible systems. (Version 0.9 runs only on IBM systems.)

New software for the IBM PCjr now available

CAMBRIDGE, MA — Spinnaker Software Corp. has announced that it will be shipping cartridge products for the new IBM PCjr the day after IBM begins shipping its machines. "We plan to make our entire line of products available on the PCjr," noted William H. Bowman, Spinnaker's chairman. "IBM has created a home computer with a strong family appeal. It is this family market which we consider to be potential Spinnaker consumers."

FACEMATER™, FRACTION FEVER™, KINDER-COMP™, and KIDS ON KEYS™ will be the first Spinnaker cartridge products available for the PCjr. In January 1984, a disk line of products will be released.

"We look forward to showing buyers our PCjr line at the Consumer Electronics Show in Las Vegas in January," Bowman said. "The musical capabilities of the PCjr have been fully exploited and the graphic enhancement will be quite evident."

Spinnaker has sent a "Christmas Card" diskette to each of the 1000 retailers that will be carrying the PCjr. The diskette features Christmas music and various holiday scenes.

COMPUTER DATING SERVICE

"I'm looking for a little personal use model with diskdrive, beautiful software and cute bytes!"
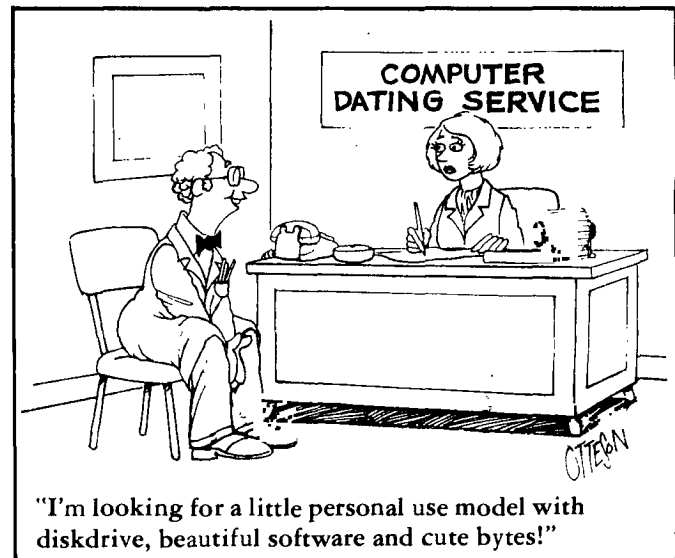
from the ERA Newsletter, Richardson, TX

THE TURTLE'S NEST

YPLA on-line

To those people with modems, you can contact us via THE SOURCE or via MICRONET. Our ID numbers are T10143 for the Source, and 70130, 250 for MicroNet.

We check our mail regularly — at least twice a week. And so, get on the line. If you have questions, comments, criticisms, suggestions — let us know.

We look forward *to hearing from you.*

YOUNG PEOPLES' LOGO ASSOCIATION

P.O. Box 855067
Richardson, Texas 75085
(214) 783-7548

PAUL LANGLOIS
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EDMONTON ALBERTA , CANADA
T5J 3L1

Notes from Oklahoma State
What about the kids?

Kathleen Martin and I were recently invited to a "Micro-computers in Education" conference at Oklahoma State University where we both gave a keynote address, Kathleen at the dinner Friday night, and I at lunch on Saturday. The entire meeting was a very enlightening experience for me, and for others I am sure. And, yes, I hope our talks contributed to the success of the conference. But it was other events at that meeting, plus some other recent experiences, which have helped me to develop a broader perspective of the role of the YPLA.

The conference at Oklahoma State University was relatively small, just a few hundred registrants. However, it attracted people from throughout the country — from Alabama, Michigan, Texas, Oklahoma (of course), Michigan, Iowa, Louisiana, Arkansas, Mississippi, New Mexico, Arizona, Colorado, and undoubtedly others I don't know about. I was impressed by some of the state and local programs described, and surprised by some of the others. Some of the programs were excellent and very far-reaching. Others ... were not.

I was a bit surprised at the lack of knowledge of Logo, considering all that has been written about it lately. On the other hand, I was very pleasantly surprised at the concerns expressed over the current state of educational software. There was a very strong interest in the evaluation sessions offered at the conference, and a real sense of concern for the generally poor quality of some commercial software.

