

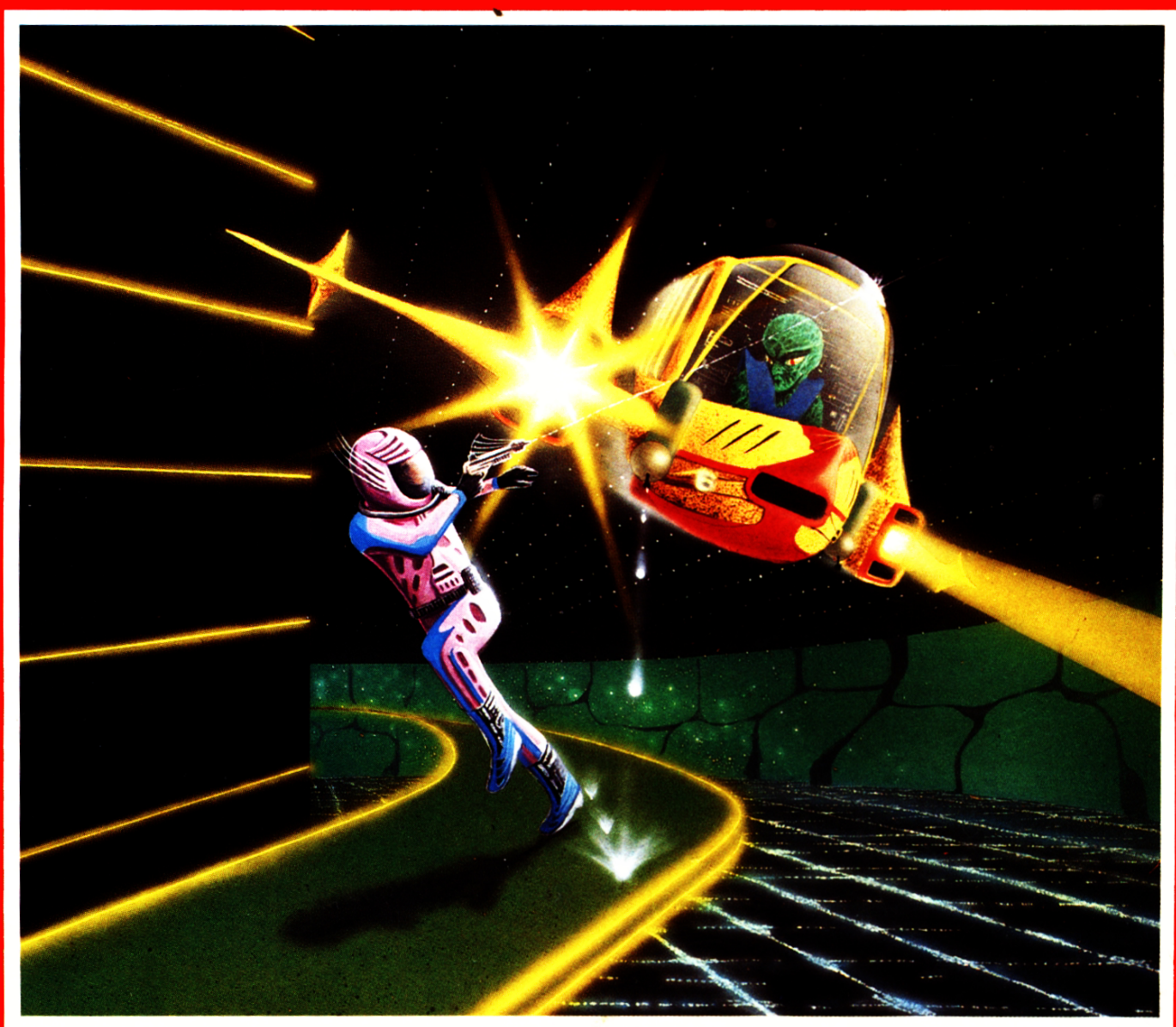


# DYNAMIC GAMES

## FOR THE

# AMSTRAD

Clive Gifford







# **DYNAMIC GAMES FOR YOUR AMSTRAD**

**CLIVE GIFFORD**



**Interface Publications**

## CLIVE GIFFORD



Clive Gifford is an 18 year old freelance journalist, who specialises in computers. He has written more than 15 books over the past two years, including *Creating Adventures on the Commodore 64* and *Using Computers in Education*. He intends to continue his studies in late 1985, and intends to read either Politics or Psychology. When he is not huddled over his computer or typewriter, Clive enjoys a wide range of sports, including hockey, which he plays for his old school, Spelthorne College. He is extremely interested in the history of the area where he lives, which is on the border of Heathrow Airport. Clive is currently researching his first non-computer book, which will be an historical study of this area. He hopes this work will prove of interest not only to those who live around Heathrow, but to the many people who pass through the area each year.

# **DYNAMIC GAMES FOR YOUR AMSTRAD**

**CLIVE GIFFORD**

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# AUTHOR'S INTRODUCTION

The Amstrad CPC 464 ('Arnold' to its users) is a fantastic computer that has taken a major place in the computer market alongside the Spectrum, the BBC Micro and the Commodore 64. Its powerful BASIC has excellent sound and graphic features, making it a superb machine for games programmers.

In this book, I have tried to include as wide a range of games for the Amstrad as possible. From the heady heights of playing chess (of a sort!) to the 'Zap 'em up' arcade games, the emphasis has been on making the games interesting and fun. I have tried to include programs that you will not quickly tire of. A number of the games are sufficiently interesting to keep you amused for a long, long while.

I think now is a good time to mention a couple of things concerning the book's layout and style. Before typing in a program from this book, reset the machine. This can be done by holding down the CTRL, the ESC and the Shift keys simultaneously. This sets the machine back to its original format, that of MODE 1, blue background and yellow foreground. This will avoid any confusion between graphic colours and sizes.

Secondly, I prefer not to put instructions into programs. It seems a waste of programming space when you can tell the reader in the preceding paragraph how to play the game. It is therefore advisable to read any information on a particular program before you play it.

Finally, I would like to say that these programs are not only for you to enjoy but also to learn from. If you have never written your own games, following how the shorter programs work will tell you a lot. For the intermediate games programmer, there are a number of useful hints and tips to pick up along the way.

Clive Gifford,  
London, October, 1984





# OUT IN THE ARCADE

Arcade games are probably the most popular form of computer games entertainment. In fact, many people when they talk about a computer game, think about arcade games and nothing else.

The main difficulty with programming playable arcade games is speed. They must be fast, while being exciting. A number of objects must be moving on the screen and the programmer has to be able to coordinate the whole game, while keeping enough speed and variability in its actions to make it worth playing again and again.

The games in this section are all very playable. I have avoided slow versions of well-known games. I wrote several others but they were not fast enough to be enjoyable. Several require joystick control but only one joystick, so you don't have to buy the special dual joystick adaptor just to play them.

Type them in, play them and Happy Zapping!

# DANGER UXB

As a bomb disposal expert, you must try to disarm all the bombs in the area on the screen by scanning over them. You only have a minute and a half to do so, and leave the area before it is blown sky high. If you find that you get stuck in a corner, you can use your mall charges to break through. But be careful. If you are near a bomb when you do this, the effect could be devastating.

The keys you use are:

**I for West**

**P for East**

**Q for North**

**Z for South**

**Spacebar for Detonator**

The set of buildings generated by the computer is different every time. The computer gives you a warning when there are only 15 seconds left.

```
10 REM*****
20 REM*****DANGER U.X.B.*****
30 REM*****
40 INK 1,11
50 INK 0,9
60 BORDER 9
70 DIM S(40,24)
80 CLS
90 LOCATE 12,1:PRINT "DANGER....U.X.
  B."
100 PEN 3
110 SPEED KEY 1,1
120 FOR Y=3 TO 23
130 LOCATE 1,Y
140 S(1,Y)=143
150 PRINT CHR$(S(1,Y));
```

```
160 FOR X=2 TO 40
170 LOCATE X,Y
180 IF RND>0.55 THEN S(X,Y)=207 ELSE
  S(X,Y)=32
190 PRINT CHR$(S(X,Y));
200 NEXT X
210 LOCATE X-1,Y
220 S(X-1,Y)=143
230 PRINT CHR$(S(X-1,Y));
240 NEXT Y
250 LOCATE 1,2
260 FOR T=1 TO 40
270 S(T,2)=143
280 PRINT CHR$(S(T,2));
290 NEXT T
300 LOCATE 1,24
310 FOR T=1 TO 40
320 S(T,24)=143
330 PRINT CHR$(S(T,24));
340 NEXT T
350 K=INT(RND*38)+1
360 LOCATE K,24
370 PRINT " ";
380 S(K,24)=32
390 PEN 3
400 FOR T=1 TO 12
410 X=INT(RND*36)+2:Y=INT(RND*20)+3
420 S(X,Y)=252
430 LOCATE X,Y
440 PEN 1
450 PRINT CHR$(S(X,Y));
```

*Dynamic Games - Amstrad*

```
460 S(X,Y)=33
470 PEN 3
480 NEXT T
490 PEN 2
500 VC=0
510 REM***END OF SCREEN DRAW***
520 A=2:B=3
530 SC=0
540 D=3
550 DT=INT(TIME/300)
560 REM***MAIN GAME ACTION***
570 A#=INKEY#
580 IF A#="S" THEN SPEED KEY 10,1
590 IF A#="A" THEN SPEED KEY 1,1
600 VC=VC+1:IF VC>10 THEN VC=0: SOUND
  1,1000,2,15
610 LOCATE A,B:PRINT " ";
620 IF A#="Q" AND S(A,B-1)<35 THEN B
  =B-1
630 IF A#="Z" AND S(A,B+1)<35 THEN B
  =B+1:IF SC=12 AND B=24 THEN GOTO 100
  0
640 IF A#="I" AND S(A-1,B)<35 THEN A
  =A-1
650 IF A#="P" AND S(A+1,B)<35 THEN A
  =A+1
660 IF A#=" " AND D>0 THEN GOSUB 740
670 IF S(A,B)=33 THEN SOUND 2,140:S(
  A,B)=32:SC=SC+1
680 LOCATE A,B
690 PRINT CHR$(240);
```



```
700 TK=INT(TIME/300)-DT
710 IF TK>90 THEN 940
720 IF TK>75 THEN INK 0,9,11
730 GOTO 570
740 REM****DYNAMITE THROUGH****
750 IF S(A+1,B)=33 OR S(A-1,B)=33 OR
   S(A,B+1)=33 OR S(A,B-1)=33 THEN GOT
O 940
760 S(A+1,B)=32
770 S(A-1,B)=32
780 S(A,B+1)=32
790 S(A,B-1)=32
800 LOCATE A+1,B:PRINT " ";
810 LOCATE A-1,B:PRINT " ";
820 LOCATE A,B+1:PRINT " ";
830 LOCATE A,B-1:PRINT " ";
840 PEN 3
850 DT=DT-10
860 IF B=23 THEN S(A,B+1)=143:LOCATE
   A,B+1:PRINT CHR$(143);
870 IF A=2 THEN S(A-1,B)=143:LOCATE
   A-1,B:PRINT CHR$(143);
880 IF B=2 THEN S(A,B-1)=143:LOCATE
   A,B-1:PRINT CHR$(143);
890 IF A=38 THEN S(A+1,B)=143:LOCATE
   A+1,B:PRINT CHR$(143);
900 PEN 2
910 SOUND 1,200,60
920 D=D-1
930 RETURN
940 REM****LOSE....BANG!!!****
```

*Dynamic Games - Amstrad*

```
950 FOR T=1 TO 2
960 SOUND 1,100
970 INK 0,9
980 SOUND 1,250
990 INK 0,0
1000 NEXT T
1010 CLS
1020 PEN 3
1030 LOCATE 10,10
1040 PRINT "TICK..TICK..BOOSMM!!!"
1050 SOUND 1,4000,140,15
1060 SPEED KEY 10,1
1070 END
1080 REM*****WIN*****
1090 SPEED KEY 10,1
1100 FOR T=300 TO 60 STEP -5
1110 SOUND 1,T,20:SOUND 2,T,20
1120 NEXT T
1130 FOR T=1 TO 28:PRINT:NEXT T
1140 LOCATE 15,10:PRINT "WELL DONE"
1150 LOCATE 12,14:PRINT "TIME: ";TK;"
SECONDS"
1160 END
```

# QUACK ATTACK

Time to pot the poultry in this action game by Peter Shaw. A flight of ducks is overhead. Your marksman must try to shoot down the whole flight in as few shots as possible.

Move your marksman to the left with the 'Z' key, the right with the 'M' key and fire with the 'A' key.

```
10 REM***QUACK ATTACK***
20 GOSUB 930
30 HS=0
40 A=INT(15+RND*4-RND*4)
50 INK 0,1:BORDER 1
60 CLS
70 SC=0
80 RANDOMIZE TIME
90 Z=1
100 A$=" ab ab ab ab ab
    ab "
110 B$="cd cd cd cd cd cd cd
    cd "
120 REM*****DRAW LANDSCAPE*****
130 LOCATE 1,20:PEN 1:GOSUB 1020
140 LOCATE 1,19:PEN 1:GOSUB 1020
150 LOCATE 1,18:PEN 1:GOSUB 1020
160 LOCATE 29,18:PEN 2:PRINT CHR$(14
3)+CHR$(143)+CHR$(143)+CHR$(143)+CHR
$(143)+CHR$(143)
170 LOCATE 30,19:PRINT CHR$(143)+CHR
$(143)+CHR$(143)+CHR$(143)+CHR$(143)
180 PEN 1
```

*Dynamic Games - Amstrad*

```
190 LOCATE 1,21:PRINT CHR$(143):LOCA
TE 34,21:PRINT CHR$(143)
200 LOCATE 1,22:PRINT CHR$(143);:PEN
 3:PRINT"      QUACK ATTACK      ";C
HR$(164);".1984"
210 PEN 1
220 LOCATE 34,22:PRINT CHR$(143)
230 LOCATE 1,23:PRINT CHR$(143):LOCA
TE 34,23:PRINT CHR$(143)
240 PEN 1:GOSUB 1020
250 DT=INT(TIME/300)
260 PEN 2
270 LOCATE 1,2:PRINT A$
280 PEN 1
290 LOCATE 1,4:PRINT B$
300 F=0
310 IF A$=""
      " THEN F=F+1
320 IF B$=""
      " THEN F=F+1
330 IF F=2 THEN GOTO 820
340 ENV 1,20,4,6
350 SOUND 1,200,10,1,1,1,5
360 C#=INKEY#
370 IF C#="A" THEN GOSUB 480
380 IF C#="M" AND A<28 THEN A=A+2
390 IF C#="Z" AND A>5 THEN A=A-2
400 LOCATE A-3,17:PEN 3
410 PRINT "  e  "
420 PEN 1
430 C#=INKEY#
```



```
440 IF C#="A" THEN GOSUB 480
450 A#=RIGHT$(A$,31)+MID$(A$,1,1)
460 B#=MID$(B$,32,1)+LEFT$(B$,32)
470 GOTO 260
480 C=A-1
490 SH=SH+1
500 FOR B=16 TO 1 STEP-2
510 ENV 1,20,4,6
520 SOUND 1,200,10,1,1,1,5
530 C#=INKEY#
540 PEN 2
550 LOCATE 1,2:PRINT A#
560 PEN 1
570 LOCATE 1,4:PRINT B#
580 IF C#="M" AND A<28 THEN A=A+2
590 IF C#="Z" AND A>5 THEN A=A-2
600 LOCATE A-3,17:PEN 3
610 PRINT "  a  "
620 LOCATE C,B:PRINT "f"
630 A#=RIGHT$(A$,31)+MID$(A$,1,1)
640 B#=MID$(B$,32,1)+LEFT$(B$,31)
650 IF B=4 AND MID$(B$,C+1,1)<>" " T
HEN SOUND 1,150,30,15:GOSUB 700
660 IF B=2 AND MID$(A$,C-1,1)<>" " T
HEN SOUND 1,130,30,15:GOSUB 760
670 LOCATE C,B:PRINT " "
680 NEXT B
690 RETURN
700 MID$(B$,C+1,1)=CHR$(238)
710 LOCATE 1,4:PRINT B#
720 SC=SC+10
```

*Dynamic Games - Amstrad*

```
730 MID$(B#,C,3)="  "
740 LOCATE 1,4:PRINT B#
750 RETURN
760 MID$(A#,C-1,1)=CHR$(238)
770 LOCATE 1,2:PRINT A#
780 SC=SC+20
790 MID$(A#,C-2,3)="  "
800 LOCATE 1,2:PRINT A#
810 RETURN
820 TK=INT((TIME/300))-DT
830 SC=INT((173*SC)/(19*SH))
840 IF SC>HS THEN HS=SC
850 LOCATE 1,1:PRINT "YOUR RATING IS
":SC
860 LOCATE 1,3:PRINT "BEST RATING IS
":HS
870 LOCATE 1,5:PRINT "YOU TOOK";TK;"
SECONDS."
880 SOUND 1,140:SOUND 1,160:SOUND 1,
220:SOUND 1,120:SOUND 1,140
890 FOR T=1 TO 4000:NEXT T
900 WHILE INKEY#="" :WEND
910 CLS
920 GOTO 40
930 REM***DEFINE***
940 SYMBOL AFTER 95
950 SYMBOL 97,0,3,7,15,111,255,99,0
960 SYMBOL 98,112,227,141,62,253,252
,253,96
970 SYMBOL 99,240,126,31,63,127,0,3,
0
```

```
980 SYMBOL 100,0,0,24,156,255,220,0,  
0  
990 SYMBOL 101,8,8,40,40,248,32,80,8  
0  
1000 SYMBOL 102,16,56,84,16,16,16,40  
,68  
1010 RETURN  
1020 FOR T=1 TO 34:PRINT CHR*(143);:  
NEXT T:RETURN
```

# DIAMOND THIEF

Fancy seeing you in a situation such as this! Rushing your way through Tiffany's of New York, stealing diamonds. I suppose life is full of surprises.

In your mad dash out of the store before the alarm rings (you have two minutes), you tend to miss many of the stones that you make a grab for. You are rushing to the nearest exit. You cannot move backwards, only side to side. You do this by tapping the 'Z' and 'M' keys. You'll know when you've got a diamond by the tone from your Amstrad.

```
10 REM*****
20 REM***DIAMOND THIEF***
30 REM*****
40 SC=0
50 X=10
60 XX=10
70 INK 0,1
80 INK 1,24
90 INK 3,26
100 BORDER 1
110 CLS
120 DT=TIME/300
130 LOCATE XX-1,13:PRINT "  "
140 LOCATE XX-1,12:PRINT "  "
150 LOCATE XX-1,11:PRINT "  "
160 LOCATE XX-1,10:PRINT "  "
170 LOCATE X-1,14:PRINT " ";CHR$(249
); " "
180 XX=X
190 M$=INKEY$
200 IF M$="Z" AND X>2 THEN X=X-1
```

```
210 IF M$="M" AND X<38 THEN X=X+1
220 IF TEST((X*16)-8,164)=3 THEN SC=
SC+17:SOUND 1,60,5
230 LOCATE 1,25
240 IF INT(TIME/300)-DT>120 THEN GOT
O 320
250 FOR C=1 TO INT(RND*7)
260 PEN 3
270 PRINT TAB(INT(RND*37)+1);CHR$(22
7);
280 PEN 1
290 NEXT C
300 PRINT
310 GOTO 130
320 REM*****EXPLODE*****
330 FOR T=1 TO 20
340 INK 0,T
350 SOUND 1,150,15
360 SOUND 1,350,15
370 NEXT T
380 FOR T=1 TO 2000:NEXT T
390 CLS
400 INK 1,0
410 PEN 1
420 LOCATE 6,10
430 PRINT "YOU COLLECTED";SC;"CARATS
"
440 END
```

# BOMB CATCH

What a foolhardy thing to do! But you know that it must be done. Some joker is throwing grenades down from a tall building and you must catch them before they hit the ground. If you don't, they will explode killing you.

Before you go and dice with death, I should tell you that you use the '7' and '9' keys. You will probably find the numeric keypad the easiest keys to use.

```
10 REM*****BOMB CATCH*****
20 INK 1,26
30 X=INT(RND*25)+7:Y=1
40 CLS
50 T=12:SC=0
60 Y=Y+1
70 LOCATE T,24
80 PRINT CHR$(198)
90 LOCATE X,Y
100 PRINT CHR$(252)
110 LOCATE X,Y-1
120 PRINT " "
130 FOR D=1 TO 50:NEXT D
140 IF Y>23 AND X<>T THEN GOSUB 280:
REM BANG!!!
150 IF X=T AND Y=24 THEN GOSUB 240
160 A#=INKEY#
170 LOCATE T,24
180 PRINT " "
190 IF A#="7" THEN T=T-1
200 IF A#="9" THEN T=T+1
210 IF T>39 THEN T=39
```

```
220 IF T<0 THEN T=0
230 GOTO 60
240 SC=SC+INT(RND*7)+4
250 SOUND 1,23,9
260 Y=1:X=X+INT(RND*24)-INT(RND*24):
IF X>39 OR X<1 THEN GOTO 260
270 RETURN
280 REM*****FAILURE*****
290 CLS:LOCATE 12,12
300 PRINT"You prevented ";SC
310 PRINT TAB(9);"Tonnes of bombs la
nding"
320 GOTO 320
```

# BRICK OUT

Most people have heard of Breakout. In this version, the roles are reversed. You must *stop* the ball from knocking a hole through the wall.

This game is great fun and utilises some excellent graphics. Use the '7' and '9' keys to move your bat.

```
10 REM*****
20 REM*****'BRICK-OUT'*****
30 REM*****SHAW/GIFFORD*****
40 REM*****
50 H=0
60 GOSUB 570
70 FOR Z=1 TO 5
80 A$=A$+A$
90 NEXT Z
100 PEN 3:CLS
110 LOCATE 3,1
120 PRINT A$
130 LOCATE 3,2
140 PRINT A$
150 LOCATE 3,3
160 PRINT A$
170 G$=A$:LOCATE 3,22:PRINT G$
180 PEN 1
190 LOCATE 8,25
200 PRINT CHR$(164);"1984 C.GIFFORD/
P.SHAW"
210 PEN 3
220 FOR X=1 TO 22
230 LOCATE 2,X
```



```

240 PRINT "d";
250 LOCATE 35,X
260 PRINT "d";
270 NEXT X
280 P$=INKEY$
290 IF P$="9" AND A<30 THEN A=A+2
300 IF P$="7" AND A>2 THEN A=A-2
310 IF A=2 THEN LOCATE A,7:PEN 3:PRINT "d";:PEN 2:PRINT " abc ":GOTO 340
320 IF A=30 THEN LOCATE A,7:PRINT " abc";:PEN 3:PRINT"d":PEN 2:GOTO 340
330 LOCATE A,7:PEN 2:PRINT " abc "
340 LOCATE D,C:PRINT " "
350 IF C>20 THEN F=-F:SOUND 1,180,15
360 IF D>33 OR D<4 THEN G=-G:SOUND 1,140,15
370 C=C+F
380 D=D+G
390 LOCATE D,C:PEN 1:PRINT B$:PEN 2
400 IF C=2 THEN GOSUB 450
410 IF C<>7 THEN GOTO 430
420 IF D=A+2 OR D=A+3 OR D=A+4 THEN F=-F:SOUND 1,100,15
430 IF C=1 THEN LOCATE 7,10:PRINT "GAME OVER, SCORE:";SC:GOTO 510
440 SC=SC+27:GOTO 280
450 IF MID$(A$,D-1,1)=" " THEN RETURN
460 MID$(A$,D-1,1)=" "
470 F=-F
480 SOUND 1,300,15

```

*Dynamic Games - Amstrad*

```
490 LOCATE 3,2:PEN 3:PRINT A#:PEN 2
500 RETURN
510 IF SC>H THEN H=SC
520 LOCATE 10,17:PRINT "HIGH SCORE:"
:H
530 FOR T=200 TO 50 STEP-2:SOUND 1,T
,20:NEXT T
540 WHILE INKEY#="" :WEND
550 CLS
560 GOTO 60
570 REM***INITIALISATION***
580 A=12:SC=0
590 F=1:G=1:C=21
600 D=33:A#="d"
610 B#=CHR$(231)
620 REM***DEFINE GRAPHICS***
630 SYMBOL AFTER 95
640 SYMBOL 97,1,31,127,255,255,255,2
55,248
650 SYMBOL 98,255,255,255,255,255,25
5,0,0
660 SYMBOL 99,128,248,254,255,255,25
5,255,31
670 SYMBOL 100,254,254,254,0,239,239
,239,0
680 REM*** a b c = SHIELD***
690 REM*** d = BRICKS***
700 RETURN
```

# CITY SACRIFICE

Your plane is running out of fuel fast. You start to drift lower and lower. You have not been away from your flying base for more than 15 minutes when this happens. Below you is the city of New York. You start to think the unthinkable. If your nuclear weapons are detonated, they will destroy a third of the United States. However, you must obliterate a portion of the city with your bombs in order to land.

This version is faithful to the arcade original. Not much dexterity is needed as you only have to press the ENTER key to drop your bombs. What *is* needed in abundance, however, is some good judgement and strong nerves. Good luck.

```

10 REM*****
20 REM*****CITY SACRIFICE*****
30 REM*****
40 PEN 1:PAPER 0
50 ENT 1,100,-9,1
60 GOSUB 690:REM***initialisation***
70 REM*****MAIN ACTION LOOP*****
80 LOCATE AA,BB:CALL &BD19:PRINT"  "
90 A=A+1:IF A=39 THEN A=1:B=B+1
100 LOCATE A,B:PRINT CHR$(141);CHR$(
140);
110 IF N(A+2,B)=1 THEN GOTO 350:REM*
**crash**
120 IF A=39 AND B=24 THEN GOTO 560:R
EM***success***
130 AA=A:BB=B
140 SOUND 2,2000,4,5,0,1
150 SOUND 1,3000,6,5
160 LOCATE 35,1:PRINT SC;
```

```
170 IF INKEY(18)=0 THEN GOSUB 190
180 M=M+1:GOTO 70
190 REM***BOMBS AWAY***
200 C=A:D=B+1
210 LOCATE AA,BB:CALL &BD19:PRINT"
"
220 A=A+1:IF A=39 THEN A=1:B=B+1
230 LOCATE A,B:PRINT CHR$(141);CHR$(
140);
240 IF N(A+2,B)=1 THEN GOTO 350:REM*
**crash***
250 IF A=39 AND B=24 THEN GOTO 560:R
EM***success***
260 AA=A:BB=B
270 LOCATE 35,1:PRINT SC;
280 LOCATE C,D:PRINT CHR$(252);
290 SOUND 1,D*15,3
300 SOUND 2,2000,3,5,0,1
310 IF N(C,D)=1 THEN N(C,D)=0:SC=SC+
16
320 LOCATE C,D:PRINT" ";
330 D=D+1:IF D=25 THEN BM=BM+1:RETUR
N
340 GOTO 210
350 REM*****CRASH*****
360 FOR T=1 TO 20
370 PEN 3:SOUND 1,1500,17,15,0,0,5
380 CA=A+INT(RND*4)-INT(RND*2):CB=B+
INT(RND*3)-INT(RND*3)
390 IF CA>39 OR CA<1 OR CB>25 THEN G
OTO 380
```

```
400 LOCATE CA,CB:PRINT CHR$(238);
410 NEXT T
420 LOCATE 1,25
430 FOR T=1 TO 20:PRINT:SOUND 1,20*T
,40:NEXT T
440 LOCATE 10,10
450 PRINT "YOU SCORED ";SC
460 IF SC<800 THEN LR$="YOU TOTAL ID
IOT"
470 IF SC>799 AND SC<1200 THEN LR$="
WHICH YOU ARE LUCKY TO GET"
480 IF SC>1199 AND SC<1800 THEN LR$=
"TRAINEE AIRCRAFTSMAN"
490 IF SC>1799 AND SC<2300 THEN LR$=
"OH CO-PILOT"
500 IF SC>2299 AND SC<2800 THEN LR$=
"INEXPERIENCED PILOT"
510 IF SC>2799 AND SC<3300 THEN LR$=
"EXPERIENCED PILOT"
520 IF SC>3299 AND SC<3900 THEN LR$=
"FLIGHT COMMANDER"
530 IF SC>3899 AND SC<4600 THEN LR$=
"FLYING ACE"
540 IF SC>4599 THEN LR$="SQUADRON LE
ADER"
550 GOTO 610
560 REM*****SUCCESS*****
570 LR$="WAR HERO"
580 SOUND 1,100,150:SOUND 3,90,150:S
OUND 2,110,150
590 CLS:LOCATE 12,10:PRINT"YOU DID I
```

```
T, WELL DONE!"
600 GOTO 610
610 REM*****PLAY AGAIN*****
620 PRINT:PRINT:PRINT
630 PRINT "    ANOTHER GO,";LR$
640 PRINT
650 PRINT TAB(10);"PRESS 'Y' OR 'N'"
660 A$=INKEY$
670 IF A$="Y" THEN RUN ELSE IF A$="N
    " THEN END
680 GOTO 660
690 REM*****DRAW BUILDINGS*****
700 CLS:MODE 1
710 RANDOMIZE TIME
720 SYMBOL 255,255,255,195,195,195,1
    95,255,255
730 DIM N(40,24)
740 FOR G=3 TO 38
750 X=INT(RND*16)
760 FOR T=24 TO 24-X STEP -1
770 N(G,T)=1
780 LOCATE G,T
790 PRINT CHR$(255)
800 NEXT T
810 NEXT G
820 REM*****OTHER INITILISATION*****
830 SC=0:C=0:D=0:A=1:B=2
840 AA=A:BB=B:M=0:BM=0
850 LOCATE 1,1:PRINT CHR$(164);"1984
    CITY SACRIFICE    SCORE:"
860 RETURN
```

# ATTACK OF THE MUTOIDS

Cruising round the galaxy in your V-wing fighter may normally be fun, but not today. The malevolent planet Aurora has sent out its latest weapon, the mutoids, in an attempt to destroy you.

