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OCTOBER 1985

VOLUME 3
NUMBER 10

THE NEW ATARI 520 ST PREVIEW

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Setting Up a Word-Processing Business

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SPECIAL BONUS PROGRAM: HALLOWEEN CLASSIC

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FAMILY COMPUTING®

VOLUME 3
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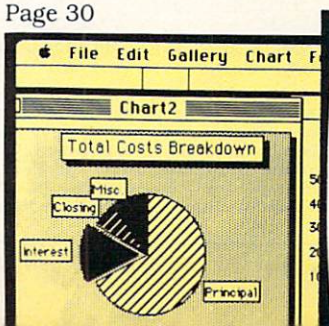

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COVER PHOTOGRAPH BY JOEL WHITE

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IBM PC*jr* into a PC XT. You can add extra memory and a hard disk drive to the PC*jr* to give it the major functions of an XT, but there are still differences in the motherboard architecture, speed, and system calls of the two computers. Thus, you can't be sure that all XT software will run on your souped-up PC*jr*, which I assume is what you're looking for. My advice would be to take the software you want to use to a knowledgeable dealer, and see it run on an expanded PC*jr* before you go to the trouble of upgrading.

How can I get my Commodore 64 to print on my printer without using my *Easy-Script 64* word processor?

MICHAEL G. BAIRD
Guin, Alabama

I assume you wish either to print from a BASIC program or to print data displayed on the screen. If you want to print from your BASIC programs, you must first OPEN a channel to the printer.

Don't forget to CLOSE it before the end of your program. You can then use a PRINT# statement anywhere in your program after the OPEN statement to output text. For example:

```
100 OPEN 1,4
200 PRINT#1, "HELLO, MICHAEL"
999 CLOSE 1
```

This will print HELLO, MICHAEL on your printer.

Alternatively, you can use a CMD statement at the beginning of your program. This will cause every PRINT statement to send its text to the printer automatically. For example:

```
100 OPEN 1,4
110 CMD 1
120 PRINT "EXAMPLE: THIS TEXT GOES TO
THE PRINTER."
130 . . .
(Your program)
900 . . .
999 PRINT#1: CLOSE 1
```

The last statement makes sure your C 64 doesn't continue to output to the printer after the program ends.

How do I use the "shape tables" for the Coleco ADAM?

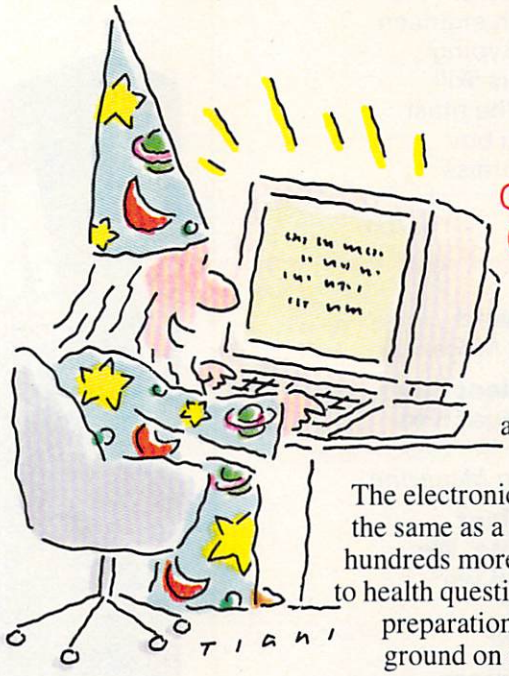
PAUL McCLAUGHLIN
Stephenville, Newfoundland, Canada

The shape table is a powerful way of creating your own animation for the ADAM. You can create a shape, place it at a certain spot on the screen, and then move it to another spot. Instructions on using the shape tables can be found in the *ADAM SmartBASIC Programming Manual* (Revised Edition), on page C-17. You'll need to know how the ADAM memory is structured in order to store your shape tables, how to convert binary numbers to decimal numbers to code your shape table, and how to use low-order and high-order bytes. In other words, there are no BASIC commands that let you design the shapes.

If all this sounds like Greek to you, I suggest you get a copy of *The Coleco Adam Entertainer*, by Brian Sawyer (Osborne/McGraw-Hill, Berkeley, California; $19.95). Sawyer has a SmartBASIC program called *Shape Maker*, that lets you use the joystick to draw shapes on the screen. You do not have to know how to write your own tables. And, once you have designed your shapes, you can use them in your own programs with the DRAW command (and erase them with the XDRAW command) in the hi-res graphics (HGR) mode.

Sawyer's book also has a six-page appendix with a good explanation of the tables and how to build your own shapes.

Encyclopedia Electronica!



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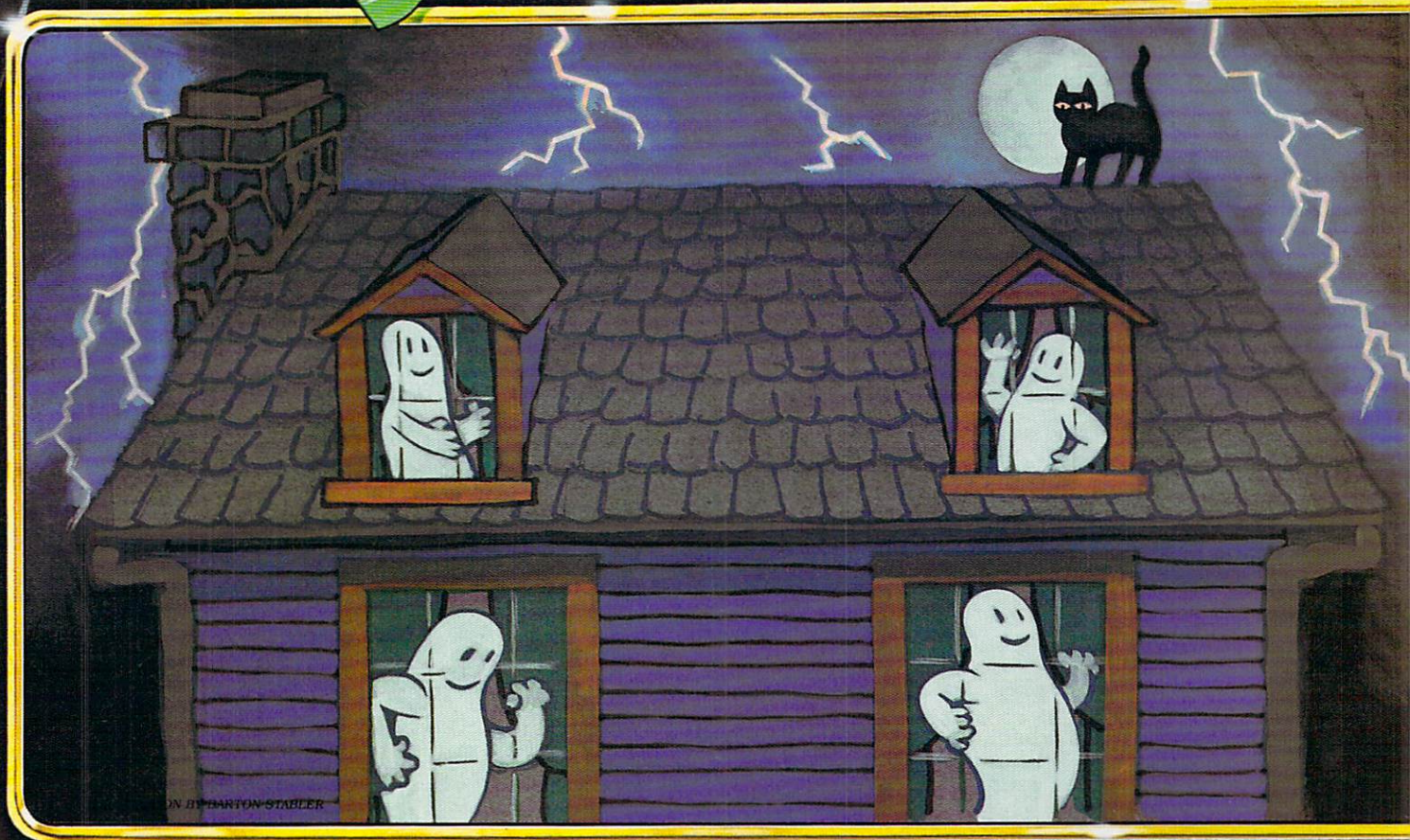
the Programmer



★ O C T O B E R ★

TIPS TO THE TYPIST
Page 46

How to type in FAMILY COMPUTING's programs, and what to do if a program doesn't work.

BEGINNER PROGRAM
Page 47

. . . And they're off! Pick a winner in the *Character Race*, and learn how your computer picks random numbers.

HALLOWEEN PROGRAM
Page 52

BOO! Let *Halloween Classic* put some "spirits" into your spooky holiday!

PUZZLE
Page 60

Can you read the message in the noodles before you're really in the soup?