What was more interesting than the actual sessions was the in-between conversation with teachers, teacher-educators, administrators, and others. In particular, I was very pleasantly surprised at the number of teacher-educators now going back to school to learn about computers. Those young people now in high school learning to use computers are going to be a formidable challenge to colleges in a few years when they enter with knowledge of several computers, several languages, a variety of applications, plus a good grasp of microelectronics. These educators are very anxious to "keep up with the kids."

There were also the conversations over "computer literacy," what it is, what it isn't, what it should and should not be. And there were the constant questions of what computer to buy and which version of Logo to use.

In total, however, the conference left me very uneasy. It has been a long time since I was so uneasy in front of an audience. At first, I thought it was just nervousness. But it was more than that. It was a lot more than the intimidation of talking to a room full of Ph.D. educators also. Kathleen, Raymond Brie from Texas Christian University in Fort Worth, and I discussed the conference on the five hour drive home. It was then that some of the confusion began to fall into place.

I went through a two-day crash-course in education. I listened to educators, consultants, teacher educators, researchers, software developers, hardware vendors, and classroom teachers. I heard about methods, evaluations, selection committees, in-service training programs, and the other four-million-and-one other responsibilities placed on the school system. I learned about grant programs, research programs, administration programs, and literacy programs.

I came away from that conference very thankful for the opportunity to participate. The organizers did a marvellous job. But more importantly, I came away with a much greater appreciation of the primary teacher's ability to cope — to cope wth other teachers, professors, administrators, school boards, parents, and those who would try to tell them how to do their jobs, those who try to define teaching and learning but who have yet to truly experience the joy of communicating with a child. There are those who talk (and write) about children, others talk at them, but so few talk to them. Somehow, I couldn't quite picture some of the people in my luncheon audience sitting on the floor with a group of kindergarten kids, getting them excited about learning.

I think of some of those teachers I feel privileged to call "friend." One such friend is a first grade teacher. She has taken in an elderly friend — not a relative, just a lady who has no other place to go. She makes sure her daughter gets to the rink on time so she'll have a couple of hours of figure skating practice *before* she goes to school. And now she wonders how can she ever learn to deal with the one-eyed monster in her

What about the kids? ...

classroom. She's involved with the school training program but, on top of everything she does, she asked if I could spend some time with her so she could be better prepared for her students.

I envy those students.

I think back to some of Larry's teachers in Pennsylvania. I wish I could tell them of the greater appreciation I now have for their creativity, their imagination, their perseverance — their ability to cope.

I think of the teachers who had to put up with me when I was trying to beat the system. And then I thank the heavens that there were and are teachers like these. I thank the heavens for those unsung heroes of the classroom who dare ignore the politics and intrigue of the system, those who dare ask the question ...

But what about the kids?

In her keynote address on Friday evening at Oklahoma State, Kathleen Martin cited the need for retraining teachers, the need for them to approach their own classroom roles differently. Through her demonstrations on the computer, she showed the value of asking the right questions, of using the dynamics of the classroom to lift students to higher levels of cognition. Through a variety of on- and off-computer activities, she showed the audience how to pose a variety of questions to students of all ages, to prompt them to analyze situations, to think about what they were discovering. These methods are described in the series of books, "Connections," written by her and Donna Bearden. While most of the demonstrations involved math and science, she talked about how simulations and other imaginative programs can enhance student thinking about history, language arts, and other subjects.

This was the real message of her talk. The computer and Logo are tools which can enhance learning. But don't confuse computer literacy and programming skills with education. Indeed, children don't *need* the computer at all. In this age of change, what they need most is the chance and the challenge to fully develop their own potential for thought — on the computer or off!

In the August 1983 issue of BYTE Magazine featuring Logo, I used a quotation from D.H. Lawrence to introduce the YPLA:

"And this is the way to educate children: the instinctive way of mothers. There should be no effort to teach children to think, to have ideas. Only to lift them and urge them into dynamic activity. The voice of dynamic sound, not the words of understanding. Damn understanding. Gestures and touch, and expression of face, not theory. Never have ideas about children — and never have ideas FOR them."

In the hands of a creative teacher, the computer, Logo, Pilot, and, yes — even BASIC — are marvellous tools. But they are nothing more. And until we learn to program the brain electronically, they never will be. In the right hands, the computer can open the world of the imagination, creativity, and confidence for a child. Or it can be a totally inhibiting experience. It can be revolutionary, or just revolting.

Some major computer advertisers attempt to sell home computers by creating fear — fear of failure because a child might not be computer literate, as if this alleged literacy created some magic carpet to infinite wisdom. Philosophers, educational psychologists and others can do all they want to analyze computer literacy and the Logo learning environment. But how does this enhance classroom communication? What's **in it for the teacher?**

More importantly, what's in it for the kids?
That's my real concern.