The mutoids are capable of changing shape. When you come across them, they are disguised as harmless-looking red blobs, but beware, the 30 Megaton Nuclear device they carry is far from harmless.

Your side-shields will take care of any side blows but your nose area is your most vulnerable.

You steer your vessel using the 'Z' (thrust left) and the 'M' (thrust right) keys.

```
10 REM*****
*
20 REM*****ATTACK OF THE MUTOIDS****
*
30 REM*****
*
40 N=0
50 X=10
60 XX=10
70 INK 0,0
75 INK 1,24
80 BORDER 0
90 CLS
100 DT=TIME/300
110 LOCATE XX-1,13:PRINT "  "
120 LOCATE XX-1,12:PRINT "  "
```

```
130 LOCATE XX-1,11:PRINT "  "  
140 LOCATE XX-1,10:PRINT "  "  
150 LOCATE X-1,14:PRINT " V "  
160 XX=X  
170 N=N+1  
180 M$=INKEY$  
190 IF M$="Z" AND X>2 THEN X=X-1  
200 IF M$="M" AND X<38 THEN X=X+1  
210 IF TEST ((16*X)-8,160)=3 THEN GO  
TO 360  
220 LOCATE 1,25  
230 IF INT(TIME/300)-DT>2 THEN DT=DT  
+2:GOSUB 310  
240 FOR C=1 TO INT(RND*7)  
250 PEN 3  
260 PRINT TAB(INT(RND*37)+1);CHR$(14  
3);  
270 PEN 1  
280 NEXT C  
290 PRINT  
300 GOTO 110  
310 REM***SOUND***  
320 ENV 6,15,-1,1  
330 ENT 1,30,10,1  
340 SOUND 1,500,30,15,1,1  
350 RETURN  
360 REM***EXPLODE***  
370 FOR T=1 TO 20  
380 INK 0,T  
390 SOUND 1,150,15  
400 SOUND 1,350,15
```



```
410 NEXT T
420 FOR T=1 TO 2000:NEXT T
430 CLS
440 INK 1,0
450 PEN 1
460 LOCATE 10,10
470 PRINT "YOU ARE DEAD"
480 PRINT
490 PRINT "          but you scored";N*1
3
500 END
```

# SURROUND

Surround is one of the most well-known arcade games available. You steer your moving line around the screen attempting to trap your opponent. The losing player is the one that hits one of his or her own lines, the opponent's line, or runs into the edge of the screen.

As this is a two-player game, I have carefully chosen the keys so that both players feel comfortable when they are playing the game. The Amstrad, with its long keyboard and separate numeric keypad, make this easier.

The keys are as follows:

## For the player on the Left

**Q** for Up  
**A** for down  
**Z** for left  
**X** for right

## For the player on the Right

**9** for up  
**6** for down  
**1** for left  
**2** for right  
(n.b. these are the numbers on the numeric keypad.)

```
10 REM***SURROUND***
20 GOSUB 660
30 A=400:B=300:X=200:Y=300
40 K=0:L=0
50 R=0:T=0
60 BORDER 1
70 REM*****MAIN LOOP*****
80 MODE 1
90 CLG
100 LOCATE 1,1
110 PEN 2
120 PRINT TAB(15);"SURROUND"
```

```

130 PEN 1
140 PLOT 10,370,1
150 DRAWR 580,0
160 DRAWR 0,-360
170 DRAWR -580,0
180 DRAWR 0,360
190 PLOT A,B,2
200 PLOT X,Y,3
210 PLOT 2,372,1
220 DRAWR 584,0
230 DRAWR 0,-364
240 DRAWR -584,0
250 DRAWR 0,364
260 AA=A:BB=B
270 IF INKEY(14)=0 THEN K=1
280 IF INKEY(13)=0 THEN K=-1
290 IF K<>0 THEN A=A+K:L=0
300 IF INKEY(3)=0 THEN L=1
310 IF INKEY(4)=0 THEN L=-1
320 IF L<>0 THEN B=B+L:K=0
330 IF AA=A AND BB=B THEN GOTO 350
340 IF TEST(A+K,B+L)<>0 THEN 470
350 REM*****
***
360 XX=X:YY=Y
370 IF INKEY(63)=0 THEN R=1
380 IF INKEY(71)=0 THEN R=-1
390 IF R<>0 THEN X=X+R:T=0
400 IF INKEY(67)=0 THEN T=1
410 IF INKEY(69)=0 THEN T=-1
420 IF T<>0 THEN Y=Y+T:R=0

```

```
430 IF XX=X AND YY=Y THEN GOTO 450
440 IF TEST(X+R,Y+T)<>0 THEN 480
450 GOTO 190
460 REM*****CCRRRAAASSSHH!!!***
***
470 WIN#=N$(1):GOTO 490
480 WIN#=N$(2)
490 FOR V=300 TO 50 STEP-2
500 SOUND 1,V,4,15
510 IF V<220 THEN SOUND 2,V+2,4,15
520 IF V<150 THEN SOUND 3,V-2,4,15
530 BORDER INT(RND*26)
540 NEXT
550 SOUND 1,40,100:SOUND 2,40,100:SO
UND 3,40,100
560 CLS
570 LOCATE 10,10
580 PRINT "YOU WON ":WIN#
590 LOCATE 15,13
600 PRINT "WELL DONE!!!"
610 LOCATE 1,24
620 FOR T=1 TO 1000:NEXT T
630 PRINT "Would you like to play ag
ain, bigshots?"
640 IF INKEY#="" AND INKEY#<>"Y" THE
N GOTO 640
650 RUN
660 REM****START OF GAME****
670 DIM N$(2)
680 REM****TITLE PAGE****
690 CLS
```

```
700 LOCATE 16,12
710 PEN 3
720 PRINT "SURROUND"
730 PLOT 180,260,1
740 DRAWR 240,0:SOUND 1,400,120
750 FOR T=1 TO 1500:NEXT T
760 DRAWR 0,-80:SOUND 1,300,120
770 FOR T=1 TO 1500:NEXT T
780 DRAWR -240,0:SOUND 1,200,120
790 FOR T=1 TO 1500:NEXT T
800 DRAWR 0,80:SOUND 1,100,120
810 LOCATE 1,24
820 PRINT ".....PRESS ANY KEY TO
CONTINUE....."
830 WHILE INKEY#="":WEND
840 SOUND 1,180
850 CLS
860 LOCATE 10,10
870 INPUT "PLAYER 1";N$(1)
880 SOUND 1,200
890 LOCATE 10,14
900 INPUT "PLAYER 2";N$(2)
910 SOUND 1,150
920 RETURN
```

# ARNOLD THE ELECTRICIAN

Arnold has been called to the Manor as the Electricity Generator has gone on the blink. On entering the Generator room, he finds charges of electricity zooming around. Arnold must avoid these as he trundles around collecting all the light bulbs. How long can he last, collecting the light bulbs and avoiding the electric charges? We shall have to see.

The game, which I think is one of the best in this chapter, is controlled by the joystick. Holding down the fire button results in the program pausing until it is released. There is also a high score feature.

```
10 REM*****  
****  
20 REM*****ARNOLD THE ELECTRICIAN*  
****  
30 REM*****  
****  
40 PRINT:PRINT:PRINT " PLEASE WAIT  
FOR A MOMENT, ARNOLD"  
50 DIM S(40,25):HS=0  
60 V=0  
70 INK 0,0  
80 BORDER 0  
90 INK 2,26  
100 INK 1,14  
110 INK 3,24  
120 GOSUB 690  
130 GOSUB 580  
140 REM***MAIN LOOP***
```

```

150 L#=CHR$(249)
160 V=V+1:IF V>1 THEN V=0:L#=CHR$(24
8)
170 J=JOY(0)
180 IF J=1 AND X>3 THEN X=X-1:P=1
190 IF J=2 AND X<24 THEN X=X+1:P=2
200 IF J=4 AND Y>2 THEN Y=Y-1:P=3:L#
=CHR$(251)
210 IF J=8 AND Y<38 THEN Y=Y+1:P=4:L
#=CHR$(250)
220 IF J=16 THEN GOSUB 840
230 IF J=0 AND P=1 AND X>3 THEN X=X-
1
240 IF J=0 AND P=2 AND X<24 THEN X=X
+1
250 IF J=0 AND P=3 AND Y>2 THEN Y=Y-
1
260 IF J=0 AND P=4 AND Y<38 THEN Y=Y
+1
270 LOCATE YY,XX:PRINT" "
280 IF S(Y,X)>0 AND S(Y,X)<10 THEN S
C=SC+S(Y,X)*20:SOUND 1,150,4,12:S(Y,
X)=0
290 IF S(Y,X)>9 THEN GOTO 370:REM***
LOSE***
300 LOCATE Y,X:PEN 1:PRINT L#
310 LOCATE 7,1:PRINT SC
320 XX=X:YY=Y
330 SOUND 1,400,1,10
340 IF RND>0.96 THEN A=INT(RND*36)+2
:B=INT(RND*21)+3:LOCATE A-1,B:C=INT(

```

```
RND*9)+1:S(A,B)=C:PEN 3:PRINT "&":PE
N 1:SOUND 1,INT(RND*50)+90,4,15
350 IF RND>0.94 THEN F=INT(RND*36)+2
:G=INT(RND*21)+3:LOCATE F,G:PEN 2:PR
INT CHR$(42):S(F,G)=10
360 GOTO 140
370 REM*****LOSE*****
380 SOUND 2,600,16,7,1,12,2
390 SOUND 4,600,80,7,9,13,6
400 SOUND 1,600,30,7,4,1,15
410 CLS
420 LOCATE 4,6:PRINT "YOU HAVE BEEN
ELECTROCUTED!!!"
430 SOUND 1,4000,150,15,1,1,5
440 LOCATE 17,10
450 PRINT:PRINT"YOUR SCORE WAS ";SC
460 IF HS>SC THEN PRINT"THAT IS NOT
UP TO THE HIGH SCORE ";HS
470 PRINT
480 IF HS<SC THEN HS=SC:PRINT"WELL D
ONE, YOU NOW HAVE THE HIGH SCORE"
490 PRINT:PRINT:PRINT
500 PEN 3
510 LOCATE 6,16:PRINT "HIGH SCORE IS
";HS;"WATTS"
520 PEN 1
530 PRINT:PRINT:PRINT "          ANOTH
ER GAME? (Y/N)"
540 D#=INKEY$:IF D#="" THEN 540
550 IF D#="Y" THEN SOUND 1,100,40:GO
TO 120
```



```
560 IF D$="N" THEN PRINT"OK.":END
570 IF D$<>" THEN 540
580 REM***SCREEN***
590 MODE 1
600 CLS
610 PEN 2
620 PRINT"SCORE: ";SC;
630 PRINT"      ARNOLD, THE ELECTRICI
AN"
640 PEN 1
650 PRINT"#####
#####"
660 FOR T=1 TO 22:PRINT"#";TAB(39);"
#":NEXT T
670 PRINT"#####
#####"
680 RETURN
690 REM***INITIALISATION***
700 FOR H=1 TO 40
710 FOR V=1 TO 25
720 S(H,V)=0
730 NEXT:NEXT
740 X=20:Y=13:SC=0
750 XX=X:YY=Y
760 F=0:G=0:A=0:B=0
770 RETURN
780 REM***USER DEFINED GRAPHICS***
790 SYMBOL AFTER 32
800 SYMBOL 35,170,85,170,85,170,85,1
70,85
810 SYMBOL 42,6,12,24,63,3,6,12,24
```

```
820 SYMBOL 38,124,222,190,254,124,56  
    ,56,56  
830 RETURN  
840 REM***PAUSE ROUTINE***  
850 WHILE JK>16  
860 SOUND 1,1,1,10  
870 FOR L=1 TO 10:NEXT L  
880 WEND  
890 RETURN
```

# ESCAPE FROM JANUS 15

Being locked in the Power Complex of Janus 15 is not every space traveller's idea of fun, but you have always had a taste for the unusual. Employed by the Sirius Corporation, you are to steal the Strontium Crystal that powers Janus 15. Once the crystal is in your possession you must get back to the exit. Time is short, as the complex is set to explode in an hour (around 70 moves). As well, there are a number of traps which will use up your time. You move around the complex, using the standard adventure commands N,S,E, and W.

I suggest that you try to make a map of the complex as this will aid you in your struggles to fulfil your contract with the Sirius Corporation. If you do this, you will become the first person to escape from Janus 15.

```
10 REM*****
20 REM*****ESCAPE FROM JANUS 15*****
30 REM*****
40 C=1:CF=0
50 MV=0
60 GOSUB 680
70 P=1
80 BORDER 1
90 INK 2,18
100 INK 0,0
110 INK 1,24
120 INK 3,6
130 REM*****MAIN GAME ACTION*****
```

```
140 CLS
150 MV=MV+1:IF MV>70 THEN CLS:LOCATE 2
,12:PRINT "TOO LATE, YOU HAVE BEEN ATOMISED!!!":END
160 C=INT(P/17)+1
170 SOUND 1,INT(RND*300)+50,50
180 SOUND 1,INT(RND*300)+50,50
190 REM***DRAW SURROUND***
200 PLOT 250,250
210 DRAW 1,150,C
220 PLOT 250,250
230 DRAW 390,250,C
240 DRAW 640,150,C
250 IF L(P,1)<>0 THEN GOSUB 400
260 IF L(P,2)<>0 THEN GOSUB 610
270 IF L(P,3)<>0 THEN GOSUB 470
280 IF L(P,4)<>0 THEN GOSUB 540
290 IF P=6 THEN PRINT "YOU NOW HAVE THE CRYSTAL, MAKE YOUR WAY TO THE ESCAPE EXIT AS FAST AS YOU CAN":CF=1
300 IF CF=1 AND P=50 THEN INK 1,16:INK 2,16:INK 3,16:FOR T=1 TO 30:PRINT "YOU ESCAPED FROM JANUS 15 IN TIME":NEXT T:END
310 FOR T=1 TO 10:IF D(T)=P AND P<>6 AND P<>10 THEN PRINT "YOU NARROWLY MISS A TRAP LOSING TIME...":MV=MV+8
320 NEXT T
330 LOCATE 4,22:INPUT "WHICH WAY WASTER":A$
340 B$=LEFT$(A$,1)
```

```
350 IF B$="N" AND L(P,1)<>0 THEN F=L(P
,1)
360 IF B$="S" AND L(P,2)<>0 THEN F=L(P
,2)
370 IF B$="E" AND L(P,3)<>0 THEN F=L(P
,3)
380 IF B$="W" AND L(P,4)<>0 THEN F=L(P
,4)
390 GOTO 140
400 REM***DRAW NORTH***
410 PLOT 250,250
420 DRAW 260,380,C
430 DRAW 380,380,C
440 DRAW 390,250,C
450 DRAW 250,250,0
460 RETURN
470 REM***DRAW EAST***
480 PLOT 50,170
490 DRAW 40,290,C
500 DRAW 1,280,C
510 PLOT 50,170
520 DRAW 1,150,0
530 RETURN
540 REM***DRAW WEST***
550 PLOT 590,170
560 DRAW 600,290,C
570 DRAW 640,280,C
580 PLOT 590,170
590 DRAW 640,150,0
600 RETURN
610 REM***DRAW SOUTH***
```

```
620 PLOT 320,100,C
630 DRAW 320,80
640 DRAW 310,90
650 PLOT 320,80
660 DRAW 330,90
670 RETURN
680 REM***INITIALISATION***
690 DIM L(50,4)
700 FOR X=1 TO 50:FOR Y=1 TO 4
710 READ L(X,Y):NEXT:NEXT
720 DATA 24,0,0,0,0,18,0,0,0,43,0,24
730 DATA 17,25,0,0,18,13,40,0,0,0,0,10
740 DATA 41,0,24,40,0,47,0,11,0,0,30,0
750 DATA 0,44,6,32,40,12,8,13,11,0,0,1
4
760 DATA 5,0,11,0,0,19,12,16,36,21,29,
43
770 DATA 0,17,0,21,16,4,0,22,2,5,0,0
780 DATA 14,0,45,0,0,0,34,38,15,22,0,0
790 DATA 21,0,17,50,43,0,0,48,38,1,3,7
800 DATA 4,0,37,39,0,42,32,31,39,40,0,
0
810 DATA 44,35,0,34,35,0,0,15,0,39,0,9
820 DATA 0,37,26,0,0,0,10,26,0,0,0,42
830 DATA 0,0,28,20,28,29,0,36,0,15,35,
0
840 DATA 31,0,42,25,0,24,20,41,30,27,2
5,2
850 DATA 27,11,7,5,0,7,38,27,26,0,33,3
7
860 DATA 3,23,15,0,10,28,0,0,0,0,46,19
```

```
870 DATA 47,18,49,45,8,46,48,0,0,47,23
,47,48,0,0,46,0,0,22,0
880 DIM D(10)
890 RESTORE 910
900 FOR T=1 TO 8:READ D(T):NEXT
910 DATA 11,17,21,6,38,43,48,3
920 D(9)=INT(RND*46)+1
930 D(10)=INT(RND*46)+1
940 RETURN
```





# FEELING ADVENTUROUS?

Adventure games have come into their own in the last couple of years. Using new computers with greater and greater memory capacities along with complex graphics and sound, adventure games have been made more ambitious and more interesting. Today, it is rare to thumb through a computer magazine without seeing large numbers of adventure games advertised.

What exactly is an adventure game? Basically, an adventure involves you interacting with an environment created by the adventure programmer and run by the computer. Usually, you have a goal, to rescue a prince, retrieve lost treasure or to kill a vicious monster.

Most adventures have a range of commands which allow you to move around the different places in the adventure and to manipulate the different objects within the adventure.

One of the main reasons for the popularity of adventure games is the way the player can escape reality and be plunged into a different situation to his or her own. Some situations are definitely mythical (though no one can be *totally* sure that Middle Earth is not inhabited by hobbits and trolls) while others are based on more down-to-earth situations, such as one of the adventures in this chapter, which is based around an office block.

Escaping from our everyday lives along with the fun of trying to solve puzzles, lies at the heart of adventure games.

# CITY OF ATLANTIS

Your diving expedition has taken you very close to the fabled city of Atlantis. The Atlantians consider you a security risk and have imprisoned you in the detention centre while they try to decide what to do with you.

An Atlantian guard watches you night and day. You must try to get back safely to your diving ship. But your problem is more difficult than that. The thin air that the Atlantians breathe prevents you from moving around much and more of a problem, the power reactor that provides Atlantis with its energy is becoming unstable.

In your attempt to escape with your life, you will come across a number of characters, hazards and problems. This adventure is not easy to solve and has some novel features. Ian Watt wrote the original version of this game which I've modified for the Amstrad.

```
10 REM*****
20 REM***CITY OF ATLANTIS***
30 REM*****
40 X=0
50 INK 1,24
60 PEN 2
70 BORDER 11,14
80 GOSUB 1700
90 PRINT:PRINT:PRINT "DO YOU WANT IN
STRUCTIONS? (Y/N)";:INPUT Z$:IF Z#="
Y" THEN 100 ELSE 100
100 CLS:PRINT "While on a diving exp
edition you were captured by the p
eople from the City of Atlantis unde
```

```
r the sea and you are now a prisoner
of these people."
110 WHILE INKEY#="":WEND
120 CLS:PRINT "You have to depend on
  giving the      computer instruct
ions so that you may  escape."
130 WHILE INKEY#="":WEND
140 CLS:PRINT "Enter a command or an
  object as the      computer prompts
you - You will find      that, for eac
h word you will enter the least num
ber of letters that will      deter
mine one word from another."
150 WHILE INKEY#="":WEND
160 CLS:PRINT "If one combination of
  command and objectdoes not work the
n try another"
170 WHILE INKEY#="":WEND
180 CLS:A=1:W=0:V=0:U=0
190 REM*****MAIN LOOP*****
195 SOUND 1,100,50,8,3,4
200 PEN 1:LOCATE 12,25:PRINT "PRESS
ANY KEY"
210 PEN 2
220 W=W+1:RESTORE:FOR T=1 TO 9000:IF
  INKEY#<>" " THEN T=9000
230 NEXT T:CLS
240 IF E(6)=-2 AND UK<6 THEN U=U+1
250 IF (A=6 OR A=11) AND E(11)=0 THE
N PRINT "The GORILLA is hungry again
...":GOTO 840
```

```
260 IF W>34 AND E(1)<>-2 THEN PRINT
  "The Power Reactor has become unstab
  1e and has blown up!":GOTO 840
270 IF A=21 AND E(12)=A AND E(11)=0
  THEN E(11)=-2:E(12)=-2:PRINT "The GO
  RILLA has run after the SEA MO
  NSTER."
280 IF E(20)=A AND E(24)=-1 THEN PRI
  NT "The flower makes the DRG sleepy"
  :E(20)=-2:E(21)=A
290 IF E(25)=A AND E(26)=0 THEN E(26
  )=-2:E(27)=0:PRINT "The CRAZY LECTUR
  ER takes the booklet andgives you se
  eds."
300 FOR B=1 TO A:READ A#:NEXT B:LOCA
  TE 1,2:PRINT " ";A#
310 PRINT:PRINT
320 PRINT " EXITS:- ";:IF A(A)<>0 T
  HEN PRINT "NORTH:";
330 IF B(A)<>0 THEN PRINT "SOUTH:";
340 IF C(A)<>0 THEN PRINT "EAST:";
350 IF D(A)<>0 THEN PRINT "WEST:";
360 PRINT:PRINT:PRINT " OBJECTS:-";
370 H=0:FOR C=1 TO 30:IF E(C)<>A THE
  N GOTO 380 ELSE PRINT": ";H#(C);
380 NEXT C
390 PRINT "[-----
  -----]"
400 PRINT:PRINT " INVENTORY:-";
410 F=0:FOR C=1 TO 30:IF E(C)<>0 AND
  E(C)<>-1 OR F=6 THEN GOTO 420 ELSE
```

```

PRINT " ";H$(C)
420 NEXT C
430 PRINT "[-----
-----]"
440 PRINT
450 PRINT" COMMAND";:D$="":M=0:N=0
460 IF F>1 AND A=26 THEN PRINT "The
rope ladder has broken...":GOTO 840
470 IF A=16 AND E(17)<>0 THEN PRINT
"The WARRIOR catches you as you try
and escape the City.":GOTO 840
480 IF A=16 THEN PRINT"The WARRIOR s
ees your chains and thinks you will
not go far."
490 IF E(18)=0 THEN PRINT "Some Atla
ntians hear you over their radio
s and investigate...":GOTO 840
500 IF A=21 AND E(12)=A THEN PRINT "
The SEA MONSTER has caught you.":GOT
O 840
510 INPUT D$:DD$=LEFT$(D$,3):PRINT
520 FOR C=1 TO 27:IF LEFT$(DD$,1)=B$
(C) OR LEFT$(DD$,2)=B$(C) OR DD$=B$(
C) THEN M=C:C=27:DV=1
530 NEXT C:IF DV=1 THEN GOTO 540 ELS
E GOTO 550
540 IF M>0 AND M<5 OR M=24 OR M=28 O
R M=29 THEN GOTO 600 ELSE GOTO 570
550 PRINT "I'm sorry, but I do not k
now how to":PRINT D$;" something.":G
OTO 200

```

```
560 PRINT "I'm sorry, but I do not k
now what a":PRINT D$;" is.":GOTO 200
570 PRINT " OBJECT?  "":D$="":N=0
580 INPUT E$:EE#=-LEFT$(E$,3):FOR C=1
  TO 30:IF EE#=G$(C) OR LEFT$(EE$,1)=
G$(C) OR LEFT$(EE$,2)=G$(C) THEN N=C
:C=30
590 NEXT C
600 PEN 3:PRINT:PRINT " "":C$(M)
610 IF M>0 AND M<5 OR M=24 OR M=28 O
R M=29 THEN 620 ELSE PRINT " "":
620 PRINT
630 ON M GOTO 710,710,710,710,870,87
0,870,920,920,920,970,1050,980,980,9
80,1090,1090,1090,1180,1230,1260,130
0,1340,1370,1390,1450,1490
640 PRINT "I cannot do that.":GOTO 2
00
650 PRINT "I am already carrying it.
":GOTO 200
660 PRINT "I am carrying too much":G
OTO 200
670 PRINT "Ok.":GOTO 200
680 PRINT "I do not see it here":GOT
O 200
690 PRINT "I am not carrying it":GOT
O 200
700 PRINT "I do not see a place to p
ut it":GOTO 200
710 IF (M<>3 AND A=1) THEN V=1:PRINT
  "The ATLANTIAN laughs at you walkin
```

```

g into the wall":GOTO 200
720 IF M=3 AND A=1 AND V=0 THEN PRINT
T "The ATLANTIAN will not let you pass":GOTO 200
730 IF V=1 THEN V=0:A=2:PRINT "The ATLANTIAN is distracted and does not see you leave":GOTO 200
740 IF E(7)=A THEN PRINT "The GLADIATOR will not let you pass":GOTO 200
750 IF E(8)=A AND M=2 THEN PRINT "You cannot walk through the old door":GOTO 200
760 IF E(20)=A AND M=2 THEN PRINT "The DRG is in the way.":GOTO 200
770 IF E(29)=A AND M=1 THEN PRINT "The wall is too solid for you to go through it.":GOTO 200
780 DV=A
790 IF M=1 THEN A=A+A(A)
800 IF M=2 THEN A=A+B(A)
810 IF M=3 THEN A=A+C(A)
820 IF M=4 THEN A=A+D(A)
830 IF A=DV THEN PRINT "NO EXIT!":GOTO 200 ELSE GOTO 200
840 GOSUB 1830:REM***DEFEAT***
850 PRINT:PRINT:PRINT:PRINT "PRESS THE SPACEBAR TO RE-START"
860 IF INKEY#=" " THEN 80 ELSE GOTO 860
870 IF N<>1 AND N<>2 AND N<>9 AND N<>10 AND N<>15 AND N<>17 AND N<>18 AN

```

```
D N<>21 AND N<>23 AND N<>24 AND (N<2
& OR N>2) AND N<>30 THEN GOTO 640
880 IF E(N)=0 OR E(N)=-1 THEN 650
890 IF F=6 THEN 660
900 IF E(N)<>A THEN 680
910 E(N)=0:GOTO 670
920 IF E(N)<>0 AND E(N)<>-1 OR N=23
AND E(24)=-1 AND H>4 THEN 690
930 IF N=11 THEN 640
940 IF H=6 THEN 700
950 IF N=23 AND E(24)=-1 THEN E(24)=
A
960 E(N)=A:GOTO 670
970 PRINT "You do not have enough en
ergy to do that in the thin atmospher
e.":GOTO 200
980 IF E(N)<>A AND E(N)<>0 AND E(N)<
>-1 THEN 680 ELSE IF N<>6 AND N<>13
AND N<>16 AND N<>22 AND N<>23 THEN P
RINT "I see nothing worth taking not
e of.":GOTO 200
990 IF N=22 THEN PRINT "The ground i
s prepared for the planting of some
seeds.":GOTO 200
1000 IF N=23 THEN PRINT "There is a
button hole in the jacket":GOTO 200
1010 IF N=16 THEN PRINT "To open the
air lock, it must be raised":GOTO 2
00
1020 IF N=13 AND E(N)<>A THEN 680 EL
SE IF N=13 THEN PRINT "Some fish are
```



```

swimming about on the      other sid
e of it":GOTO 200
1030 IF E(N)<>A THEN PRINT "I do not
see him here.":GOTO 200
1040 E(6)=-2:PRINT "He gives you som
ething to help you cope with the atm
osphere":GOTO 200
1050 IF N<>7 THEN 640
1060 IF E(N)<>A THEN 1030
1070 IF U=0 OR U=6 THEN PRINT "You w
ere no match for the GLADIATOR":GOTO
840
1080 E(7)=-2:PRINT "You had just eno
ugh energy to defeat theGLADIATOR.":
GOTO 200
1090 IF N<>4 AND N<>8 OR H=6 THEN 64
0
1100 IF E(N)<>A THEN 680
1110 IF N=4 THEN M<>17 THEN 1140
1120 IF U=6 THEN PRINT "You do not h
ave enough energy.":GOTO 200
1130 E(N)=-2:PRINT "You have opened
the old door.":GOTO 200
1140 IF E(9)<>0 THEN PRINT "I cannot
do that...yet":GOTO 200
1150 PRINT "The locker opens...and c
loses."
1160 IF E(2)=-2 THEN E(2)=A:PRINT "S
ome diving gear fell out."
1170 GOTO 200
1180 IF N<>2 AND N<>23 AND N<>24 THE