PROGRAMMING P.S. Page 71 Corrections to previous months' programs.

ILLUSTRATION BY JIM CHERRY III

```
200 VTAB x*4
210 HTAB rp(x)
220 PRINT rc$(x)
230 FOR de = 1 TO 30
240 NEXT de
250 rp(x) = rp(x)+1
260 IF rp(x) < 32 THEN 190
270 PRINT CHR$(7);
280 FOR de = 1 TO 1000
290 NEXT de
300 HOME
310 PRINT "... And the winner is ";CHR$(34);rc$(x);CHR
$(34);"!"
```

Apple/*Character Race*

```
10 DIM RC$(4),RP(4)
20 HOME
30 PRINT "PRESS ANY KEY TO RANDOMIZE."
39 REM --"POKE -16368,0" PREPARES KEYBOARD--
40 POKE -16368,0
49 REM --"PEEK(-16384)" TELLS IF KEY IS PRESSED--
50 IF PEEK(-16384) < 128 THEN N = RND(1):GOTO 50
59 REM --"POKE -16368,0" CLEARS KEYBOARD--
60 POKE -16368,0
70 HOME
80 FOR I = 1 TO 4
90 PRINT "WHAT IS THE CHARACTER FOR RACER #";I;
100 INPUT RC$(I)
110 IF LEN(RC$(I)) > 1 THEN 100
120 RP(I) = 1
130 NEXT I
140 HOME
150 PRINT "... AND THEY'RE OFF!"
160 X = INT(RND(1)*4)+1
170 VTAB X*4
180 HTAB RP(X)
190 PRINT RC$(X);
200 RP(X) = RP(X)+1
210 IF RP(X) < 41 THEN 160
220 PRINT CHR$(7);
230 FOR DE = 1 TO 500
240 NEXT DE
250 HOME
260 PRINT "... AND THE WINNER IS ";CHR$(34);RC$(X);CHR
$(34);"!"
```

Atari 400, 800, 600/800XL, & 130XE/*Character Race*

```
10 DIM RC$(4),T$(40),RP(4)
19 REM --PREPARE KEYBOARD FOR INPUT--
20 OPEN #1,4,0,"K:"
29 REM --TURN OFF CURSOR--
30 POKE 752,1
40 PRINT CHR$(125);
50 FOR I=1 TO 4
60 PRINT "WHAT IS THE CHARACTER FOR RACER #";I;
70 INPUT T$
80 IF LEN(T$)>1 THEN 70
90 RC$(I,I)=T$
100 RP(I)=0
110 NEXT I
120 PRINT CHR$(125);
130 PRINT "... AND THEY'RE OFF!"
140 X=INT(RND(1)*4)+1
150 POSITION RP(X),X*4
160 PRINT RC$(X,X);
170 RP(X)=RP(X)+1
180 IF RP(X)<40 THEN 140
190 PRINT CHR$(253);
200 FOR DE=1 TO 250
210 NEXT DE
220 PRINT CHR$(125);
230 PRINT "... AND THE WINNER IS ";CHR$(34);RC$(X,X);C
HR$(34);"!"
239 REM --TURN ON CURSOR--
240 POKE 752,0
250 PRINT
```

Commodore 64 & 128 (C 64 mode)/*Character Race*

```
10 DIM RC$(4),RP(4)
20 PRINT CHR$(147);
30 FOR I=1 TO 4
40 PRINT "WHAT IS THE CHARACTER FOR RACER #";I;
50 INPUT RC$(I)
60 IF LEN(RC$(I))>1 THEN 50
70 RP(I)=0
80 NEXT I
90 PRINT CHR$(147);
100 PRINT "... AND THEY'RE OFF!"
110 X=INT(RND(1)*4)+1
119 REM --SET VERTICAL PRINT POSITION--
120 POKE 214,X*4
130 PRINT
140 PRINT TAB(RP(X));RC$(X);
150 RP(X)=RP(X)+1
160 IF RP(X)<40 THEN 110
170 FOR DE=1 TO 100
179 REM --SET A RANDOM SCREEN COLOR--
180 POKE 53280,INT(RND(1)*13)+2
190 NEXT DE
199 REM --RESET SCREEN TO NORMAL COLOR--
200 POKE 53280,254
210 PRINT CHR$(147);
220 PRINT "... AND THE WINNER IS ";CHR$(34);RC$(X);CHR
$(34);"!"
230 PRINT
```

IBM PC & compatibles*/*Character Race*

```
10 DIM RC$(4),RP(4)
20 PRINT "Have you a 40 or an 80 column display"
30 INPUT "(Please input 40 or 80) ";DW
40 IF DW<>40 AND DW<>80 THEN 30
50 WIDTH DW
60 SCREEN 0,0
70 KEY OFF
80 CLS
90 RANDOMIZE
100 CLS
110 FOR I=1 TO 4
120 PRINT "What is the character for racer #";I;
130 INPUT RC$(I)
140 IF LEN(RC$(I))>1 THEN 130
150 RP(I)=1
160 NEXT I
170 CLS
180 PRINT "... And they're off!"
190 X=INT(RND*4)+1
200 LOCATE X*4,RP(X),0
210 PRINT RC$(X);
220 RP(X)=RP(X)+1
230 IF RP(X)<=DW THEN 190
240 SOUND 440,25
250 FOR DE=1 TO 500
260 NEXT DE
270 CLS
280 PRINT "... And the winner is ";CHR$(34);RC$(X);CHR$
(34);"!"
290 PRINT
```

**This program has been tested on the following computers, using the BASICs shown: IBM PC w/Color Graphics Adapter or Monochrome/Printer Card, w/Disk BASIC D2.00 or Advanced BASIC A2.00.*
IBM PCjr, w/Cassette BASIC C1.20 or Cartridge BASIC J1.00.
Tandy 1000, w/GW-BASIC 2.02 version 00.05.00.

TRS-80 Color Computer/*Character Race*

```
10 DIM RC$(4),RP(4)
20 CLS
30 FOR I=1 TO 4
40 PRINT "WHAT IS THE CHARACTER"
50 PRINT "FOR RACER #";I;
60 INPUT RC$(I)
70 IF LEN(RC$(I))>1 THEN 60
80 RP(I)=0
90 NEXT I
100 CLS
```

→

```
110 PRINT "... AND THEY'RE OFF!"
120 X=RND(4)
130 PRINT@X*64+RP(X),RC$(X);
140 RP(X)=RP(X)+1
150 IF RP(X)<32 THEN 120
160 FOR DE=1 TO 10
170 SOUND 50+RND(10),1
180 NEXT DE
190 CLS
200 PRINT "... AND THE WINNER IS ";CHR$(34);RC$(X);CHR
$(34);"!"
210 PRINT
```

TRS-80 Models III & 4 (w/Model III BASIC)/*Character Race*

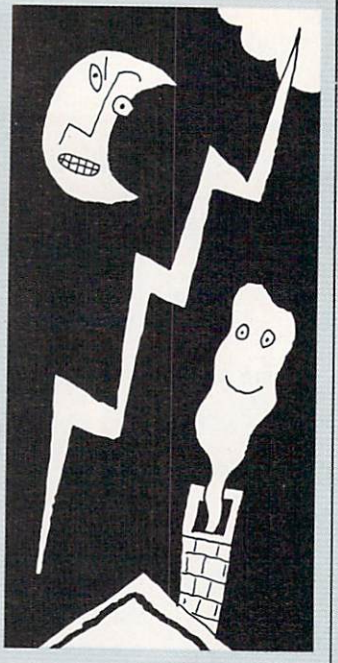
```
10 DIM RC$(4),RP(4)
20 CLS
30 FOR I=1 TO 4
40 PRINT "WHAT IS THE CHARACTER FOR RACER #";I;
50 INPUT RC$(I)
60 IF LEN(RC$(I))>1 THEN 50
70 RP(I)=0
80 NEXT I
90 CLS
100 PRINT "... AND THEY'RE OFF!"
110 X=RND(4)
120 PRINT@X*128+RP(X),RC$(X);
130 RP(X)=RP(X)+1
140 IF RP(X)<64 THEN 110
150 FOR DE=1 TO 50
159 REM --CHANGE CHARACTER WIDTH--
160 PRINT CHR$(23);CHR$(28);
170 NEXT DE
180 CLS
190 PRINT "... AND THE WINNER IS ";CHR$(34);RC$(X);CHR
$(34);"!"
200 PRINT
```