Thanks to the Kathleen Martin's of the world, to the dedication of Larry's second grade teacher, the love of his fourth grade teacher; to Mama McKee, my high school English teacher who taught me how much fun it is to write; to the Marina's and Jo's of the world who are marvellous teachers in spite of the computer.

To all of you who cope with us, and in spite of us, my heartfelt thanks and best wishes for a fantastic New Year!

* * * * *

To all of you who cope, Charles Micha and I have a special gift of recognition. If you'll send us a self-addressed 8½x11 envelope with $.37 postage affixed, we'll send you a signed print of the coping teacher.

All Aboard!

With the new program TRAINS™, from Spinnaker Software, you can be a business tycoon in the late 19th century. Your goal is to manage an old-time railroad servicing a far-flung network of interlocking industries throughout the old Southwest.

Whether your empire gets bigger or goes bankrupt is entirely up to you. Bills must be paid, priorities set, and deadlines met as you utilize outside sources and natural resources to keep your train on track.

TRAINS has eight challenging levels of gameplay. Movement from level to level only occurs when supply meets demand. So be careful to conserve your resources and your money. Then, the track will extend to cover a larger territory as you forge your way across vast stretches a plains, mountains, deserts, and cities.

TRAINS was developed by Interactive Picture Systems. It is now available for the Atari and Commodore 64 computers.

News From The Continent

Spinnaker Software is going abroad! Everyday Europe becomes a more important target for computer marketing. Limitations in the quantity and quality of European television programming has resulted in a crying need for at-home leisure time activities. Major computer companies such as Apple, Commodore, and Atari have already begun to make inroads in this market. But as with all computer manufacturers, their success is dependent on software. And virtually all software sent overseas is packaged for "Americans."

Now Spinnaker offers Germans, French, English, and Irish the opportunity to "make learning fun" with educational software products. Package and instruction conversions will be tailored to the individual countries. Since Europeans have always held a high regard for education, Spinnaker's innovative and entertaining "teaching methods" should be a welcome addition to this tradition.

Ravensburger will represent Spinnaker in Germany. As Europe's largest toy manufacturer, they have an established network of distribution throughout the country. The firm of Ediciel will act as Spinnaker's distributor in France. This company is a subsidiary of Hachette, the largest educational book publisher in France. The United Kingdom and Ireland will be served by W.H.S. Distributing, a third party independent distributor which sells to all mass merchants.

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  CENTER
    FOR
 COMPUTER
ASSISTANCE
   TO THE
 DISABLED
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We recently received this letter from a long-time friend of the YPLA.

Gentlemen,

As an independent volunteer I teach and work with (orthopedically) handicapped children and teenagers. Many of these kids would like to operate a computer or play a video game, but, because of their limitations, cannot. I am working on a project to make it possible for at least a few of them to enjoy the fruits of today's electronic technology.

I would like to know of others who are working on similar projects.

Ralph L. Folsom
780 N. Fair Oaks Avenue #26
Sunnyvale, California 94086

During this season for giving, it is especially nice to think about those less fortunate than ourselves. I hope any and all interested in handicapped children will contact Ralph.

But have you ever thought about what to give a handicapped child or adult for Christmas? Where would you go for help? We have published the names and addresses of a variety of organizations in the past. But at this time of year, we want to bring all of those names together, and add a few more we have learned about.

CATALOGS: Here is a list of catalogs featuring devices to help the handicapped in their everyday activities:

Sola Designs Inc., 242 W. 27th Street, New York, NY 10001. In their catalog is a fold-up knife for $9.10 with an angled handle to accommodate wrist problems.

HELP YOURSELF AIDS, P.O. Box 192, Hinsdale, Il. 60521.

American Foundation for the Blind, 15 W. 16th Street, New York, NY 10011.

Abbey Medical, 310 W. Westfield Avenue, Roselle Park, NJ 07204.

A&B Beacon, 36 W. 33rd St., New York, NY 10001.

FASHION-ABLE, Rocky Hill, NJ 08553. Clothes for physically-disabled women. The catalog also includes other kitchen and bath items including jewelry which can be managed with one hand.

ACCENT on Living Magazine and buyer's guide, P.O. Box 700 Bloomington, IL 61701. Every issue contains information for the handicapped.