```

```
N 640
1190 IF E(N)=-1 THEN PRINT "I am already wearing it.":GOTO 200
1200 IF E(N)<>0 THEN 690 ELSE IF N=24 AND E(23)<>-1 THEN 700
1210 IF N=24 THEN PRINT "The flower gives off a pungent odour, but does not harm you.":E(N)=-1:GOTO 200
1220 E(N)=-1:GOTO 670
1230 IF N<>10 THEN 640
1240 IF E(N)<>0 THEN 690
1250 E(N)=-2:PRINT "O.K...But it was meant to be for some animals.":GOTO 200
1260 IF N<>11 THEN 640
1270 IF E(N)<>A THEN 680
1280 IF E(10)<>0 THEN PRINT "I have nothing to feed it with.":GOTO 200
1290 E(10)=-2:E(11)=0:PRINT "The GORILLA follows you in the hope of getting more food.":GOTO 200
1300 IF N<>1 THEN 640
1310 IF E(N)<>0 THEN 690
1320 IF A<>13 THEN PRINT "I see no place to insert it.":GOTO 200
1330 E(1)=-2:PRINT "The addition to the reactor of more fuel has stabilised it.":GOTO 200
1340 IF N<>14 THEN 640
1350 IF E(N)<>A THEN 680
1360 IF A=26 AND E(15)=0 THEN A=25:E
```

```
(N)=A:GOTO 670 ELSE IF A=26 THEN A=2
7:E(N)=A:GOTO 670 ELSE IF A=25 THEN
A=26:E(N)=A:GOTO 670 ELSE IF A=27 TH
EN A=26:E(N)=A:GOTO 670
1370 LOCATE 6,22:PRINT "ARE YOU SURE
? (Y/N)"
1380 IF INKEY#="Y" THEN 940 ELSE IF
Q#="N" THEN 200 ELSE 1370
1390 IF NK>15 THEN 640
1400 IF AK>24 THEN 680
1410 IF E(15)<>0 THEN PRINT "I have
nothing with which I can operate the
raising mechanism.":GOTO 200
1420 IF E(2)<>-1 THEN PRINT "You hav
e drowned in the water that has flo
oded the air lock.":GOTO 940
1430 Y=150-W:IF Y>X THEN X=Y
1440 PRINT "You have managed to reac
h the surface and your diving ship
. WELL DONE!!!":PRINT:PRINT:PRINT "
SCORE: ";Y;" BEST SCORE: ";X:GOTO
840
1450 IF NK>27 THEN 640
1460 IF E(N)<>0 THEN PRINT "I AM NOT
CARRYING THEM.":GOTO 200
1470 IF AK>4 OR H=6 THEN PRINT "I se
e no place to plant them.":GOTO 200
1480 E(N)=-2:E(29)=A:PRINT "The seed
s grow quickly and form tall bamb
oo plants, shaped like pole vault
sticks.":GOTO 200
```

```
1490 IF NK>29 THEN 640
1500 IF AK>7 THEN 680
1510 IF E(29)<>0 THEN PRINT "I have
nothing to vault with.":GOTO 200
1520 A=10:PRINT "You manage to vault
the wall.":GOTO 200
1530 DATA DETENTION AREA,INDOCTRINAT
ION BUILDING,SPORTS ARENA,BARREN GRO
UND,BLOCKED EXIT FROM ARENA,ADVANCED
PART OF THE CITY
1540 DATA PRIMITIVE PART OF THE CITY
,OLD PART OF THE CITY,GARDEN WALKWAY
,FOOD GROWING AREA,CENTRAL DOME,ATLA
NTIAN LECTURE THEATRE
1550 DATA NUCLEAR FUSION POWER REACT
OR,WATER HYDROLYSIS AREA,ATLANTIAN R
ADIO STATION,BORDER OF CITY
1560 DATA PASSAGE OUT OF KINGDOM,SLA
VE LABOUR PEN,ANIMAL SPECIMEN CENTRE
,UNDERWATER OBSERVATION POINT
1570 DATA FORBIDDEN ZONE,EQUIPMENT S
TORAGE AREA,MURKY LAGOON,AIR LOCK,ST
EEP INCLINE,CLIFF FACE,CLIFF TOP
1580 DATA 0,1,1,0,0,0,3,-3,2,3,0,0,0
,0,-3,5,0,0,0,0,0,-5,2,0,0,0,0
1590 DATA 0,0,-1,-1,3,0,0,0,0,-3,-2,
3,-3,0,0,0,5,0,0,0,-5,0,0,0,-2,0,0
1600 DATA 1,0,2,0,0,-3,-3,0,-3,0,0,-
3,4,-4,4,-4,0,-5,0,-5,2,2,0,0,0,0
1610 DATA 0,-1,3,3,-2,3,0,0,3,4,0,4,
5,0,5,0,-4,0,-4,0,0,0,-2,-2,0,0,0
```

1620 DATA N,SO,EAS,WES,G,TA,PI,D,LE,  
TH,K,FI,EX,FR,SE,O,PU,U,WEA,EAT,FE,I  
,C,O,R,PL,V

1630 DATA NORTH,SOUTH,EAST,WEST,GET,  
TAKE,PICK UP,DROP,LEAVE,THROW,KILL,F  
IGHT,EXAMINE,FRISK,SEARCH,OPEN,PUSH,  
UNLOCK,WEAR,EAT,FEED,INSERT,CLIMB,QU  
IT,RAISE,PLANT,VAULT

1640 DATA HY,D,FU,LO,AT,SC,GL,OL,MA,  
FR,GO,SEA,T,R,HA,AI,C,MI,WAR,OR,SL,G  
R,J,FL,LE,B,SEE,P,WAL,ME

1650 DATA HYDROGEN,DIVING GEAR,FUEL  
SLOT,LOCKER,ATLANTIAN,SCIENTIST,GLAD  
IATOR

1660 DATA OLD DOOR,MASTER KEY,FRUIT,  
GORILLA,SEA MONSTER,THICK GLASS,ROPE  
LADDER

1670 DATA HANDLE,AIR LOCK,CHAINS,MIC  
ROPHONE,WARRIOR,ORG,SLEEPY ORG,GROUN  
D,JACKET,FLOWER,CRAZY LECTURER

1680 DATA BOOKLET,SEEDS,POLE VAULT,W  
ALL,METAL ROD

1690 DATA 14,-2,13,22,1,2,3,5,8,10,1  
9,21,20,25,27,24,19,15,16,17,-2,4,6,  
9,12,11,-2,-2,7,23

1700 REM\*\*\*\*\*ARRAYS\*\*\*\*\*

1710 DIM L\$(27):FOR T=1 TO 27:READ L  
\$(T):NEXT T

1720 DIM A(27),B(27),C(27),D(27)

1730 FOR T=1 TO 27:READ A(T):NEXT T

1740 FOR T=1 TO 27:READ B(T):NEXT T

*Dynamic Games - Amstrad*

```
1750 FOR T=1 TO 27:READ C(T):NEXT T
1760 FOR T=1 TO 27:READ D(T):NEXT T
1770 DIM B$(27):FOR T=1 TO 27:READ B
$(T):NEXT T
1780 DIM C$(27):FOR T=1 TO 27:READ C
$(T):NEXT T
1790 DIM G$(30):FOR T=1 TO 30:READ G
$(T):NEXT T
1800 DIM H$(30):FOR T=1 TO 30:READ H
$(T):NEXT T
1810 DIM E(30):FOR B=1 TO 30:READ E(
B):NEXT B
1820 RETURN
1830 REM***LOSE***
1840 ERASE L$,A,B,C,D,B$,C$,G$,H$,E
1850 INK 1,0:PEN 1
1860 CLS
1870 LOCATE 1,4
1880 FOR XX=50 TO 900 STEP 50
1890 SOUND 1,XX:SOUND 2,XX-5:SOUND 3
,XX+5
1900 PRINT "YOU HAVE FOUND DAVEY JON
ES' LOCKER, RIP";
1910 NEXT XX
1920 RELEASE 1:RELEASE 2:RELEASE 3
1930 SOUND 1,1000,300:SOUND 2,1005,3
00:SOUND 3,995,300
1940 RETURN
```

# THE STEINBERG FILES

This adventure requires you to collect the files of the missing bacteriologist, Richard Steinberg. No-one knows where he has gone, but his life's work is hidden in the office block of United Chemicals, his former employer. The Organisation have contacted you, given details of the mission, armed you with a Walther PPK and a fairly old bullet proof vest and has driven you to the front of the Office Block. From here on, it's all up to you. . .

Pretty stirring stuff. This is a very tough adventure. It *can* be solved but it will take you a long, long time. I'm not going to give you any hints at all, save one. The building is patrolled by armed guards trained to shoot on sight, so be careful. Remember, it's the secret papers you are looking for. Nothing else matters except you getting them.

You enter commands in the standard 'Verb Object' form. If you try one command and the computer appears not to recognise it then try a different word which means much the same thing. The computer has vocabulary of more than 30 commands.

```
10 REM*****THE STEINBERG FILES*****
20 REM*****A TEXT ADVENTURE*****
30 MODE 1:INK 0,26:INK 1,9:PEN 1
40 GOSUB 1970:GOSUB 1670
50 REM***MAIN LOOP***
60 SOUND 1,INT(RND*400)+30,8,2
70 BORDER INT(RND*26)
80 ST=ST-1:IF ST=0 THEN 1470
90 PEN 1
100 CLS:PRINT:PRINT"YOU ARE IN ";L$(
L)
```

*Dynamic Games - Amstrad*

```
110 IF L=7 AND L(17)=0 THEN 1390
120 IF L=7 AND L(17)<>0 THEN 1450
130 PRINT:PRINT
140 IF L=29 THEN PRINT "YOU ARE ON T
HE TOP FLOOR"
150 FOR M=1 TO 4:IF P(L,M)=-1 THEN P
RINT "LOCKED DOOR TO THE ";MID$(D$,
S*M)-4,5):NEXT M
160 PEN 3
170 S=0:PRINT:PRINT"YOU HAVE:";
180 FOR D=1 TO 18:IF D=6 OR D=9 OR D
=10 OR D>14 THEN A$=" " ELSE A$=" A
"
190 IF S>0 AND L(D)=0 THEN PRINT TAB
(10);
200 IF L(D)=0 THEN PRINT A$;D$(D):S=
S+1
210 NEXT D
220 PRINT:PRINT
230 PEN 1
240 Z=0:PRINT "YOU CAN SEE:";
250 FOR D=1 TO 18:IF D=6 OR D=9 OR D
=10 OR D>14 THEN A$=" " ELSE A$=" A
"
260 IF L(D)=L AND Z>0 THEN PRINT TAB
(11);
270 IF L(D)=L THEN PRINT A$;D$(D):Z=
Z+1
280 NEXT D
290 IF Z=0 THEN PRINT " NOTHING MUCH
"
```



```

300 IF G1=L THEN PRINT:PRINT:INK 1,6
,26:PRINT "GASP! A SECURITY GUARD":D
C=DC-1:IF DC=0 THEN 1470
310 PRINT:PRINT:PEN 3
320 PRINT:INPUT "WHAT NOW":N#
330 PRINT:PRINT
340 PEN 1
350 GOSUB 1600
360 IF G1=L AND T<>13 AND T<>14 AND
T<>27 THEN 400
370 IF T>96 OR T<1 THEN ZC=INT(RND*4
)*8:PRINT:PRINT TAB(12);MID$(P$,ZC+1
,8):GOTO 390
380 ON T GOSUB 460,460,540,540,540,6
70,720,790,810,840,860,860,1000,1000
,1090,1100,1130,1130,1190,1210,1210,
1210,1230,1240,1240,1270,1300,1300,1
300
390 FOR TT=1 TO 500:NEXT TT:IF T<3 T
HEN 450
400 IF G1=L THEN PRINT "THE GUARD FI
GHTS BACK..."
410 LOCATE 13,25
420 PEN 2
430 PRINT "PRESS ANY KEY"
440 WHILE INKEY#="":WEND
450 GOTO 50
460 REM****COMMANDS****
470 IF LEFT$(CT$,1)="N" THEN K=1
480 IF LEFT$(CT$,1)="S" THEN K=2
490 IF LEFT$(CT$,1)="E" THEN K=3

```

```
500 IF LEFT$(CT$,1)="W" THEN K=4
510 N=L:L=P(L,K)
520 IF L<1 THEN PRINT "YOU CANNOT GO
  THAT WAY":L=N
530 RETURN
540 DV=0
550 FOR CT=1 TO 54 STEP 3
560 IF MID$(O$,CT,3)=LEFT$(CT$,3) TH
  EN DV=CT
570 NEXT
580 CT=(DV+2)/3:IF DV=0 THEN T=100:R
  ETURN
590 IF S>4 THEN PRINT "YOU MUST DROP
  SOMETHING FIRST":RETURN
600 IF (CT=8 OR CT=13) AND S>2 THEN
  PRINT "TO CARRY THE ";O$(CT); " YOU C
  AN ONLY":PRINT "CARRY TWO OTHER ITEM
  S.":RETURN
610 IF L(CT)<L THEN PRINT "IT IS NO
  T HERE":RETURN
620 IF CT=3 OR CT=11 THEN PRINT "DON
  'T BE A FOOL, IT'S TOO HEAVY BY FAR.
  ":RETURN
630 IF L(17)=3 THEN ST=25:GOSUB 2080
640 IF L(17)=3 THEN PRINT "THE ALARM
  S HAVE SOUNDED, YOU HAVEN'T MUCH
  TIME":L(17)=0:RETURN
650 IF L(CT)=L THEN L(CT)=0:PRINT "Y
  OU ARE NOW CARRYING THE ";O$(CT):RET
  URN
660 IF L=3 AND CT=17 THEN PRINT "THE
```

```

Y ARE OUT OF REACH":RETURN
670 DV=0:FOR CT=1 TO 54 STEP 3:IF LE
FT#(CT#,3)=MID$(D#,CT,3) THEN DV=CT
680 NEXT CT:CT=(DV+2)/3:IF DV=0 THEN
  T=100:RETURN
690 IF S=0 THEN PRINT "YOU HAVE NOTH
ING TO DROP":RETURN
700 IF L(CT)<>0 THEN PRINT "YOU DON'
T HAVE IT TO DROP":RETURN
710 L(CT)=L:PRINT "YOU HAVE DROPPED
THE ";D$(CT):RETURN
720 IF L(2)<>0 THEN PRINT "IT'S TOO
DARK TO READ!":RETURN
730 IF L(4)<>L AND L(17)<>L AND L(19
)<>L AND L(4)<>0 AND L(17)<>0 AND L(
18)<>0 THEN PRINT "THERE IS NOTHING
TO READ!"
740 IF L(4)=L THEN PRINT "READS:":P
EN 3:PRINT"TELVSRITEAHOMPECEAEHWSRO
":PEN 1
750 IF L(4)=L THEN PRINT "IT'S WRITT
EN IN CODE, YOU NEED THE      COMPUT
ER TO DECODE IT"
760 IF L(18)=L THEN PRINT "DON'T WAS
TE YOUR TIME, THEY'RE THE      ACCOU
NTS OF THE COMPANY...EXTREMELY DULL"
770 IF L(17)=L THEN PRINT "YOUR JOB
IS TO STEAL THEM NOT TO READ  THEM.
":SOUND 1,4000,150,15
780 PRINT:PRINT"PRESS ENTER TO CONTI
NUE":INPUT L#:RETURN

```

```
790 IF (L(8)=0 OR L(13)=0) AND (CT#="LAD" OR CT#="STO") AND L=3 THEN PRINT "YOU CAN REACH THE SECRET-PAPERS NOW":L(17)=3:RETURN
800 IF L=6 THEN PRINT "YOU CANNOT CLIMB OVER THE FENCE":RETURN
810 IF L=6 AND L(6)=35 AND L(9)=0 AND CT#="FEN" THEN PRINT "THE FENCE HAS BEEN CUT, YOU CAN GET OUT BY GOING NORTH":P(6,1)=7:RETURN
820 IF L=6 AND L(6)<>35 AND L(9)=0 AND CT#="FEN" THEN PRINT "YOU CUT THE FENCE BUT FORGOT IT WAS ELECTRIC...YOU HAVE BEEN FRIED!!!":SOUND 1,10,150,15:GOTO 1470
830 RETURN
840 IF L=20 AND CT#="MONEY" AND L(19)=0 THEN PRINT "THE MACHINE ACCEPTS THE NOTES AND CHANGES THEM INTO A SINGLE COIN":O#(19)="COIN":MID$(O#,29,3)="COI":RETURN
850 PRINT "THIS MACHINE CHANGES MONEY (in notes) INTO COINS. IT DOES NOTHING ELSE":RETURN
860 DDV=0:FOR M=1 TO 4:IF P(L,M)=-1 THEN DDV=1
870 NEXT M:IF DDV=1 AND L(14)=0 THEN KY=KY+1
880 IF KY=3 THEN KY=0:L(14)=37:PRINT "THE KEY WAS OLD AND YOU USED IT TOO OFTEN, IT HAS CRUMBLED INTO DU
```

```

ST":RETURN
890 IF DDV<>1 OR L(14)<>0 OR CT#<>"D
DD" THEN 960
900 PRINT "WITH A CREAK, THE DOOR OP
ENS...":GOSUB 2140
910 IF L=19 THEN P(19,2)=19:P(18,1)=
19
920 IF L=2 OR L=27 THEN P(2,1)=27:P(
27,2)=2
930 IF L=16 OR L=28 THEN P(28,2)=16:
P(16,1)=28
940 IF L=21 OR L=22 THEN P(22,3)=21:
P(21,4)=22
950 RETURN
960 IF L=19 THEN PRINT "YOU ARE TRAP
PED INSIDE THE VAULT":IF L(14)<>0 TH
EN 1470
970 IF DDV<>1 THEN PRINT "THERE IS NO
DOOR TO UNLOCK FOOL!":RETURN
980 IF L(14)<>0 THEN PRINT"YOU DON'T
HAVE THE KEY":RETURN
990 T=100:RETURN
1000 IF GS=1 AND G1=L AND L(1)=0 AND
LEFT$(CT#,2)="GU" THEN 1060
1010 IF G1<>L THEN PRINT "THERE IS N
O GUARD HERE!"
1020 IF L(1)<>0 THEN PRINT "YOU HAVE
NOTHING TO FIRE WITH"
1030 IF LEFT$(CT#,2)<>"GU" THEN PRIN
T "WITH WHAT?"
1040 IF L(1)=0 AND G1=L AND LEFT$(CT

```

```
#,2)="GU" AND GSK>1 THEN PRINT "YOU  
KILLED HIM BUT THE GUNSHOTS HAVE  
ACTIVATED THE SONIC ALARM...YOU HAVE  
LITTLE TIME TO ESCAPE"ST=15:GOSU  
B 2090:G1=INT(RND*28)+2:IF G1=L OR G  
1=28 THEN G1=G1-1  
1050 RETURN  
1060 IF RND<0.33 THEN PRINT "YOU MIS  
SED HIM":RETURN  
1070 PRINT "YOU KILLED HIM":G1=RND(2  
8)+2:IF G1=L OR G1=28 OR G1=7 THEN 1  
070  
1080 RETURN  
1090 PRINT "TIME PASSES...":FOR TT=1  
TO 6000:NEXT TT:RETURN  
1100 IF LEFT$(CT#.3)<>"COF" OR L<>4  
THEN PRINT "DRINK WHAT? ARE YOU INEA  
NE?":RETURN  
1110 IF L=4 AND L(7)<>0 THEN PRINT "  
YOU HAVE NOTHING TO DRINK FROM":RETU  
RN  
1120 PRINT "YUK! IT TASTES AWFUL, BU  
T WHAT DO YOU EXPECT FROM A MACHINE  
?":RETURN  
1130 IF L(2)<>0 THEN PRINT "IT'S TOO  
DARK TO LOOK AROUND OR SEARCH":RETU  
RN  
1140 IF L=3 THEN PRINT "THE SECRET-P  
APERS ARE ON THE TOP SHELF":RETURN  
1150 IF L=21 THEN PRINT "THERE IS A  
COIN LOCK ON A TOILET DOOR":RETURN
```

```
1160 IF L=2 THEN PRINT "THERE IS A LOCKED DOOR WESTWARD. IT IS CONTROLLED VIA A CENTRAL COMPUTER, THE ONLY POSSIBLE WAY TO OPEN IT IS TO CALCULATE IT'S SYSTEM CODE":RETURN
1170 IF L=28 THEN PRINT "THERE IS A SIGN SAYING TO GO UP, ENTER 'GO N'. ONCE UP, TO GO DOWN, ENTER 'GO S'. (TYPICAL BUREAUCRATIC DIRECTIONS!)" :RETURN
1180 PRINT "I'M LOOKING, BUT THERE'S LITTLE TO SEE":RETURN
1190 IF L(6)=0 THEN PRINT "THEY FIT YOU PERFECTLY":G#="YOU ARE WEARING G LOVES":L(6)=35:RETURN
1200 PRINT "YOU ARE WEARING ALL THAT YOU OWN":RETURN
1210 IF L(5)=0 AND RIGHT$(CT$, 4)="MEMO" THEN PRINT "THE MEMO READS...":FOR T=1 TO 3000:NEXT T:PRINT "THE GLOVES ARE IN THE WASHROOM":RETURN
1220 IF L(5)=0 AND L=2 THEN PRINT "THE ANSWER TO THE DOOR CODE HAS BEEN FOUND, JUST ENTER 'GO WEST'":P(2,4)=3:P(3,3)=2:RETURN
1230 PRINT "HELP YOURSELF, NO CLUES FROM ME":RETURN
1240 PRINT:INPUT "HAVE YOU REALLY HAD ENOUGH":A#
1250 IF LEFT$(A#,1)="Y" THEN PRINT "OK. YOU HAVE GIVEN UP...":MODE 0:PRI
```

```
NT "          COWARD!":END
1260 RETURN
1270 IF LEFT$(CT$,3)="GUN" AND MID$(
N$,5,2)="SILENCER" AND L(12)=0 AND L
(1)=0 THEN G1=1:PRINT "THE SILENCER
IS ATTACHED, NOW YOU CAN  FIRE QUIE
TLY":RETURN
1280 IF LEFT$(CT$,3)="LOC" AND MID$(
N$,5,4)="COIN" AND CC=1 AND L=21 THE
N PRINT "THE DOOR SWINGS OPEN, REVEA
LING A PAIR  OF GLOVES":L(6)=21:RETU
RN
1290 PRINT "YOU CANNOT PUT THAT THER
E!":RETURN
1300 IF G1=L THEN 1320
1310 PRINT "THERE'S NO ONE NEAR YOU
:RETURN
1320 INPUT "WITH WHAT";W$: IF LEFT$(W
$,4)="WIRE" AND L(9)=0 AND RND<0.55
THEN PRINT "THAT GOT HIM!":G1=0
1330 IF W$="ROPE" AND L(16)=0 AND RN
D<0.5 THEN PRINT "THAT FINISHED HIM
OFF!":G1=0
1340 IF LEFT$(W$,4)<>"WIRE" AND W$<>
"ROPE" THEN 1370
1350 IF G1=0 THEN G1=INT(RND*28)+2: I
F G1=28 OR G1=L OR G1=7 THEN 1350
1360 RETURN
1370 PRINT "YOU WILL HAVE TO FIGHT W
ITH YOUR BARE  HANDS...": IF RND>0.9
5 THEN PRINT "YOU KILLED HIM":G1=0:G
```



```
070 1350
1380 RETURN
1390 PRINT:PRINT "YOU WERE 100% SUCCESSFUL ON YOUR MISSION AND THE ORGANISATION WILL KINDLY LET YOU KEEP THE OBJECTS THAT YOU HAVE COLLECTED"
1400 FOR T=1 TO 19:READ A(T):NEXT T
1410 FOR T=1 TO 19:IF L(T)=0 THEN PRINT D$(T);" WORTH #";A(T)
1420 NEXT T
1430 PRINT:PRINT:PRINT "XXXXXXXXXXEXCEPT THE SECRET PAPERS/////////"
1440 LOCATE 1,24:END
1450 PRINT "YOU'RE SAFELY AWAY BUT WITHOUT THE PAPERS. THE ORGANISATION IS NOT PLEASED.THEY HAVE SENT YOU BACK AGAIN"
1460 WHILE INKEY#="" :WEND:RUN
1470 REM*****FAILURE*****
1480 BORDER 0:INK 1,0
1490 CLS:LOCATE 4,9
1500 PRINT "NO ONE FAILS THE ORGANISATION AND LIVES TO TELL THE TALE..."
1510 FOR V=300 TO 900 STEP 20
1520 SOUND 1,V
1530 NEXT V
1540 SOUND 1,3000,250,15
1550 MODE 0:INK 0,0:PEN 3
1560 LOCATE 9,12
1570 PRINT "R.I.P"
1580 LOCATE 14,24
```

```
1590 END
1600 REM*****COMMAND HANDLING*****
1610 T=1: IF LEN(N#)<3 THEN T=100:RET
URN
1620 B#=MID$(C#,T,3): IF B#=LEFT$(N#,
3) THEN T=(T+2)/3:GOTO 1650
1630 IF T>97 THEN 1660
1640 T=T+3:GOTO 1620
1650 FOR CT=LEN(N#) TO 1 STEP-1: IF M
ID$(N#,CT,1)=" " THEN CT#=MID$(N#,CT
+1,3) ELSE NEXT CT
1660 RETURN
1670 REM*****INITIALISATION*****
1680 DIM D$(18),L$(30),P$(30,4),L(18)
,A(18)
1690 FOR T=1 TO 18:READ D$(T):NEXT
1700 FOR T=1 TO 30:READ L$(T):NEXT
1710 FOR T=1 TO 18:READ L(T):NEXT
1720 DATA GUN,TORCH,COFFEE-MACHINE,S
CRIBBLED-MEMO,POCKET COMPUTER,GLOVES
,CUP,STOOL,WIRECUTTERS
1730 DATA MONEY,COIN-MACHINE,SILENCE
R,LADDER,KEY,PAPER-CLIPS,ROPE,SECRET
-PAPERS,PAPERS
1740 DATA THE MAIN ENTRANCE,THE RECE
PTION AREA,THE DOCUMENT ROOM,THE STA
FF CANTEEN,THE DELIVERY ROOM
1750 DATA A CORNER OF THE YARD NEXT
TO AN ELECTRIC FENCE,THE ALL
EYWAY BEHIND THE COMPLEX - A CAR
IS WAITING
```

```
1760 DATA THE COMPUTER ROOM,THE MAIN  
TAINANCE AREA,A DARK CORRIDOR,THE RE  
CORDS DEPARTMENT,AN UNTIDY OFFICE  
1770 DATA THE TYPING POOL,THE RECREA  
TION ROOM,A NARROW CORRIDOR,A PLUSH  
CONFERENCE ROOM,AN UNLIT OFFICE  
1780 DATA THE STRONGROOM NEXT TO THE  
VAULT,THE STEEL VAULT,THE ACCOUNTS  
DEPARTMENT,THE EXECUTIVE WASHROOMS  
1790 DATA A COLD BARE ROOM,A DARK CO  
RRIDOR,A CLEAN NEW STORE ROOM,A LARG  
E CUPBOARD,A BRIGHT HALLWAY  
1800 DATA THE TELEX ROOM,A LIFT, THE  
DIRECTORS BOARDROOM,A SPACIOUS OFFI  
CE  
1810 DATA 0,2,4,27,8,33,25,13,9,19,2  
0,30,5,10,13,11,34,11  
1820 D$="NORTHSOUTHEAST WEST"  
1830 C$="GO MOVTAKEGETSTEDROREACLICUT  
CHAPEUNLFIIRSHOWAIDRISEALDOWEACOMCAL  
DECHELCLUQUIPUTHITFIGATTKIL"  
1840 O$="GUNTORCOEFMEMCOMGLOCLUPSTOWIR  
MONCOISILLADKEYCLIROFSECFAP"  
1850 P$="PARDON? WHAT? RUBBISH!REF  
HRASE"  
1860 L=1:L(1)=0:K=0:ST=10000:KY=0:GS  
=0  
1870 RANDOMIZE TIME  
1880 G1=INT(RND*28)+2:IF G1=28 OR G=  
7 THEN 1890  
1890 DC=INT(RND*6)+4
```

```
1900 FOR X=1 TO 30:FOR Y=1 TO 4:READ
  P(X,Y):NEXT:NEXT
1910 DATA 2,0,0,0,-1,1,4,0,0,0,2,0,0
,10,9,2,0,15,6,0,0,0,5,0,0,0,0,15,
24,0,21,20,8,13,9
1920 DATA 4,0,9,1,0,27,14,12,17,0,11
,16,16,0,0,9,26,0,19,11,5,8,0,21,-1,
23,12,26,22,12,15,0
1930 DATA 19,20,18,14,0,-1,0,0,18,9,
0,0,2,17,8,-1,0,17,-1,28,16,23,0,17,
8,0,26,12,0,0,0,27
1940 DATA 6,14,0,24,11,-1,25,13,29,1
6,0,0,28,0,0,30,0,0,29,0
1950 DATA 80,10,0,1,200,8,3,10,22,0,
0,10,40,10,1,27,1000000,2
1960 RETURN
1970 CLS:NN$="THE STEINBERG FILES."
1980 LOCATE 7,15:PRINT "A FULL-SCALE
  TEXT ADVENTURE"
1990 LOCATE 13,20:PRINT CHR$(164);".
1994 C.GIFFORD"
2000 FOR F=1 TO 3
2010 FOR T=1 TO 20:LOCATE 10,12
2020 PRINT MID$(NN$,T,21-T)
2030 LOCATE 31-T,12:PRINT LEFT$(NN$,
  T)
2040 FOR DL=1 TO 50:NEXT DL
2050 NEXT T:NEXT F
2060 LOCATE 10,12:PRINT " ":WHILE I
NKEY#="" :WEND:RETURN
2070 REM*****SOUND FX*****
```

```
2080 REM*****SIREN/ALARM*****  
2090 FOR T=1 TO 6  
2100 SOUND 1,100: SOUND 2,100: SOUND 3  
,100  
2110 SOUND 1,200: SOUND 2,200: SOUND 3  
,200  
2120 NEXT T  
2130 RETURN  
2140 REM*****RISING TONE*****  
2150 REM*****FOR DOOR CREAK***  
2160 FOR G=900 TO 700 STEP-10  
2170 SOUND 1,G,10  
2180 NEXT G  
2190 RETURN
```

