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PUBLISHED BY SCHOLASTIC INC.

JANUARY 1987

VOLUME 5
NUMBER 1

**CRITICS' CHOICES:
BEST GAMES OF 1986**

FAMILY COMPUTING

Personal Finance: A Guide to Organizing Your Money

CONTEST

**Computing Family
of the Year
Win Computers,
Peripherals,
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**Desktop
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for Kids**

**Word Processing:
How to Control
Your Printer**

**How to Build
Your Basic
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**The ABC's of
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FOR ADAM, APPLE II
SERIES & MACINTOSH,
ATARI 400, 800,
600/800XL & 130 XE,
COMMODORE 64/128 & VIC 20,
IBM PC & COMPATIBLES,
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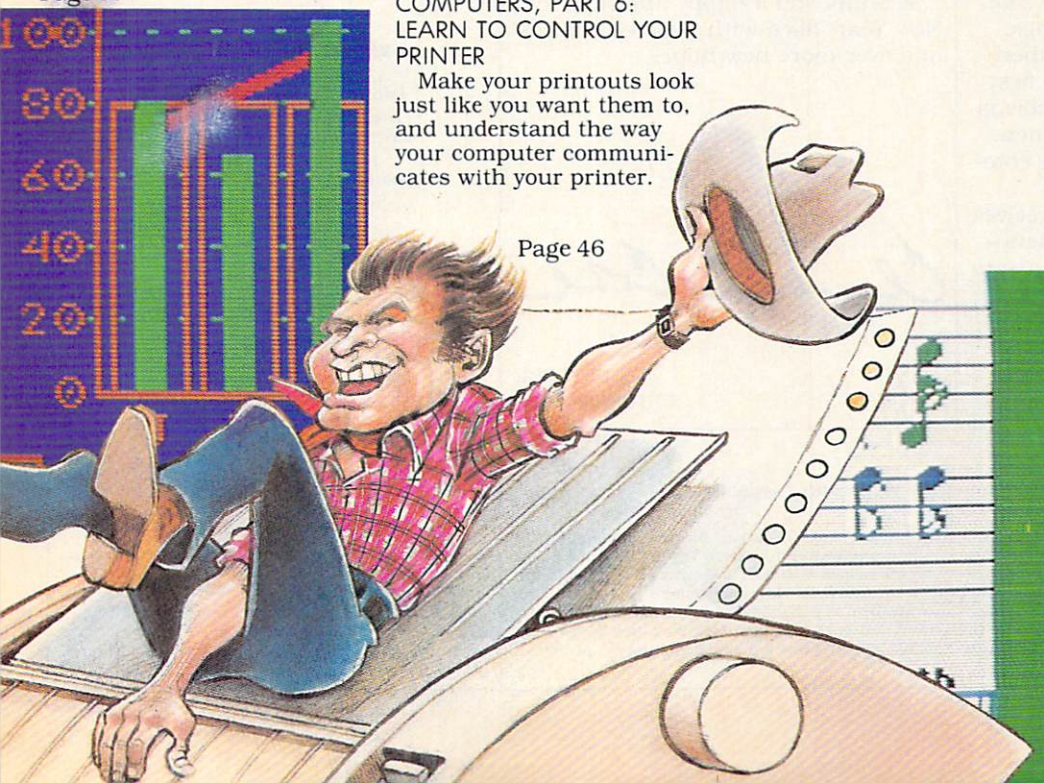
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FAMILY COMPUTING (ISSN 0738-6079) is published monthly by Scholastic Inc., 730 Broadway, New York, NY 10003. Subscriptions: in the U.S. and possessions, 12 issues for \$19.97; outside the U.S. add \$6 (surface mail) or \$25.97 (air-mail). Office of publication: 351 Garver Rd., P.O. Box 2700, Monroe, OH 45050-2700. Second-class postage paid at Monroe, OH 45050-9998 and additional offices. POSTMASTER: Send address changes and notice of undelivered copies to FAMILY COMPUTING, P.O. Box 2511, Boulder, CO 80302. Printed in U.S.A. Copyright © 1987 by Scholastic Inc. All rights reserved.