VIC-20/*Character Race*

```
10 DIM RC$(4),RP(4)
20 PRINT CHR$(147);
30 FOR I=1 TO 4
40 PRINT "WHAT IS THE CHARACTER"
50 PRINT "FOR RACER #";I;
60 INPUT RC$(I)
70 IF LEN(RC$(I))>1 THEN 60
80 RP(I)=0
90 NEXT I
100 PRINT CHR$(147);
110 PRINT "... AND THEY'RE OFF!"
120 X=INT(RND(1)*4)+1
130 POKE 214,X*4
140 PRINT
150 PRINT TAB(RP(X));RC$(X);
160 FOR DE=1 TO 30
170 NEXT DE
180 RP(X)=RP(X)+1
190 IF RP(X)<22 THEN 120
200 FOR DE=1 TO 100
209 REM --SET A RANDOM BORDER COLOR--
210 POKE 36879,24+(INT(RND(1)*7)+1)
220 NEXT DE
229 REM --RESET BORDER TO NORMAL COLOR--
230 POKE 36879,27
240 PRINT CHR$(147);
250 PRINT "... AND THE WINNER"
260 PRINT "IS ";CHR$(34);RC$(X);CHR$(34);"!"
270 PRINT
```

HALLOWEEN CLASSIC

BY JOEY LATIMER



The classic image of Halloween night is one of dark, lightning-filled skies, ghosts in flight, and hollow, sinister eyes peering from the shadows. While this isn't the scene found in most neighborhoods you can make your holiday a little more "Halloweeny," with our *Halloween Classic* program. In it, you might find some of the Halloween atmosphere you've been missing: dancing ghosts, lightning flashes, and peering eyes. To give the local kids a treat, set up your computer just inside your front door on Halloween night. Better use a sturdy table, and remember to tie back all loose wires that might trip little feet. Then boot up *Halloween Classic* before the trick-or-treaters start knocking. When they arrive, ask for a volunteer to press any key. Don't be surprised if you can't get rid of the little goblins!

PROGRAM NOTES

Halloween Classic is a fairly complicated program with animated graphics and sound. We've used sprite graphics in the C 64 and TI-99/4A versions, player-missile graphics on the Atari version, shape-table graphics on ADAM and Apple, and DRAW-language graphics techniques on the CoCo. Readers interested in how we used these techniques may wish to refer to *Pgraph!* (FAMILY COMPUTING *March, page 62*) for an explanation of Atari player-missile graphics and a handy utility for using them. Watch for upcoming articles on the special graphics capabilities of your computer.

ADAM/*Halloween Classic*

```
10 LOMEM: 29000
20 DIM xy(4,2)
30 POKE 16766,109:POKE 16767,109
40 FOR i = 28000 TO 28093:READ a:POKE i,a:NEXT i
50 FOR i = 1 TO 28:READ m(i,1),m(i,2),m(i,3):NEXT i
60 FOR i = 1 TO 4:READ xy(i,1),xy(i,2):NEXT i
70 HOME:HGR2
80 HCOLOR= 5:FOR i = 1 TO 43:READ x,y,z
90 IF i < 27 THEN HPLOT x,y TO x,z:GOTO 110
100 HPLOT x,y TO z,y
110 NEXT i
120 HPLOT 125,22 TO 37,110:HPLOT 125,22 TO 213,110
130 POKE 28006,230:CALL 28000
140 SCALE= 8:FOR i = 1 TO RND(1)*14+8
150 HCOLOR= 3:ROT= 50:DRAW 3 AT 70,3
160 ROT= 20:DRAW 3 AT 180,60
170 POKE 28006,245-RND(0)*5:CALL 28000
180 IF RND(1) > 0.7 THEN GOSUB 1000
190 HCOLOR= 4:ROT= 50:XDRAW 3 AT 70,3
200 ROT= 20:XDRAW 3 AT 180,60
210 NEXT i:POKE 28006,255:CALL 28000
220 POKE 28006,144:CALL 28000
230 ROT= 0:SCALE= 2:FOR i = 242 TO 62 STEP -4
240 FOR j = i TO i-3 STEP -1
250 POKE 28006,128:CALL 28000
```

→

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Name (Please Print) Age

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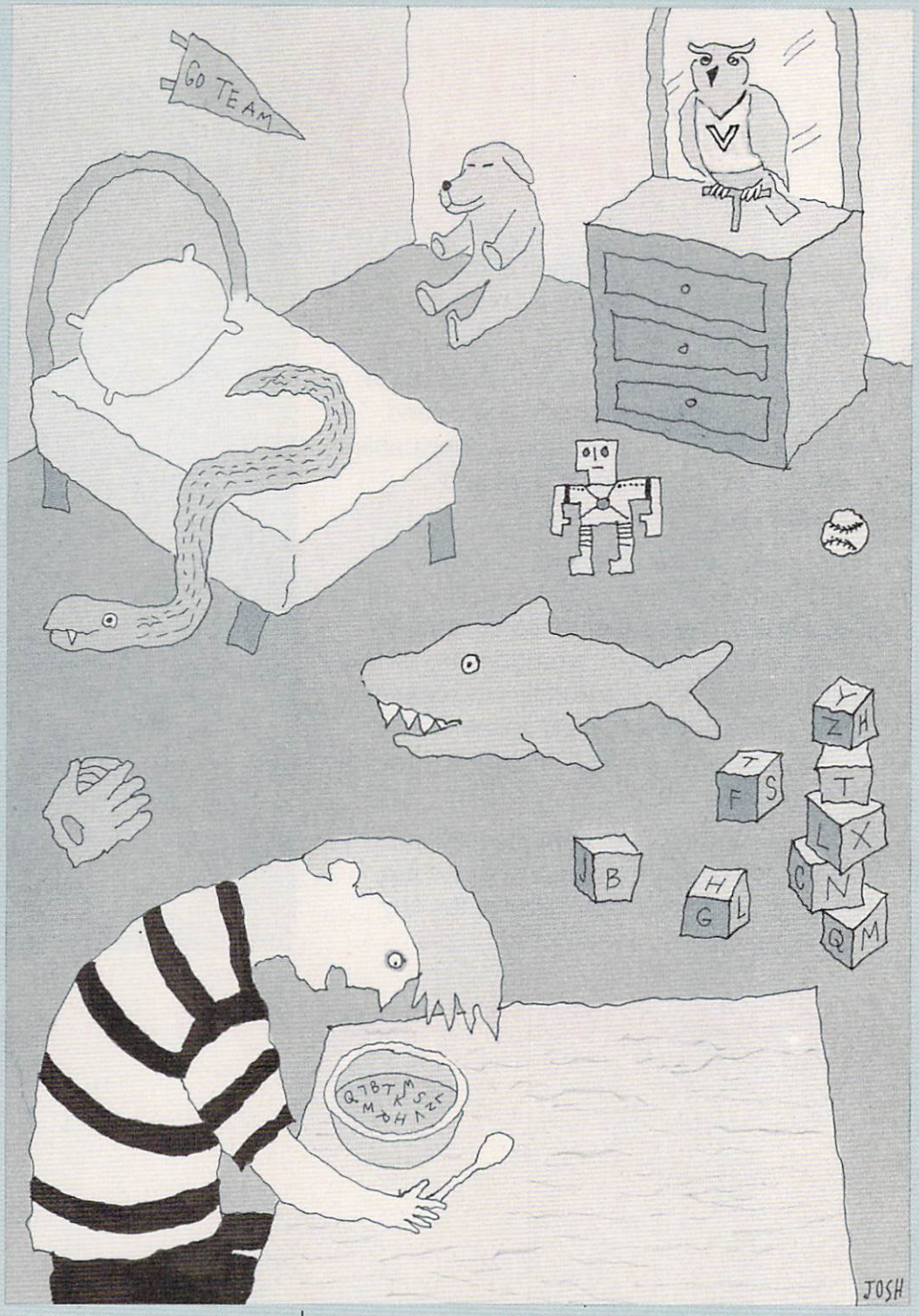
155-105

ALPHABET SOUP
Can You Digest the Messages?

PUZZLE BY PETER FAVARO AND SARAH KORTUM
PROGRAM BY STEVEN C.M. CHEN



Once you've solved this puzzle, you can keep on having fun with the program. Details are given in the Solution on page 71. But don't read it unless you're sure you don't want to try the puzzle first.

"Young man, if your head wasn't so firmly attached to your shoulders, I'm sure you'd lose that, too!" Jeremy Hicks Jr. must have heard that remark from his mother at least a thousand times a day. It seemed that everything he put down disappeared, only to reappear later in some odd place. For instance, while searching frantically for a book report one day, Jeremy found it stuck to the bottom of an ice-cream carton in the freezer. The teacher said she was sure his book report would *taste* delicious, but she was unsure how to read through the large, sticky blobs of chocolate and strawberry ice cream.

It wasn't that Jeremy was intentionally absentminded. He tried his best to keep on top of things. He put his school books and supplies in the same spot each day, but invariably they turned up someplace else. Once he pulled his favorite pen out of a meatloaf his mother had baked for dinner.

One day, while contemplating his topsy-turvy life over his favorite lunch, a steaming hot bowl of alphabet soup, Jeremy noticed something peculiar: Letters were rising to the surface of the soup, then submerging again! Jeremy watched in fascination. Soon, nearly all of the letters had disappeared, and those that remained seemed to form some kind of incomprehensible message.