CLOSING THE GAP, P.O. Box 68, Henderson, MN 56044. This informative newspaper covers all aspects of the computer in special education and as a tool for the handicapped. This is one of our favorites.

THE ABLE CHILD CATALOG, 154 Chambers St., New York, NY 10007. A catalog of educational toys and games which help develop motor skills, coordination, and independence.

NATIONAL EASTER SEAL SOCIETY, 2030 W. Odgen Ave., Chicago, IL 60612. In their free catalog is "Let's Play Games," a collection of games for physically handicapped children.

Children's Hospital at Stanford, Rehabilitation Engineering, 520 Willow Road, Palo Alto, CA 94304.

Trace Research & Development Center, Univ. of Wisconsin, 314 Waisman Center, Madison, WI 53706.

E-Z Reachers are similar to those devices used by grocery clerks. Suction cup ends and a squeeze grip make these easy to maneuver. Rehabco, 2811 Zuletter Ave., Bronx, NY 10461.

Hammatt & Sons, Inc., 1721 South 2nd St., Mt. Vernon, WA 98273-5299. The company offers a side-by-side tricycle for the handicapped. They also offer Power-Putty, a unique silicone compound which resists in proportion to the pressure applied.

Hammatt also has several bowling aids for those who can't manage the three-fingered grip of a regular bowling ball.

Prentke Romich Co., 8769 Township Rd. 513, Shreve, OH 44676. Write for their catalog: Access to Computers for the Physically Handicapped.

In recent issues of Turtle News, we have discussed the KoalaPad from Koala Technologies in Menlo Park, California. We have also described a similar device, the PowerPad, from Chalk Board, Inc., Atlanta, Georgia. Both of these devices provide touch-sensitive input to the computer. Here is a list of other products:

Accessory III; 225 South Rio Vista, #54; Anaheim, CA 92806; Phone: 714-630-1583; (Apple III accessory to make keyboard detachable).

Communications Research Corporation; 1720-130th Ave. N.E.; Bellevue, WA 95008; Phone 206-881-9550 (portable communication aid with access to Apple Computer).

Computers of the Physically Handicapped, Inc.; 7602 Talbert Ave.; Huntington Beach, CA 92647; Phone 714-848-1122; (Wheelchair mounted communication and device control system).

Educational Microcomputer Systems; One Clear Spring; Irvine, CA 92715; Phone 714-556-7608 or 714-833-2322; (Specially adapted computer system called Communi-Mate).

EKEG Electronics Co. Ltd.; P.O. Box 46199; Station 'G'; Vancouver, British Columbia, V6R 4G5; Canada; Phone 604-685-7817; (Remote keyboard with built-in game controllers and expanded keyboard for Apple II computer).

Executive Peripheral Systems, Inc.; 800 San Antonio Rd.; Palo Alto, CA 94303; Phone 415-856-2822; (Detachable keyboard for Apple II with added features).

Grover and Associates; Creekside Center; Suite D116; 7 Mt. Lassen Dr.; San Rafael, CA 94903; (Apple computer based communication program).

Intex Micro Systems Corp.; 755 W. Big Beaver Rd.; Suite 1717; Troy, MI 48084; Phone 313-362-4280; (Intex-Talker text-to-speech synthesizer with serial and parallel connectors).

KY Enterprises; 3039 East Second St.; Long Beach, CA 90803; Phone 213-433-5244; (Adapted controllers for Atari game units).

Maryland Computer Services Inc.; 2010 Rock Spring Rd.; Forest Hill, MD 21050; (ITS speech output computer with visual and soft braille displays).

Prentke Romich Co.; 8679 Township Road 513; Shreve, OH 44676; Phone 216-567-2906; (Alternative input devices for personal computers, text generation and device control program for Apple computer, Apple keyguard).

Qubie' Distributing; 918 Via Alondra; Camarillo, CA 93010;

C-CAD ... *(continued from page 3)*

(IBM PC compatible keyboard with different key layout and features than IBM keyboard).

Rocky Mountain Software, Inc.; 1038 Hamilton St.; Vancouver, B.C.; V6B 2R9; Canada; Phone 604-681-3371; (Handicapped Typewriter communication program for Apple computer).

Scott Instruments; 1111 Willow Springs Dr.; Denton, TX 76201; Phone 817-387-9514; (Shadow/VET voice entry terminal for Apple II which can be used in place of the keyboard for standard software).