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MACHINE SPECIFICS

TANDY

BY STEVE MILLER

There's only one New Year's resolution I've ever been able to keep—to learn something new. With that in mind, I went through the latest Tandy catalog to see what might be worth learning.

With the introduction of several new IBM-compatible machines, the 1000 EX and 1000 SX, learning more than the basics about MS-DOS can be useful and fun. Unfortunately, the abridged version of the MS-DOS manual that comes with the Tandy 1000 computers—while simple and direct—is not all that helpful. *The MS-DOS/GW-BASIC Reference Guide* (Radio Shack Catalog #25-1508; \$29.95) is much more informative, better written, and better organized than IBM's reference guide. Most of Tandy's guides are written in English.

However, the *MS-DOS Manual* isn't perfect. The manual does not explain the differences between the various versions of MS-DOS (1.0, 2.1, 3.0, etc.). This lapse could cause a couple of heart-stopping surprises for the unwary. Nothing really dangerous can happen, but ERROR messages may be unsettling if you're not expecting them.

Learning BASIC. I'm not a programmer. I get really dim about the array of options available in BASIC. But that's not to say that I can't appreciate good program code when I see it or recognize a decent, basic, BASIC book.

Dr. David Lien's *Learning BASIC for Tandy 1000/2000* (Radio Shack Catalog #25-1500; \$19.95) is such a book. Lien has written a string of books about Tandy computers. The book doesn't take itself too seriously; it's full of cartoons by Bob Stevens and bad puns by Dr. Lien. But the light, chatty style belies a pile of good information.

Once you get past the basics, you can pick up more with the *GW-BASIC Reference Manual*, the companion guide to the *MS-DOS Reference Manual*. The former describes the difference between versions of GW-BASIC, yet its companion volume doesn't do the same for MS-DOS.

OS-9. For Color Computer owners who want to stretch the machine to its limits, buying and learning the OS-9 operating system is a necessary step (*OS-9 Level II*; Catalog

#26-3031; 64K and Extended BASIC required; \$79.95). OS-9 is a sophisticated operating system that allows the CoCo to imitate the programming power of much bigger and more expensive computers. You can program in C and Pascal, attach a hard-disk drive and run more than one program at a time (multitasking).

I normally distrust any book calling itself the "complete guide" to anything, because, especially in the computer world, things keep changing. I will, however, give high marks to Dale L. Puckett and Peter Dibble's *Rainbow Guide to OS-9* (Catalog #26-3190; \$16.95). It's certainly not complete, but a good guide to OS-9.

Speaking of BASIC, there's a version of BASIC especially for OS-9. *BASIC 09 Tour Guide*, by Dale Puckett (Catalog #26-3109; \$14.95), is aimed at beginning users. Puckett doesn't do a bad job here, either, but I think that in some cases he takes too much for granted.

How to Use Your Radio Shack Printer. The biggest surprise of the books I looked at was *How to Use Your Radio Shack Printer*, by William Barden, Jr. (Catalog #26-1242; \$14.95). I've always found that the most tedious and agonizing computer task was getting the printer to work properly with the computer and software, and I assumed a book about printers would be a real bore.

Guess what? It's a joy! Fascinating! For the first time, I understand how printers work. The book is clear and full of relevant illustrations and includes tips on how to do amazing things with your printer. Forgive me for gushing, but the book is wonderful—a gem you should own.

STEVE MILLER, former computer columnist for UPI, is a freelance writer and computer consultant.