# CHARACTER GENERATOR

This program will be very useful if you play adventure games on boards. This program creates characters, so often used in these games. A name is randomly created along with its height and weight and its characteristics such as dexterity and intelligence.

```
10 REM*****  
*  
20 REM*****CHARACTER GENERATOR*****  
*  
30 REM***FOR ROLE-PLAYING GAMES***  
*  
40 REM*****  
*  
50 GOSUB 420  
60 RANDOMIZE TIME  
70 D=0:FOR X=1 TO 9  
80 GOSUB 390:IF X>3 THEN 110  
90 IF A(X)>12 THEN D=D+A(X)-12  
100 IF A(X)<9 THEN D=D+A(X)-9  
110 NEXT  
120 X=9:GOSUB 390  
130 IF ABS(A(8)-A(9))>3 THEN 120  
140 T=1:FOR X=1 TO 5  
150 IF A(X)<12 THEN 180  
160 NEXT X  
170 T=4:GOTO 220  
180 IF A(2)<10 OR A(5)<8 OR A(1)<8 T
```

```

HEN 200
190 IF A(2)>A(3) AND A(2)>A(1) THEN
T=2
200 IF A(1)>A(2) AND A(1)>A(3) THEN
T=1
210 IF A(3)>A(1) OR A(3)>A(2) THEN T
=3
220 A(7)=A(7)*10
230 GOSUB 370
240 A(8)=A(8)-2:A(9)=A(9)-2
250 GOSUB 370
260 PRINT
270 PRINT "TYPE:";T$(T)
280 FOR X=0 TO 6
290 PRINT MID$(A$, (3*X)+1,3);"  ":";A
(X+1)
300 NEXT X
310 PRINT "HT.  ":";INT(H(A(8))/12);"
FT ":";H(A(8))-INT(H(A(8))/12)*12;"INS
."
320 PRINT "WT.  ":";W(A(9));"LBS."
330 PRINT:PRINT "ADDS:";D
340 FOR T=1 TO 4000:NEXT T
350 IF INKEY#="" THEN 70
360 END
370 REM***NAME SELECTION***
380 PRINT F$(INT(RND*15));"  ":";S$(INT
(RND*25)):RETURN
390 A(X)=0:FOR Y=1 TO 3
400 A(X)=A(X)+INT(RND*6):NEXT Y
410 RETURN

```

```
420 REM***INITIALISATION***
430 DIM T$(4):FOR T=1 TO 4:READ T$(T)
):NEXT T
440 A$="ST.ID.LK.CONDEXCHRGLD"
450 DATA "WARRIOR","WIZARD","ROGUE",
"WARRIOR-WIZARD"
460 DIM F$(15),S$(25),A(9)
470 FOR T=1 TO 15:READ F$(T):NEXT T
480 FOR T=1 TO 25:READ S$(T):NEXT T
490 DATA "FRIT","SCANDOR","DOGNOSE",
"CRAYAK","GRENDAI","CRUK","RAC","MEN
THEN"
500 DATA "KENT","SHRILL","OLAF","CLA
RK","FENNEL","KIP","GLIME"
510 DATA "THE COURAGEOUS","THE STRON
G","BLOODLETTER","BONEBREAKER","OF S
NEARGUARD","THE WISE"
520 DATA "DEVILLE","THE QUICK","BLOO
DLETTER","THE PULPER","THE REAPER"
530 DATA "OF BORKSVILLE","THE LIQUID
ISER","BODYSQUASHER","BRAINSQUEEZER"
,"IRONFIST"
540 DATA "WIDOWMAKER","THE DEATHBRIN
GER","OBTROSS","WINEGUZZLER"
550 DATA "FLESHEATER","SPELLBINDER",
"THE MYSTERIOUS","THE ANCIENT","OF K
ARATOGA"
560 DIM H(16):FOR X=1 TO 16:H(X)=INT
(48.5+((X-1)*2.5)):NEXT X
570 DIM W(16):FOR T=1 TO 16:READ W(T)
):NEXT T
```



```
580 DATA 75,90,105,120,135,150,160,1  
70,190,190,200,225,250,280,310,350  
590 RETURN
```



# GAMES OF STRATEGY AND LOGIC

All of the games in this section were first played a long time ago, rather than on a computer. The games have been computerised to provide you with an opponent that will play whenever you want to and play well.

I must thank Tim Hartnell, the very well-known computer author, programmer and publisher for providing the basic versions of these programs which were converted to the Amstrad computer. Tim has produced some excellent algorithms and has kept the programs as short as possible while keeping the games as close to the originals and making the computer a tough player to beat.

These games require plenty of thought to play. Touches of Amstrad colour, sound and graphics have been added to liven them up. I'm sure you will find them exciting and worthwhile to play.

# CHESS

I must particularly thank Tim Hartnell for this contribution to the book. Chess is one of the greatest challenges which can face the computer programmer and I think Tim's effort (even if limited, and in BASIC) is highly commendable. The combination of moves, strategies and rules in chess is frightening to consider and yet all of these must be brought together into some kind of logical structure.

The hardest part of a chess program is to make the computer play chess properly and to some sort of strategy. Tim has included a fair amount of strategy and the game responds very quickly compared to many other versions of chess available. You have to watch the computer when it plays, as it does have some problems getting out of check and does not play the best game of chess in the world. Despite this, I'm sure that you will agree that it is some programming achievement.

You will see that the pieces are presented on a numbered and lettered grid. To move a piece you enter the position of your piece (letter and number) followed by the position you want to move it to. If you want to end the game, enter 'S'.

The game also offers an 'exchange sides' feature. You can swap sides at any stage of the game just by typing 'X'.

If the computer moves into check, this is a sign that it wishes to resign.

```
10 REM*****CHESS*****
20 GOSUB 3840
30 GOSUB 3070
40 GOTO 70
50 GOSUB 2612
60 GOSUB 2890
70 GOSUB 2612
80 REM*****
***
90 IF A$="S" THEN END
```

```

100 IF A$="X" THEN PRINT "EXCHANGING
    SIDES":GOSUB 3640:A$=""
110 REM*****
    ***
120 FOR Z=1 TO 16:T(Z)=0:NEXT Z
130 U=0
140 PRINT "PLEASE STAND BY..."
150 FOR Q=1 TO 64:IF A(S(Q))>=PB AND
    A(S(Q))<=RB THEN U=U+1:T(U)=S(Q):IF
    A(S(Q))=KB THEN KM=S(Q)
160 NEXT Q:IF U<3 THEN GOTO 2250
170 GOTO 650
180 FOR Q=1 TO U:IF A(T(Q))=KB THEN
    T(Q)=T(U):T(U)=KM
190 NEXT Q
200 Q=INT(RND*3)
210 IF A$="C" THEN Q=0
220 IF Q<U THEN Q=Q+1
230 Z=T(Q):GOSUB 280
240 IF MM=1 THEN GOSUB 2520:GOTO 50
250 IF Q<U THEN 220
260 GOTO 2380
270 REM*****
    ***
280 IF A(Z)=QB THEN GOSUB 920
290 IF A(Z)=RB THEN GOSUB 1180
300 IF A(Z)=BB THEN GOSUB 1430
310 IF A(Z)=NB THEN GOSUB 1710
320 IF A(Z)=PB THEN GOSUB 2260
330 RETURN
340 REM*****

```

\*\*\*

```
350 IF A(X)=107 THEN MM=0:Q=Q+1:RETI  
RN  
360 IF X+9>88 THEN 380  
370 IF A(X+9)<83 AND A(X+9)>65 AND R  
ND<0.96 THEN RETURN  
380 IF X-11<11 THEN 400  
390 IF A(X-11)<83 AND A(X-11)>65 AND  
RND<0.96 THEN RETURN  
400 AD=0  
410 AY=0  
420 AX=X+Q(AY+AD)  
430 IF AX<11 OR AX>88 THEN 460  
440 AP=A(AX)  
450 IF AP=Q OR AP=R AND RND>0.8 OR A  
P=B AND RND>0.5 THEN RETURN  
460 AY=AY+1  
470 IF AY<8 THEN 420  
480 AD=AD+7  
490 IF AD<56 THEN 410  
500 AY=1  
510 AX=X+N(AY)  
520 IF AX<11 OR AX>88 THEN 540  
530 IF A(AX)=N THEN RETURN  
540 AY=AY+1  
550 IF AY<9 THEN 510  
560 AY=1  
570 AX=X+K(AY)  
580 IF AX<11 OR AX>88 THEN 600  
590 IF (A(AX)=K OR A(AX)=P) AND RND>  
0.1 THEN RETURN
```

```

600 AY=AY+1
610 IF AY<9 THEN 570
620 MM=1
630 RETURN
640 REM*****
***
650 Z=KM
660 Y=0
670 Y=Y+1
680 X=Z+N(Y)
690 IF X<11 OR X>88 THEN 600
700 IF A(X)=N THEN 1890
710 IF Y<8 THEN 670
720 REM*****
***
730 D=0
740 Y=1
750 KM$=STR$(KM): IF RIGHT$(KM$,1)="8
" THEN K(1)=0:K(2)=0:K(6)=0 ELSE K(1
)=1:K(2)=11:K(6)=-9
760 X=Z+Q(Y+D)
770 IF X<11 OR X>88 THEN 820
780 IF A(X)=B OR A(X)=Q OR A(X)=R TH
EN 1890
790 IF A(X)<>E THEN 820
800 Y=Y+1
810 IF Y<8 THEN 760
820 D=D+7
830 IF D<49 THEN 760
840 X=Z+11
850 IF X>88 THEN 870

```

```
860 IF A(X)=P THEN 1890
870 X=Z-11
880 IF X<11 THEN 180
890 IF A(X)=P THEN 1890
900 GOTO 180
910 REM*****
****
920 D=0
930 Y=1
940 X=Z+Q(Y+D)
950 IF X<11 OR X>88 THEN 1010
960 IF A(X)=42 OR A(X)>=BB AND A(X)<
=RB THEN 1010
970 IF A(X)>=B AND A(X)<=R THEN GOSU
B 350: IF MM<>1 THEN 1010
980 IF MM=1 THEN RETURN
990 Y=Y+1
1000 IF Y<7 THEN 940
1010 D=D+7
1020 IF D<42 THEN 930
1030 RETURN
1040 REM*****
****
1050 D=0
1060 Y=1
1070 X=Z+Q(Y+D)
1080 IF X<11 OR X>88 THEN 1140
1090 IF A(X)<>E THEN 1140
1100 IF RND>0.5 THEN GOSUB 350: IF MM
=0 THEN GOTO 1140
1110 IF MM=1 THEN RETURN
```



```

1120 Y=Y+1
1130 IF Y<8 THEN GOTO 1070
1140 D=D+7
1150 IF D<49 THEN 1060
1160 RETURN
1170 REM*****
****
1180 D=0
1190 Y=1
1200 X=Z+R*(Y+D)
1210 IF X<11 OR X>88 THEN 1270
1220 IF A(X)=42 OR A(X)>=88 AND A(X)
<=88 THEN 1710
1230 IF A(X)>=8 AND A(X)<=8 THEN GOS
UB 350:IF MM=0 THEN GOTO 1270
1240 IF MM=1 THEN RETURN
1250 Y=Y+1
1260 IF Y<7 THEN 1200
1270 D=D+7
1280 IF D<21 THEN 1190
1290 RETURN
1300 REM*****
****
1310 D=0
1320 Y=1
1330 X=Z+R*(Y+D)
1340 IF X<11 OR X>88 THEN 1400
1350 IF A(X)<>8 THEN 1400
1360 IF RND<0.1 THEN GOSUB 350
1370 IF MM=1 THEN RETURN
1380 Y=Y+1

```

```
1390 IF Y<7 THEN 1330
1400 D=D+7
1410 IF D<21 THEN 1320
1420 RETURN
1430 IF A(Z)<>BB THEN RETURN
1440 REM*****
****
1450 D=0
1460 Y=1
1470 X=Z+B(Y+D)
1480 IF X<11 OR X>88 THEN 1540
1490 IF A(X)=42 OR A(X)>=BB AND A(X)
<=RB THEN 1540
1500 IF A(X)>=B AND A(X)<=R THEN GOS
UB 350:IF MM<>1 THEN 1540
1510 IF MM=1 THEN RETURN
1520 Y=Y+1
1530 IF Y<7 THEN 1470
1540 D=D+7
1550 IF D<21 THEN 1460
1560 RETURN
1570 REM*****
****
1580 D=0
1590 Y=1
1600 X=Z+B(Y+D)
1610 IF X<11 OR X>88 THEN 1670
1620 IF A(X)<>E THEN 1670
1630 IF RND>.05 THEN GOSUB 350:IF M
M<>1 THEN 1670
1640 IF MM=1 THEN RETURN
```

```

1650 Y=Y+1
1660 IF Y<7 THEN 1600
1670 D=D+7
1680 IF D<21 THEN 1590
1690 RETURN
1700 REM*****
****
1710 Y=1
1720 X=Z+N(Y)
1730 IF X<11 OR X>88 THEN 1770
1740 IF A(X)=42 THEN 1770
1750 IF A(X)>=B AND A(X)<=R THEN GOS
UB 350
1760 IF MM=1 THEN RETURN
1770 Y=Y+1
1780 IF Y<9 THEN 1720
1790 RETURN
1800 REM*****
****
1810 Y=0
1820 X=Z+N(INT(RND*8+1))
1830 IF X<11 OR X>88 THEN 1820
1840 IF A(X)=42 THEN 1820
1850 Y=Y+1
1860 IF A(X)=E THEN GOSUB 350
1870 IF MM=1 OR Y>20 THEN RETURN
1880 GOTO 1820
1890 YK=1
1900 Z=KM
1910 X=Z+K(YK):X1=X
1920 IF X<11 OR X>88 THEN 2220

```

```
1930 IF A(X)=42 OR A(X)>65 AND A(X)<
83 THEN 2220
1940 IF A(X)>97 AND A(X)<115 THEN 22
20
1950 Z=X
1960 Y=0
1970 Y=Y+1
1980 X=Z+N(Y)
1990 IF X<11 OR X>88 THEN 2010
2000 IF A(X)=N THEN 2220
2010 IF Y<8 THEN 1970
2020 REM*****
***
2030 D=0
2040 Y=1
2050 X=Z+Q(Y+D)
2060 IF X<11 OR X>88 THEN 2110
2070 IF A(X)=B OR A(X)=Q OR A(X)=R T
HEN 2220
2080 IF A(X)<>E THEN 2110
2090 Y=Y+1
2100 IF Y<8 THEN 2050
2110 D=D+7
2120 IF D<49 THEN 2050
2130 X=Z+11
2140 IF X>88 THEN 2160
2150 IF A(X)=P THEN 2220
2160 X=Z-11
2170 IF X<11 THEN 2190
2180 IF A(X)=P THEN 2220
2190 X=X1:Z=KM
```

```

2200 MM=1
2210 GOSUB 2520:GOTO 50
2220 YK=YK+1
2230 Z=KM
2240 IF YK<9 THEN 1900
2250 CLS:LOCATE 10,12:PRINT "I conce
de Champ!":END
2260 X=Z+9
2270 IF A(X)>=B AND A(X)<=R THEN MM=
1:IF A(X)=P AND RND<0.2 THEN MM=0
2280 IF MM=1 THEN RETURN
2290 IF Z=12 THEN RETURN
2300 X=Z-11
2310 IF A(X)>=B AND A(X)<=R THEN MM=
1:IF A(X)=P AND RND<0.2 THEN MM=0
2320 RETURN
2330 REM*****
***
2340 IF Z-10*(INT(Z/10))=7 AND A(Z-1
)=E AND A(Z-2)=E AND (A(Z-13)=E OR A
(Z-13)=42) AND (A(Z+7)=E OR A(Z+7)=4
2) THEN X=Z-2:MM=1:RETURN
2350 IF A(Z-1)=E AND A(Z-12)<98 AND
A(Z+8)<98 THEN X=Z-1:MM=1:RETURN
2360 IF RND<0 AND A(Z-1)=E THEN X=Z-
1:MM=1
2370 RETURN
2380 Q=INT(RND*RND*5):IF Q>U THEN 23
80
2390 IF Q<U THEN Q=Q+1
2400 Z=T(Q)

```

```

2410 IF A(Z)=PB THEN GOSUB 2340
2420 IF A(Z)=NB THEN GOSUB 1810
2430 IF A(Z)=BB THEN GOSUB 1580
2440 IF A(Z)=RB THEN GOSUB 1310
2450 IF A(Z)=QB THEN GOSUB 1050
2460 IF A(Z)=KB AND A$<>"C" AND RND<
0.07 THEN GOSUB 1890
2470 IF MM=0 AND Q<U THEN GOTO 2390
2480 IF MM=1 THEN GOSUB 2520:GOTO 50
2490 UK=UK+1:IF UK>8 THEN 2250
2500 GOTO 2380
2510 REM*****
***
2520 IF A(Z)=KB AND A$<>"C" AND RND>
0.1 THEN MM=0:GOTO 2380
2530 IF A(Z)=PB AND ((X-10*INT(X/10)
>Z-10*INT(Z/10) OR ABS(X-Z)>11)) THE
N MM=0:U=U+1:GOTO 230
2540 IF A(X)=K THEN PRINT "CHECK":MM
=0:U=U+1:GOTO 230
2550 A(X)=A(Z):A(Z)=E
2560 PRINT"I will move from ";
2570 FZ=INT(Z/10):PRINT CHR$(FZ+64);
Z-10*FZ;" to ";;FX=INT(X/10):PRINT C
HR$(FX+64);X-10*FX:FOR O=1 TO 5000:N
EXT O
2580 RETURN
2590 REM*****
***
2600 MODE 1:INK 1,0:INK 0,11
2612 CLS

```

```

2620 PEN 2
2630 GOSUB 2740
2640 SOUND 1,100:SOUND 1,130:SOUND 1
,90
2650 FOR X=8 TO 1 STEP-1
2660 PRINT TAB(10);X;" ";
2670 FOR Y=10 TO 80 STEP 10
2680 IF A(Y+1)=PB THEN A(Y+1)=QB
2690 IF A(Y+8)=P THEN A(Y+8)=Q
2700 IF A(X+Y)<85 AND A(X+Y)>50 THEN
PEN 3
2710 IF A(X+Y)>85 THEN SD=A(X+Y)-32:
PEN 1:PRINT CHR$(SD);" ";;PEN 2:GOTO
2730
2720 PRINT CHR$(A(X+Y));" ";;PEN 2
2730 NEXT Y:PEN 2:PRINT X:PRINT:NEXT
X:MM=0
2740 PRINT TAB(14);"A B C D E F G H"
:PRINT
2750 REM*****
****
2760 RETURN
2770 Z=KM
2780 QK=0
2790 M=Z+K(QK)
2800 IF M<11 OR M>88 THEN 2850
2810 IF A(M)=42 OR A(M)>65 AND A(M)<
83 OR MM=0 THEN 2850
2820 X=M
2830 KM=Z
2840 RETURN

```

```
2850 IF QK<8 THEN 2790
2860 IF A$<>"C" THEN RETURN
2870 GOTO 2250
2880 REM*****
****
2890 PRINT
2900 INPUT"From (Letter,Number)";A$
2910 IF LEN(A$)<>2 THEN 2890
2920 LOCATE 29,22
2930 INPUT"To";B$
2940 IF LEN(B$)<>2 THEN 2930
2950 X=10*(ASC(A$)-64)+VAL(RIGHT$(A$,1))
2960 Y=10*(ASC(B$)-64)+VAL(RIGHT$(B$,1))
2970 PRINT "Enter 'C' - Check"
2980 PRINT "Enter 'X' - To exchange sides"
2990 PRINT "Enter 'S' - To stop game"
"
3000 INPUT "Or press ENTER to continue";A$
3010 IF A(Y)>=75 AND A(Y)<=82 THEN GOSUB 3760
3020 IF A(Y)=75 THEN 2250
3030 FOR DL=1 TO 3000:NEXT DL
3040 A(Y)=A(X)
3050 A(X)=46:RETURN
3060 REM*****
****
3070 CLS:PRINT "PLEASE ENGAGE CAPS L
```



```

DCK":PRINT "THEN PRESS ENTER"
3080 N=N+1:IF INKEY#="" THEN 3080
3090 RANDOMIZE N:CLS:PRINT "Please S
tand By..."
3100 DEFINT A-Z
3110 MM=0:A$=""
3120 DIM A(99),R(28),B(28),N(8),Q(56
),K(8),Z(88),S(64),T(16)
3130 P=112:R=114:N=110:B=98:Q=113:K=
107:E=46
3140 PB=80:RB=82:NB=78:BB=66:QB=81:K
B=75
3150 FOR Z=1 TO 99:A(Z)=-99:NEXT Z
3160 REM*****
***
3170 FOR Z=1 TO 64:READ X:READ Y:A(X
)=Y:NEXT Z
3180 DATA 18,82,28,78,38,66,48,81
3190 DATA 58,75,68,66,78,78,88,82
3200 DATA 17,80,27,80,37,80,47,80
3210 DATA 57,80,67,80,77,80,87,80
3220 DATA 16,46,26,46,36,46,46,46
3230 DATA 56,46,66,46,76,46,86,46
3240 DATA 15,46,25,46,35,46,45,46
3250 DATA 55,46,65,46,75,46,85,46
3260 DATA 14,46,24,46,34,46,44,46
3270 DATA 54,46,64,46,74,46,84,46
3280 DATA 13,46,23,46,33,46,43,46
3290 DATA 53,46,63,46,73,46,83,46
3300 DATA 12,112,22,112,32,112,42,11
2

```

```
3310 DATA 52,112,62,112,72,112,82,11
2
3320 DATA 11,114,21,110,31,98,41,113
3330 DATA 51,107,61,98,71,110,81,114
3340 REM*****
****
3350 RESTORE 3370
3360 FOR Z=1 TO 8:READ N(Z):NEXT Z
3370 DATA 19,-19,21,-21,-8,8,12,-12
3380 FOR Z=1 TO 28:READ R(Z):NEXT Z
3390 DATA 10,20,30,40,50,50,50
3400 DATA -1,-2,-3,-4,-5,-5,-5
3410 DATA -10,-20,-30,-40,-50,-50,-5
0
3420 DATA 1,2,3,4,5,5,5
3430 RESTORE 3450
3440 FOR Z=1 TO 28:READ B(Z):NEXT Z
3450 DATA -11,-22,-33,-44,-55,-55,-5
5
3460 DATA 11,22,33,44,55,55,55
3470 DATA 9,18,27,36,45,45,45
3480 DATA -9,-18,-27,-36,-45,-45,-45
3490 RESTORE 3390
3500 FOR Z=1 TO 56:READ Q(Z):NEXT Z
3510 FOR Z=1 TO 8:READ K(Z):NEXT Z
3520 DATA 1,11,9,10,-10,-9,-11,-1
3530 FOR Z=1 TO 64:READ S(Z):NEXT Z
3540 DATA 46,56,36,66,47,57,45,55
3550 DATA 37,67,35,65,28,78,27,77
3560 DATA 44,54,26,76,38,68,17,87
3570 DATA 18,88,34,64,25,75,16,86
```

```

3580 DATA 48,24,74,15,85,14,64,43
3590 DATA 53,33,62,23,73,52,42,62
3600 DATA 32,83,13,72,22,12,82,41
3610 DATA 51,31,61,21,71,11,81,58
3620 CLS:RETURN
3630 REM*****
***
3640 FOR Z=11 TO 88:Z(Z)=A(Z):NEXT Z
3650 FOR Z=11 TO 88:X=Z-10*INT(Z/10)
3660 IF X=0 OR X=9 THEN 3680
3670 A(Z)=Z(Z+9-X*2)
3680 NEXT Z
3690 FOR Z=11 TO 88:M=A(Z)
3700 IF M>=B THEN A(Z)=A(Z)+PB-P
3710 IF M<=RB AND M>=BB THEN A(Z)=A(
Z)-PB+P
3720 NEXT Z
3730 GOSUB 2610
3740 RETURN
3750 REM*****
***
3760 CM=INT(RND*4)+1
3770 ON CM GOSUB 3790,3800,3810,3820
3780 FOR J=1 TO 1000:NEXT J:RETURN
3790 PRINT "Well Done!":RETURN
3800 PRINT "Good Move":RETURN
3810 PRINT "Great Move, Champ!":RETU
RN
3820 PRINT "Got me...":RETURN
3830 RETURN
3840 REM*****TITLE PAGE*****

```

```
3850 PEN 1
3860 SYMBOL AFTER 32
3870 SYMBOL 42,255,255,255,255,2
55,255,255
3880 CLS
3890 LOCATE 1,2
3900 FOR T=1 TO 3
3910 PEN T
3920 PRINT" ***** * * *****
***** *****"
3930 PRINT" * * * *
* *"
3940 PRINT" * ***** *****
***** *****"
3950 PRINT" * * * *
* *"
3960 PRINT" ***** * * *****
***** *****"
3970 PRINT:PRINT:PRINT
3980 SOUND 1,250-(T*70)
3990 NEXT T
4000 LOCATE 1,25
4010 PEN 1
4020 PRINT TAB(9):"PRESS ANY KEY TO
START"
4030 WHILE INKEY#="":WEND
4040 SOUND 1,180
4050 RETURN
```

# REVERSI

In this game, also known as Othello (copyright Mine Of Information), you have to try and get most of the pieces on the board in your colour. You do this by placing your pieces in such a way to 'trap' the computer's pieces. Any piece or pieces trapped at both ends by the opponent's discs are 'reversed' to the opponent's colour.