TASK (Technical Aids & Systems for the Handicapped), Inc.; 2075 Bayview Ave.; Toronto, Ontario; M4N 3M5; Canada; Phone 416-486-3569; (expanded keyboard and mouth-operated keyboard for Apple II, Apple II keyguard without latching mechanisms, and Apple II game port switch adapter).

Tetrahedron Research Associates; 3425 Valejo Court; Colorado Springs, CO 80918; Phone 303-599-8938; (Micro-Braille text to braille system for microcomputers).

Visualtek; 1610-26th Street; Santa Monica, CA 90404; Phone 213-829-6841; (Large Print Computer which displays enlarged print on its CRT).

Voice Machine Communications, Inc.; 10522 Covington Circle; Village Park, CA 92667; Phone 714-639-6150; (Voice Input Module for Apple II which can be used in place of the keyboard for standard software).

Votrax; 500 Stephenson Highway; Troy, MI 48064; Phone 800-521-1350; (Personal Speech System text-to-speech synthesizer with parallel and serial connectors).

Words+, Inc.; 622 S. Fair Oaks; Sunnyvale, CA 94086; Phone 408-730-9588; (One-switch communication, control, education, and entertainment system using TRS-80 Model III; Epson HX-20/Intex-Talker Portable Voice system).

Bi-Comm Systems; 10 Yorkton Industrial Court; Saint Paul, MN 55117; Phone 612-481-0775; (PC-1 interface for control of BSR X-10 and Leviton remote control devices from Apple II).

CompuWare; 523 S. Clewell St.; Bethlehem, PA 18015; Phone 800-325-9800 or 215-868-1303; (Apple II based security system called THE EYE with BSR X-10 module control capability and detection circuits for open or closed switches).

Environmental Control Systems; 9319 Willowview Lane; Houston, TX 77080; Phone 713-464-1717; (RX-20 computer peripheral for controlling BSR X-10 and Leviton remote switches, can be interfaced with any computer having a parallel port).

SciTronics Inc.; 523 S. Clewell St.; P.O. Box 5344; Bethlehem, PA 18015; Phone 215-868-7220; (RC-100A Remote controller for S-100 bus computers for controlling BSR X-10 and Leviton remote switches).

Thunderware, Inc.; P.O. Box 13322; Oakland,CA 94661; Phone 415-652-1737; (Thunderclock Plus BSR X-10 ultrasonic Command Console interface for Apple II).

The above list was gathered in part from United Press International, The Communication Outlook, Artificial Intelligence Lab, Michigan State Univ., East Lansing, MI 48824-1042; Closing the Gap (see above); and COPH Bulletin, 2030 Irving Park Rd., Chicago, IL 60618.

* * * * *

THANKS TO ALL of you who have expressed an interest in C-CAD, the Center for Computer Assistance for the

Disabled. Through your support, the group continues to grow and prosper.

C-CAD recently acquired fifty-five TI computers at the "TI Fire Sale." The group also acquired some peripheral equipment so that many of these systems can be put into use by disabled people so that they can begin to develop computer skills.

The name of the game is "Jobs."

C-CAD seeks to demonstrate through practical case histories how readily-available off-the-shelf systems can be used productively by the disabled. C-CAD members are using synthetic speech, voice recognition, telecommunications, home control systems, programming tutorials, and a range of other technologies to make their lives more productive. Those not earning a living now, are learning how to earn a living.

No one has all the answers. And some of the systems employed are a bit crude. None offer miracles, just a step or two forward toward independence. Few if any of these people could have access to those comprehensive mega-dollar systems specifically designed to solve a multitude of problems for the handicapped.

Jack Kishpaugh recently evaluated a unique feeding system designed for those paralyzed people who have no hand or arm movement. The device was made from unbreakable plastic and could be easily broken down for complete cleaning in a dishwasher. Unfortunately, the price tag is $495.00, a price well out of the range of those who need them. And who ends up paying the bill — the taxpayer.

Research and Development projects such as these are absolutely essential to the development of useful products for the disabled. But what about all of the hardware and software out there which has been put together with bandaids and bailing wire? What about the crude, clumsy, slow-running software people have developed to help a disabled friend or student — programs they would never show other professionals, but those which work wonders with disabled youngsters? What about those small manufacturers who make products for use by anyone, but which are especially helpful to the disabled?

These are the products C-CAD is most interested in, the off-the-shelf materials which offer the disabled some hope of being productive citizens, the materials which offer a first step — not necessarily the whole journey.

Jane Fonda Watch Out!

Flexing and stretching have entered the computer age. Spinnaker's new computer fitness program AEROBICS™ makes getting into shape fun to do.