ORPHANS

BY PATRICK SPERA

One thing that has always bugged me is that the power supply for the Coleco Adam is in the printer. It might have been cost-effective for Coleco, but what if the printer needs repairs? You cannot use the computer until the printer is returned from the shop! One way to get around this is to have a backup printer. You can now get one from American Design Components (62 Joseph St.,

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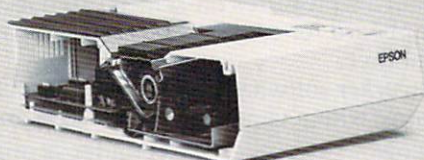
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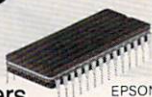
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MACHINE SPECIFICS

Moonachie, N.J. 07074; [800] 524-0809; in New Jersey, [201] 939-2710). The printer costs \$69.50, plus shipping and handling.

Mechtronics Mouse (and other neat Texas Instruments hardware)! Cynthia Becker of Brighton, Massachusetts, has an interesting line of Mechtronics hardware and firmware. The mouse is used in place of the TI joysticks and has a much better response time. Software and documentation come with it (\$98.50).

You might also be in the market for an Extended BASIC II Plus cartridge (\$79.95). Mechtronics has added 40 Graphic and 20 Call statements to the TI Extended BASIC commands. The Graphic commands include CIRCLE, TRIANGLE, SQUARE, etc. Send money orders to Cynthia Becker ([617] 782-6143), P.O. Box 275, Brighton, MA 02135, or send a self-addressed, stamped envelope for more information.

TS 2068 BASIC Compiler. Novelsoft has released a BASIC compiler, *Timachine*, for the Timex Sinclair 2068. Other compilers released for both the TS 2068 and the Sinclair Spectrum either use their own BASIC and/or work only with integer variables. *Timachine* (\$22.95) is different in that it compiles TS 2068 BASIC directly and allows for both integer and floating-point variables.

Large programs aren't much of a fuss. If the *Timachine* needs the space, it will overwrite the BASIC program as it compiles it. *Timachine* can handle a program up to 27K long. Compiled programs will take up one-third less memory and space. A program using only integer variables will RUN four times as fast.

Both TS and Spectrum versions of *Timachine* come on one cassette tape. To order or get information, contact: Novelsoft, 106 Seventh St., Toronto, Ontario, Canada, M8V-3B4; (416) 259-8682.

Flying Eagles. Eagle Microsystem Sales Inc. (EMS) still supports the Eagle line of 8-bit and 16-bit machines. EMS can repair sick Eagles, with about a 2-3 day turnaround period. EMS also runs a national users group and has an Eagle BBS ([213] 839-2264) that works at 300-, 1200- and 2400-baud.

For more information call (213) 839-2263—a voice line—and ask for either Jim Toshack or Jim Roberts.

PATRICK SPERA can be reached on Compu-Serve (ID: 76703.4350).