Many people, the famous board game strategist David Levy among them, consider this to be a very fine game indeed. It is very simple to learn but can be played at any level for a lifetime. The only strategy hint that I will give is not to surrender the corners to the computer as these can make a big difference in the game. The original version of this game was written by Graham Charlton.

```

10 REM REVERSI
20 GOTO 1030
30 PRINT "MY MOVE..."
40 LOCATE 1,24
50 PRINT "* * * * * * * * * *"
60 S=0:T=X:H=0
70 FOR A=2 TO 9
80 TM=20-(A*2):LOCATE TM,24
90 PRINT " ";
100 SOUND 1,A*30
110 FOR B=2 TO 9
120 IF A(A,B)<>46 THEN 270
130 Q=0
140 FOR C=-1 TO 1:FOR D=-1 TO 1
150 K=0:F=A:G=B
160 IF A(F+C,G+D)<>S THEN 190
170 K=K+1:F=F+C:G=G+D
180 GOTO 160

```

```
190 IF A(F+C,G+D)<>T THEN 210
200 Q=Q+K
210 NEXT D:NEXT C
220 IF A=2 OR A=9 OR B=2 OR B=9 THEN
  Q=Q*2
230 IF A=3 OR A=8 OR B=3 OR B=8 THEN
  Q=Q/2
240 IF (A=2 OR A=9) AND (B=3 OR B=8)
  OR(A=3 OR A=8) AND (B=2 OR B=9) THE
N Q=Q/2
250 IF Q<H OR (RND<0.3 AND Q=H) THEN
  270
260 H=Q:M=A:N=B
270 NEXT B:NEXT A
280 IF H=0 AND R=0 THEN 930
290 IF H=0 THEN 310
300 GOSUB 920
310 GOSUB 430
320 INPUT"ENTER YOUR MOVE ";R
330 REM ENTER 0 TO PASS
340 S=X:T=0:REM LETTER 0
350 IF R=0 THEN 360
360 IF R<11 OR R>89 THEN 320
370 R=R+11
380 M=INT(R/10)
390 N=R-10*M
400 GOSUB 820
410 GOSUB 430
420 GOTO 30
430 REM PRINT BOARD
440 C=0:H=0
```

```

450 CLS
460 PRINT
470 PRINT TAB(5);"1 2 3 4 5 6 7 8"
480 FOR B=2 TO 9:PRINT B-1;" ";
490 FOR D=2 TO 9
500 IF A(B,D)=88 THEN PEN 3:PRINT "0
";
510 IF A(B,D)=79 THEN PEN 2:PRINT "0
";
520 PEN 1
530 IF A(B,D)=46 THEN PRINT ". ";
540 IF A(B,D)=X THEN C=C+1
550 IF A(B,D)=0 THEN H=H+1
560 NEXT D
570 PRINT B-1
580 PRINT
590 NEXT B
600 PRINT TAB(5);"1 2 3 4 5 6 7 8"
610 LOCATE 28,1
620 PEN 3
630 PRINT "OTHELLO"
640 SOUND 1,150
650 LOCATE 28,2
660 PRINT "======"
670 PEN 2
680 LOCATE 28,6
690 PRINT "0 ";;PEN 1
700 PRINT "IS YOURS"
710 LOCATE 28,10
720 PRINT "COMPUTER: ";;C
730 LOCATE 31,12

```

```
740 PRINT "HUMAN: "; H
750 IF H<C>63 THEN GOTO 940
760 LOCATE 28,16
770 PRINT "SIDE DIGIT"
780 LOCATE 28,17
790 PRINT " FIRST"
800 LOCATE 4,22
810 RETURN
820 FOR C=-1 TO 1:FOR D=-1 TO 1
830 F=M:G=N
840 IF A(F+C,G+D)<>S THEN 870
850 F=F+C:G=G+D
860 GOTO 840
870 IF A(F+C,G+D)<>T THEN 910
880 A(F,G)=T
890 IF M=F AND N=G THEN 910
900 F=F-C:G=G-D:GOTO 880
910 NEXT D:NEXT C
920 RETURN
930 GOSUB 430
940 FOR T=1 TO 3000:NEXT T
950 CLS
960 LOCATE 2,8
970 PRINT "MY SCORE: "; C: "          YOUR
    SCORE: "; H
980 LOCATE 7,13
990 IF C>H THEN PRINT "I'M THE CHAMP
!"
1000 IF H>C THEN PRINT "YOU'RE THE C
HAMP!"
1010 IF H=C THEN PRINT "IT'S A DRAW!"
"
```



```
1020 END
1030 CLS
1040 X=ASC("X"):O=ASC("O"):REM LETTE
R O NOT ZERO
1050 DIM A(10,10)
1060 FOR B=1 TO 10:FOR C=1 TO 10
1070 IF B <> 1 AND C<>1 AND B <> 10
AND C<> 10 THEN A(B,C) = ASC(".")
1080 NEXT C:NEXT B
1090 A(5,5)=X: A(6,6) =X
1100 A(6,5)=O: A(5,6)=O
1110 P=0
1120 PRINT "DO YOU WANT TO GO FIRST
'Y'/'N'"
1130 INPUT D$
1140 GOSUB 430
1150 IF D$="Y" THEN GOTO 320 ELSE GO
TO 30
```

# GOMOKU

This is a very easy game to play. Despite it, the computer will probably beat you every time. In Gomoku, you must attempt to get five of your pieces in a row. All I can wish you is good luck. This game is also based on a program by Graham Charlton.

```
20 GOSUB 830
30 GOSUB 130
40 GOSUB 300
50 GOSUB 130
60 GOSUB 380
70 GOSUB 130
80 IF L>3 THEN PRINT:PRINT "I WIN!":
END
90 GOTO 40
100 E=A
110 E=E+N: IF A(E)<>Z THEN RETURN
120 K=K+1:GOTO 110
130 CLS
140 SOUND 1,INT(RND*100)+50
150 PEN 1
160 PRINT TAB(16);"GOMOKU"
170 PRINT TAB(16);"-----":PRINT
180 PRINT TAB(12);"1 2 3 4 5 6 7 8"
190 FOR A=1 TO 8:PRINT TAB(8);A;" ";
200 FOR B=2 TO 9
210 IF A(A*10+B)=72 OR A(A*10+B)=67
THEN PEN 3 ELSE PEN 1
220 PRINT CHR$(A(A*10+B));" ";
```

```
230 NEXT B
240 PEN 1
250 PRINT A
260 PRINT
270 NEXT A
280 PRINT TAB(12);"1 2 3 4 5 6 7 8"
290 RETURN
300 PRINT:PRINT
310 PRINT "PLEASE ENTER YOUR MOVE..."
"
320 INPUT G
330 G=G+1
340 IF G<12 OR G>89 OR A(G)<>46 THEN
  320
350 Z=H
360 A(G)=Z
370 RETURN
380 A=G
390 LOCATE 8,23
400 PEN 3:PRINT "I'M THINKING..."
410 L=0
420 FOR X=1 TO 4:K=0:N=X(X)
430 GOSUB 100
440 N=-N:GOSUB 100
450 IF K>L THEN L=K
460 NEXT X
470 IF L>3 THEN PRINT:PRINT "YOU WIN
!!":END
480 T=1
490 IF T<>2 THEN Z=C
500 IF T=2 THEN Z=H
```

```
510 G=0:H1=0:L=0
520 FOR A=12 TO 89
530 M=0
540 IF A(A)<>46 THEN 650
550 FOR X=1 TO 4:K=0:N=X(X)
560 GOSUB 100
570 N=-N:GOSUB 100
580 IF K>L THEN H1=0:L=K
590 IF L<>K THEN 620
600 IF T=1 AND L<4 OR (T=2 OR T=3) A
ND L<2 THEN 620
610 M=M+1
620 NEXT X
630 IF M<=H1 THEN 650
640 H1=M:G=A
650 NEXT A
660 IF H1<>0 THEN 730
670 T=T +1: IF T<>4 THEN 490
680 A=1
690 G=INT(RND*77)+13
700 IF A(G)=46 THEN 730
710 A=A+1:IF A<100 THEN 690
720 PRINT:PRINT "I CONCEDE THE GAME"
:PRINT"TO A MASTER!!":END
730 A(G)=C
740 Z=C:A=G:L=0
750 FOR X=1 TO 4
760 K=0
770 N=X(X)
780 GOSUB 100
790 N=-N:GOSUB 100
```

```
800 IF K>L THEN L=K
810 NEXT X
820 RETURN
830 MODE 1
840 INK 0,26
850 INK 1,12
860 CLS
870 PEN 1
880 DIM A(100):DIM X(4)
890 FOR C=1 TO 8
900 FOR B=2 TO 9
910 A(C*10+B)=46
920 NEXT B
930 NEXT C
940 FOR Q=1 TO 4
950 READ Z:X(Q)=Z
960 NEXT Q
970 DATA 1,9,10,11
980 H=ASC("H"):C=ASC("C")
990 N=0
1000 N=N+1
1010 RANDOMIZE N
1020 CLS
1030 FOR J=1 TO INT(RND*12)+1
1040 READ J
1050 NEXT J
1060 A(Z)=C
1070 RETURN
1080 DATA 34,35,44,46,47,54,55,56,57
,66
```

# FOUR IN A ROW

Everyone knows the famous game 'Connect-4' where you must try to get a line of four discs, horizontally, vertically or diagonally. In this program, the computer is a fair match for you, although it is weakest near the beginning of the game.

One final note. Be careful over the number of spaces you type in line 1370. The string creates a giant 4 on the screen.

```
10 REM FOUR-IN-A-ROW
20 BORDER 8
30 INK 1,13
40 INK 1,0
50 MODE 0
60 GOSUB 1340:REM TITLE PAGE
70 GOSUB 1220:REM INITIALISE
80 GOSUB 930:REM PRINT BOARD
90 GOSUB 750:REM WIN CHECK
100 GOSUB 1110:REM HUMAN MOVE
110 GOSUB 930:REM PRINT BOARD
120 GOSUB 750:REM WIN CHECK
130 GOSUB 160:REM COMPUTER MOVE
140 GOTO 80
150 REM *****
160 REM COMPUTER MOVE
170 PRINT:PRINT "STAND BY FOR MY MOV
E"
180 B=10
190 B=B+1
200 IF A(B)=-9 THEN 230
```

```

210 IF A(B)=C THEN X=C:GOTO 260
220 IF A(B)=H THEN X=H:GOTO 260
230 IF B<77 THEN 190
240 GOTO 540
250 REM *****
260 REM FOUR IN ROW DANGER?CHANCE?
270 REM ACROSS
280 IF A(B+1)=X AND A(B+2)=X AND A(B
+3)=E AND A(B+13) <> E THEN MV=B+3:G
OTO 720
290 IF A(B-1)=X AND A(B-2)=X AND A(B
-3)=E AND A(B+7) <> E THEN MV=B-3:GO
TO 720
300 IF A(B+1)=X AND A(B+2)=X AND A(B
-1)=E AND A(B+9) <> E THEN MV=B-1:GO
TO 720
310 IF A(B-1)=X AND A(B+2)=X AND A(B
+1)=E AND A(B+11) <> E THEN MV=B+1:
GOTO 720
320 IF A(B+1)=X AND A(B-1)=X AND A(B
+2)=E AND A(B+12) <> E THEN MV=B+2:G
OTO 720
330 IF A(B+1)=X AND A(B-1)=X AND A(B
-2)=E AND A(B+8) <> E THEN MV=B-2:GO
TO 720
340 IF A(B-1)=X AND A(B-2)=X AND A(B
+1)=E AND A(B+11) <> E THEN MV=B+1:G
OTO 720
350 REM DOWN
360 IF B>20 THEN IF A(B-10)=X AND A(
B-20)=X AND A(B+10)=E AND A(B+20)<>E

```

```
THEN MV=B+10:GOTO 720
370 REM DIAGONALS
380 IF A(B+11)=X AND A(B+22)=X AND A
(B-11)=E AND A(B-1) <> E THEN MV=B-1
:GOTO 720
390 IF A(B+9)=X AND A(B+18)=X AND A(
B-9)=E AND A(B+1) <> E THEN MV=B-9:G
OTO 720
400 REM *****
410 REM MAKE/BLOCK THREE?
420 REM ACROSS
430 IF A(B+1)=X AND A(B+2)=E AND A(B
+12)<>E THEN MV=B+2:GOTO 710
440 IF A(B+1)=X AND A(B-1)=E AND A(B
+1) <> E THEN MV=B-1:GOTO 710
450 IF A(B-1)=X AND A(B-2)=E AND A(B
+8) <> E THEN MV=B-2: GOTO 710
460 REM VERTICAL
470 IF A(B+10)=X AND A(B-10)=E AND A
(B) <>E THEN MV=B-10:GOTO 710
480 REM DIAGONAL
490 IF A(B+9)=X AND A(B-9)=E AND A(B
+1) <> E THEN MV=B-9:GOTO 710
500 IF B>11 THEN IF A(B+11)=X AND A(
B-11)=E AND A(B-1)<>E THEN MV=B-11:G
OTO 720
510 GOTO 230
520 REM *****
530 REM SINGLE MOVE
540 FOR N=1 TO 3
550 M(N)=0
```



```

560 NEXT N
570 COUNT=0
580 FOR B=11 TO 77
590 IF A(B)<>C AND A(B)<>H THEN 650
600 IF A(B+1)=E AND A(B+11) <> E THE
N COUNT=COUNT+1:M(COUNT)=B+1
610 IF A(B-1)=E AND A(B+9) <> E THEN
COUNT=COUNT+1:M(COUNT)=B-1
620 IF A(B-10)=E AND A(B) <> E THEN
COUNT=COUNT+1:M(COUNT)=B-10
630 IF A(B-11)=E AND A(B-1) <> E THE
N COUNT=COUNT+1:M(COUNT)=B-11
640 IF A(B-9)=E AND A(B+1) <> E THEN
COUNT=COUNT+1:M(COUNT)=B-9
650 NEXT B
660 IF COUNT<>0 THEN 690
670 PRINT:PRINT "I THINK WE SHOULD
CALL IT A DRAW!"
680 PRINT:PRINT:PRINT:END
690 RV=INT(RND*COUNT)+1
700 MV=M(RV)
710 A(MV)=C
720 RETURN
730 REM *****
740 REM WIN CHECK
750 X=H
760 B=10
770 B=B+1
780 IF A(B)<>X THEN 830
790 IF A(B+1)=X AND A(B+2)=X AND A(B
+3)=X THEN 860

```

```
800 IF B>30 THEN IF A(B-10)=X AND A(
B-20)=X AND A(B-30)=X THEN 860

810 IF B>33 THEN IF A(B-11)=X AND A(
B-22)=X AND A(B-33)=X THEN 860
820 IF B>27 THEN IF A(B-9)=X AND A(B
-18)=X AND A(B-27)=X THEN 860
830 IF B<77 THEN 770
840 IF X=H THEN X=C:GOTO 760
850 RETURN
860 REM WIN FOUND
870 PRINT:PRINT
880 IF X=H THEN PRINT"YOU'VE BEATEN
ME, HUMAN!"
890 IF X=C THEN PRINT"I'VE DEFEATED
YOU, HUMAN!"
900 PRINT:PRINT:PRINT:END
910 REM *****
920 REM PRINT BOARD
930 CLS:PRINT:PRINT
940 SOUND 1,150,100
950 SOUND 2,155,90
960 FOR K=10 TO 70 STEP 10
970 PRINT TAB(5);
980 FOR J=1 TO 7
990 IF A(K+J)=72 THEN PEN 4:PRINT CH
R$(231);" ";;GOTO 1020
1000 IF A(K+J)=67 THEN PEN 3:PRINT C
HR$(231);" ";;GOTO 1020
1010 PRINT ". ";
1020 PEN 1
```

```

1030 NEXT J
1040 PRINT:PRINT
1050 NEXT K
1060 PRINT TAB(5);"1 2 3 4 5 6 7"
1070 PRINT:PRINT
1080 RETURN
1090 REM *****
1100 REM HUMAN MOVE
1110 PRINT"YOUR MOVE...":PRINT
1120 PRINT "WHICH COLUMN DO YOU WISH
    TO"
1130 INPUT"MOVE INTO";J
1140 Z=J
1150 Z=Z+10
1160 IF A(Z+10)=E THEN 1150
1170 IF A(Z)=E THEN A(Z)=H:RETURN
1180 PRINT "YOU CAN'T MOVE THERE"
1190 GOTO 1120
1200 REM *****
1210 REM INITIALISE
1220 CLS
1230 DEFINT A-Z
1240 RANDOMIZE TIME
1250 DIM A(109),M(30),P(6)
1260 E=ASC(".")
1270 H=ASC("H"):C=ASC("C")
1280 FOR B=1 TO 109
1290 A(B)=E
1300 D=B-10*INT(B/10)
1310 IF D=0 OR D>7 OR B<11 OR B>77 T
HEN A(B)=-9

```

*Dynamic Games - Amstrad*

```
1320 NEXT B
1330 RETURN
1340 CLS
1350 PEN 3
1360 LOCATE 1,7
1370 A$="          4
4                      4
      4 4              4 4
          44444          4
              4"
1380 PRINT A$
1390 PRINT:PRINT:PRINT
1400 PEN 2
1410 PRINT "  I N      A      R O W"
1420 PEN 4
1430 LOCATE 4,24
1440 PRINT CHR$(164);"1984 TFH/CG"
1450 FOR T=1 TO 20
1460 BORDER 7,B
1470 SOUND 1,230-(T*10)
1480 SOUND 1,250-(T*10)
1490 NEXT T
1500 RETURN
```

# CHECKERS/ DRAUGHTS

Draughts is a very popular game all around the world, and this version of the game - based on a program by Tim Hartnell - allows you to challenge your Amstrad to a round or two. Many European countries have their own variations of the game. Continental draughts for example is played on a board of 100 squares with each player starting the game with 20 pieces.

Our draughts program plays the game you are probably most familiar with. It plays swiftly and reasonably well, although its lack of endgame strategy often leads to a dramatic collapse in the final moments of a game. You are black and Arnold is red. The capital letter "K" is used to designate a king. You have the option of moving first or second.

```

10 REM***CHECKERS/DRAUGHTS***
20 GOSUB 1070
30 INPUT "Would you like the first move (Y/N)";A$
40 IF LEFT$(A$,1)="N" THEN GOTO 80
50 REM*****
60 GOSUB 590
70 GOSUB 820
80 GOSUB 590
90 GOSUB 120
100 GOTO 60
110 REM*****
120 FOR X=1 TO 10:S(X)=0:NEXT
130 SC=0:A=89
140 A=A-1

```

```
150 IF Q(A)<>C AND Q(A)<>CK THEN 230
160 B=0:IF A<29 THEN B=2
170 B=B+1
180 M=A+N(B)
190 IF M>88 OR M<11 THEN 230
200 IF (Q(M)=H OR Q(M)=HK) AND Q(M+N(B))=E THEN 270
210 IF Q(M)=E THEN IF (Q(M-11)<>H AND Q(M-11)<>HK) THEN IF (Q(M-9)<>H AND Q(M-9)<>HK) AND Q(M+9)<>HK THEN IF ((Q(M+22)<>HK OR Q(M+18)<>HK) AND (Q(M+9)<>C OR Q(M+9)<>CK OR Q(M+11)=C OR Q(M+11)=CK)) AND Q(M+11)<>HK THEN GOSUB 390
220 IF B<2 OR (Q(A)=CK AND B<4) THEN 170
230 IF A>11 THEN 140
240 FL=0:IF Q(22)=C OR Q(24)=C OR Q(26)=C OR Q(28)=C THEN GOSUB 1360
250 IF FL=1 THEN 560
260 GOTO 410
270 Q(M+N(B))=Q(A):Q(M)=E:Q(A)=E
280 CO=CO+1
290 GOSUB 590
300 A=M+N(B)
310 B=0
320 B=B+1
330 IF (A+2*N(B)<11 OR A+2*N(B)>88) AND B<4 THEN 320
340 M=A+N(B)
350 IF Q(M)=C AND B>3 THEN RETURN
360 IF (Q(M)=H OR Q(M)=HK) AND Q(M+N(B))=E THEN 270
```

```

))=E THEN 270
370 IF B<2 OR (Q(A)=CK AND B<4) THEN 3
20
380 RETURN
390 IF SC<10 THEN SC=SC+1
400 S(SC)=100*A+B+20:RETURN
410 IF SC=0 THEN 460
420 XC=INT(RND*SC)+1
430 A=INT(S(XC)/100)
440 M=A+N(S(XC)-100*A-20)
450 GOTO 560
460 SC=SC+1:A=INT(RND*88)+1
470 IF Q(A)<>C AND Q(A)<>CK THEN 540
480 B=0
490 B=B+1
500 M=A+N(B)
510 IF M>88 OR M<11 THEN 530
520 IF Q(M)=E THEN 560
530 IF B<2 OR Q(A)=CK AND B<4 THEN 490
540 IF SC<300 THEN 460
550 PRINT:PRINT "I CONCEDE THE GAME":E
ND
560 Q(M)=Q(A):Q(A)=E
570 RETURN
580 REM*****
590 CLS
600 PRINT "      COMPUTER: ";CO;"
      HUMAN: ";HU
610 PRINT
620 PRINT "          1 2 3 4 5 6 7 8
"

```

```
630 FOR F=80 TO 10 STEP -10
640 PRINT "          ";F/10;" ";
650 FOR G=1 TO 8
660 IF Q(F+G)=46 THEN PRINT CHR$(143);
" ";:GOTO 720
670 IF Q(F+G)=36 THEN PEN 3:PRINT CHR$(
75);" ";:PEN 1:GOTO 720
680 IF Q(F+G)=67 THEN PEN 3:PRINT CHR$(
231);" ";:PEN 1:GOTO 720
690 IF Q(F+G)=75 THEN PEN 2:PRINT CHR$(
75);" ";:PEN 1:GOTO 720
700 IF Q(F+G)=72 THEN PEN 2:PRINT CHR$(
231);" ";:PEN 1:GOTO 720
710 PRINT CHR$(144);" ";
720 NEXT G
730 PRINT F/10:PRINT:NEXT F
740 PRINT "          1 2 3 4 5 6 7 8
"
750 IF CO=12 OR HU=12 THEN 770
760 RETURN
770 IF HU=12 THEN PRINT "YOU HAVE WON!
"
780 IF CO=12 THEN PRINT "I HAVE WON!"
790 PRINT:PRINT "THANKS FOR THE GAME."
:END
800 REM*****
810 REM ENTER '99' TO CONCEDE
820 PRINT:PRINT
830 PRINT "ENTER YOUR MOVE"
840 INPUT "FROM";A
850 IF A=99 THEN GOTO 790
```



```

860 IF A>99 THEN 840
870 IF Q(A)<>H AND Q(A)<>HK THEN 840
880 INPUT "TO";B
890 IF B>99 THEN 880
900 IF Q(B)<>E THEN 880
910 Q(B)=Q(A):Q(A)=E
920 REM*****
930 FOR T=11 TO 17: IF Q(T)=C THEN Q(T)
=CK
940 NEXT T
950 FOR T=82 TO 88: IF Q(T)=H THEN Q(T)
=HK
960 NEXT T
970 REM*****
980 IF ABS(A-B)<12 THEN RETURN
990 PRINT "GOOD MOVE":GOSUB 1430
1000 HU=HU+1:Q((A+B)/2)=E:GOSUB 590
1010 FOR T=82 TO 88: IF Q(T)=H THEN Q(T)
)=HK
1020 NEXT T
1030 PRINT:INPUT "CAN YOU JUMP AGAIN (
Y/N)";A$
1040 IF A$<>"Y" THEN RETURN
1050 A=B:GOTO 870
1060 REM*****
1070 REM***INITIALISATION***
1080 INK 2,0:INK 1,26
1090 INK 0,14
1100 CLS:PRINT "PRESS ANY KEY":N=1
1110 N=N+1:IF INKEY$="" THEN 1110
1120 RANDOMIZE N

```

```
1130 CLS
1140 PRINT "PLEASE STAND BY..."
1150 DIM Q(99),N(4),S(10)
1160 H=ASC("H");HK=ASC("K")
1170 C=ASC("C");CK=ASC("$")
1180 E=32:OF=-99
1190 FOR M=1 TO 99:Q(M)=OF:NEXT M
1200 FOR M=1 TO 64
1210 READ D:READ G
1220 Q(D)=G:NEXT M
1230 DATA 81,46,82,67,83,46,84,67,85,4
6,86,67,87,46
1240 DATA 88,67,71,67,72,46,73,67,74,4
6,75,67,76,46
1250 DATA 77,67,78,46,61,46,62,67,63,4
6,64,67
1260 DATA 65,46,66,67,67,46,68,67,51,3
2,52,46
1270 DATA 53,32,54,46,55,32,56,46,57,3
2,58,46
1280 DATA 41,46,42,32,43,46,44,32,45,4
6,46,32
1290 DATA 47,46,48,32,31,72,32,46,33,7
2,34,46,35,72
1300 DATA 36,46,37,72,38,46,21,46,22,7
2,23,46,24,72
1310 DATA 25,46,26,72,27,46,28,72,11,7
2,12,46,13,72
1320 DATA 14,46,15,72,16,46,17,72,18,4
6
1330 FOR M=1 TO 4:READ X:N(M)=X:NEXT M
```

```
1340 DATA -11,-9,11,9
1350 CO=0:HU=0:RETURN
1360 IF Q(22)=C AND Q(11)=E THEN A=22:
M=11:FL=1:RETURN
1370 IF Q(22)=C AND Q(13)=E THEN A=22:
M=13:FL=1:RETURN
1380 IF Q(24)=C AND Q(13)=E THEN A=24:
M=13:FL=1:RETURN
1390 IF Q(24)=C AND Q(15)=E THEN A=24:
M=15:FL=1:RETURN
1400 IF Q(26)=C AND Q(15)=E THEN A=26:
M=15:FL=1:RETURN
1410 IF Q(26)=C AND Q(17)=E THEN A=26:
M=17:FL=1:RETURN
1420 RETURN
1430 FOR O=1 TO 1500:NEXT O:RETURN
```



# SHORT BUT SWEET

Here are a few shorter games. They are less complex than most others in this book, but I've included them for a purpose. Apart from being fun to play, they are games which you can easily extend and improve. One of the best ways to learn to program is to enter other peoples' programs into your computer and then try to add your own features.

The programs in this chapter are ideal for the purpose. But don't think they are just included here for that reason. Type them in and play them. You will find them all entertaining as they are. However, once you have played them for a while, you can try and add some extra graphics or sound. Add extra features such as high scores.

# SNIPER

You — as a marksman of some calibre — have been assigned to eliminate the snipers surrounding the Embassy building. As one of the snipers foolishly shows his head, you must try to kill him. You do this by estimating his position on the screen and hitting the number key that you think applies to him.

For example, if he was on the far left hand side of the screen, then you would type 0. If on the far right, you'd enter 9, and if you thought he was in the middle you'd hit 5. All the numbers from 0 to 9 can be used.

At the end of the game, the computer gives you your score. The snipers appear for a very short time so your reactions must be sharp.

```
10 REM***SNIPER***
20 GOSUB 220
30 FOR G=1 TO 16
40 A=0
50 FOR D=1 TO INT(RND*2500)+300
60 NEXT D
70 R=INT(RND*9)
80 LOCATE (R*2)+1,4
90 PRINT CHR$(225)
100 FOR T=1 TO 600
110 A$=INKEY$:IF A$<>"" THEN T=600
120 NEXT T
130 A=VAL(A$)
140 IF A-1=R THEN LOCATE 4,17:PRINT
"YOU HIT HIM!":SOUND 1,100,100:SC=SC
+1
150 IF A-1<>R THEN LOCATE 4,17:PRINT
"YOU MISSED":SOUND 1,1000,100
```

```
160 FOR T=1 TO 1500:NEXT T
170 CLS
180 NEXT G
190 PRINT:PRINT "YOU HIT";SC;"SNIPER
S!"
200 PRINT:PRINT "A SCORE OF ";INT((S
C/16)*100);"%"
210 END
220 REM***INITIALISATION***
230 SC=0
240 MODE 0
250 CLS
260 RETURN
```

# MATCHSTICK MEN

This is a version of the famous Matchsticks/Nim game. In this game, you and the computer take turns taking a number of matchstick men away from the pile in an attempt to leave the opponent with the last matchstick.