Jeremy jotted the puzzling collection of letters down on his paper napkin and took another sip of soup. As he watched the pasta letters swirling to and fro again, he heard a familiar voice in the background: "Jeremy, stop playing with your food and finish!"

Jeremy quickly jotted down each new message that appeared between sips. After the soup was finished, he began to try to

decipher the 12 patterns. Little did Jeremy know that a very well-kept secret was being shared with him—a secret telling him that maybe he wasn't so absent-minded after all!

HOW TO PLAY

Type each line of the program into your computer exactly as shown, carefully making the appropriate modifications (if needed). (*See "Tips to the Typist," page 46, for help with typing in programs.*) Be sure to double-check all the DATA statements carefully. Then SAVE the program to disk or cassette.

When you RUN the program, you'll be asked for your name and for the name of some object that you misplace frequently. Press RETURN or ENTER after typing in each answer.

Next you'll see the surface of a bowl of alphabet soup, with the letters rising and diving until eventually only a few are left. When you've studied those letters, press RETURN or ENTER to take another "sip" of soup and watch the letters swirl into a new pattern.

After all the soup is gone, you have four choices. You can have another bowlful of soup (which will give you the same letter patterns). You can guess (and type in) the solution to the puzzle (which will be suggested by the patterns formed by the letters on the soup's surface and by the illustration, on page 60). You can ask for a hint (if you don't guess correctly the first time). You also have the option to quit the program.

The solution to the puzzle is on page 71.

Apple II series/*Alphabet Soup: Eat*

```
10 DL = 40:MAX = 96:SW = 40
20 FR = 12:DIM H$(8),WD$(FR*10):F = 1
30 DIM PT(FR+1+(F = 1)*5),RP(MAX,2),SM(SW,24),WP(126,2
)
40 SP$ = CHR$(32):Q$ = " OR <Q> TO QUIT."
50 FOR X = 1 TO SW:FOR Y = 1 TO 24:SM(X,Y) = 0
60 NEXT Y:NEXT X:WP(0,1) = 0:WP(0,2) = 0
70 FOR X = 1 TO 8:READ T$:GOSUB 2010:H$(X) = T$:NEXT X
80 R$ = "":FOR X = 3 TO 8:R$ = R$+H$(X)+SP$
90 NEXT X:R$ = LEFT$(R$,27)+"."
100 PT(1) = 1:FOR X = 1 TO FR+(F = 1)*5:READ T
110 PT(X+1) = PT(X)+T:FOR Y = PT(X) TO PT(X+1)-1
120 READ T$:GOSUB 2000:WD$(Y) = T$:NEXT Y:NEXT X
130 HOME:IF F = 2 THEN 230
140 PRINT "TYPE IN YOUR FIRST NAME.":PRINT
150 INPUT "MY NAME IS ";T$:IF T$ = "" THEN 130
160 GOSUB 1000:WD$(48) = T$
170 HOME:M$ = "TYPE IN AN OBJECT YOU OFTEN"
180 M$ = M$+" MISPLACE (ONE WORD ONLY).":GOSUB 3000
190 PRINT:INPUT "MY ";T$:IF T$ = "" THEN 170
200 P$ = T$+"?":GOSUB 1000:WD$(18) = T$
210 HOME:N$ = "SOUP'S ON!":GOSUB 3500
220 N$ = "COME AND GET IT!":GOSUB 3500:GOSUB 4000
230 FOR S = 1 TO FR:HOME:C = 1:Z$ = ""
240 DP = PT(S+1)-PT(S):IF DP > 21 THEN DP = 21
250 DY = INT(23/DP)
260 FOR X = PT(S) TO PT(S)+DP-1:Z$ = Z$+WD$(X)
270 LW = LEN(WD$(X)):IF LW > SW THEN LW = SW
280 DX = INT(SW/LW):T = RND(1)*DY+1+WP(C-1,2)
290 FOR Y = 1 TO LW:WP(C,1) = RND(1)*DX+1:WP(C,2) = T
300 IF Y > 1 THEN WP(C,1) = WP(C,1)+WP(C-1,1)
310 SM(WP(C,1),WP(C,2)) = 1:C = C+1:NEXT Y:NEXT X
320 LZ = LEN(Z$):FOR X = 1 TO MAX
330 GOSUB 5000:RP(X,1) = XP:RP(X,2) = YP
340 SM(XP,YP) = 2:NEXT X:RC = MAX:WC = 0
350 FOR X = 1 TO MAX/2:P = INT(RND(1)*RC)+1
360 GOSUB 5000:SM(XP,YP) = 2:SM(RP(P,1),RP(P,2)) = 0
370 FOR D = 1 TO DL:NEXT D
380 VTAB RP(P,2):HTAB RP(P,1):PRINT SP$;
390 RP(P,1) = XP:RP(P,2) = YP
400 IF RND(1) > 0.5 THEN 430
410 WC = WC+1:IF WC > LZ THEN 430
420 P = WC:GOSUB 6000
```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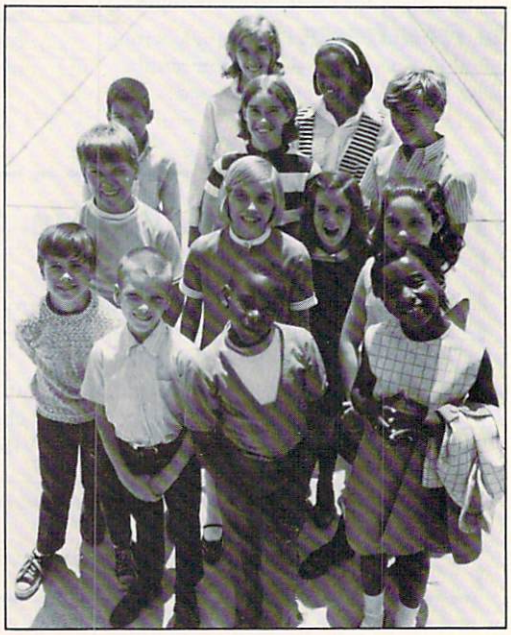