Run the Programmer

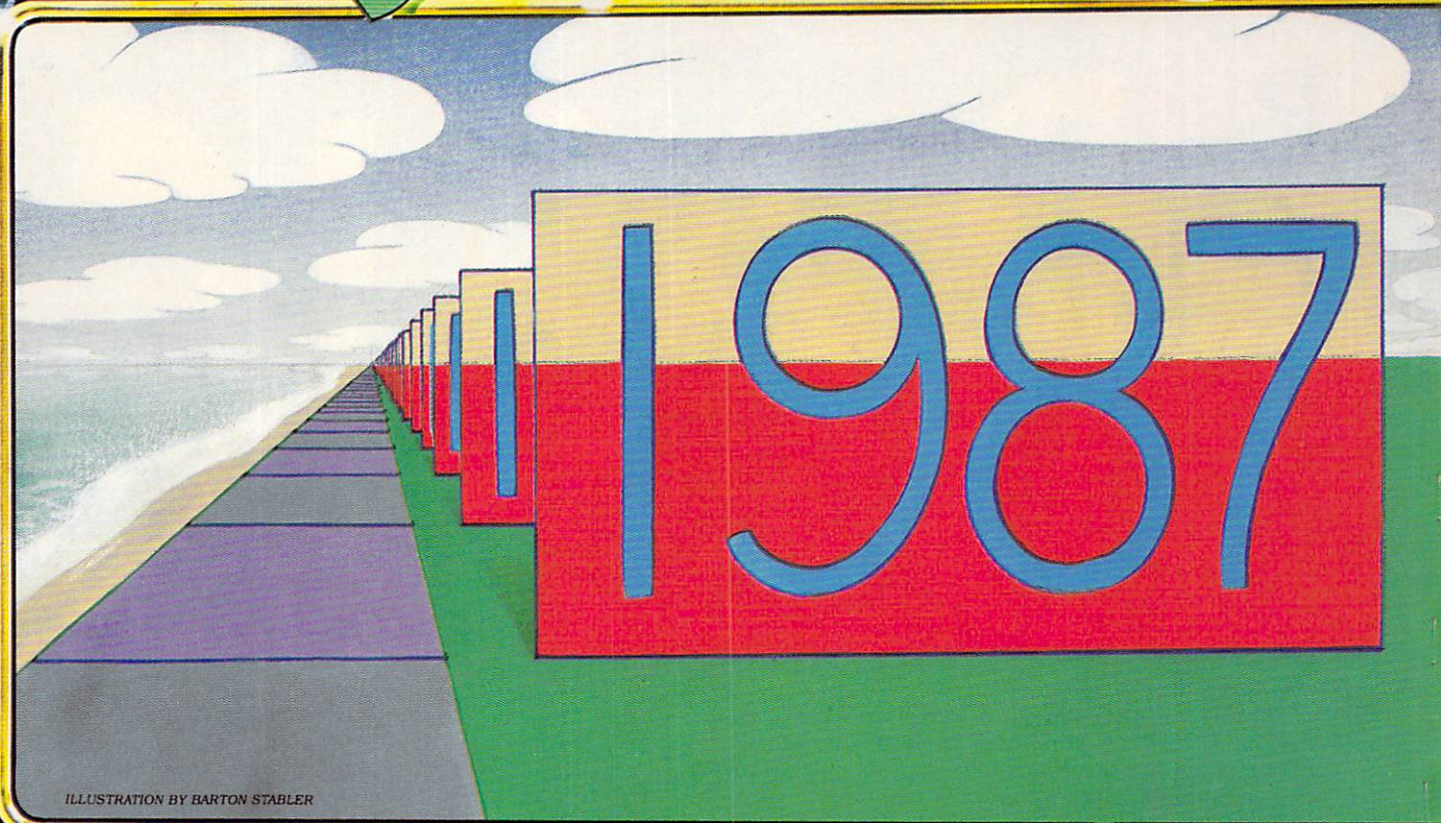


ILLUSTRATION BY BARTON STABLER

★ J A N U A R Y ★

BEGINNER PROGRAM

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Part II of our Back to BASIC series features *Storyline*, a fun, fill-in-the-blanks story generator that sharpens your understanding of the BASIC programming language.

HOLIDAY PROGRAM

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This New Year's Eve, let your computer lead the celebrations with our 1987 program, a blast of colorful graphics to the tune of "Auld Lang Syne."

TIPS TO THE TYPIST

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How to type in FAMILY COMPUTING's programs

MORE PROGRAMS IN K-POWER

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ILLUSTRATION BY JAMES CHERRY III

Cherry

COUNTDOWN TO 1987

BY JOEY LATIMER

New Year's Eve is a time for celebration, but don't leave your computer out in the cold. With our 1987 program, your computer can join the party! Type in the program exactly as shown, and SAVE it to disk or tape. Or, if you SAVED our 1985 version to disk, you need only change line 2030 (line 1030 for the Apple, TI-99/4A, and Models III/4 versions) to update the program. When you RUN the program, the computer will ask you to enter the current time in hours, minutes, and seconds. Enter the time in six digits, without any intervening spaces or punctuation (example: 9:55:02 p.m. is entered as 095502), and press RETURN or ENTER. You can then watch the minutes count down to an explosive and musical welcome for the new year. (The traditional New Year's song "Auld Lang Syne" will not play on the Tandy Model III version).