The computer's strategy is mainly held in line 210. I've included a slight random element to make the game more fair. Without that, the computer would nearly always defeat you. The addition of the random element makes the game a little less predictable and more like how two human players would play it.

```
10 REM***MATCHSTICK MEN***
20 CLS
30 RANDOMIZE TIME
40 M=0:E=0:Z=INT(RND*8)+16
50 IF 2*INT(Z/2)=Z THEN Z=Z+1
60 H=3+INT(RND*2)
70 PRINT "THE MAXIMUM YOU CAN TAKE I
S";H
80 IF E>0 THEN PRINT "YOU TOOK";E;"",
  AND I TOOK ";Q
90 GOSUB 270
100 FOR K=1 TO Z
110 PRINT CHR$(248+INT(RND*4));" ";
120 NEXT K
130 PRINT:PRINT
140 GOSUB 270
150 PRINT "HOW MANY WILL YOU TAKE?"
```



```
160 E=VAL(INKEY$)
170 IF E<1 OR E>H OR E>Z THEN 160
180 PRINT:PRINT "SO YOU WANT TO TAKE
";E
190 Z=Z-E
200 IF Z<1 THEN PRINT "YOU TOOK THE
LAST ONE, SO I WIN!!!":END
210 Q=Z-1-INT((Z-1)/(H+1))*(H+1)-INT
(RND*2)+INT(RND*2)
220 IF Q<1 OR Q>H THEN 210
230 Z=Z-Q
240 IF Z<1 THEN PRINT "I TOOK THE LA
ST ONE...YOU WIN!!!":END
250 GOSUB 270
260 GOTO 70
270 PRINT
280 PRINT "*****
*****"
290 PRINT
300 SOUND 1,INT(RND*340)+60
310 BORDER INT(RND*26)
320 FOR G=1 TO 1000:NEXT G
330 RETURN
```

# PITCH 'N PUTT

Here's your chance to become the next Jack Nicklaus on your very own Pitch 'n Putt course. You must knock the golf ball into the hole in the least number of strokes. You enter a 'strength of shot' figure. If you are to the left of the hole enter a positive number. If to the right of the hole, make it a minus figure. You can play a bad shot and land 'out of bounds'. If this happens, strokes will be added to your score and you must start the hole again. There are eighteen holes to play, and a score card at the end of the game gives you a hole-by-hole breakdown.

```
10 REM***PITCH 'N PUTT***
20 INK 0,9
30 INK 1,24
40 INK 3,26
50 PEN 1
60 DIM N(18)
70 GOSUB 510
80 FOR H=1 TO 18
90 X=INT(RND*15)+24
100 CLS
110 PRINT
120 PRINT "THIS IS HOLE NUMBER ";H
130 P=2
140 LOCATE 1,20
150 PRINT "*****
*****";
160 LOCATE X,20
170 PRINT " ";
180 LOCATE 6,10
190 N(H)=N(H)+1
```

```

200 PRINT "STRENGTH OF SHOT (10 TO -
10)"
210 PRINT "          "
220 LOCATE 2,11:INPUT S
230 IF S>10 OR S<-10 THEN GOTO 210
240 FOR T=200 TO 400
250 SOUND 1,T,1,15
260 NEXT T
270 LOCATE P,19
280 PRINT " "
290 IF S<3 THEN P=P+S+CINT(RND*1)-CI
NT(RND*1):GOTO 310
300 P=P+S*3+INT(RND*4)-INT(RND*4)
310 IF P>39 OR P<2 THEN P=1:LOCATE 1
,24:PRINT ">>>>>OUT OF SOUNDS<<<<<<
":N(H)=N(H)+2:FOR T=1 TO 2000:NEXT T
:SOUND 1,800,50,15:LOCATE 1,24:PRINT
"
"
320 LOCATE P,19
330 PEN 3
340 PRINT "o";
350 PEN 1
360 IF P=X THEN LOCATE 15,13:PRINT "
WELL DONE!":PRINT TAB(12);"IT TOOK Y
OU ";N(H):LOCATE X,20:PEN 3:PRINT "o
":PEN 1:LOCATE X,19:PRINT " ":GOTO 3
80
370 GOTO 180
380 TL=TL+N(H)
390 LOCATE 1,16

```

```
400 PRINT "          PRESS ANY KEY TO CO
NTINUE"
410 WHILE INKEY$="":WEND
420 NEXT H
430 CLS
440 PRINT "SCORE CARD AS FOLLOWS..."
450 PRINT:PRINT
460 FOR T=1 TO 18
470 PRINT "HOLE NUMBER ";T;" , YOU SC
ORED";N(T)
480 NEXT T
490 PRINT:PRINT "MAKING A TOTAL OF "
;TL
500 END
510 REM***DEFINE CHARACTERS***
520 SYMBOL AFTER 32
530 SYMBOL 42,170,170,170,255,255,25
5,255,255
540 RETURN
```

# NEEDLE IN THE HAYSTACK

As the title suggests, you have the unenviable task of searching for a needle lost in a haystack. You must enter three coordinates: x, y and finally the height of the needle's position. Happy hunting!

```
10 REM*****NEEDLE IN THE HAYSTACK*****
20 GOSUB 330
30 G=1
40 A=INT(RND*8)+1
50 B=INT(RND*8)+1
60 C=INT(RND*8)+1
70 CLS:MODE 1
80 BORDER INT(RND*25)+1
90 PRINT "          THE NEEDLE IN THE HAYS
TACK"
100 PRINT:PRINT
110 PRINT:PRINT "YOUR MAIN AID IS AN O
LD ELECTRO-MAGNET THAT GIVES A READIN
G IN NUMERIC TERMS."
120 PRINT:PRINT "THE LARGER THE NUMBER
, THE 'COLDER' YOURGUESS IS. YOU MUST
LEARN TO UNDERSTAND THE READINGS IN Y
OUR QUEST TO FIND YOUR MISSING NEEDLE.
"
130 PRINT:PRINT
140 PRINT "ENTER YOUR GUESS"
150 INPUT "YOUR X COORDINATE":X
```

```
160 IF X>8 OR X<1 THEN 150
170 INPUT "AND YOUR Y COORDINATE";Y
180 IF Y>8 OR Y<1 THEN 170
190 INPUT "AND THE HEIGHT OF THE NEEDL
E";Z
200 IF Z<1 OR Z>8 THEN GOTO 190
210 PRINT
220 PRINT TAB(8);
230 PRINT M$(INT(RND*4)+1)
240 IF A=X AND B=Y AND C=Z THEN GOTO
380
250 PRINT:PRINT
260 M=ABS(A-X)+ABS(B-Y)+ABS(C-Z)
270 PRINT "ELECTRO-MAGNET READING:";M
280 PRINT:PRINT:PRINT" HAVE ANOTHER GO
"
290 PRINT:PRINT " Y = YES, N = NO "
300 WHILE INKEY$<>"Y":WEND
310 G=G+1
320 GOTO 70
330 FOR T=1 TO 4
340 READ M$(T)
350 NEXT T
360 DATA "GREAT!","THANKYOU","SOUNDS G
OOD...","TA' VERY MUCH"
370 RETURN
380 REM***CORRECT***
390 PRINT:PRINT:PRINT:PRINT
400 MODE 0
410 PRINT "# # ##### #"
420 PRINT " # # # #"
```

```
430 PRINT " #   ###   #####"  
440 PRINT " #   #           #"  
450 PRINT " #   #####   #####"  
460 SOUND 1,100,200  
470 PRINT:PRINT:PRINT  
480 PRINT "IN";G;"ATTEMPTS"  
490 END
```

# ROM BUG

There you were playing Zappo Invaders when your machine started to behave most strangely. You discover you have a 'ROM Bug'. Can you get rid of him by POKEing the address where he is situated? Further instructions are included in the program. The game makes use of the Amstrad's excellent interrupt features to create havoc on the screen, simulating the activities of the ROM Bug.

```
10 REM***ROM BUG***
20 GOSUB 390:REM***INSTRUCTIONS***
30 P=INT(RND*20600)+43400
40 INK 1,24
50 A=0
60 EVERY 900,1 GOSUB 170
70 CLS
80 A=A+1
90 PRINT:PRINT
100 PRINT "This is debugging attempt
    number";A
110 PRINT:PRINT
120 INPUT "WHICH MEMORY BLOCK ";D
130 IF D>64000 OR D<43400 THEN 120
140 IF P=D THEN GOTO 290
150 IF P<>D THEN PRINT:PRINT "
W R O N G ! ! !"
160 FOR T=1 TO 1000:NEXT T:GOTO 70
170 REM***BUG IN ACTION***
180 R=INT(RND*4)+1:PEN R
190 IF R=1 THEN BORDER INT(RND*26):S
   OUND 1,100
```



```

200 IF R=2 THEN FOR T=1 TO 30:LOCATE
  INT(RND*39)+1,INT(RND*23)+1:PRINT C
HR$(INT(RND*26)+63):NEXT T
210 IF R=3 THEN FOR X=1 TO 300:PLOT
X,INT(RND*399)+1,INT(RND*4):DRAW X,X
:NEXT X
220 IF R=4 THEN FOR T=1 TO 20:SOUND
1,T,15:PEN 2:SOUND 1,2*T,15:PEN 3:NE
XT T
230 FOR T=1 TO 2300:NEXT T
240 N=P+INT(RND*12)-INT(RND*12)
250 LOCATE INT(RND*33)+1,INT(RND*23)
+1
260 PRINT N
270 FOR T=1 TO 300:NEXT T
280 RETURN
290 REM***WIN***
300 CLS
310 PEN 1
320 LOCATE 4,10
330 INK 1,1,26
340 PRINT "WELL DONE, YOU HAVE DEBUG
GED"
350 LOCATE 4,12
360 PRINT "YOUR COMPUTER IN";A;"ATTE
MPTS"
370 PEN 2
380 GOTO 380
390 REM***INSTRUCTIONS***
400 CLS
410 PRINT TAB(12);"R O M      B U G"

```

```
420 PRINT:PRINT
430 PRINT "You must search for the R
OM BUG that is damaging your beloved
  Amstrad. You do this by scanning
  'Arnold's' memory map between addre
  ss 43400 and 64000"
440 PRINT:PRINT "From time to time y
ou may see the ROM  BUG in action,
fiddling around with the display, bu
t what it doesn't know is that as
  it does this, a number appears som
  ewhere on the screen"
450 PRINT:PRINT "That number is very
  close to the ROM  BUG's position.
  "
460 PRINT:PRINT:PRINT TAB(14);"GOOD
  LUCK"
470 WHILE INKEY#="":WEND
480 RETURN
```

# **BRAIN GAMES**

These are games of mental logic and concentration; luck is of only minor importance as you battle with the difficult problems that your Amstrad sets for you.

Many of the earlier computer games were of this variety as the early machines lacked the speed, graphics and prolific memory requirements which are demanded by the games of today. Don't underestimate these games, however, as they are all well worth a go and will set your mind to work when your zapping fingers need some rest.

# CUBE MASTER

Here is a two-dimensional variant of that most addictive puzzle, the 'Puzzle Cube' from Hungary. You start off with a cube displaying the following:

```
1 1 2 2
1 1 2 2
3 3 4 4
3 3 4 4
```

The computer will mix the cube up and you must get it back to its original state. The numbers on the cube rotate in groups of four in a clockwise direction. The key to rotating the elements is shown below:

```
2 3 4
6 7 8
10 11 12
```

What more can I say than "Good luck Cube Master?"

```
10 REM****CUBE MASTER****
20 INK 1,26:PEN 1:INK 0,5
30 RANDOMIZE TIME
40 DIM B(16),A(4)
50 CLS
60 B=1:F=0
70 FOR D=1 TO 4
80 C=0
90 IF B=1 THEN C=1
100 IF B=3 THEN C=2
110 IF B=9 THEN C=3
120 IF B=11 THEN C=4
130 B(B)=C
140 B(B+1)=C
```

```
150 B(B+4)=C
160 B(B+5)=C
170 C=0
180 IF B=1 THEN C=2
190 IF B=3 THEN C=6
200 IF B=9 THEN C=2
210 B=B+C
220 NEXT D
230 GOSUB 430
240 PRINT:PRINT
250 IF F<11 THEN PRINT "TWISTING NOW..."
260 F=F+1
270 FOR P=1 TO 900:NEXT P
280 IF F<11 THEN X=INT(RND*12)+1
290 IF F>10 THEN PRINT "ENTER YOUR TWIST
CHOICE (2-12) BUT NOT 3 OR 9"
300 IF F>10 THEN INPUT X
310 IF X<2 OR X=5 OR X=9 OR X>12 THEN 28
0
320 A(1)=B(X)
330 A(2)=B(X+4)
340 A(3)=B(X+3)
350 A(4)=B(X-1)
360 B(X)=A(4)
370 B(X+4)=A(1)
380 B(X+3)=A(2)
390 B(X-1)=A(3)
400 GOSUB 430
410 F=F+1
420 GOTO 280
430 CLS
```

```
440 SOUND 1,INT(RND*300)+50
450 BORDER INT(RND*25)
460 PRINT:PRINT:PRINT
470 PRINT TAB(15);
480 FOR B=1 TO 16
490 PRINT B(B);
500 IF B/4=INT(B/4) THEN PRINT:PRINT TAB
(15);
510 NEXT B
520 PRINT:PRINT
530 IF F<10 THEN PRINT:PRINT "TWIST NUMB
ER";F
540 FOR T=1 TO 500:NEXT T
550 IF F>10 THEN PRINT:PRINT "YOUR CUBIS
T TWIST NUMBER";F-10:PRINT
560 IF F<11 THEN RETURN
570 F=0
580 IF B(1)=1 AND B(2)=1 AND B(3)=2 AND
B(4)=2 AND B(5)=1 AND B(6)=1 AND B(7)=2
AND B(8)=2 THEN P=P+1
590 IF B(9)=3 AND B(10)=3 AND B(11)=4 AN
D B(12)=4 AND B(13)=3 AND B(14)=3 AND B(
15)=4 AND B(16)=4 THEN P=P+1
600 IF P<>2 THEN RETURN
610 PRINT:PRINT "YOU SOLVED IT IN JUST";
F-10;"TWISTS"
620 PRINT:PRINT:PRINT "WELL DONE CUBEMAS
TER!!":END
```

# SOLITAIRE

No-one is sure where this game originally stems from. Some say that it was an old prisoner in the French Bastille who came up with this way of amusing himself and other prisoners, others claim it was the Greeks using pebbles laid out in rows. What is known is that it has become one of the most well-known and infuriating puzzles to solve.

In this computerised version, you must enter the coordinates of the piece you wish to move (the side coordinate first, the top coordinate second) followed by the coordinates of the position you wish that piece to be moved to. You must try and remove all except the centre piece, removing pieces by jumping over them into a space.

If you really cannot solve this puzzle, enter the solution below which was kindly provided by George Furlonger.

**Solution:** 46-44, 65-45, 57-55, 37-57, 45-65, 75-55, 73-75, 63-65, 54-56, 57-55, 25-45, 55-35, 75-55, 34-54, 36-34, 43-63, 51-53, 31-51, 32-52, 63-43, 51-53, 43-63, 55-53, 63-43, 34-32, 13-33, 15-13, 43-23, 13-33, 32-34, 24-44.

```
20 INK 1,26
30 INK 0,9
40 INK 2,0
50 GOSUB 520
60 GOSUB 300
70 REM****ACCEPT MOVE****
80 PRINT "Which piece do you want to
   move?"
90 INPUT A
100 SOUND 1,100,20
110 IF A=99 THEN GOTO 290
120 IF A<11 OR A>77 THEN GOTO 80
130 IF A(A)<>79 THEN GOTO 80
```

```
140 PRINT A;"to where";
150 INPUT B
160 SOUND 1,80,20
170 IF B<11 OR B>77 THEN GOTO 150
180 IF A(B)<>E THEN GOTO 150
190 A((A+B)/2)=E:A(A)=E:A(B)=79
200 M=M+1
210 C=0
220 FOR F=11 TO 75
230 IF A(F)=79 THEN C=C+1
240 NEXT F
250 GOSUB 300
260 PRINT "There are";C;"pegs still
on the board"
270 IF C<>1 THEN GOTO 70
280 IF A(44)=79 THEN PRINT "You did
it, in just";m;"moves.":END
290 PRINT "Good effort, but you FAIL
ED.":END
300 REM****DISPLAY****
310 CLS
320 FOR T=100 TO 80 STEP-2
330 SOUND 1,T,6
340 NEXT T
350 PRINT "Enter side coordinate fir
st"
360 PRINT "  Enter '99' to concede"
370 PRINT
380 PRINT "    1  2  3  4  5  6  7"
390 PRINT
400 PRINT TAB(5);
```



```
410 FOR D=11 TO 75
420 T=10*(INT(D/10))
430 IF D-T=8 THEN D=D+2:PRINT T/10:P
RINT:PRINT TAB(5);:GOTO 470
440 IF A(D)=42 THEN PEN 2
450 PRINT CHR$(A(D));" ";
460 PEN 1
470 NEXT D:PRINT "      7"
480 PRINT:PRINT
490 PRINT "Moves so far:";M
500 PRINT
510 RETURN
520 REM***INITIALISATION***
530 CLS
540 DIM A(87)
550 E=42
560 FOR D=11 TO 75
570 T=10*(INT(D/10))
580 IF D-T=8 THEN D=D+3
590 READ A(D)
600 NEXT D
610 M=0
620 RETURN
630 DATA 32,32,79,79,79,32,32
640 DATA 32,32,79,79,79,32,32
650 DATA 79,79,79,79,79,79,79
660 DATA 79,79,79,42,79,79,79
670 DATA 79,79,79,79,79,79,79
680 DATA 32,32,79,79,79,32,32
690 DATA 32,32,79,79,79
```

# FLIPPA

This is a clever game, which demands a fair amount of brain stretching. You are presented with a three-by-three grid which contains a mixture of X's and asterisks. By 'flipping' the pieces you must finally end up with an 'X' in the middle and asterisks around the perimeter.

To 'flip' a piece you must enter the number of that piece. Flipping any piece changes that piece to change into the opposite character (that is from an X to an asterisk and vice versa). The *position* of the piece that is flipped will also determine what other pieces are changed. Hitting a corner changes all those pieces adjoining the corner while hitting a middle piece on any side causes the two pieces either side of the middle to change. Flipping the middle piece results in all the central pieces on the four sides changing.

The best way to understand and appreciate the game is to run it a couple of times just getting to know how the pieces move, then try to solve it.

```

10 REM***FLIPPA***
20 GOSUB 580
30 DIM A(10),F(4)
40 M=-1:Q=42:X=88:F=0
50 RANDOMIZE TIME
60 FOR C=1 TO 9
70 A(C)=Q
80 IF INT(RND+0.5)=0 THEN A(C)=X
90 NEXT C
100 GOSUB 290
110 M=M+1
120 N=0
130 FOR C=1 TO 9
140 IF A(C)=X THEN N=N+1
150 NEXT C

```

```

160 IF N=1 AND A(5)=X THEN 370
170 PRINT:PRINT:PRINT
180 IF M>0 THEN PRINT:PRINT "THAT WAS
MOVE: ";M
190 PRINT:PRINT "NUMBER OF X'S IS";N
200 PRINT:PRINT "YOU ONLY NEED ONE I
N THE MIDDLE SQUARE"
210 PRINT:PRINT "WHICH ONE DO YOU WAN
T TO FLIP?"
220 IF INKEY#("<>") THEN 220
230 A#=INKEY#
240 N=VAL(A#):IF N<1 OR N>9 THEN 230
250 P=N
260 GOSUB 400
270 GOTO 100
280 END
290 CLS:PRINT:PRINT
300 IF P("<>") THEN PRINT "YOU FLIPPED"
;P
310 PRINT:PRINT:PRINT "1 2 3",CHR$(A
(1));" ";CHR$(A(2));" ";CHR$(A(3))
320 PRINT
330 PRINT "4 5 6",CHR$(A(4));" ";CHR
$(A(5));" ";CHR$(A(6))
340 PRINT
350 PRINT "7 8 9",CHR$(A(7));" ";CHR
$(A(8));" ";CHR$(A(9))
360 RETURN
370 PRINT:PRINT
380 PRINT "YOU SOLVED IT IN JUST";M;
"MOVES"

```

```
390 END
400 IF A(N)=X THEN RETURN
410 IF N=1 THEN F(1)=2:F(2)=4:F(3)=5
:F(4)=10
420 IF N=2 THEN F(1)=1:F(2)=3:F(3)=1
0:F(4)=10
430 IF N=3 THEN F(1)=2:F(2)=5:F(3)=6
:F(4)=10
440 IF N=4 THEN F(1)=1:F(2)=7:F(3)=1
0:F(4)=10
450 IF N=5 THEN F(1)=2:F(2)=4:F(3)=8
:F(4)=6
460 IF N=6 THEN F(1)=3:F(2)=9:F(3)=1
0:F(4)=10
470 IF N=7 THEN F(1)=4:F(2)=5:F(3)=8
:F(4)=10
480 IF N=8 THEN F(1)=7:F(2)=9:F(3)=1
0:F(4)=10
490 IF N=9 THEN F(1)=8:F(2)=5:F(3)=6
:F(4)=10
500 FOR G=1 TO 4
510 F=0
520 IF A(F(G))=X THEN F=1
530 IF F=1 THEN A(F(G))=0
540 IF F=0 AND A(F(G))=0 THEN A(F(G)
)=X
550 NEXT G
560 A(N)=X
570 RETURN
580 REM*****TITLE*****
590 CLS
```

```

600 INK 0,0
610 MODE 1
620 LOCATE 1,9
630 PRINT "FFFF L      IIIII PPPP
P PPPP AAAAA";
640 PRINT "F      L      I      P
P P F A A";
650 PRINT "FFFF L      I      PPPP
P PPPP AAAAA";
660 PRINT "F      L      I      P
      P      A  A";
670 PRINT "F      LLLLL IIIII P
      F      A  A";
680 FOR T=2 TO 26
690 INK 1,T
700 FOR D=1 TO 300:NEXT D
710 SOUND 1, (32-T)*10,15
720 NEXT T
730 WHILE INKEY$="":WEND
740 RETURN

```

# ECHO CHAMBER

This is a great challenge to your memory which gets more and more arduous as you get better and better. The game involves you trying to remember a number for a longer and longer time which you catch a glimpse at for a progressively shorter and shorter time. The first number you must guess is usually very easy. You have plenty of time to look at it and memorise it, but things get harder as the game goes on.

The computer prompts you at all times and keeps a record of your score.

```
10 REM*****ECHO CHAMBER*****
20 CLS:PRINT TAB(8);"E C H O      C H
A M B E R"
30 Z=INT(RND*8)+1
40 FOR G=1 TO Z+5
50 D=RND
60 IF D<0.25 THEN A$="KIDDO"
70 IF D>0.24 AND D<0.5 THEN A$="SMAR
T ONE"
80 IF D>0.49 AND D<0.75 THEN A$="GEN
IUS"
90 IF D>0.74 THEN A$="COMPUTER FREAK
"
100 K=INT(RND*32765)+1
110 PRINT:PRINT
120 PRINT "TRY NO. ";G;"OUT OF ";Z+5
130 PRINT:PRINT
140 PRINT "THE NUMBER YOU MUST REMEM
BER ";A$
150 PRINT "IS....."
```

```
160 FOR T=1 TO 1800:NEXT T
170 PRINT "****";K;"****"
180 FOR J=1 TO 800/G
190 NEXT J
200 GOSUB 250
210 PRINT "O.K. ";A$;" WHAT WAS THE
NUMBER?"
220 INPUT H
230 IF H=K THEN GOTO 290
240 GOTO 390
250 CLS
260 FOR J=1 TO 500*G
270 NEXT J
280 RETURN
290 CLS
300 PRINT "YAY, ";A$; ", YOU GOT IT"
310 PRINT , "RIGHT!"
320 PRINT "WHEN READY FOR"
330 PRINT "NEXT ONE, PRESS ENTER"
340 INPUT C$
350 IF C$<>" " THEN STOP
360 CLS
370 IF G=Z+5 THEN GOTO 420
380 NEXT G
390 CLS
400 PRINT "YOU BLEW IT, ";A$
410 STOP
420 PRINT "YOU SURE YOU HAVE A PRODI
GIUS"
430 PRINT "MEMORY, ";A$
440 STOP
```

# SCRAMBLER

Here is another great puzzle, which is simple in concept but infuriating in practice. You have a string of numbers from 1 to 9 mixed up by the computer into any order. You must unscramble them and get them back into ascending numeric order (123456789).

You enter a number from 1 to 9 and the computer 'switches' the numbers round. Below is an idea of how the computer reacts to your inputted number.

276458913	Number entered: 1
319854672	Number entered: 7
319854276	Number entered: 2
367245891	Number entered: 1
198542763	

I think that you'll probably get the idea from the examples above. You must try and complete this puzzle in as few moves as possible.

```
10 REM*****SCRAMBLER*****
20 CLS
30 BORDER 16
40 PRINT:PRINT "Please Stand By..."
50 SOUND 1,100:SOUND 1,150:SOUND 1,1
00
60 INK 0,9
70 INK 1,26
80 GOSUB 140
90 GOSUB 250
100 IF A$="123456789" THEN 440
110 M=M+1
120 GOTO 90
130 END
```



```
140 RANDOMIZE TIME
150 M=1:X=0
160 A$=""
170 FOR T=1 TO 9
180 L=INT(RND*9)+49
190 Q=1
200 IF MID$(A$,Q,1)=CHR$(L) THEN 180
210 IF Q<T THEN Q=Q+1:GOTO 200
220 A$=A$+CHR$(L)
230 NEXT T
240 RETURN
250 REM***PRINT STRING***
260 CLS
270 PRINT:PRINT:PRINT
280 PRINT "MOVE NUMBER: ";M
290 PRINT:PRINT:PRINT
300 PRINT A$
310 PRINT:PRINT
320 PRINT:PRINT "WHICH NUMBER TO REV
ERSE"
330 IF INKEY$<>"" THEN 330
340 SOUND 1,600
350 C$=INKEY$
360 R=VAL(C$)
370 IF R<1 OR R>8 THEN 350
380 B$=""
390 FOR T=9 TO R STEP -1
400 B$=B$+MID$(A$,T,1)
410 NEXT T
420 A$=LEFT$(A$,R-1)+B$
430 RETURN
```

```
440 PRINT:PRINT:PRINT
450 PRINT A$
460 PRINT:PRINT:PRINT
470 PRINT "YOU DID IT, WELL DONE"
480 PRINT:PRINT "AND IT TOOK YOU JUST";M;"MOVES. "
490 PRINT:PRINT:PRINT
500 PRINT "WOULD YOU LIKE TO TRY AGAIN?"
510 INPUT A$
520 IF LEFT$(A$,1)<>"Y" THEN END
530 RUN
```

# REPEAT

Don't go out and buy that memory game consisting of four flashing and beeping squares named after a simpleton. You would be better advised to type in this computerised version. If nothing else, it's cheaper!

This program features large square coloured boxes created speedily by the Amstrad's window commands. You must follow the sequence of flashing colours by entering the correct numeric sequence. The number for each square is as follows: Top left=1; top right=2; bottom left=3; bottom right=4.

The computer offers a sequence of up to 40 squares. I'd be most pleased to hear from anyone who can stretch their memory to anywhere near that number. I can only remember 10 or so before making a mistake.

```

10 REM*****REPEAT*****
20 GOSUB 660
30 GOSUB 550
40 GOSUB 370
50 REM*****MAIN GAME ACTION*****
60 FOR G=1 TO 40
70 FOR N=1 TO G
80 PAPER #T(N),0
90 CLS #T(N)
100 SOUND 1,T(N)*100,40
110 FOR T=1 TO 300:NEXT T
120 PAPER #T(N),C(T(N))
130 CLS #T(N)
140 NEXT N
150 FOR D=1 TO G
160 A$=INKEY$:IF A$="" THEN 160
170 IF VAL(A$)<>T(D) THEN 280

```

```
180 PAPER #T(D),0
190 CLS #T(D)
200 SOUND 1,T(D)*100,50
210 FOR T=1 TO 300:NEXT
220 PAPER #T(D),C(T(D))
230 CLS #T(D)
240 NEXT D
250 FOR T=1 TO 1000:NEXT T
260 NEXT G
270 GOTO 270
280 REM***WRONG GUESS***
290 BORDER 0
300 MODE 1
310 INK 0,0
320 LOCATE 10,12
330 PRINT "UNLUCKY....YOU LOST"
340 PRINT
350 PRINT TAB(6);"YOU GOT ";N-1;"NUM
BERS CORRECT"
360 GOTO 360
370 REM***SCREEN DRAW***
380 INK 1,24
390 INK 9,18
400 MODE 0
410 INK 0,0:PAPER 0
420 CLS
430 LOCATE 5,1
440 PRINT "R E P E A T"
450 WINDOW #1,1,8,5,14
460 WINDOW #2,12,19,5,14
470 WINDOW #3,1,8,16,25
```

```

480 WINDOW #4,12,19,16,25
490 PAPER #1,9
500 PAPER #2,3
510 PAPER #3,6
520 PAPER #4,1
530 CLS#1:CLS#2:CLS#3:CLS#4
540 RETURN
550 REM*****INITIALISATION*****
560 DIM T(40)
570 FOR X=1 TO 40
580 T(X)=INT(RND*4)+1
590 NEXT X
600 DIM C(4)
610 C(1)=9
620 C(2)=3
630 C(3)=6
640 C(4)=1
650 RETURN
660 REM*****TITLE PAGE*****
670 CLS
680 FOR G=1 TO 20
690 INK 1,G
700 PEN 1
710 IF G/4=INT(G/4) THEN PRINT
720 PRINT "*****  *****  *****  ****
* ***** *****";
730 PRINT "*   * *       *   * *
*   * *";
740 PRINT "*****  ****  *****  ****
*****  *";
750 PRINT "*   * *       *   *

```

```
      *   *   *";  
760 PRINT "*   *   ***** *           ****  
      *   *   *   *";  
770 SOUND 1, (15*G)+40  
780 FOR T=1 TO 300:NEXT T  
790 PRINT:PRINT  
800 NEXT G  
810 WHILE INKEY$="":WEND  
820 RETURN
```

# **GAMBLING GAMES**

I doubt if there are few people who have not indulged in some form of gambling. Everywhere there are chances to risk a few pennies in order to win a few pounds. The race track, Bingo, Football Pools and the Casino are just four of the many ways in which you and your money can be parted.