With AEROBICS, you can custom-tailor your own fitness program selecting from 18 pre-set exercise segments. Each segment has four parts: Warm-up; Aerobics; Body Parts Conditioning; and Cool-down. Nine different tracks of up-beat computer-synthesized music provide a lively background for your fitness program. You can concentrate on overall conditioning or a specific part of the body, all on your own schedule.

AEROBICS was developed by Interactive Picture Systems, a collaboration of specialists in dance, exercise, and computer software.

AEROBICS will be available in January, 1984 for the Commodore 64 and Atari computers.

C-CAD ... (continued from page 4)

C-CAD wants to take action NOW. People need jobs NOW! If you can help, let C-CAD know. If you have any ideas, let C-CAD know. If you have done anything to help a disabled person — regardless of how crude you might think it is — let C-CAD know.

No idea is too ludicrous. No donation too small. Why not contact Jack or Rusty Hollingsworth at:

C-CAD
P.O. Box 314
Hurst, Texas 76053

FOOD FOR THOUGHT!

Some of the more practical ideas for disabled people don't come from research labs. They come from some imaginative innovators who see another product and adapt it to the needs of the handicapped.

Voice Machine Communications, Inc. of Orange, California, makes an amazingly accurate voice recognition system. You can train the system to recognize your own voice, and then your voice becomes your input to the computer. No more keyboards. You need only speak to the computer to program it, do word processing, or whatever you have trained the system to do.

This is all well and good but, like most other voice systems, users were connected to the computer by microphone wires.

Ron Runge of VMC began searching for a wireless microphone which would allow users to move about the area, one which could transmit voice reliably, much like the ones you see entertainers use on television. The ones with no wires hanging down.

He ended up with a microphone from Cetec Vega of El Monte, California. This microphone operates at much higher frequencies than other wireless microphones, eliminating the chance of interference disrupting communication with the computer.

This proved to be a real bonanza for the handicapped because they no longer needed to be attached to the computer. They could move around but still use the computer system from any part of the home, the school, the factory, or wherever. Of course, this led to the next logical development. If, indeed, people were able to use wireless communication to use a computer, why not have the computer talk back to them? If a warehouse worker wants to move around programming the computer by voice, he'd need to know that the information entered was correct. Thus, Cetec Vega now offers a two-way wireless microphone.

Such a device certainly has other uses, such as in a warehouse. But think of the possibilities such a product could offer the handicapped. Such a microphone would give the disabled mobility plus all of the benefits of computer technology — telecommunications, home control, business applications, education, entertainment, home management.

This is no miracle, of course. It is just another idea. But unless you've been there, you'll never know the importance of such an idea to a handicapped individual. Let them make the choice. Give them the ideas.

Another side of the coin!

Logo is, most certainly, not all things to all people. Reading the variety of articles and books written about the language, one can get the impression that Logo is the saviour of the educational system.

But, as with any new technology, new widget, or new software, some people tend to get carried away. They will analyze it, dissect it, reassemble it, research it, experiment with it, report on it — often totally ignoring the real purpose, providing a positive learning experience for the child.

What about the other positive learning experiences — the non-logo experiences? Or, what about using Logo applications programs — to teach math, geometry, logic, language arts? What about the use of Pilot and other authoring languages for program development?

I recently was asked to comment on "what was and what was not good programming practice for computer-assisted instruction." My experience with CAI software is quite limited and thus, at first, I did not feel qualified to respond. But then I began to think of all of the commercial software which passes through here, comparing that to the software written by teachers for our software exchange. I prefer a lot of the teacher-developed materials to some of the commercial packages. Some of those seem like nothing more than glorified arcade games which do their best to hide any learning experiences behind invading aliens, blasting lasers, or violent explosions. I have no doubt that the students remember their scores far better than they remember the lesson involved.

This is a subject that was discussed very hot and heavily at the conference at Oklahoma State University in November. Virtually every conversation I entered into usually came back to the question of what constitutes good educational software.

A number of years ago, I studied toy and game design. The design rules for successful toys and games remains the same today as it did thousands of years ago. In that most of these would appear to have some relevance to educational software design. I'd like to open a discussion of these.

1. If at first you don't succeed, go back and read the instructions.

How many parents have spent needless hours trying to assemble a toy after the children have gone to bed on Christmas Eve? If the manufacturer had only included some reasonable instructions.

No one is going to get anywhere with a software package without reasonable instructions as to what the program is supposed to accomplish, and how the user can accomplish these goals. No one should have to guess what to do.