It is best if you test the program before the hour of midnight. That way you



can correct any typing errors that could spoil the spectacular effect. You will also be able to test the accuracy of the countdown. You may find that the closer to midnight you begin the countdown, the more exact the timing of the program's New Year cheer.

Adam/1987

```

10 LOMEM: 29000:fl = 0
20 DIM bin(7),lt(30),f(30),s(30),d(30)
30 FOR x = 0 TO 7:bin(x) = 2^x:NEXT x
40 FOR x = 1 TO 29:READ lt(x):NEXT x
50 FOR x = 1 TO 30:READ f(x),s(x),d(x):NEXT x
60 FOR x = 28000 TO 28005:READ ml:POKE x,ml:NEXT x
70 POKE 28006,255:CALL 28000
80 HOME:PRINT "TO SET THE COMPUTER CLOCK,"
90 PRINT "PLEASE INPUT THE TIME IN"
100 PRINT "HOURS, MINUTES, AND SECONDS"
110 PRINT "(E.G., 095502); THEN PRESS"
120 PRINT "<RETURN>":PRINT
130 INPUT "WHAT TIME IS IT NOW?";tim$
140 IF LEN(tim$) <> 6 THEN 80
150 ts = 0:FOR x = 1 TO 6
160 IF VAL(MID$(tim$,x,1)) = 0 AND MID$(tim$,x,1) <> "
0" THEN ts = 0:x = 6
170 NEXT x:IF ts = 1 THEN 80
180 hrs = VAL(LEFT$(tim$,2))
190 min = VAL(MID$(tim$,3,2))
200 sec = VAL(RIGHT$(tim$,2))
210 IF hrs < 1 OR hrs > 12 OR min < 0 OR min > 59 OR s
ec < 0 OR sec > 59 THEN 80
220 tim = hrs*3600+min*60+sec:HOME
230 IF tim >= 43195 AND tim <= 43200 THEN 320
240 FOR de = 1 TO 908:NEXT de:tim = tim+1
250 hrs = INT(tim/3600)
260 min = INT((tim-hrs*3600)/60)

```

```

270 sec = tim-hrs*3600-min*60
280 HTAB 13:VTAB 10
290 PRINT STR$(hrs);":";CHR$(48*(min < 10));STR$(min);
300 PRINT "":CHR$(48*(sec < 10));STR$(sec);" "
310 GOTO 230
320 GR
330 FOR x = 700 TO 100 STEP -10
340 pitch = 112406/x:two = INT(pitch/16)
350 one = 128+pitch-(two*16)
360 POKE 28006,one:CALL 28000:POKE 28006,two
370 CALL 28000:POKE 28006,144:CALL 28000
380 FOR d = 1 TO 70-(x/10):NEXT d,x:POKE 28006,159
390 CALL 28000:FOR x = 1 TO 50:GOSUB 1000:NEXT x
400 COLOR= INT(RND(1)*15)+1
410 FOR bitmap = 1 TO 29:l = lt(bitmap)
420 FOR q = 7 TO 0 STEP -1:IF l < bin(q) THEN 490
430 l = l-bin(q)
440 IF fl = 1 THEN COLOR= INT(RND(1)*15)+1
450 VLIN 4*(7-q)+2,4*(7-q)+3 AT bitmap+4
460 IF fl = 1 THEN COLOR= INT(RND(1)*15)+1
470 VLIN 4*(7-q)+4,4*(7-q)+5 AT bitmap+4
480 GOSUB 1000
490 NEXT q,bitmap
500 FOR x = 1 TO 30:POKE 28006,f(x)
510 CALL 28000:POKE 28006,s(x):CALL 28000
520 POKE 28006,144:CALL 28000
530 FOR de = 1 TO d(x)*200:NEXT de
540 POKE 28006,159:CALL 28000:NEXT x
550 fl = NOT fl:GOTO 330
1000 POKE 28006,240:CALL 28000
1010 POKE 28006,228:CALL 28000
1020 FOR de = 1 TO 20:NEXT de
1040 POKE 28006,255:CALL 28000:RETURN
2000 DATA 0,0,129,255,1,0,0
2010 DATA 0,224,160,161,255,1,0,0
2020 DATA 0,239,145,145,239,0,0,0
2030 DATA 128,128,128,129,255,1
3000 DATA 141,35,2,141,26,3,135,28,1,141,26,2,132,21,2
3010 DATA 142,23,3,133,25,1,142,23,2,132,21,1,142,23,1
3020 DATA 141,26,3,141,26,1,132,21,2,142,17,2,143,15,6
3030 DATA 143,15,2,142,17,3,132,21,1,132,21,2,141,26,2
3040 DATA 142,23,3,133,25,1,142,23,2,132,21,1,142,23,1
3050 DATA 141,26,3,142,31,1,142,31,2,141,35,2,141,26,6
4000 DATA 58,102,109,211,255,201