BITS & BYTES℠

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```
430 IF RND(1) > 0.5 OR RC = 0 THEN 470
440 P = INT(RND(1)*RC)+1:XP = RP(P,1):YP = RP(P,2)
450 M$ = SP$:GOSUB 6500:SM(XP,YP) = 0
460 RP(P,1) = RP(RC,1):RP(P,2) = RP(RC,2):RC = RC-1
470 NEXT X:IF WC > LZ-1 THEN 490
480 FOR P = WC TO LZ:GOSUB 6000:NEXT P
490 M$ = SP$:FOR X = 1 TO RC:XP = RP(X,1):YP = RP(X,2)
500 GOSUB 6500:SM(XP,YP) = 0:NEXT X
510 M$ = "PRESS <RETURN> TO TAKE A SIP OF SOUP."
520 GOSUB 7000:GOSUB 3000
530 GOSUB 8000:IF K$ <> CHR$(13) THEN 530
540 FOR X = 1 TO LZ:SM(WP(X,1),WP(X,2)) = 0
550 NEXT X:NEXT S
560 HOME:M$ = "YOU'VE FINISHED ALL THE SOUP!"
570 GOSUB 3000:IF F = 2 THEN END
580 T$ = "":GOSUB 8500
590 GOSUB 8000:IF K$ = "Q" THEN END
600 ON K$ = "E" GOTO 230:IF K$ <> "G" THEN 590
610 HOME:M$ = "WHERE IS YOUR "+P$:GOSUB 3000:PRINT
620 INPUT "BEHIND THE ";T$:IF T$ = "" THEN 610
630 M$ = "":FOR X = 1 TO LEN(T$):K$ = MID$(T$,X,1)
640 GOSUB 8030:M$ = M$+K$:NEXT X
650 IF M$ = H$(2) THEN 720
660 HOME:N$ = "SORRY, YOU'RE WRONG!":GOSUB 3500
670 T$ = " <H> FOR A HINT,":GOSUB 8500
680 GOSUB 8000:IF K$ = "E" THEN 230
690 ON K$ = "H" GOTO 710:IF K$ = "Q" THEN END
700 ON K$ <> "G" GOTO 680:GOTO 610
710 HOME:M$ = R$:GOSUB 3000:GOSUB 4000:GOTO 560
720 HOME:M$ = "THE NEXT DAY THE SOUP SAID ..."
730 GOSUB 3000:PRINT:FOR X = 13 TO 17
740 FOR Y = PT(X) TO PT(X+1)-1:PRINT WD$(Y);SP$;
750 NEXT Y:PRINT:NEXT X:END
1000 M$ = "":FOR A = 1 TO LEN(T$):W = 0
1010 K$ = MID$(T$,A,1):GOSUB 8030:FOR B = 1 TO 5
1020 IF K$ = MID$(H$(1),B,1) THEN W = 1:B = 5
1030 NEXT B:IF NOT W THEN M$ = M$+K$
1040 NEXT A:T$ = M$:IF T$ = "" THEN T$ = SP$:RETURN
1050 M$ = "":FOR A = 1 TO LEN(T$):K$ = MID$(T$,A,1)
1060 IF K$ > "@" AND K$ < CHR$(91) THEN M$ = M$+K$
1070 NEXT A:IF M$ = "" THEN T$ = SP$:RETURN
1080 T$ = M$:RETURN
2000 IF F = 2 THEN GOSUB 1000:RETURN
2010 M$ = "":V = ASC(LEFT$(T$,1))-64
2020 FOR Z = 2 TO LEN(T$):N = ASC(MID$(T$,Z,1))-V
2030 M$ = M$+CHR$(N+26*(N < 65)):NEXT Z
2040 T$ = M$:RETURN
3000 IF LEN(M$) <= SW THEN N$ = M$:GOSUB 3500:RETURN
3010 Y = SW+1:Z = 1:FOR X = Y TO 2 STEP -1
3020 IF MID$(M$,X,1) = SP$ THEN Z = 0:Y = X:X = 2
3030 NEXT X:N$ = LEFT$(M$,Y-1):GOSUB 3500
3040 M$ = RIGHT$(M$,LEN(M$)-Y+Z):GOTO 3000
3500 IF LEN(N$) = SW THEN PRINT N$;:RETURN
3510 PRINT TAB((SW-LEN(N$))/2+1);N$:RETURN
4000 M$ = "PRESS ANY KEY TO CONTINUE."
4010 GOSUB 7000:GOSUB 3000:GOSUB 8000:RETURN
5000 XP = SW*RND(1)+1:YP = 23*RND(1)+1
5010 IF SM(XP,YP) <> 0 THEN 5000
5020 M$ = CHR$(65+RND(1)*26):GOSUB 6500:RETURN
6000 XP = WP(P,1):YP = WP(P,2)
6010 M$ = MID$(Z$,P,1):GOSUB 6500:RETURN
6500 VTAB YP:HTAB XP:PRINT M$;:RETURN
7000 VTAB 24-INT(LEN(M$)/SW+0.9):HTAB 1:RETURN
8000 POKE -16368,0
8010 K = PEEK(-16384)-128:IF K < 0 THEN 8010
8020 POKE -16368,0:K$ = CHR$(K):IF K = 3 THEN END
8030 IF K$ < CHR$(97) THEN RETURN
8040 K$ = CHR$(ASC(K$)-32):RETURN
8500 M$ = "PRESS <E> TO EAT ANOTHER BOWLFUL OF SOUP"
8510 M$ = M$+", <G> TO GUESS,"+T$+Q$:GOSUB 7000
8520 GOSUB 3000:RETURN
9000 DATA MNRVBH,SHPE,GLCLYF,IFXAM
9010 DATA RZSK,DEX,KWPLDE,QFEV
10000 DATA 4,IF,PH,LZHENX,RUJLJK,3,HEP,FYIXXE,JBXN
10010 DATA 3,EMISL,JIB,PJXDWI,4,VSPDP,NAYBU,RF,DWRH
10020 DATA 4,HB,TFWN,MLE,HI,3,PFBI,JDRXU,NPH
10030 DATA 5,DXL,SMAGZL,MSEZ,KESD,NDA
10040 DATA 5,HBPB,SP,QYM,GARU,QK,4,LF,TM,GKMMJSA,LFD
```


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CIRCLE READER SERVICE 15

```
10050 DATA 4,QSK,FITYJX,JDRC,NQZ
10060 DATA 4,PDT,KWV,FHNTJ,PICJXDW,3,SYFEK,MG,DC
10070 DATA 2,IMA,FK,6,HE,QTE,MA,MYATE,EYWHP,KJ
10080 DATA 5,QP,LTH,PTISLHT,HZ,MTZ,6,JC,EKK,NH
10090 DATA SGMAK,PM,NU,5,JPB,VIN,MS,XRF,EXR
```

Atari 400/800, 600/800XL, & 130XE/*Alphabet Soup: Eat*