If you can't explain your program through clear instructions, the players will never be able to participate. And so, make your instructions "idiot-proof." Don't talk down to your audience. Just cover all of the details very thoroughly and sequentially.

Describe the game. Explain the objective. List the steps required to accomplish that objective. Describe the scoring. Provide some examples or discuss the strategy of winning.

And just as many of the better games provide messages for parents, good software should include appropriate messages for teachers. How can the program be integrated into classroom? What are some ideas for related class activities?

Another side of the coin! ...

2. *Multiple Skill Levels:*

A good game should specify the age level for which it is intended, but don't limit it to just one age or skill level. Give the players the opportunity to improve their skills as they go along. The lowest age level should be able to play the game, enjoy the challenge, and win — all in a reasonable time. The older age levels for which the game was designed should also find the game challenging.

Designing the challenge into a toy or board game is a bit more difficult than designing the challenge into software. A board game is limited to cards, dice, or some form of spinner to define the action. Software writers have far fewer constraints, but the same rules apply: start at a basic level, and then give the player the chance to develop playing skills logically.

3. *Make It Positive:*

Software should provide a very positive challenge and positive reinforcement. It's the old adage of "the customer is always right." Players may make wrong moves or give incorrect responses. But they are never wrong.

• No one likes to have their mistakes advertised to the rest of the world. Don't include bells and whistles when a mistake is made. Not only can these be embarrassing to some children, they can be enticing to others.

• Don't make mistakes more fun than a correct response. Several current game shows use very graphic displays when a player loses — more so than when they win! And so, be careful. Don't make losing more fun than winning.

• Don't try to outsmart the players. The game should be very straight-forward, easily grasped, and played. Don't try to be a comedy writer when your goal is spelling practice.

• Don't allow the sound effects and graphics to overpower the purpose. Walk through any video arcade and you'll see the same game on many of the machines. Only the graphics and sound effects are different. But then look at where the crowds are gathered. These are the games with more thoughtful play-value.

Good software need not be highly graphic or have exotic sound effects. If it is well-organized and challenging, you'll get your idea across. To those who might question this, consider the long-lasting popularity of adventure games — those story games which often have no graphics at all. These may not be the games advertised on television, but look at any list of best-selling software. One or more adventure games are always there.

4. *Random Action:*

Games should not provide the same pattern each time they're played. That can get very boring in a hurry. However, each variation of a game should employ the same strategy. Otherwise, the players become confused and move on to something else.

When writing software, vary responses. Don't give the player the same response for every right or wrong answer. When the student does give a wrong answer, don't put him or her into an endless loop. Nothing is more frustrating than be continually asked for a selection or move you can't find or don't know. There are many creative ways of aiding a player without just giving the answer.

And don't forget to give the player the score at the end of the game — and maybe a gentle nudge to try again, to improve that score.

5. *Magic!*

While discussing game design with an executive of Milton-Bradley a few years ago, he said that after all of the rules have been followed, the most important ingredient to add to any electronic toy or game was "magic." Some people call it play-value but both he and I find that far too limiting.

The public is inundated with advertising messages telling us which toy or game is popular this year. But what about last year? What about next year?

Those toys and games which have lasted over the years have that extra-special value. They have the "magic." And, if you look closely, you'll find that many of these games which have remained popular from one generation to another have a distinct educational value.

Ask any child. Most will readily admit that it is fun to learn. They may not enjoy school. They may "hate" their teachers. but they do enjoy discovering new knowledge. If not, then why have all of the learning-oriented games survived the onslaught of electronic games, video games, hula-hoops, and all of the other fads which permeate the toy industry?

There are those teachers and school officials which will scoff at the idea of studying game strategy as a step towards good educational software development. But watch your own children this Christmas. Do more than just look at them, observe what they do, how they react, the steps they take to enjoy a new toy or game.

Then I would like to hear your ideas relative to software design. What are the similarities? What are the differences? What attracts children? What distracts them?

Let us hear from you.

Arizona State Microcomputers In Education Conference Proceedings

The 1983 Microcomputers in Education Conference Proceedings: *Forward to the 3C's,* was edited by Marilyn Sue Ford, conference co-director. This publication includes many outstanding papers presented by speakers who have shared their expertise and experience in the areas of administrative applications, curriculum applications, programming, computer literacy, research, and staff development. Most subject areas are presented, including language arts, math, music, social studies, science, business education, foreign language and more.