```

Apple II series/1987

```

10 DIM BIN(8),LT(29),N(30),D(30):FL = 0
20 FOR X = 0 TO 7:BIN(X) = 2^X:NEXT X
30 FOR X = 1 TO 29:READ LT(X):NEXT X
40 FOR X = 1 TO 30:READ N(X),D(X):NEXT X
50 FOR X = 0 TO 28:READ ML:POKE 768+X,ML:NEXT X
60 HOME:PRINT "TO SET THE COMPUTER CLOCK, PLEASE"
70 PRINT "INPUT THE TIME IN HOURS, MINUTES,"
80 PRINT "AND SECONDS (E.G., 095502);"
90 PRINT "THEN PRESS <RETURN>":PRINT
100 INPUT "WHAT TIME IS IT NOW? ";TIM$
110 IF LEN(TIM$) <> 6 THEN 60
120 TS = 0:FOR X = 1 TO 6
130 IF VAL(MID$(TIM$,X,1)) = 0 AND MID$(TIM$,X,1) <> "
0" THEN TS = 1:X = 6
140 NEXT X
150 IF TS = 1 THEN 60
160 HRS = VAL(LEFT$(TIM$,2)):MIN = VAL(MID$(TIM$,3,2))
170 SEC = VAL(RIGHT$(TIM$,2))
180 IF HRS < 1 OR HRS > 12 OR MIN < 0 OR MIN > 59 OR S
EC < 0 OR SEC > 59 THEN 60
190 TIM = HRS*3600+MIN*60+SEC:HOME
200 IF TIM >= 43195 AND TIM <= 43200 THEN 300
210 FOR DE = 1 TO 561:NEXT DE
220 TIM = TIM+1:IF TIM >= 46800 THEN TIM = 3600
230 HRS = INT(TIM/3600)
240 MIN = INT((TIM-HRS*3600)/60)
250 SEC = TIM-HRS*3600-MIN*60
260 HTAB 17:VTAB 10

```

COMPUCOPIA

SHORT PROGRAMS BY STEVEN C. M. CHEN

BLOWING BUBBLES

Bubble gum bubbles can be pretty gunky things. Even though it's fun to see who can blow the biggest bubble, unless you're careful, the gooey pink stuff can end up all over your face, in your hair, and on your clothes. With our *Blowing Bubbles* program, you and a buddy can have a bubble-blowing contest without the sticky side effects.

You each choose a side ("P" key or "Q" key), and take turns blowing up the bubble. Each press of the key increases the bubble size, and there is no limit to the number of "blows" you can make per turn. The object is to blow the biggest bubble, but if you press the key that bursts the bubble, you're as good as gummy!