In this section of the book is a possible aid to your gambling resources. You can indulge in the same gambling activities using computerised cash that can be replenished simply by typing RUN.

The games in this section are based mainly on those found in the casino. The highlights of this chapter are an excellent graphical simulation of a one-armed bandit and a most realistic game of pontoon where you try your luck against the computer's skill at the card table. The cards are represented graphically in this program.

# PONTOON

As mentioned in the introduction, this version of the popular card game Pontoon is most realistic. The cards with their suits are dealt face down on the green baize of the card table. The computer turns your cards over. As dealer he keeps his face down. You must try to get a total as near to 21 as possible without exceeding that figure. To get more cards, you 'twist'. To stay at the total you have at that time you 'stick'. Pontoon is achieved when you are originally dealt an ace and a picture card (worth 10). In this version of the game, you must nominate whether the ace is high (counting numerically as 11) or low (counting as one). You may wish the ace to be low when you are trying to achieve a five card trick.

The program involves some logic thinking from the computer which will not be as foolish to twist on a total of 18 or more. The computer also determines its strategy from the running score. It plays most cautiously when it is in front.

All in all, you should find this program very entertaining and not much different to playing the game against a human player.

```
10 REM*****PONTOON*****
20 CS=0:PS=0
30 DIM A$(8),C(52)
40 WINDOW #1,8,32,12,12
50 REM*****GAME STARTS*****
60 PAPER #1,1
70 PT=0:CT=0
80 PV=0:PP=0
90 FP=0:FC=0
100 CP=0:CN=0:PN=0
110 A$(1)=CHR$(150)+CHR$(154)+CHR$(154)+
CHR$(154)+CHR$(156)
120 A$(2)=CHR$(149)+CHR$(207)+CHR$(207)+
CHR$(207)+CHR$(149)
```



```

130 FOR Z=1 TO 5:A$(Z+1)=A$(2):NEXT Z
140 A$(7)=CHR$(147)+CHR$(154)+CHR$(154)+
CHR$(154)+CHR$(153)
150 PEN 1
160 INK 1,26
170 INK 2,0
180 INK 3,6
190 INK 0,9
200 BORDER 9
210 FOR T=1 TO 52:C(T)=0:NEXT T
220 CLS
230 CLS #1
240 PRINT TAB(5);"P O N T O O N"
250 PRINT TAB(4);"=====
260 LOCATE 28,1:PRINT "COMPUTER:";CS
270 LOCATE 30,2:PRINT "PLAYER:";PS
280 GOSUB 850:REM*****SHUFFLE*****
290 REM*****MAIN GAME*****
300 REM*****DEAL CARDS*****
310 FOR DC=1 TO 2:C=C(DC):LOCATE (7*DC),
4
320 FOR Z=1 TO 7:LOCATE (7*DC)-6,Z+3:PRI
NT A$(Z):NEXT Z:NEXT DC
330 DC=2
340 REM*****PLAYER'S CARDS*****
350 V=14
360 DC=DC+1:C=C(DC)
370 REM*****CARD MANIPULATION*****
380 IF C<14 THEN S$=CHR$(226)
390 IF C<27 AND C>13 THEN S$=CHR$(227)
400 IF C>26 AND C<40 THEN S$=CHR$(228)

```

```
410 IF C>39 AND C<52 THEN S#=CHR$(229)
420 IF C<14 THEN NC=C
430 IF S#=CHR$(227) THEN NC=C-13
440 IF S#=CHR$(228) THEN NC=C-26
450 IF S#=CHR$(229) THEN NC=C-39
460 NC#=STR$(NC)
470 IF NC=10 THEN NC$=" T"
480 IF NC=11 THEN NC$=" J":NC=10
490 IF NC=12 THEN NC$=" Q":NC=10
500 IF NC=13 OR NC=26 OR NC=39 THEN NC$="
" K":NC=10
510 IF NC=1 THEN NC$=" A":IF RND>0.5 THE
N NC=1 ELSE NC=11
520 IF NC=11 AND RC=1 AND CN>3 THEN NC=1
530 IF NC=11 AND RC=1 AND CT>16 THEN NC=
1
540 IF (NC=1 OR NC=11) AND RC<>1 THEN NC
$=" A":INPUT #1,"ACE VALUE 1 or 11":AH:N
C=AH:CLS #1
550 IF V=14 THEN PT=PT+NC:PN=PN+1
560 IF V=4 THEN CT=CT+NC:CN=CN+1
570 CP=CP+1:IF CP>5 THEN CP=1
580 GOSUB 960
590 IF DC=3 THEN 340
600 IF CN<2 AND DC=1 AND PN>1 THEN GOTO
360
610 IF DC=2 OR RC=1 THEN RC=0:GOTO 740
620 REM*****PLAYER CONTROL*****
630 IF PT>21 THEN GOTO 1120
640 IF PN=5 THEN GOTO 1240
650 IF PT=21 AND PN=2 AND (NC$=" A" OR N
```

```

C$=" J" OR NC$=" K" OR NC$=" Q") AND C(3
)<>10 AND C(3)<>23 AND C(3)<>36 AND C(3)
<>49 THEN GO
TO 1380
660 LOCATE 1,23:PRINT "
";
670 LOCATE 1,23:INPUT "To stick, press '
S'. To twist, press 'T'";A$
680 A$=UPPER$(A$):A$=LEFT$(A$,1)
690 IF A$="S" THEN GOTO 710
700 IF A$="T" THEN DC=PN+4:GOTO 340
710 REM*****COMPUTER STRATEGY*****
720 CP=0:V=4:DC=0
730 RC=1:IF DC<3 THEN GOTO 360
740 REM
750 IF CT>21 THEN GOTO 1180
760 IF CN=5 THEN GOTO 1300
770 IF CT=21 AND CN=2 AND (NC$=" A" OR N
C$=" J" OR NC$=" K" OR NC$=" Q") AND C(1
)<>10 AND C(1)<>23 AND C(1)<>36 AND C(1)
<>49 THEN GO
TO 1430
780 IF FP=1 OR PP=1 THEN 1510
790 IF PT=CT AND CS>PS AND RND>0.33 THEN
GOTO 1630
800 IF CT=PT AND CN>1 AND CT>10+(INT(RND
*4)) THEN GOTO 1630
810 IF CT<18 AND CT<PT THEN DC=PN+CN:RC=
1:GOTO 360
820 IF PT>CT THEN 1510
830 IF CT>PT THEN 1570

```

```
840 IF CT=PT AND PN>1 THEN 1630
850 REM****SHUFFLE CARDS****
860 N=52:FOR I=1 TO N
870 C(I)=I:NEXT I
880 FOR I=1 TO N-1
890 R=(N+1-I)*RND
900 R=INT(R)+I
910 T=C(R)
920 C(R)=C(I)
930 C(I)=T
940 NEXT I
950 RETURN
960 REM****PRINT CARDS****
970 LOCATE (7*CP)-6,V
980 PEN 1
990 PRINT CHR$(150);CHR$(154);CHR$(154);
CHR$(154);CHR$(156)
1000 FOR T=1 TO 5
1010 LOCATE (CP*7)-6,V+T
1020 IF T=1 AND (S#=CHR$(227) OR S#=CHR$(
228)) THEN PRINT CHR$(149);:PEN 3:PRINT
S#;" ";;PEN 1:PRINT CHR$(149):GOTO 108
0
1030 IF T=1 AND (S#=CHR$(226) OR S#=CHR$(
229)) THEN PRINT CHR$(149);:PEN 2:PRINT
S#;" ";;PEN 1:PRINT CHR$(149):GOTO 108
0
1040 IF T=3 THEN PRINT CHR$(149);NC#;" "
;CHR$(149)
1050 IF T=5 AND (S#=CHR$(226) OR S#=CHR$(
229)) THEN PRINT CHR$(149);:PEN 2:PRINT
```

```

" ";S#;:PEN 1:PRINT CHR$(149):GOTO 1080
1060 IF T=5 AND (S#=CHR$(227) OR S#=CHR$(228)) THEN PRINT CHR$(149);:PEN 3:PRINT
" ";S#;:PEN 1:PRINT CHR$(149):GOTO 1080
1070 PRINT CHR$(149);" ";CHR$(149)
1080 NEXT T
1090 LOCATE (CP*7)-6,V+T
1100 PRINT CHR$(147);CHR$(154);CHR$(154)
;CHR$(154);CHR$(153)
1110 RETURN
1120 REM***PLAYER BUST***
1130 CS=CS+1
1140 PEN #1,2
1150 PRINT #1,"Y O U ' V E B U S T !"
1160 GOSUB 1700
1170 GOTO 50
1180 REM***COMPUTER BUST***
1190 PS=PS+1
1200 PEN #1,3
1210 PRINT#1," I ' V E B U S T !"
1220 GOSUB 1700
1230 GOTO 50
1240 REM***PLAYER 5 CARD TRICK***
1250 PEN #1,3
1260 PRINT #1,"5 C A R D T R I C K"
1270 FP=1
1280 FOR T=1 TO 2400:NEXT T
1290 GOTO 710
1300 REM***COMPUTER 5 CARD TRICK***
1310 FC=1
1320 IF FP=1 AND FC=1 THEN PEN #1,4:PRIN

```

```
T #1,"& S O HAVE I !":GOTO 1630
1330 PEN #1,2
1340 PRINT #1,"5 C A R D T R I C K"
1350 IF PP=1 THEN FOR T=1 TO 2000:NEXT T
:PRINT #1,"PONTOON BEATS 5 CARD!!!":GOTO
 1510
1360 FOR T=1 TO 3000:NEXT T
1370 GOTO 1570
1380 REM***PLAYER PONTOON***
1390 PEN #1,3
1400 PRINT #1,"Y O U P O N T O O N !"
1410 PP=PP+1
1420 GOTO 710
1430 REM***COMPUTER PONTOON***
1440 IF PP=1 THEN GOTO 1510 ELSE PEN #1,
 2
1450 PRINT #1,"M Y P O N T O O N !"
1460 PV=PV+1
1470 IF PV=1 AND PP=1 THEN FOR T=1 TO 30
00:NEXT T:PEN #1,4:PRINT #1,"S O H A
V E Y O U":GOTO 1630
1480 SOUND 1,70:SOUND 1,70:SOUND 1,80,60
1490 FOR T=1 TO 3000:NEXT T
1500 GOTO 1570
1510 REM***PLAYER WINS BY GREATER SCORE*
**
1520 PS=PS+1
1530 PEN #1,3
1540 PRINT #1," Y O U W I N !"
1550 GOSUB 1700
1560 GOTO 50
```

```
1570 REM***COMPUTER WINS BY GREATER SCOR
E***
1580 CS=CS+1
1590 PEN #1,2
1600 PRINT #1,"          I      W I N !"
1610 GOSUB 1700
1620 GOTO 50
1630 REM*****IT'S A DRAW*****
1640 PEN #1,4
1650 PRINT #1,"I T' S      A      D R A W"
1660 WHILE INKEY$="":WEND
1670 PS=PS+1
1680 CS=CS+1
1690 GOTO 50
1700 REM*****MESSAGE ROUTINE*****
1710 PEN 3
1720 LOCATE 9,25
1730 PRINT "PRESS A KEY TO CONTINUE"
1740 PEN 1
1750 SOUND 1,INT(RND*100)+50+(50*CS)
1760 WHILE INKEY$="":WEND
1770 CLS #1
1780 RETURN
```

# DOUBLE DICE THROWER

This useful program can be used as it is as a thrower for any board game. Both dice can be used as in Backgammon or just one dice as in a number of games. This program could be added to a computer game where dice are needed. Press any key to throw the dice.

```
10 REM*****
*
20 REM*** DOUBLE DICE THROWER*****
*
30 REM*****
*
40 GOSUB 300
50 RANDOMIZE TIME
60 CLS:PRINT:PRINT "Press a key to t
hrow the dice"
70 BORDER INT(RND*26)+1
80 IF INKEY#="" THEN 80
90 CLS:LOCATE 10,9
100 PRINT CHR$(150);CHR$(154);CHR$(1
54);CHR$(154);CHR$(154);CHR$(154);CH
R$(156);
110 PRINT "      ";CHR$(150);CHR$(154
);CHR$(154);CHR$(154);CHR$(154);CHR$
(154);CHR$(156)
120 FOR T=1 TO 7:PRINT TAB(10);"!";:
PRINT TAB(16);"!";:PRINT TAB(22);"!";
```



```

;:PRINT TAB(28);"!";
130 NEXT T
140 LOCATE 10,17
150 PRINT CHR$(147);CHR$(154);CHR$(1
54);CHR$(154);CHR$(154);CHR$(154);CH
R$(153);
160 PRINT "      ";CHR$(147);CHR$(154
);CHR$(154);CHR$(154);CHR$(154);CHR$
(154);CHR$(153)
170 R=INT(RND*6)+1:RR=INT(RND*6)+1
180 X=0
190 ON R GOSUB 250,270,330,370,420,4
80
200 X=12
210 ON RR GOSUB 250,270,330,370,420
480
220 SOUND 1,150,100:SOUND 2,163,100
230 FOR T=1 TO 2000:NEXT T
240 GOTO 60
250 LOCATE 13+X,13:PRINT "*"
260 RETURN
270 LOCATE 15+X,11:PRINT "*"
280 LOCATE 11+X,15:PRINT "*"
290 RETURN
300 SYMBOL AFTER 32
310 SYMBOL 42,56,124,254,254,254,124
,56,0
320 RETURN
330 LOCATE 13+X,13:PRINT "*"
340 LOCATE 11+X,15:PRINT "*"
350 LOCATE 15+X,11:PRINT "*"

```

```
360 RETURN
370 LOCATE 15+X, 11:PRINT "*"
380 LOCATE 15+X, 15:PRINT "*"
390 LOCATE 11+X, 15:PRINT "*"
400 LOCATE 11+X, 11:PRINT "*"
410 RETURN
420 LOCATE 13+X, 13:PRINT "*"
430 LOCATE 11+X, 15:PRINT "*"
440 LOCATE 15+X, 11:PRINT "*"
450 LOCATE 15+X, 15:PRINT "*"
460 LOCATE 11+X, 11:PRINT "*"
470 RETURN
480 LOCATE 15+X, 13:PRINT "*"
490 LOCATE 11+X, 15:PRINT "*"
500 LOCATE 15+X, 11:PRINT "*"
510 LOCATE 15+X, 15:PRINT "*"
520 LOCATE 11+X, 11:PRINT "*"
530 LOCATE 11+X, 13:PRINT "*"
540 RETURN
```

# BIRD CAGE

Bird Cage is a dice game which is often found in American Casinos. Three dice are held in a metal cage which can be spun. Before the cage is spun around, you place your bet on the number you think will come up. If one dice shows that number then you receive your money back. If two you get (in addition to your original bet) the value of your bet again. If you are lucky enough to get all three dice landing showing your chosen number, you get twice the size of the bet as well as your original stake.

Though the odds may seem to be in your favour, you will probably realise after a number of goes why it is so popular with American Casino operators.

```

10 REM*****
20 REM*****BIRD CAGE*****
30 REM*****
40 RANDOMIZE TIME
50 M=30
60 INK 1,0
70 INK 0,7
80 CLS
90 BORDER INT(RND*26)+1
100 SOUND 1,INT(RND*300)+50
110 LOCATE 7,2:PRINT "B I R D      C
A G E":PRINT
120 GOSUB 360
130 PRINT:PRINT
140 INPUT "HOW MUCH WOULD YOU LIKE T
O BET";A
150 IF A>M THEN 140
160 M=M-A:PRINT:PRINT

```

```
170 PRINT
180 INPUT "WHICH NUMBER ARE YOU BETT
ING ON";B
190 IF B<1 OR B>6 THEN 180
200 FOR C=1 TO 3
210 W=0
220 GOSUB 400
230 D=INT(RND*6)+1
240 PRINT:PRINT "DIE";C;"FELL";D
250 IF D=B THEN W=A:PRINT "SO YOU WI
N $";W
260 M=M+W
270 GOSUB 360
280 NEXT C
290 GOSUB 400:GOSUB 400
300 IF M>250 THEN 430
310 IF M>0 THEN 80
320 PRINT "THE GAME IS OVER...YOU'RE
BROKE!"
330 SOUND 1,INT(RND*400)+400
340 FOR T=1 TO 80:NEXT T
350 GOTO 320
360 PRINT "*****
*****"
370 PRINT " YOUR STAKE IS NOW $";M
380 PRINT "*****
*****"
390 RETURN
400 FOR P=1 TO 1000
410 NEXT P
420 RETURN
```

```
430 FOR J=1 TO 30  
440 PRINT "YOU'VE TOPPED $250!"  
450 PRINT TAB(J);"WELL DONE!!"  
460 NEXT J
```

# CARD DEMONSTRATION

Here is the important section of the routine used in the first game in this section to display cards graphically. With this routine, you can create your own card games with more realism than a simple text message like 'You have been dealt the Ace of Diamonds and the Ten of Spades.'

```
10 REM***CARD DEMONSTRATION***
20 INK 1,26
30 INK 2,0
40 INK 3,6
50 INK 0,9
60 V=1
70 CLS
90 FOR C=1 TO 52
100 IF C<14 THEN S#=CHR$(226)
110 IF C<27 AND C>13 THEN S#=CHR$(227)
120 IF C>26 AND C<40 THEN S#=CHR$(228)
130 IF C>39 AND C<52 THEN S#=CHR$(229)
140 IF C<14 THEN NC=C
150 IF S#=CHR$(227) THEN NC=C-13
160 IF S#=CHR$(228) THEN NC=C-26
170 IF S#=CHR$(229) THEN NC=C-39
180 NC#=STR$(NC)
190 IF NC=10 THEN NC#=" T"
```

```

200 IF NC=11 THEN NC$=" J":NC=10
210 IF NC=12 THEN NC$=" Q":NC=10
220 IF NC=13 THEN NC$=" K":NC=10
230 IF NC=1 THEN NC$=" A"
240 CP=CP+1:IF CP>6 THEN CP=1:V=V+8
250 IF C=19 THEN PRINT "
  PRESS A KEY":WHILE INKEY$="":WEND:C
LS:V=1
260 IF C=37 THEN PRINT "
  PRESS A KEY":WHILE INKEY$="":WEND:C
LS:V=1
270 GOSUB 300
280 NEXT C
290 END
300 REM***PRINT CARDS***
310 LOCATE (CP*7)-6,V
320 PEN 1
330 PRINT CHR$(150);CHR$(154);CHR$(1
54);CHR$(154);CHR$(156)
340 FOR T=1 TO 5
350 LOCATE (CP*7)-6,V+T
360 IF T=1 AND (S#=CHR$(227) OR S#=C
HR$(228)) THEN PRINT CHR$(149);:PEN
3:PRINT S#;" "":PEN 1:PRINT CHR$(14
9):GOTO 420
370 IF T=1 AND (S#=CHR$(226) OR S#=C
HR$(229)) THEN PRINT CHR$(149);:PEN
2:PRINT S#;" "":PEN 1:PRINT CHR$(14
9):GOTO 420
380 IF T=3 THEN PRINT CHR$(149);NC#;
" "":CHR$(149)

```

```
390 IF T=5 AND (S#=CHR$(226) OR S#=C
HR$(229)) THEN PRINT CHR$(149);:PEN
2:PRINT" ";S#;:PEN 1:PRINT CHR$(149
):GOTO 420
400 IF T=5 AND (S#=CHR$(227) OR S#=C
HR$(228)) THEN PRINT CHR$(149);:PEN
3:PRINT" ";S#;:PEN 1:PRINT CHR$(149
):GOTO 420
410 PRINT CHR$(149);" ";CHR$(149)
420 NEXT T
430 LOCATE (CP*7)-6,V+6
440 PRINT CHR$(147);CHR$(154);CHR$(1
54);CHR$(154);CHR$(153)
450 RETURN
```



# UNDER OR OVER

Here's an enjoyable dice game which involves you betting on the likelihood of the total of two dice equalling seven, coming to less than seven or more than seven. All instructions are included in the game.

```

10 REM***UNDER OR OVER***
20 RANDOMIZE TIME
30 CLS
40 M=30
50 GOSUB 440
60 GOSUB 460
70 PRINT "OK, PUNTER, 'ITS TIME TO"
80 PRINT "PLACE YOUR BET....."
90 GOSUB 460
100 PRINT "ENTER 'A' TO BET UNDER 7"
110 PRINT "ENTER 'B' TO BET ON 7 OR"
120 PRINT "ENTER 'C' TO BET OVER 7"
130 A$=INKEY$
140 IF A$<>"A" AND A$<>"B" AND A$<>"
C" THEN 130
150 PRINT:PRINT "THE ODDS ARE:"
160 PRINT "  A - PAYS EVEN"
170 PRINT "  B - PAYS 4 TO 1"
180 PRINT "  C - PAYS EVEN"
190 GOSUB 460
200 INPUT "NOW HOW MUCH WOULD YOU LI
KE TO BET":A

```

```
210 GOSUB 460
220 IF A>M THEN PRINT "YOU DON'T HAV
E THAT MUCH!":PRINT:GOTO 200
230 B=INT(RND*6)+1
240 PRINT "DIE ONE CAME UP";B
250 GOSUB 460
260 C=INT(RND*6)+1
270 PRINT "DIE TWO CAME UP";C
280 D=C+B
290 PRINT ",SO THE TOTAL IS";D
300 W=-A
310 IF D=7 AND A$="B" THEN W=4*A
320 IF D<7 AND A$="A" THEN W=A
330 IF D>7 AND A$="C" THEN W=A
340 M=M+W
350 GOSUB 460
360 IF W>0 THEN PRINT "YOU'VE JUST W
ON $";W
370 IF W<0 THEN PRINT "AND SO YOU LO
SE $";(W*-1)
380 GOSUB 460
390 GOSUB 440
400 GOSUB 460
410 IF M<1 THEN PRINT "YOU'RE FLAT B
ROKE, BUDDY...OUT YOU GO":SOUND 1,90
0,200:END
420 CLS
430 GOTO 50
440 PRINT:PRINT "YOU NOW HAVE $";M
450 RETURN
460 FOR P=1 TO 1000:NEXT P
```

470 PRINT:PRINT

480 RETURN

# ONE-ARMED BANDIT

Good graphics make this a most realistic version of the famous gambling machine. The reels rotate showing plums, belis and all the other fruit machine favourites. Achieve the right combination and you're in the money. If you are lucky enough, you may hit the jackpot.

This game shows how the graphics on your Amstrad can create stunning effects. The reels are text windows defined as one character wide. This means that when a character is printed in the window the preceding character is moved up one space. This gives the appearance of a moving reel.

The various symbols are all user-defined graphics printed in Mode 0 to provide that extra size. All instructions are included in the program.

```
10 REM*****
20 REM**ONE ARMED BANDIT**
30 REM*****
40 MODE 0
50 PAPER 5
60 INK 10,15
70 BORDER 0
80 GOSUB 1190:REM**instructions**
90 GOSUB 1420
100 RANDOMIZE TIME
110 AM=10
120 JK=100
130 CLS
140 LOCATE 1,1
150 PEN 1
```

```

160 PRINT "ONE ARMED BANDIT"
170 PEN 8
180 LOCATE 4, 4
190 PRINT"#####"
200 FOR M=4 TO 14
210 LOCATE 4, M
220 PRINT"# "
230 LOCATE 14, M
240 PRINT"# "
250 NEXT
260 LOCATE 4, 14
270 PRINT"#####"
280 LOCATE 5, 15
290 PRINT" \      /"
300 LOCATE 5, 16
310 PRINT" \_____/ "
320 WINDOW #1, 6, 6, 6, 11
330 WINDOW #2, 9, 9, 6, 11
340 WINDOW #3, 12, 12, 6, 11
350 FOR FC=1 TO 360
360 DEG
370 PLOT 570, 350
380 PLOT 570+35*COS(FC), 350+35*SIN(FC)
390 NEXT FC
400 FOR FC=559 TO 579
410 PLOT FC, 315
420 DRAW 0, -150
430 NEXT FC
440 PAPER#1, 4
450 PAPER#2, 4
460 PAPER#3, 4

```

```
470 PEN#1,8
480 PEN#2,8
490 PEN#3,8
500 GOSUB 860
510 X=INT(RND*170)
520 AM=AM-1:JK=JK+1
530 LOCATE 3,25
540 PEN 3
550 PRINT PT$;"
560 LOCATE 1,20
570 GOSUB 1720
580 PRINT" Money held:$";AM
590 IF AM<1 THEN GOTO 1330
600 PRINT
610 PRINT "   Jackpot:$";JK
620 GOSUB 1420
630 FOR T=X TO X+INT(RND*20)+10
640 PEN #1,6
650 GOTO 1540
660 PRINT #1,MID$(A$,T,1);
670 PRINT#1," ";
680 PEN #2,6
690 GOTO 1600
700 PRINT #2,MID$(B$,T,1);
710 PRINT#2," ";
720 PEN #3,6
730 GOTO 1660
740 PRINT #3,MID$(C$,T,1);
750 PRINT#3," ";
760 FOR G=1 TO 12*(T-X):NEXT G
770 NEXT T
```

```

780 WN=0
790 GOSUB 970
800 LOCATE 3,25
810 PRINT PT$
820 PT$=""
830 P$=INKEY$:IF P$="" THEN 830
840 IF P$=" " THEN GOTO 510
850 GOTO 830
860 REM***REEL DEFINE***
870 A$="":B$="":C$=""
880 FOR T=1 TO 255
890 AA$=STR$(INT(RND*10))
900 A$=A$+RIGHT$(AA$,1)
910 BB$=STR$(INT(RND*10))
920 B$=B$+RIGHT$(BB$,1)
930 CC$=STR$(INT(RND*10))
940 C$=C$+RIGHT$(CC$,1)
950 NEXT T
960 RETURN
970 REM***WINNING CHECK***
980 R1=VAL(MID$(A$,T-2,1))
990 R2=VAL(MID$(B$,T-2,1))
1000 R3=VAL(MID$(C$,T-2,1))
1010 IF (R1=0 OR R1=5 OR R1=9) AND (R2=0
OR R2=5 OR R2=9) AND (R3=0 OR R3=5 OR R
3=9) THEN AM=AM+5:SOUND 1,90,50:SOUND 1,
60,40:PT$="Y
OU WIN $5":RETURN
1020 IF R1=R2 AND R2=R3 THEN AM=AM+R1+R2
+R3:WN=1
1030 IF R1=R2 AND R2=R3 AND R1=1 THEN GO

