

# THE ATARI GOODE PROGRAM BOOK

PETER GOODE

THE  
**ATARI 600 XL**  
PROGRAM BOOK



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**PETER GOODE**

Phoenix Publishing Associates  
Bushey, Herts.



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# Contents

Bar Chart .....	11
Clear Path .....	15
Maze Mover .....	18
Pontoon .....	23
Wizards and Warlocks .....	28
Word Square .....	35
S.I.M.P.E.R. ....	39
Cataloguer .....	45
Space City .....	49
Flashy Graphics .....	54
Chord Organ .....	58
Dice .....	61
Missile Command .....	66
Biorhythm, Graphing and Prediction .....	73
Wall Dodge .....	77
Submarine Hunter .....	81
Safecracker .....	86
Fruit Machine .....	90
Robot Island .....	97
Flags of the World .....	103
Cruise Attack .....	108
Bat 'n' Ball .....	112

Egg Catcher .....	116
Black Holes .....	119
Meteoroid Storm .....	124
Road Runner .....	127
Wall Breaker .....	130
Seek and Destroy .....	134
Road Block .....	138
Minelayer .....	141
Rifle Gallery .....	145
Wordgrams .....	148
Hunt the Day .....	151
Surround .....	154
Hark the Herald Angels Sing .....	158

# PREFACE

If you are an Atari 600 XL owner, or are about to become one, it is probably because you have decided that this computer offers you more potential for gaming, programming etc. in colour, with sound, than other machines on the market.

Because we are aware of the potential of the Atari 600 XL we have written a wide choice of programs which make use of the computer's facilities.

If you are a games player, you will find ample opportunity to use the colour and graphics whilst testing your reactions and finger twisting skills to the full. If you are interested in adventure gaming we have included a program which is a variant on Dragons and Dungeons. We have not, for reasons of space, been able to list a fully extended program but, when you buy your disks, you will be able to use a wider range of circumstances for your adventuring.

To help users understand the programs we have included full 'how to' instructions and, for those who are keen to move on to greater things, programming hints where we feel they may be of interest.

A book like this is always produced with the help of many people and we would like to thank, in particular, the Technical Staff of Atari U.K. and the staff of Burson-Marsteller Ltd. whose Barry Milnes was driven to the edge by our endless telephone calls.

# IMPORTANT NOTES

If you are a newcomer to computing, and are unfamiliar with the task of entering program listings, remember that it is of paramount importance to follow every detail. There are no real short cuts.

Your computer is very particular about grammar and punctuation points and will not run the programs if even a small detail is missing.

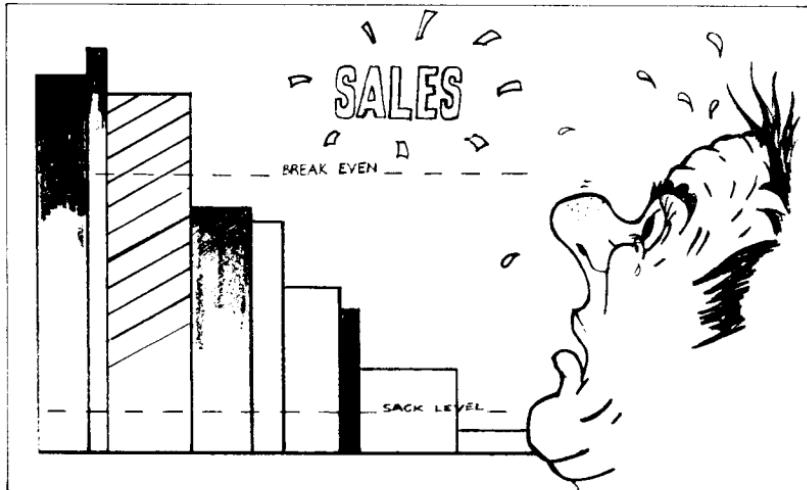
Be very fussy about the difference between 0 (zero) and O (letter O). The zero is slashed through on all the listings in this book but does not appear on the screen with a slash. All the programs in this book have been printed directly from the Atari 600 XL and are therefore 'bug free'.

**N.B. On this printer all # (hash) signs are shown as £ signs so be careful when entering on your Atari. Make sure you don't use the £ sign by error. Use the SHIFT key and 3.**

If you intend to 'save' some of these programs on tape to ensure you don't have to retype them always make sure that your cassette has accepted the information before you move on.

You will find that patience is its own reward in this high technology world.

# BAR CHART



This is a very helpful utility for anyone who wants to make comparisons of sales figures, temperatures, money fluctuations in the world markets or just work out how much they are spending a month on space invader games!!!

### **How to use**

This program will allow the user to chart up to 80 items of data and will show the data in a variety of three colours to make comparison easier for the viewer.

You will be presented with a 'menu' which will ask you how many items you intend to compare. Enter the number and the computer will then ask you for the data for each 'bar'.

The data is entered by simply pressing the number keys.  
You do not have to press other keys.

The horizontal and vertical scales will be automatically drawn by the computer as it analyses the program.

To restart, once the chart is drawn, press SPACE.