```
10 OPEN #1,4,0,"K:":POKE 82,0
20 F=1:FR=12:T=FR+1+(F=1)*5
30 DIM PT(T),PW(T*21),RP(96,2),SM(40,24),WP(106,2)
40 DIM A$(25),CL$(1),H$(36),K$(1),M$(25),P$(25)
50 DIM Q$(16),SP$(1),T$(25),X$(125),WD$(T*90),Z$(106)
60 CL$=CHR$(125):SP$=CHR$(32):Q$=" OR <Q> TO QUIT."
70 FOR X=1 TO SW:FOR Y=1 TO SH:SM(X,Y)=0
80 NEXT Y:NEXT X:WP(0,1)=0:WP(0,2)=0
90 H$="":FOR X=1 TO 8:READ T$:GOSUB 2010
100 H$(LEN(H$)+1)=T$:IF X<3 THEN 120
110 H$(LEN(H$)+1)=SP$
120 NEXT X:H$(36)="."
130 PT(1)=1:FOR X=1 TO FR+(F=1)*5:READ T
140 PT(X+1)=PT(X)+T:FOR Y=PT(X) TO PT(X+1)-1
150 READ T$:GOSUB 2000:PW(Y)=LEN(WD$)+1
160 WD$(PW(Y))=T$:NEXT Y:NEXT X
170 PW(Y)=LEN(WD$)+1
180 ON F=2 GOTO 340:A$=""
190 PRINT CL$;"TYPE IN YOUR FIRST NAME.":PRINT
200 PRINT "MY NAME IS ";:INPUT T$:IF T$="" THEN 180
210 GOSUB 1000:LB=LEN(T$):A$=T$
220 PRINT CL$;"  TYPE IN AN OBJECT YOU OFTEN MISPLACE"
230 POSITION 12,1:PRINT "(ONE WORD ONLY)."
240 PRINT :PRINT "MY ";:INPUT T$:IF T$="" THEN 220
250 POKE 752,1:P$=T$:P$(LEN(T$)+1)="?"
260 GOSUB 1000:LA=LEN(T$)
270 X$=WD$(53):WD$(52+LA)=X$:WD$(52,51+LA)=T$
280 FOR X=19 TO 71:PW(X)=PW(X)+LA-1:NEXT X
290 X$=WD$(PW(49)):WD$(PW(48)+LB)=X$
300 WD$(PW(48),PW(48)+LB-1)=A$
310 FOR X=49 TO 71:PW(X)=PW(X)+LB-1:NEXT X
320 PRINT CL$:POSITION 14,0:PRINT "SOUP'S ON!"
330 POSITION 12,1:PRINT "COME AND GET IT!":GOSUB 3000
340 POKE 752,1:FOR S=1 TO FR:PRINT CL$;:C=1:Z$=""
350 DP=PT(S+1)-PT(S):IF DP>21 THEN DP=21
360 DY=INT(21/DP)
370 FOR X=PT(S) TP PT(S)+DP-1
380 Z$(LEN(Z$)+1)=WD$(PW(X),PW(X+1)-1)
390 LW=PW(X+1)-PW(X):IF LW>38 THEN LW=38
400 DX=INT(38/LW):T=INT(RND(1)*DX)+1+WP(C-1,2)
410 FOR Y=1 TO LW:WP(C,1)=INT(RND(1)*DX)+1:WP(C,2)=T
420 IF Y>1 THEN WP(C,1)=WP(C,1)+WP(C-1,1)
430 SM(WP(C,1),WP(C,2))=1:C=C+1:NEXT Y:NEXT X
440 LZ=LEN(Z$):FOR X=1 TO 96
450 GOSUB 4000:RP(X,1)=XP:RP(X,2)=YP
460 SM(XP,YP)=2:NEXT X:RC=96:WC=0
470 FOR X=1 TO 48:P=INT(RND(1)*RC)+1
480 GOSUB 4000:SM(XP,YP)=2:SM(RP(P,1),RP(P,2))=0
490 FOR D=1 TO 15:NEXT D
500 POSITION RP(P,1),RP(P,2):PRINT SP$;
510 RP(P,1)=XP:RP(P,2)=YP
520 IF RND(1)>0.5 THEN 550
530 WC=WC+1:IF WC>LZ THEN 550
540 P=WC:GOSUB 5000
550 IF RND(1)>0.5 OR RC=0 THEN 590
560 P=INT(RND(1)*RC)+1:XP=RP(P,1):YP=RP(P,2)
570 M$=SP$:GOSUB 6000:SM(XP,YP)=0
580 RP(P,1)=RP(RC,1):RP(P,2)=RP(RC,2):RC=RC-1
590 NEXT X:IF WC>LZ-1 THEN 610
600 FOR P=WC TO LZ:GOSUB 5000:NEXT P
610 M$=SP$:FOR X=1 TO RC:XP=RP(X,1):YP=RP(X,2)
620 GOSUB 6000:SM(XP,YP)=0:NEXT X
630 POSITION 1,22
640 PRINT "PRESS <RETURN> TO TAKE A SIP OF SOUP."
650 GOSUB 7000:IF K<>155 THEN 650
660 FOR X=1 TO LZ:SM(WP(X,1),WP(X,2))=0
670 NEXT X:NEXT S
680 PRINT CL$;:POSITION 5,0
690 PRINT "YOU'VE FINISHED ALL THE SOUP!"
700 IF F=2 THEN POKE 82,2:POKE 752,0:END
710 T$="":GOSUB 8000
720 GOSUB 7000:IF K$="Q" THEN END
730 ON K$="E" GOTO 340:IF K$<>"G" THEN 720
740 POKE 752,0:PRINT CL$;"WHERE IS YOUR ";P$:PRINT
750 PRINT "BEHIND THE ";:INPUT T$:IF T$="" THEN 740
760 POKE 752,1:M$="":FOR X=1 TO LEN(T$):K$=T$(X,X)
770 GOSUB 7020:M$(LEN(M$)+1)=K$:NEXT X
780 IF M$=H$(6,8) THEN 870
790 PRINT CL$
800 POSITION 9,0:PRINT "SORRY, YOU'RE WRONG!"
810 T$=" <H> FOR A HINT,":GOSUB 8000
820 GOSUB 7000:IF K$="E" THEN 340
830 ON K$="H" GOTO 850:IF K$="Q" THEN END
840 ON K$<>"G" GOTO 820:GOTO 740
850 PRINT CL$
860 POSITION 5,0:PRINT H$(9):GOSUB 3000:GOTO 680
870 POKE 82,2:PRINT CL$;"THE NEXT DAY THE SOUP SAID ..
."
880 PRINT :FOR X=13 TO 17
890 FOR Y=PT(X) TO PT(X+1)-1
900 PRINT WD$(PW(Y),PW(Y+1)-1);SP$;:NEXT Y
910 PRINT :NEXT X:POKE 752,1:END
1000 M$="":FOR A=1 TO LEN(T$):W=0
1010 K$=T$(A,A):GOSUB 7020:FOR B=1 TO 5
1020 IF K$=H$(B,B) THEN W=1:B=5
1030 NEXT B:IF  NOT W THEN M$(LEN(M$)+1)=K$
1040 NEXT A:T$=M$:IF T$="" THEN T$=SP$:RETURN
1050 M$="":FOR A=1 TO LEN(T$):K$=T$(A,A)
1060 IF K$>"@" AND K$<CHR$(91) THEN M$(LEN(M$)+1)=K$
1070 NEXT A:IF M$="" THEN T$=SP$:RETURN
1080 T$=M$:RETURN
2000 IF F=2 THEN GOSUB 1000:RETURN
2010 M$="":V=ASC(T$(1,1))-64
2020 FOR Z=2 TO LEN(T$):N=ASC(T$(Z,Z))-V
2030 M$(LEN(M$)+1)=CHR$(N+26*(N<65)):NEXT Z
2040 T$=M$:RETURN
3000 POSITION 7,22:PRINT "PRESS ANY KEY TO CONTINUE."
3010 GOSUB 7000:RETURN
4000 XP=INT(38*RND(1))+1:YP=INT(23*RND(1))
4010 IF SM(XP,YP)<>0 THEN 4000
4020 M$=CHR$(65+INT(RND(1)*26)):GOSUB 6000:RETURN
5000 XP=WP(P,1):YP=WP(P,2)
5010 M$=Z$(P,P):GOSUB 6000:RETURN
6000 POSITION XP,YP:PRINT M$;:RETURN
7000 GET #1,K:IF K=155 THEN RETURN
7010 K$=CHR$(K)
7020 IF K$<CHR$(97) THEN RETURN
7030 K$=CHR$(ASC(K$)-32):RETURN
8000 POSITION 2,21
8010 PRINT "PRESS <E> TO EAT ANOTHER BOWLFUL OF"
8020 IF T$<>"" THEN 8040
8030 PRINT "  SOUP, <G> TO GUESS,";Q$:RETURN
8040 PRINT " SOUP, <G> TO GUESS,";T$;" OR"
8050 POKE 85,12:PRINT Q$(4);:RETURN
9000 DATA MNRVBH,SHPE,GLCLYF,IFXAM
9010 DATA RZSK,DEX,KWPLDE,QFEV
10000 DATA 4,IF,PH,LZHENX,RUJLJK,3,HEP,FYIXXE,JBXN
10010 DATA 3,EMISL,JIB,PJXDWI,4,VSPDP,NAYBU,RF,DWRH
10020 DATA 4,HB,TFWN,MLE,HI,3,PFBI,JDRXU,NPH
10030 DATA 5,DXL,SMAGZL,MSEZ,KESD,NDA
10040 DATA 5,HBPB,SP,QYM,GARU,QK,4,LF,TM,GKMMJSA,LFD
10050 DATA 4,QSK,FITYJX,JDRC,NQZ
10060 DATA 4,PDT,KWV,FHNTJ,PICJXDW,3,SYFEK,MG,DC
10070 DATA 2,IMA,FK,6,HE,QTE,MA,MYATE,EYWHP,KJ
10080 DATA 5,QP,LTH,PTISLHT,HZ,MTZ,6,JC,EKK,NH
10090 DATA SGMAK,PM,NU,5,JPB,VIN,MS,XRF,EXR
```

Commodore 64 & 128 (in C 64 mode)/*Alphabet Soup: Eat*

```
10 POKE 53281,12:POKE 53280,12:PRINT CHR$(5)
20 F=1:FR=12:MAX=100:SH=25:SW=40
30 DH=SH-3+(SW=22):DIM H$(8),WD$(FR*10)
40 DIM PT(FR+1-(F=1)*5),RP(MAX,2),SM(SW,SH),WP(DH*6,2)
50 CL$=CHR$(147):SP$=CHR$(32):Q$=" OR <Q> TO QUIT."
60 FOR X=1 TO SW:FOR Y=1 TO SH:SM(X,Y)=0
70 NEXT Y:NEXT X:WP(0,1)=-1:WP(0,2)=0
```

IBM PC & compatibles*/*Alphabet Soup: Eat*