—KAREN KANE

ADAM/BLOWING BUBBLES

```
10 DIM ca(22),sa(22):HOME:HGR
20 FOR a = 0 TO 22:sa(a) = SIN(a*.2856)
30 ca(a) = -COS(a*.2856):NEXT a:VTAB 21:HTAB 1
40 PRINT "Press <Q>.";SPC(11);"Press <P>."
50 r = 15+INT(RND(1)*6):rf = r+10+INT(RND(1)*31)
60 HCOLOR= 7:GOSUB 1000
70 GET k$:k = ASC(k$):IF k = 3 THEN 190
80 k$ = CHR$(k-32*(k > 96)*(k < 123))
90 IF k$ <> "q" AND k$ <> "p" THEN 70
100 HCOLOR= 0:GOSUB 1000
110 r = r+2:IF r < rf THEN 60
120 FOR d = 1 TO 500:NEXT d
130 r = r+15:HCOLOR= 1:GOSUB 1000
140 HCOLOR= 0:GOSUB 1000:PRINT CHR$(7);
150 r = r-30:HCOLOR= 1:GOSUB 1000
160 HCOLOR= 0:GOSUB 1000
170 PRINT CHR$(7);CHR$(7);CHR$(7);
180 VTAB 22:HTAB 2+21*(k$ = "q"):PRINT "WINNER!"
190 END
1000 HPLLOT 127,r*ca(0)+79:FOR a = 1 TO 22
1010 HPLLOT TO r*sa(a)+127,r*ca(a)+79
1020 NEXT a:RETURN
```

APPLE II SERIES/BLOWING BUBBLES

```
10 DIM CA(22),SA(22):HOME:HGR
20 FOR L = 0 TO 22:SA(L) = 1.16*SIN(L*.2856)
30 CA(L) = -COS(L*.2856):NEXT L:VTAB 21:HTAB 1
40 PRINT "PRESS <Q> KEY.";SPC(12);"PRESS <P> KEY."
50 R = 20+INT(RND(1)*6):RF = R+5+INT(RND(1)*26):VTAB 1
60 HCOLOR= 3:GOSUB 1000
70 GET K$:K = ASC(K$):IF K = 3 THEN 190
80 K$ = CHR$(K-32*(K > 96)*(K < 123))
90 IF K$ <> "q" AND K$ <> "p" THEN 70
100 HCOLOR= 0:GOSUB 1000
110 R = R+1:IF R < RF THEN 60
120 FOR D = 1 TO 300:NEXT D
130 R = R+20:HCOLOR= 3:GOSUB 1000
140 HCOLOR= 0:GOSUB 1000:PRINT CHR$(7);
150 R = R-35:HCOLOR= 3:GOSUB 1000
160 HCOLOR= 0:GOSUB 1000
170 PRINT CHR$(7);CHR$(7);CHR$(7);
180 VTAB 22:HTAB 4+26*(K$ = "q"):PRINT "WINNER!"
190 TEXT:VTAB 1:END
1000 HPLLOT 140,R*CA(0)+80:FOR L = 1 TO 22
1010 HPLLOT TO R*SA(L)+140,R*CA(L)+80
1020 NEXT L:RETURN
```

ATARI 800, 800XL, & 130XE/BLOWING BUBBLES

```
10 DIM CA(24),SA(24),SS(28):GRAPHICS 8
20 OPEN #1,4,0,"K":POKE 752,1:POKE 82,0:POKE 83,39
30 SS=CHR$(32):SS(28)=CHR$(32):SS(2)=SS
40 DEG :FOR L=0 TO 24:SA(L)=1.1*SIN(L*15)
50 CA(L)=-COS(L*15):NEXT L
60 PRINT CHR$(125);" PRESS <Q> KEY.";SS(1,10);"PRESS <P> KEY."
70 R=20+INT(RND(1)*6):RF=R+10+INT(RND(1)*21)
80 COLOR 1:GOSUB 1000
90 GET #1,K:K=K-32*(K>96)*(K<123)
100 IF K<>80 AND K<>81 THEN 90
110 COLOR 2:GOSUB 1000
120 R=R+2:IF R<RF THEN 80
130 FOR D=1 TO 90:NEXT D
140 R=R+20:COLOR 1:GOSUB 1000:COLOR 2:GOSUB 1000
150 R=R-35:COLOR 1:GOSUB 1000
160 SOUND 0,90,12,15:FOR D=1 TO 30:NEXT D
170 SOUND 0,40,8,15:FOR D=1 TO 150:NEXT D
180 SOUND 0,0,0,0:COLOR 2:GOSUB 1000
190 PRINT SS(1,4+24*(K=81));"WINNER!"
200 PRINT SS(1,8);"PRESS <RETURN> TO EXIT.";
210 GET #1,K:IF K<>155 THEN 210
220 GRAPHICS 0:END
1000 PLOT 160,R*CA(0)+80:FOR L=1 TO 24
1010 DRAWTO R*SA(L)+160,R*CA(L)+80
1020 NEXT L:RETURN
```