```

```
TO 1100
1040 IF R1=R2 AND R2=R3 THEN SOUND 1,40,
150,4:PT$="YOU WIN!!!":RETURN
1050 IF (R1=R2 OR R1=R3 OR R2=R3) AND (R
1=8 OR R3=8) THEN PT$="YOU WIN $4":AM=AM
+4:SOUND 1,115,150:RETURN
1060 IF R1=R2 OR R1=R3 OR R2=R3 THEN SOU
ND 1,240,150,4:AM=AM+1:PT$="MONEY BACK":
RETURN
1070 SOUND 2,800,75
1080 PT$="YOU LOSE"
1090 RETURN
1100 AM=AM+JK
1110 BORDER 0,13
1120 FOR T=100 TO 30 STEP-2
1130 SOUND 1,T,3,7
1140 NEXT T
1150 PT$="JACKPOT!"
1160 WN=1
1170 RETURN
1180 RETURN
1190 CLS
1200 PEN 1
1210 PRINT TAB(2);"ONE ARMED BANDIT"
1220 PRINT
1230 PEN 3
1240 PRINT"    As a visitor to    Las Vegas
, you must gamble on the ONE    ARMED BAN
DIT."
1250 PRINT
1260 PRINT"    You start with    $10. Star
```



t the reel spinning by pressing the space bar"

```
1270 PRINT:PRINT"    If you get two sta  
rs you win $3. If you get three fruits you  
win $6"
```

```
1280 PRINT:PRINT"    If you get two ree  
ls the same, then you get your money bac  
k. All 3 & you receive 3 x value of the  
character."
```

```
;
```

```
1290 PRINT "3 pound signs and you win  
the jackpot!";
```

```
1300 WHILE INKEY#=""
```

```
1310 WEND
```

```
1320 RETURN
```

```
1330 REM***GAME OVER***
```

```
1340 FOR T=1 TO 26
```

```
1350 PRINT
```

```
1360 SOUND 1,20*T
```

```
1370 NEXT T
```

```
1380 LOCATE 5,12
```

```
1390 PRINT "GAME OVER"
```

```
1400 LOCATE 1,25
```

```
1410 END
```

```
1420 SYMBOL AFTER 32
```

```
1430 REM***U D G'S***
```

```
1440 SYMBOL 48,3,4,8,60,110,126,126,60
```

```
1450 SYMBOL 53,60,126,255,255,126,60
```

```
1460 SYMBOL 54,12,12,12,12,12,60,124,56
```

```
1470 SYMBOL 57,56,56,92,190,254,254,124,
```

```
56
```

```
1480 SYMBOL 55,56,124,124,124,124,254,16
,24
1490 SYMBOL 56,16,146,84,56,56,84,146,16
1500 SYMBOL 49,60,102,96,96,248,96,102,2
54
1510 SYMBOL 51,126,255,152,255,189,195,2
55,126
1520 RETURN
1530 REM***PRINT CHECKER***
1540 IF MID$(A$,T,1)="2" THEN PEN #1,3:P
RINT #1,CHR$(228);:GOTO 670
1550 IF MID$(A$,T,1)="0" THEN PEN #1,7:P
RINT #1,"0";:GOTO 670
1560 IF MID$(A$,T,1)="4" THEN PEN #1,3:P
RINT #1,CHR$(227);:GOTO 670
1570 IF MID$(A$,T,1)="5" THEN PEN #1,12:
PRINT #1,"5";:GOTO 670
1580 IF MID$(A$,T,1)="9" OR MID$(A$,T,1)
="7" THEN PEN #1,10:PRINT#1,MID$(A$,T,1)
;:GOTO 670
1590 GOTO 660
1600 IF MID$(B$,T,1)="2" THEN PEN #2,3:P
RINT #2,CHR$(228);:GOTO 710
1610 IF MID$(B$,T,1)="5" THEN PEN #2,12:
PRINT #2,"5";:GOTO 710
1620 IF MID$(B$,T,1)="9" OR MID$(B$,T,1)
="7" THEN PEN #2,10:PRINT#2,MID$(B$,T,1)
;:GOTO 710
1630 IF MID$(B$,T,1)="0" THEN PEN #2,7:P
RINT #2,"0";:GOTO 710
1640 IF MID$(B$,T,1)="4" THEN PEN #2,3:P
```

```
RINT #2,CHR$(227);:GOTO 710
1650 GOTO 700
1660 IF MID$(C$,T,1)="4" THEN PEN #3,3:P
RINT #3,CHR$(227);:GOTO 750
1670 IF MID$(C$,T,1)="0" THEN PEN #3,7:P
RINT #3,"0";:GOTO 750
1680 IF MID$(C$,T,1)="5" THEN PEN #3,12:
PRINT #3,"5";:GOTO 750
1690 IF MID$(C$,T,1)="9" OR MID$(C$,T,1)
="7" THEN PEN #3,10:PRINT #3,MID$(C$,T,1
);:GOTO 750
1700 IF MID$(C$,T,1)="2" THEN PEN #3,3:P
RINT #3,CHR$(228);:GOTO 750
1710 GOTO 740
1720 SYMBOL AFTER 254
1730 RETURN
```



# GRAPHICALLY SPEAKING

This chapter is made up of a collection of graphic routines and displays that are fun in themselves, but with a little work, could be made part of something larger. For example, the routines could be put at the end of a game as a reward for the winning player. Another idea would be to string them all together to provide an interesting demonstration display for your friends.

# TRIANGULAR TRACER

Watch and see how the triangles, drawn separately on the screen, build up to create a three-dimensional effect. The large number of random elements in the program ensure the effect is different every time you run the program.

```
10 REM*****TRIANGULAR TRACER*****
   ***
20 PRINT:PRINT:PRINT
30 PRINT "WATCH THE TRIANGLES CREATE
   EYE-CATCHING PATTERNS, TO CLEAR THE
   SCREEN, PRESS   THE SPACE BAR."
40 PRINT:PRINT:PRINT
50 PRINT TAB(30);"PRESS ANY KEY"
60 WHILE INKEY#="" :WEND
70 MODE 2
80 CLS
90 INK 1,26
100 INK 0,0
110 BORDER 0
120 L=INT(RND*640)
130 M=INT(RND*400)
140 N=INT(RND*640)
150 O=INT(RND*400)
160 P=INT(RND*640)
170 Q=INT(RND*400)
180 A=INT(RND*7)+1
190 B=INT(RND*7)+1
```

```
200 C=INT(RND*7)+1
210 D=INT(RND*7)+1
220 E=INT(RND*7)+1
230 F=INT(RND*7)+1
240 REM*****LOOP*****
250 Z=1
260 GOSUB 390
270 FOR X=1 TO 80:NEXT X
280 IF L+A>639 OR L+A<2 THEN A=-A
290 IF M+B>399 OR M+B<2 THEN B=-B
300 IF N+C>639 OR N+C<2 THEN C=-C
310 IF O+D>399 OR O+D<2 THEN D=-D
320 IF P+E>639 OR P+E<2 THEN E=-E
330 IF Q+F>399 OR Q+F<2 THEN F=-F
340 IF INKEY#="" THEN CLS
350 L=L+A:M=M+B
360 N=N+C:O=O+D
370 P=P+E:Q=Q+F
380 GOTO 240
390 REM*****DRAW*****
400 PLOT L,M,Z
410 DRAWR N-L,O-M
420 DRAWR P-N,Q-O
430 DRAWR L-P,M-Q
440 RETURN
```

# WINDOW IN/OUT

Instead of using the graphics commands to create an effect, here the WINDOW command has been used. The computer has been switched into mode 2 (80 characters per line) and the window starts from the middle of the screen and stretches out to eventually cover the whole screen.

By fiddling around with the starting variables for the window, the pattern varies as the window draws in and out.

```
10 REM*****WINDOW IN/OUT*****
20 MODE 2
30 X=40:Y=13
40 B=0
50 PAPER #1,1
60 FOR A=1 TO 40
70 IF A/3=INT(A/3) AND A>5 THEN B=B+
1
80 IF X-A=0 THEN X=X+1
90 WINDOW #1,X-A,X+A,Y-B,Y+B
100 CLS #1
110 SOUND 1,450-A*10,10
120 NEXT A
130 FOR T=1 TO 1500:NEXT T
140 PAPER 1:CLS
150 PAPER #1,0
160 FOR A=40 TO 1 STEP -1
170 IF A/3=INT(A/3) THEN B=B-1
180 IF A/2=INT(A/2) THEN J=J+1:IF J=
2 THEN J=0
190 WINDOW #1,X-A,X+A,Y-B,Y+B
200 PAPER #1,J
```



```
210 CLS #1  
220 SOUND 1,450-A*10,10  
230 NEXT A  
240 FOR T=1 TO 1500:NEXT T  
250 GOTO 50
```

# LASER FAN

This is a short and simple program producing a very eye-catching display. Lines radiate out from the centre of the screen giving the effect named in the title.

```
10 REM*****LASER FAN*****
20 INK 3,26,3
30 PAPER 3
40 PEN 1
50 SPEED INK 60,60
60 CLS
70 PLOT 320,200
80 SOUND 1,100,5,2
90 DRAW RND*640,RND*400
100 FOR T=1 TO 200:NEXT T
110 SOUND 1,250,5,2
120 GOTO 70
```

# LUNATIC PATCHWORKS

The title sums up the effect of this program. The program was a result of experimentation with the joystick drawing patterns on the screen. I didn't want to write a straight artist program, as these are far too common already. By fiddling around, I found that the effect of this program could be created.

Experiment yourself, first with the game as it is, and then try altering some of the variables to create your own special effects.

```
10 REM*****
20 REM*****LUNATIC PATCHWORKS*****
30 REM*****JOYSTICK CONTROL*****
40 REM*****SPACEBAR/FIRE BUTTON*****
50 REM***CHANGE FORE/BACK COLOURS***
60 REM*****
70 GOSUB 210
80 INK 1,P
90 INK 0,J
100 PLOT X,Y
110 IF INKEY#=" " THEN J=J+1:IF J=16
    THEN J=0
120 IF JOY(0)=2 AND Y>10 THEN Y=Y-2:
    YY=-1
130 IF JOY(0)=1 AND Y<390 THEN Y=Y+2
    :YY=+1
140 IF JOY(0)=4 AND X>10 THEN X=X-2:
    XX=-1
```

```
150 IF JOY(0)=8 AND X<630 THEN X=X+2
:XX=+1
160 IF JOY(0)=16 THEN P=P+1
170 IF P=16 THEN P=0
180 X=X+XX:Y=Y+YY
190 GOTO 80
200 END
210 REM***INITIALISATION***
220 MODE 0
230 PAPER 1
240 CLS
250 P=0
260 J=1
270 X=400:Y=200
280 RETURN
```

# HUNDREDS AND THOUSANDS

Hundreds and thousands of tiny pixels are lit up on the screen in a pattern. Try it and see.

```
10 REM*****
20 REM***HUNDREDS AND THOUSANDS***
30 REM*****
40 BORDER 1
50 INK 0,6
60 MODE 0
70 CLS
80 RANDOMIZE TIME
90 C=640
100 D=400
110 A=C*RND
120 B=D*RND
130 PLOT A,B,INT(RND*16)
140 PLOT A,D-B,INT(RND*16)
150 PLOT C-A,B,INT(RND*16)
160 PLOT C-A,D-B,INT(RND*16)
170 GOTO 110
```

# SUNBURST

Again, this program is the result of experimentation. I was working on some circle effects when the idea of this program came to mind. I think that you will agree that the effect produced, considering the length of the program, is startling.

```
10 REM*****SUNBURST*****
20 CLS
30 FOR A=1 TO 180
40 PLOT 320,200
50 DRAW 320+190*COS(A),200+190*SIN(A
)
60 NEXT A
70 FOR A=1 TO 360
80 IF A/2=INT(A/2) THEN P=1 ELSE P=0
90 PLOT 320,200
100 DRAW 320+150*COS(A),200+150*SIN(
A),P
110 NEXT A
120 SOUND 1,100,100
```

# TRAVELLING TRIANGLES

In Jeremy Ruston's program, a triangle moves around the screen moving through its three planes. This creates a superb effect, particularly when the triangle spins on its axes.

```
10 REM*****TRAVELLING TRIANGLES*****
20 REM*****D. RUSTON.*****
30 MODE 2
40 CLS
50 INK 1,26
60 INK 0,0
70 BORDER 0
80 L=INT(RND*640)
90 M=INT(RND*400)
100 N=INT(RND*640)
110 O=INT(RND*400)
120 P=INT(RND*640)
130 Q=INT(RND*400)
140 A=INT(RND*7)+1
150 B=INT(RND*7)+1
160 C=INT(RND*7)+1
170 D=INT(RND*7)+1
180 E=INT(RND*7)+1
190 F=INT(RND*7)+1
200 REM*****LOOP*****
210 Z=1
220 GOSUB 350
```

```
230 FOR X=1 TO 80:NEXT X
240 IF L+A>639 OR L+A<2 THEN A=-A
250 IF M+B>399 OR M+B<2 THEN B=-B
260 IF N+C>639 OR N+C<2 THEN C=-C
270 IF O+D>399 OR O+D<2 THEN D=-D
280 IF P+E>639 OR P+E<2 THEN E=-E
290 IF Q+F>399 OR Q+F<2 THEN F=-F
300 Z=0:GOSUB 350
310 L=L+A:M=M+B
320 N=N+C:O=O+D
330 P=P+E:Q=Q+F
340 GOTO 200
350 REM*****DRAW*****
360 PLOT L,M,Z
370 DRAWR N-L,O-M
380 DRAWR P-N,Q-O
390 DRAWR L-P,M-O
400 RETURN
```



# **SOUNDS FANTASTIC**

One of the best features of the Amstrad is its sound capabilities. With the ability to mix sound from three channels, together with white noise, the effects that can be achieved are marvellous.

In this chapter, I have looked at the two sides of computer sound, namely music and sound effects. You will find programs dealing with each.

Finishing this chapter is a fast-moving action-packed game based around collecting musical notes. It incorporates many of the effects found in the chapter.

# SYNTHET 464

Here is your chance to become a budding pop star with your own synthesiser for the Amstrad.

This program utilises the sound channels to create a phasing in and out effect. The top row of the keyboard, including the CLEAR and DEL keys, can be used with the ESC key acting as a push button pause. One tap for a pause; another tap to release the pause and to continue playing.

Apart from the realistic synthesiser sound produced by the program, the screen displays a keyboard drawn from lines 250 onwards. (By the way, Roland is a famous maker of synthesisers, hence line 330.)

```
10 REM*****
20 REM*****SYNTHET-464*****
30 REM*****
40 GOSUB 180
50 T=0
60 KEY DEF 79,1,17
70 GOSUB 250
80 A$=INKEY$
90 IF A$="" THEN GOTO 160
100 IF A$="0" THEN T=M(10):GOTO 160
110 IF A$="-" THEN T=M(11):GOTO 160
120 IF A$="^" THEN T=M(12):GOTO 160
130 IF A$=CHR$(16) THEN T=M(13):GOTO
160
140 IF A$=CHR$(17) THEN T=M(14):GOTO
160
150 T=M(VAL(A$))
160 SOUND 1,T,1,7,1:SOUND 2,T-2,1,7,
1:SOUND 3,T+2,1,7,1
```

```
170 GOTO 80
180 REM***INITIALISATION***
190 DIM M(14)
200 FOR T=1 TO 14
210 READ M(T)
220 NEXT T
230 DATA 568,506,478,426,379,358,319
,284,253,239,213,190,179,159
240 RETURN
250 REM*****SCREEN*****
260 CLG
270 INK 0,26
280 INK 1,0
290 CLS
300 PLOT 0,250
310 DRAW 640,250
320 LOCATE 15,14
330 PRINT "Roland V."
340 PLOT 0,150
350 DRAW 640,150
360 FOR T=1 TO 16
370 PLOT T*40,150
380 DRAW T*40,0
390 NEXT T
400 FOR T=1 TO 26
410 PLOT 66+T,150
420 DRAW 66+T,50
430 NEXT T
440 FOR T=1 TO 26
450 PLOT 106+T,150
460 DRAW 106+T,50
```

```
470 NEXT T
480 FOR T=1 TO 26
490 PLOT 146+T,150
500 DRAW 146+T,50
510 NEXT T
520 FOR T=1 TO 26
530 PLOT 306+T,150
540 DRAW 306+T,50
550 NEXT T
560 FOR T=1 TO 26
570 PLOT 266+T,150
580 DRAW 266+T,50
590 NEXT T
600 FOR T=1 TO 26
610 PLOT 426+T,150
620 DRAW 426+T,50
630 NEXT T
640 FOR T=1 TO 26
650 PLOT 466+T,150
660 DRAW 466+T,50
670 NEXT T
680 FOR T=1 TO 26
690 PLOT 506+T,150
700 DRAW 506+T,50
710 NEXT T
720 BORDER 1,2
730 RETURN
```

# STAR THEME

Remember the film? Remember the music? Well here, your Amstrad creates a simple space scene and then plays you its rendition of the main Star Theme.

```
20 MODE 2
30 BORDER 0
40 INK 1,26:INK 0,0
50 FOR T=1 TO 180
60 A=INT(RND*640):B=INT(RND*400)
70 PLOT A,B,1
80 IF RND>0.95 THEN PLOT A-1,B,1:PLOT
A,B-1,1:PLOT A-1,B-1
90 NEXT T
100 FOR G=15 TO 3 STEP -3
110 FOR T=1 TO 90
120 PLOT 480,300,0
130 PLOT 480+G*COS(T),300+G*SIN(T),1
140 NEXT T
150 NEXT G
160 DIM M(16),D(16)
170 FOR H=1 TO 2
180 FOR T=1 TO 16
190 READ M(T),D(T)
200 SOUND 1,M(T),D(T),12
210 NEXT T
220 SOUND 1,0,60
230 RESTORE
240 NEXT H
```

250 DATA 478,50,319,50,358,13,379,13,  
426,13,239,60,319,60,358,13,279,13,4  
26,13  
260 DATA 239,60,319,60,358,15,379,15  
,358,15,426,70

# ZAP/ ENERGISER

I often find when experimenting for a specific sound that I come up with a different sound altogether. When this happens, don't discard the other sound, even if that is not what you want at the time. It may be useful some other time.

ENERGISER is a development from the ZAP sound, created by lengthening the envelope and altering the tone through a FOR/NEXT loop.

```
10 REM****ZAP****
20 ENV 6,15,-1,1
30 ENT 1,30,10,1
40 SOUND 1,100,25,7,1,1
```

```
10 REM****ENERGISER****
20 FOR T=250 TO 1 STEP-10
30 ENV 5,100,-1,10
40 SOUND 1,T,T/5,7,1,1
50 NEXT T
```

# CHOPPER/ RUSTLE, RUSTLE

Here, as with ZAP and ENERGISER, one sound has been developed from the other. CHOPPER recreates the sound of the helicopter's blades and may be useful in an arcade game.

```
10 REM*****CHOPPER SOUND*****  
20 ENV 1,20,4,2  
30 SOUND 1,200,100,1,1,1,5  
40 GOTO 20
```

```
10 REM*****RUSTLE,RUSTLE*****  
20 ENT 1,10,-4,20  
30 ENV 1,16,24,2  
40 SOUND 1,150,100,1,1,1,5  
50 GOTO 30
```



# MUSIC COMPOSER

This program allows you to enter a musical composition, see it appear on a musical staff and then have it replayed at your own desired volume (between 1 and 15) and your own desired tempo.

Just enter your notes between C and C (one octave) without sharps or flats.

```
10 REM*****
20 REM*****MUSIC COMPOSER*****
30 REM*****
40 MODE 0
50 CLS
60 PRINT "  MUSIC COMPOSER"
70 INK 0,26
80 INK 1,0
90 PEN 1
100 DIM M(42)
110 X=3:P=-6:Y=10
120 FOR T=1 TO 5
130 LOCATE 1,(2*T)
140 PRINT "-----";
150 NEXT T
160 FOR T=7 TO 11
170 LOCATE 1,(2*T)
180 PRINT "-----";
190 NEXT T
200 N=0
```

```
210 LOCATE 1,24
220 N=N+1
230 INPUT "ENTER NOTE ";A$
240 IF A$="*C" THEN GOTO 280
250 IF A$="-" THEN GOTO 280
260 IF A$="" THEN GOTO 230
270 IF ASC(A$)>71 OR ASC(A$)<64 THEN
    GOTO 210
280 IF A$="@" THEN GOTO 460
290 IF A$="-" THEN C=0:Y=25
300 IF A$="C" THEN C=1:Y=16
310 IF A$="D" THEN C=2:Y=15
320 IF A$="E" THEN C=3:Y=14
330 IF A$="F" THEN C=4:Y=13
340 IF A$="G" THEN C=5:Y=12
350 IF A$="A" THEN C=6:Y=11
360 IF A$="B" THEN C=7:Y=10
370 IF A$="*C" THEN C=8:Y=9
380 M(N)=C
390 SOUND 1,300-(30*C)
400 X=X+1:IF X>20 THEN X=1:P=P+12
410 LOCATE X,Y+P
420 IF Y=25 THEN GOTO 440
430 PRINT CHR$(236);
440 GOTO 210
450 REM*****PLAY COMPOSITION*****
460 LOCATE 1,23:PRINT "
    ";
470 LOCATE 4,23:INPUT "VOLUME";V
480 IF V>15 OR V<1 THEN GOTO 460
```

```
490 LOCATE 4,23:INPUT "TEMPO (1-20)"
;D
500 IF D>20 OR D<1 THEN GOTO 490
510 LOCATE 2,23
520 INK 3,26,3
530 PEN 3
540 PRINT "    MUSIC PLAYING    ";
550 REM***PLAY NOTES***
560 FOR T=1 TO N
570 M(T)=210-(M(T)*20)
580 SOUND 1,M(T),D*5,V
590 NEXT T
600 PEN 1
610 ON BREAK GOSUB 630
620 GOTO 610
630 RUN
```

# MUSIC MAZE

You will find this game a lot of fun and quite a challenge too.

You must guide your character around the maze using the Q and Z keys for up and down screen movement and the I and P keys for right and left. If you find yourself blocked in a part of the maze, you can use one of your few sticks of dynamite (by pressing the spacebar) to blast your way out of trouble. Be careful where you use your dynamite, though, as blowing up a musical note will result in the maze being electrified.

You must collect twelve notes and make your way out of the maze. There are two types of notes, one you must collect, the other you must avoid for they are electrified. I will not tell you which are which. You will have to find out for yourself.

```
10 REM*****MUSIC MAZE*****
20 GOSUB 1400
30 PEN 1
40 DIM M(46),T(46)
50 INK 1,11,0:INK 0,0
60 SPEED INK 60,30
70 BORDER 0
80 DIM S(40,24)
90 CLS
100 LOCATE 8,1:PRINT "M U S I C
M A Z E"
110 PEN 3
120 FOR Y=3 TO 23
130 LOCATE 1,Y
140 S(1,Y)=143
150 PRINT CHR$(S(1,Y));
160 FOR X=2 TO 40
```

```
170 LOCATE X,Y
180 IF RND>0.65 THEN S(X,Y)=207 ELSE
  S(X,Y)=32
190 PRINT CHR$(S(X,Y));
200 NEXT X
210 LOCATE X-1,Y
220 S(X-1,Y)=143
230 PRINT CHR$(S(X-1,Y));
240 NEXT Y
250 FOR T=1 TO 17
260 READ M(T),T(T)
270 NEXT T
280 FOR T=1 TO 26
290 READ M(17+T):T(17+T)=20
300 NEXT T
310 LOCATE 1,2
320 FOR T=1 TO 40
330 S(T,2)=143
340 PRINT CHR$(S(T,2));
350 NEXT T
360 LOCATE 1,24
370 FOR T=1 TO 40
380 S(T,24)=143
390 PRINT CHR$(S(T,24));
400 NEXT T
410 K=INT(RND*38)+1
420 LOCATE K,24
430 PRINT " ";
440 S(K,24)=32
450 PEN 2
460 FOR T=1 TO 6
```

```
470 X=INT(RND*36)+2:Y=INT(RND*20)+3
480 S(X,Y)=237
490 LOCATE X,Y:PRINT CHR$(S(X,Y));
500 S(X,Y)=23
510 NEXT T
520 FOR T=1 TO 12
530 X=INT(RND*36)+2:Y=INT(RND*20)+3
540 S(X,Y)=236
550 LOCATE X,Y
560 PEN 1
570 PRINT CHR$(S(X,Y));
580 S(X,Y)=33
590 PEN 3
600 NEXT T
610 PEN 2
620 A=2:B=3
630 SC=0
640 D=3
650 DT=INT(TIME/300)
660 G=1
670 REM*****MAIN GAME ACTION*****
680 G=G+1:IF G<7 THEN GOTO 720 ELSE
G=1
690 H=H+1
700 IF H=46 THEN H=0:GOTO 720
710 SOUND 4,M(H),T(H)/2,6
720 A$=INKEY$
730 LOCATE A,B:PRINT " ";
740 IF A$="Q" AND S(A,B-1)<35 THEN B
=B-1
750 IF A$="Z" AND S(A,B+1)<35 THEN B
```

```

=B+1: IF SC=12 AND B=24 THEN GOTO 122
0
760 IF A$="I" AND S(A-1,B)<35 THEN A
=A-1
770 IF A$="P" AND S(A+1,B)<35 THEN A
=A+1
780 IF A$=" " AND D>0 THEN GOSUB 870
790 IF S(A,B)=33 THEN SOUND 2,420-(3
0*SC),40,15:S(A,B)=32:SC=SC+1
800 IF S(A,B)=23 THEN SOUND 1,1000,4
0,15,5,5,5:GOTO 1080
810 LOCATE A,B
820 PRINT CHR$(248);
830 TK=INT(TIME/300)-DT
840 IF TK>300 THEN 1080
850 IF TK>270 THEN INK 0,11,0
860 GOTO 670
870 REM***DYNAMITE THROUGH***
880 IF S(A+1,B)=33 OR S(A-1,B)=33 OR
S(A,B+1)=33 OR S(A,B-1)=33 THEN GOT
O 1080
890 IF S(A+1,B)=23 OR S(A-1,B)=23 OR
S(A,B+1)=23 OR S(A,B-1)=23 THEN GOT
O 1080
900 S(A+1,B)=32
910 S(A-1,B)=32
920 S(A,B+1)=32
930 S(A,B-1)=32
940 LOCATE A+1,B:PRINT " ";
950 LOCATE A-1,B:PRINT " ";
960 LOCATE A,B+1:PRINT " ";

```

```
970 LOCATE A,B-1:PRINT " ";
980 PEN 3
990 DT=DT-10
1000 IF B=23 THEN S(A,B+1)=143:LOCAT
E A,B+1:PRINT CHR$(143);
1010 IF A=2 THEN S(A-1,B)=143:LOCATE
A-1,B:PRINT CHR$(143);
1020 IF B=2 THEN S(A,B-1)=143:LOCATE
A,B-1:PRINT CHR$(143);
1030 IF A=38 THEN S(A+1,B)=143:LOCAT
E A+1,B:PRINT CHR$(143);
1040 PEN 2
1050 SOUND 1,800,60
1060 D=D-1
1070 RETURN
1080 REM*****LOSE*****
1090 FOR T=1 TO 8
1100 SOUND 1,100
1110 INK 0,9
1120 SOUND 1,250
1130 INK 0,0
1140 NEXT T
1150 CLS
1160 PEN 3
1170 LOCATE 10,10
1180 PRINT "YOU ARE ELECTROCUTED!!"
1190 SOUND 1,4000,140,15
1200 SPEED KEY 10,1
1210 END
1220 REM*****WIN*****
1230 SPEED KEY 10,1
```



```
1240 FOR T=300 TO 60 STEP -5
1250 SOUND 1,T,20:SOUND 2,T,20
1260 NEXT T
1270 FOR T=1 TO 28:PRINT:NEXT T
1280 LOCATE 15,10:PRINT "WELL DONE"
1290 LOCATE 12,14:PRINT "TIME: ";TK;"
SECONDS"
1300 FOR T=1 TO 2000:NEXT T
1310 FOR T=1 TO 24
1320 SOUND 1,M(T+17),T(T+17),12
1330 NEXT T
1340 GOTO 1300
1350 END
1360 REM*****MUSIC DATA*****
1370 DATA 478,50,319,50,358,13,379,1
3,426,13,239,60,319,60,358,13,379,13
,426,13
1380 DATA 239,60,319,60,358,15,379,1
5,358,15,426,70,0,40
1390 DATA 60,53,47,45,60,0,45,47,45,
40,53,0,53,47,45,36,40,40,45,45,47,5
3,47,60,0,0
1400 REM*****TITLE***
1410 MODE 0
1420 FOR T=1 TO 14
1430 PEN T
1440 LOCATE 5,10
1450 PRINT "MUSIC MAZE"
1460 SOUND 2,INT(RND*350)+50
1470 FOR G=1 TO 100:NEXT G
1480 A=INT(RND*18)+1:B=INT(RND*23)+1
```

```
1490 IF B=10 THEN GOTO 1480
1500 LOCATE A,B:PRINT CHR$(INT(RND*2
)+236);
1510 NEXT T
1520 LOCATE 1,24:PRINT "Press a key
to Start"
1530 WHILE INKEY#="":WEND
1540 MODE 1
1550 RETURN
```







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