```
10 dl = 120:max = 80:sw = 31
20 DL=30:F=1:FR=12:MAX=190:SH=24:SW=80
30 WIDTH SW:LOCATE ,,0:DEF FNR(A)=INT(RND*A)+1
40 DH=SH-3:DIM H$(8),WD$(FR*10)
50 DIM PT(FR+1-(F=1)*5),RP(MAX,2),SM(SW,SH),WP(DH*6,2)
60 SP$=CHR$(32):Q$=" OR <Q> TO QUIT."
70 FOR X=1 TO SW:FOR Y=1 TO SH:SM(X,Y)=0
80 NEXT Y:NEXT X:WP(0,1)=0:WP(0,2)=0
90 FOR X=1 TO 8:READ T$:GOSUB 2010:H$(X)=T$:NEXT X
100 R$="":FOR X=3 TO 8:R$=R$+H$(X)+SP$
110 NEXT X:R$=LEFT$(R$,27)+"."
120 PT(1)=1:FOR X=1 TO FR-(F=1)*5:READ T
130 PT(X+1)=PT(X)+T:FOR Y=PT(X) TO PT(X+1)-1
140 READ T$:GOSUB 2000:WD$(Y)=T$:NEXT Y:NEXT X
150 CLS:IF F=2 THEN 250
160 PRINT "TYPE IN YOUR FIRST NAME.":PRINT
170 T$="":INPUT "MY NAME IS ";T$:IF T$="" THEN 150
180 GOSUB 1000:WD$(48)=T$
190 CLS:M$="TYPE IN AN OBJECT YOU OFTEN"
200 M$=M$+" MISPLACE (ONE WORD ONLY).":GOSUB 3000
210 PRINT:T$="":INPUT "MY ";T$:IF T$="" THEN 190
220 P$=T$+"?":GOSUB 1000:WD$(18)=T$
230 CLS:N$="SOUP'S ON!":GOSUB 3500
240 N$="COME AND GET IT!":GOSUB 3500:GOSUB 4000
250 FOR S=1 TO FR:CLS:C=1:Z$=""
260 DP=PT(S+1)-PT(S):IF DP>DH THEN DP=DH
270 DY=INT((SH-1)/DP)
280 FOR X=PT(S) TO PT(S)+DP-1:Z$=Z$+WD$(X)
290 LW=LEN(WD$(X)):IF LW>SW THEN LW=SW
300 DX=INT(SW/LW):T=FNR(DY)+WP(C-1,2)
310 FOR Y=1 TO LW:WP(C,1)=FNR(DX):WP(C,2)=T
320 IF Y>1 THEN WP(C,1)=WP(C,1)+WP(C-1,1)
330 SM(WP(C,1),WP(C,2))=1:C=C+1:NEXT Y:NEXT X
340 LZ=LEN(Z$):FOR X=1 TO MAX
350 GOSUB 5000:RP(X,1)=XP:RP(X,2)=YP
360 SM(XP,YP)=2:NEXT X:RC=MAX:WC=0
370 FOR X=1 TO MAX/2:P=FNR(RC)
380 GOSUB 5000:SM(XP,YP)=2:SM(RP(P,1),RP(P,2))=0
390 FOR D=1 TO DL:NEXT D
400 LOCATE RP(P,2),RP(P,1):PRINT SP$;
410 RP(P,1)=XP:RP(P,2)=YP
420 IF FNR(10)>5 THEN 450
430 WC=WC+1:IF WC>LZ THEN 450
440 P=WC:GOSUB 6000
450 IF FNR(10)>10 OR RC=0 THEN 490
460 P=FNR(RC):XP=RP(P,1):YP=RP(P,2)
470 M$=SP$:GOSUB 6500:SM(XP,YP)=0
480 RP(P,1)=RP(RC,1):RP(P,2)=RP(RC,2):RC=RC-1
490 NEXT X:IF WC>LZ-1 THEN 510
500 FOR P=WC TO LZ:GOSUB 6000:NEXT P
510 M$=SP$:FOR X=1 TO RC:XP=RP(X,1):YP=RP(X,2)
520 GOSUB 6500:SM(XP,YP)=0:NEXT X
530 M$="PRESS <ENTER> TO TAKE A SIP OF SOUP."
540 GOSUB 7000:GOSUB 3000
550 GOSUB 8000:IF K$<>CHR$(13) THEN 550
560 FOR X=1 TO LZ:SM(WP(X,1),WP(X,2))=0
570 NEXT X:NEXT S
580 CLS:M$="YOU'VE FINISHED ALL THE SOUP!"
590 GOSUB 3000:IF F=2 THEN END
600 T$="":GOSUB 8500
610 GOSUB 8000:IF K$="Q" THEN END
620 IF K$="E" THEN 250 ELSE IF K$<>"G" THEN 610
630 CLS:M$="WHERE IS YOUR "+P$:GOSUB 3000:PRINT
640 T$="":INPUT "BEHIND THE ";T$:IF T$="" THEN 630
650 M$="":FOR X=1 TO LEN(T$):K$=MID$(T$,X,1)
660 GOSUB 8010:M$=M$+K$:NEXT X
670 IF M$=H$(2) THEN 740
680 CLS:N$="SORRY, YOU'RE WRONG!":GOSUB 3500
690 T$=" <H> FOR A HINT,":GOSUB 8500
700 GOSUB 8000:IF K$="E" THEN 250
710 IF K$="H" THEN 730 ELSE IF K$="Q" THEN END
720 IF K$<>"G" THEN 700 ELSE 630
730 CLS:M$=R$:GOSUB 3000:GOSUB 4000:GOTO 580
740 CLS:M$="THE NEXT DAY THE SOUP SAID ..."
750 GOSUB 3000:PRINT:FOR X=13 TO 17
760 FOR Y=PT(X) TO PT(X+1)-1:PRINT WD$(Y);SP$;
770 NEXT Y:PRINT:NEXT X:PRINT:PRINT:END
1000 M$="":FOR A=1 TO LEN(T$):W=0
1010 K$=MID$(T$,A,1):GOSUB 8010:FOR B=1 TO 5
1020 IF K$=MID$(H$(1),B,1) THEN W=-1:B=5
1030 NEXT B:IF NOT W THEN M$=M$+K$
1040 NEXT A:T$=M$:IF T$="" THEN T$=SP$:RETURN
1050 M$="":FOR A=1 TO LEN(T$):K$=MID$(T$,A,1)
1060 IF K$>"@" AND K$<CHR$(91) THEN M$=M$+K$
1070 NEXT A:IF M$="" THEN T$=SP$:RETURN
1080 T$=M$:RETURN
2000 IF F=2 THEN GOSUB 1000:RETURN
2010 M$="":V=ASC(LEFT$(T$,1))-64
2020 FOR Z=2 TO LEN(T$):N=ASC(MID$(T$,Z,1))-V
2030 M$=M$+CHR$(N-26*(N<65)):NEXT Z
2040 T$=M$:RETURN
3000 IF LEN(M$)<=SW THEN N$=M$:GOSUB 3500:RETURN
3010 Y=SW+1:Z=1:FOR X=Y TO 2 STEP -1
3020 IF MID$(M$,X,1)=SP$ THEN Z=0:Y=X:X=2
3030 NEXT X:N$=LEFT$(M$,Y-1):GOSUB 3500
3040 M$=RIGHT$(M$,LEN(M$)-Y+Z):GOTO 3000
3500 IF LEN(N$)=SW THEN PRINT N$;:RETURN
3510 PRINT TAB((SW-LEN(N$))/2);N$:RETURN
4000 M$="PRESS ANY KEY TO CONTINUE."
4010 GOSUB 7000:GOSUB 3000:GOSUB 8000:RETURN
5000 XP=FNR(SW):YP=FNR(SH-1)
5010 IF SM(XP,YP)<>0 THEN 5000
5020 M$=CHR$(64+FNR(26)):GOSUB 6500:RETURN
6000 XP=WP(P,1):YP=WP(P,2)
6010 M$=MID$(Z$,P,1):GOSUB 6500:RETURN
6500 LOCATE YP,XP:PRINT M$;:RETURN
7000 LOCATE 24-INT(LEN(M$)/SW+.99),1:RETURN
8000 K$=INKEY$:IF K$="" THEN 8000
8010 IF K$<CHR$(97) THEN RETURN
8020 K$=CHR$(ASC(K$)-32):RETURN
8500 M$="PRESS <E> TO EAT ANOTHER BOWLFUL OF SOUP"
8510 M$=M$+", <G> TO GUESS,"+T$+Q$:GOSUB 7000
8520 GOSUB 3000:RETURN
9000 DATA MNRVBH,SHPE,GLCLYF,IFXAM
9010 DATA RZSK,DEX,KWPLDE,QFEV
10000 DATA 4,IF,PH,LZHENX,RUJLJK,3,HEP,FYIXXE,JBXN
10010 DATA 3,EMISL,JIB,PJXDWI,4,VSPDP,NAYBU,RF,DWRH
10020 DATA 4,HB,TFWN,MLE,HI,3,PFBI,JDRXU,NPH
10030 DATA 5,DXL,SMAGZL,MSEZ,KESD,NDA
10040 DATA 5,HBPB,SP,QYM,GARU,QK,4,LF,TM,GKMMJSA,LFD
10050 DATA 4,QSK,FITYJX,JDRC,NQZ
10060 DATA 4,PDT,KWV,FHNTJ,PICJXDW,3,SYFEK,MG,DC
10070 DATA 2,IMA,FK,6,HE,QTE,MA,MYATE,EYWHP,KJ
10080 DATA 5,QP,LTH,PTISLHT,HZ,MTZ,6,JC,EKK,NH
10090 DATA SGMAK,PM,NU,5,JPB,VIN,MS,XRF,EXR
```

**This program has been tested on the following computers, using the BASICs shown: IBM PC w/Color Graphics Adapter or Monochrome/Printer Card, w/Disk BASIC D2.00 or Advanced BASIC A2.00.*
Tandy 1000, w/GW-BASIC 2.02 version 00.05.00.

MODIFICATIONS FOR OTHER COMPUTERS

ADAM/*Alphabet Soup: Eat*

Use the Apple version with the following alterations: Delete lines 8010 and 8020. Also, change lines 10 and 8000 to read as follows:

```
10 dl=120:fr=12:max=80:sw=31
8000 GET k$:IF k$=CHR$(3) THEN END
```

IBM PC*jr*/*Alphabet Soup: Eat*

Use the IBM PC version, except change line 20 to read as follows:

```
20 DL=50:F=1:FR=12:MAX=100:SH=24:SW=40
```

TRS-80 Color Computer/*Alphabet Soup: Eat*

Use the IBM PC version with the following alterations: Change lines 10, 20, 30, 400, 6500, and 7000 to read as follows:

```
10 CLEAR 1000
```

```
20 DL=30:F=1:FR=12:MAX=55:SH=16:SW=32
30 DEF FNR(A)=RND(A)
400 PRINT@(RP(P,2)-1)*SW+RP(P,1)-1,SP;
6500 PRINT@(YP-1)*SW+XP-1,M$;:RETURN
7000 PRINT@(SH-INT(LEN(M$)/SW+1.99))*SW,"";:RETURN
```

TRS-80 Model III & Model 4 (w/Model III BASIC)/*Alphabet Soup: Eat*

Use the IBM PC version, with the following alterations: Change lines 10, 20, 30, 400, 6500, and 7000 to read as follows:

```
10 CLEAR 1000
20 DL=30:F=1:FR=12:MAX=105:SH=16:SW=64
30 DEF FNR(A)=RND(A)
400 PRINT@(RP(P,2)-1)*SW+RP(P,1)-1,SP;
6500 PRINT@(YP-1)*SW+XP-1,M$;:RETURN
7000 PRINT@(SH-INT(LEN(M$)/SW+1.99))*SW,"";:RETURN
```

VIC-20 w/8K or 16K RAM Cartridge/*Alphabet Soup: Eat*

Use the Commodore 64 version with the following alterations: Delete line 10. Then change line 20 to read as follows:

```
20 F=1:FR=12:MAX=55:SH=23:SW=22
```

PROGRAMMING P.S.

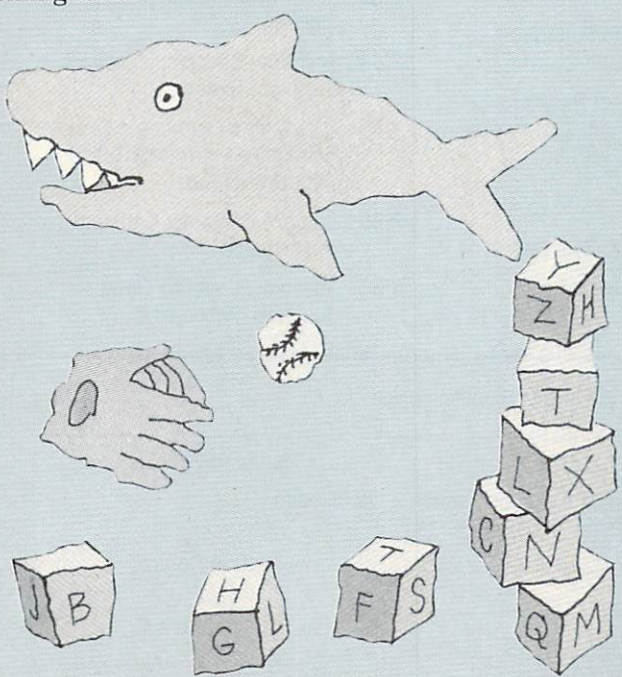
Correction to a previous program

Commodore 64 w/disk drive or Datassette (printer optional)/*Home Information Manager* (*August 1985, pages 61–64*)

This program assumes there will be at least one card in any filebox you try to GET or STORE; it will malfunction if you try to GET or STORE one that's completely empty. To prevent this, you can change lines 1850 and 1930 to read as follows:

```
1850 FOR J=1 TO FT:PRINT#2,F$(J):NEXT J:IF RT=0 THEN 1
870
1930 FOR J=1 TO FT:INPUT#2,F$(J):NEXT J:IF RT=0 THEN 1
950
```

Note: The Commodore 64 program will not work on the Apple as published. Watch for our Apple version in an upcoming issue.



SOLUTION TO *ALPHABET SOUP: EAT*

The messages spelled out by the soup have had all the vowels removed. With the vowels in place, the 12 phrases read as follows:

We are invisible creatures
Who scurry around
Hiding your things
Without making a sound

To locate your (object inputted by player)
Please think about
The things from this poem
That we have taken out

It is difficult, true
But consider this clue
And look behind something
Familiar to you

The invisible creatures have hidden your object behind something in Jeremy's room—an object you can identify using the clues in the rhyme. Look at the illustration and you'll see a stuffed owl (dressed in a shirt with a large "V")—the "V"-owl. Type OWL *when asked for your guess and the soup will say . . .*

Dear (player's name)
We can no longer trick you
You have discovered our game
So off to another we go
For more of the same

BONUS PROGRAM: *Alphabet Soup: Serve*

You can use this program to serve up your own cryptic messages to your friends. Here's how:

First, delete all the DATA *statements from line 10000 onward (leave lines 9000–9010 unchanged). Then add your own* DATA *statements starting at line 10000. Each line should start with the line number, followed by* DATA*, the number of words that follow on that line, a comma, and the words you'd like spelled out, separated by commas (but with no comma at the end of the line). For example, if you wanted the message* MEET ME AT THREE AT THE RIVER *to be spelled out on the first screen, you'd add the following line to the program:*

```
10000 DATA 7,MEET,ME,AT,THREE,AT,THE,RIVER
```

The vowels (except Y) and punctuation marks will be removed from each word, and all letters will be converted to capitals. When your friends play the game, they'll see letters appear and disappear, eventually leaving your message (minus vowels) on the screen. For example, the DATA *statement given above would cause something like this to appear:*

```
  M  T
  M
      T
T     H   R
  T
      T     H
  R  VR
```

The words in each DATA *statement will appear on a separate screen.*

You must make two other changes to the program for it to run properly, both in line 20. First, change the 12 in line 20 to the number of separate DATA *lines you've added. (That's the number of different screens the program will display.) Second, change* F=1 *to* F=2.

Remember that one word will be displayed on each line, so you can't have more words displayed than there are lines on your computer screen. Extra lines will be ignored. Similarly, if you've put in a word that has more consonants than fit onto a line of your screen, the extra letters won't be displayed.

This program is a unique way to get a message across to your family or friends. Have fun with it!

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THE ARGOS EXPEDITION CBS Software One Fawcett Place Greenwich, CT 06836 (203) 622-2500 $34 © 1984	Teamwork, exploration, and negotiation encouraged in game that takes up to 4 players on an intergalactic mission to hunt down artifacts from a lost civilization. For ages 10 and up.† —SUMMERS	C 64. Joysticks. Paddles required for more than 2 players.	90-day warranty; $5 fee thereafter.	★ ★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	A	★ ★ ★
BOPPIE'S GREAT WORD CHASE DLM One DLM Park Allen, TX 75002 (214) 448-6300 $29 © 1985	Word recognition and spelling practiced in a *Pac-Man*-type arcade game. Use preprogrammed words or those you enter yourself. Arcade element sometimes overshadows learning. For kids ages 7–12. —FRANK	Reviewed on 64K Apple. Also for 64K IBM PC/ PC*jr*; C 64.	6-month warranty; $15 fee thereafter.	★ ★	★ ★ ★	★ ★ ★	★ ★ ★	A	★ ★
EUROPEAN NATIONS AND LOCATIONS DesignWare 185 Berry St. San Francisco, CA 94107 (415) 546-1866 $44 © 1985	Ages 9 and up (also for younger kids) learn locations and facts about Europe in a quiz package. —MORRIS	Reviewed on 48K Apple. Also for C 64; 64K IBM PC/PC*jr*.	90-day warranty; satisfaction guaranteed first 30 days.	★ ★ ★	★ ★ ★	★ ★ ★	★ ★	E	★ ★ ★
EXCEL-A-READ American Educational Computer P.O. Box 5093 2450 Embarcadero Way Palo Alto, CA 94303 $59 © 1985	Improve reading speed and comprehension with a package that uses innovative approaches. Best for high-school students and adults.† —MORRIS	Reviewed on 48K Apple. Also for 128K IBM PC/ PC*jr* (with cart. BASIC).	90-day warranty; $10 fee thereafter.	★ ★ ★	★ ★ ★	★ ★	N/A	A	★ ★ ★
LOGIC LEVELS Fisher-Price Learning Software 1 Kendall Square Cambridge, MA 02139 (617) 494-1200 $19–$24 © 1984	Ages 7–12—and older, if our family's an indication—create Rube Goldberg-like contraptions and mazes, then send ball rolling. You can move on to higher skill levels as you run through each maze. —SUMMERS	Reviewed on C 64 (cart. and d.). Also for 48K Atari (cart.); Coleco ADAM (cart.); 64K Apple. Joystick.	30-day warranty; $5 fee thereafter or if user-damaged.	★ ★ ★	★ ★	★ ★	★ ★ ★ ★	A	★ ★ ★
QUATIONS Scholastic Software 730 Broadway New York, NY 10003 (212) 505-3501 $39 © 1985	Build the most complex equation possible using 13 tiles you're given and those already laid down in mathematical variation on Scrabble. Fun and challenging for ages 9 and up. —MORRIS	Reviewed on 48K Apple.	60-day warranty; $10 fee for 10 subsequent months.	★ ★ ★	★ ★ ★	★ ★ ★ ★	★ ★ ★	E	★ ★ ★
WHERE IN THE WORLD IS CARMEN SANDIEGO? Broderbund Software 17 Paul Drive San Rafael, CA 94903-2101 (415) 479-1170 $39 © 1985	Geography, world history, research skills, and more rub off on players from junior high to adult as they attempt to track down a thief whose trail may lead around the world.† —MORRIS	64K Apple.	90-day warranty; $7.50 fee thereafter.	★ ★ ★ ★	★ ★ ★	★ ★ ★	★ ★ ★	A	★ ★ ★ ★

RATINGS KEY **O** Overall performance; **D** Documentation; **EH** Error-handling; **GQ** Graphics quality; **EU** Ease of use; **V** Value for money; ★ Poor; ★★ Average; ★★★ Good; ★★★★ Excellent; N/A Not applicable; E Easy; A Average; D Difficult; † Longer review follows chart.

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