IBM PC & COMPATIBLES/BLOWING BUBBLES

This program has been tested and found to work on the following computers and hardware configurations, using the BASICs shown: IBM PC w/Color/Graphics Monitor Adapter, w/Advanced BASIC A2.00. IBM PCjr w/Cartridge BASIC J1.00. Tandy 1000 w/GW-BASIC 2.02 version 01.01.00. It should also work on many other PC compatibles.

```
10 KEY OFF:SCREEN 1,0:RANDOMIZE TIMER
20 COLOR 0,1:CLS:LOCATE 20,1
30 PRINT "Press <Q> key.";SPC(12);"Press <P> key."
40 R=20+INT(RND*6):RF=R+5+INT(RND*26)
50 CIRCLE (159,80),R
60 K$=INKEY$:IF K$="" THEN 60
70 K=ASC(K$):K$=CHR$(K-32*(K>96)*(K<123))
80 IF K$<>"q" AND K$<>"p" THEN 60
90 CIRCLE (159,80),R,0
100 R=R+1:IF R<RF THEN 50
110 FOR D=1 TO 300:NEXT D:CIRCLE (159,80),R+20
120 CIRCLE (159,80),R+20,0:SOUND 120,2
130 CIRCLE (159,80),R-15:CIRCLE (159,80),R-15,0
140 SOUND 50,2:SOUND 51,1:SOUND 52,1
150 LOCATE 21,4-26*(K$="q"):PRINT "WINNER!"
160 IF INKEY$<>"q" THEN 160 ELSE END
```

MACINTOSH W/MICROSOFT BASIC 2.0 OR 2.1/BLOWING BUBBLES

```
10 WINDOW 1,"BLOWING BUBBLES", (0,38)-(527,338)
20 RANDOMIZE TIMER
30 CLS:LOCATE 14,1
40 PRINT "Press <Q> Key.";SPC(40);"Press <P> Key."
50 R=20+INT(RND*6):RF=R+10+INT(RND*51)
60 CIRCLE (263,120),R
70 K$=INKEY$:IF K$="" THEN 70
80 K=ASC(K$):K$=CHR$(K-32*(K>96)*(K<123))
90 IF K$<>"q" AND K$<>"p" THEN 70
100 CIRCLE (263,120),R,0
110 R=R+2:IF R<RF THEN 60
120 FOR D=1 TO 600:NEXT D:CIRCLE (263,120),R+25
130 CIRCLE (263,120),R+25,0:SOUND 120,2
140 CIRCLE (263,120),R-15:CIRCLE (263,120),R-15,0
150 SOUND 50,2:SOUND 51,1:SOUND 52,1
160 LOCATE 15,4-51*(K$="q"):PRINT "WINNER!"
170 PRINT TAB(25);"Press <RETURN> to exit.";
180 IF INKEY$<>CHR$(13) THEN 180 ELSE END
```

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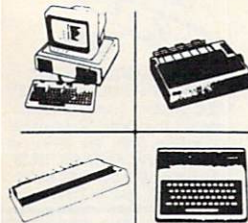
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