The 1982 Microcomputers in Education Conference Proceedings: *Uses for the 80's,* edited by Nancy Watson, detail sessions on computer assisted instruction, programming, research, administrative uses and literacy. These proceedings reflect the tremendous interest in the pursuit of information to develop teaching competencies in the preparation for the instruction of curriculum relating to the area of microcomputers.

ORDER FORM (Please Print)

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☐ 1983 Proceedings - $20

☐ 1982 Proceedings - $15

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Purchase Orders: $5 additional charge.

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Send orders to: Tina Hite; Arizona State University; College of Education; Payne Hall, 8203; Tempe, AZ 85287.

Introducing LOGO:

For the Apple II, Texas Instruments 99/4A and Tandy Color Computer

by Peter Ross, University of Edinburgh
Addison-Wesley, General Books Division,
Reading, MA (617) 944-3700

There are numerous books coming on the market "introducing Logo." Most are oriented towards learning the language. Now there is one aimed at the more creative side of Logo programming.

Peter Ross is an educator and an artificial intelligence researcher from Scotland. The purpose of his book "is to use Logo as an interesting tool for experiment and investigation." Where other Logo books often concentrate on the more practical concepts of Logo, Ross offers projects to foster strategic thinking with Logo. The book includes a number of ideas for study projects readers may wish to pursue.

I was especially pleased to see Color Logo given some of the credit it is due. While the current version only uses Turtle Graphics, it offers some very useful and exciting ideas not available in other implementations. Now that Radio Shack has redesigned the Color Computer, I expect we will all be reading a lot more about their version. Ross does a very nice job of positioning this version in comparison to others.

Why buy another Logo book? David Thornburg's book, "Discovering Apple Logo," offers an excellent introduction to the language — more than just Apple Logo — ON the computer. This is another Addison-Wesley book which is a "must" for any Logo library. The Ross book can be read off the computer as a source of ideas and inspiration when on the computer. Both are among the best to present the power of Logo in an easily-read, exciting format.

Yes, this is definitely another Logo book to buy.
INTRODUCING LOGO:
$12.95, 249 pages
Published: September 1983.

Gradebook for the TI 99/4A computer ...

What It Does

All you do is enter the grades — GRADEBOOK does the rest:
• Homework grade averaging for any number of sets
• Test grade averaging for any number of minor tests
• Student ranking based on any test grade
• Course grade calculation based on your weights for homework, minor tests and each major test
• Student ranking based on course grade
• Grade storage for three major tests, minor test averages and homework averages
• Grade correction with automatic average correction
• Student add or drop
• Tape or disk and hard copy record of class roll and grades
GRADEBOOK will perform all these functions for any number of classes of up to 50 students each.

How You Use It

GRADEBOOK is simple to use. The name of each student is displayed as a prompt to assist you in entering grades. A central menu allows you to direct the operations you want performed. Clear prompts lead you through the second order choices. That is all there is to it.

What You Get

The GRADEBOOK package includes:
• GRADEBOOK SOFTWARE on a high quality diskette or tape, depending on the version you buy.
• GRADEBOOK Owners Manual — A 27 page booklet to help you get started with GRADEBOOK and for later reference.

What It Runs On

Cassette Version: TI99/4A, Cassette Recorder, Printer Optional.

Disk Version: TI99/4A, Single Disk Drive, Memory Expansion Card, Extended Basic, Printer Optional.

Special Price for YPLA members: $29.95, regularly $37.50.

Contact: Wren Software, P.O. Box 1138, Castle Rock, CO 80104.

Meet Turtle Tot from the makers of the Tasman Turtle!

Discover the fun of owning your own personal robot! Turtle Tot provides a very affordable entree into the exciting world of robotics. Like the Tasman Turtle, the Tot can draw, move, turn, blink its eyes, beep its two-tone horn, and "feel" its surroundings with touch sensors. Smaller and more compact than Tasman, the Tot is designed to be your personal pet, and is available at a price that will make you want to take him home!

The Tot can be used with just about any microcomputer through an RS-232 serial interface. Every Tot comes completely assembled and fully-tested before shipment and includes:
• a 10-color pen set
• a complete instruction manual
• suggested programs and activities

Turtle Tot

Tasman Turtle

Turtle Tots are available now for $299.95. To order your Tot or for more information, please contact Harvard Associates, 260 Beacon Street, Somerville, MA 02143, (617) 492-0660 or see your local computer dealer.

12V DC Power Supply (not included) - $34.95.