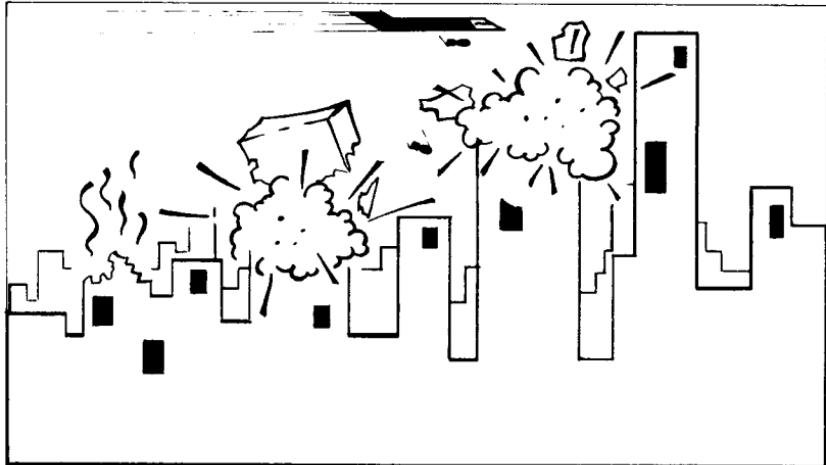
## **The Program**

```
10 REM BAR CHARTS
20 DIM H(80)
30 N=0
40 C1=1:C2=3:C3=5
100 REM MAIN MENU
110 GRAPHICS 1+16
120 POSITION 0,2:PRINT £6;"      BAR CHAR
TS"
130 POSITION 0,3:PRINT £6;"      =====
===="
140 POSITION 0,10:PRINT £6;"1) ENTER DA
TA"
150 POSITION 0,12:PRINT £6;"2) DISPLAY
CHART"
160 POSITION 0,14:PRINT £6;"3) CHANGE C
OLOURS"
170 POSITION 0,16:PRINT £6;"4) LEAVE PR
OGRAM"
200 OPEN £1,4,0,"K:"
210 GET £1,D:IF D<ASC("1") OR D>ASC("4")
THEN 210
220 CLOSE £1:IF D=ASC("4") THEN GRAPHICS
0:GOTO 20000
230 ON D-48 GOSUB 1000,2000,3000
300 GOTO 100
1000 REM ENTER DATA
1005 TRAP 1005
1010 GRAPHICS 0:PRINT "HOW MANY ITEMS ";
1020 INPUT N:IF N<2 OR N>80 THEN 1010
```

```
1025 POKE 752,1:REM CURSOR OFF
1030 FOR L=1 TO N
1035 TRAP 1035
1040 POSITION 0,10:PRINT £6;"ITEM ";L;;
= "":POSITION 7,1
0
1050 INPUT D
1060 IF D<0 THEN 1040
1065 POKE 752,1:REM CURSOR OFF
1070 H(L)=D:NEXT L
1099 RETURN
2000 REM DISPLAY BAR CHART
2005 TRAP 40000
2010 GRAPHICS 1+16:IF N=0 THEN PRINT £6;"NO DATA IS PRESENT":GOTO 2490
2020 GRAPHICS 7+16:SETCOLOR 0,C1,10:SETC
OLOR 1,C2,10:SETCOLOR 2,C3,10
2030 S=INT(159/N)
2040 M=0
2050 FOR L=1 TO N
2060 IF H(L)>M THEN M=H(L)
2070 NEXT L
2080 U=95/M
2100 FOR L=1 TO N
2110 C=0:L=1:FOR I=0 TO (S-1)*N STEP S
2115 C=C+1:IF C=4 THEN C=1
2117 COLOR C
2120 FOR J=0 TO S-1
2130 PLOT J+I,95:DRAWTO J+I,(95-U*H(L))
2140 NEXT J
2150 L=L+1
2160 NEXT I
2490 GOSUB 2500
2499 RETURN
2500 REM WAIT FOR SPACE
2510 OPEN £1,4,0,"K:"
2520 GET £1,D
2530 IF D<>32 THEN 2520
2540 CLOSE £1
2550 RETURN
3000 REM ALTER COLOUR SCHEME
```

```
3003 TRAP 3003
3005 GRAPHICS 0
3010 POSITION 0,0:PRINT £6;"COLOUR ONE H
UE ";
3020 INPUT C1:IF C1<0 OR C1>15 THEN 3010
3030 POSITION 0,10:PRINT £6;"COLOUR TWO
HUE ";
3040 INPUT C2:IF C2<0 OR C2>15 THEN 3030
3050 POSITION 0,20:PRINT £6;"COLOUR THRE
E HUE ";
3060 INPUT C3:IF C3<0 OR C3>15 THEN 3050
3099 RETURN
20000 END
```

# CLEAR PATH



You may recall that the United States space shuttle Challenger was often nicknamed 'The Flying Brick' by its pilots as it fell to Earth at 5,000 miles an hour, without an engine.

We have given you the same problem to solve, except we have made it even nastier for you by bringing you into a deserted city.

We have given you one edge however. You have a cargo of bombs which you can use to clear a path for your flying brick.

## **How to play**

Entering the screen at top left you must 'fly' across the city and demolish the skyscrapers by pressing SPACE bar to release your bombs.

You can choose the level of difficulty at the beginning of the game, on a scale of 1 to 10.

You can only drop a second, or third, bomb when the first has hit it's target so there is no point in pressing the SPACE bar and hoping for the best.

### **Programming Hints**

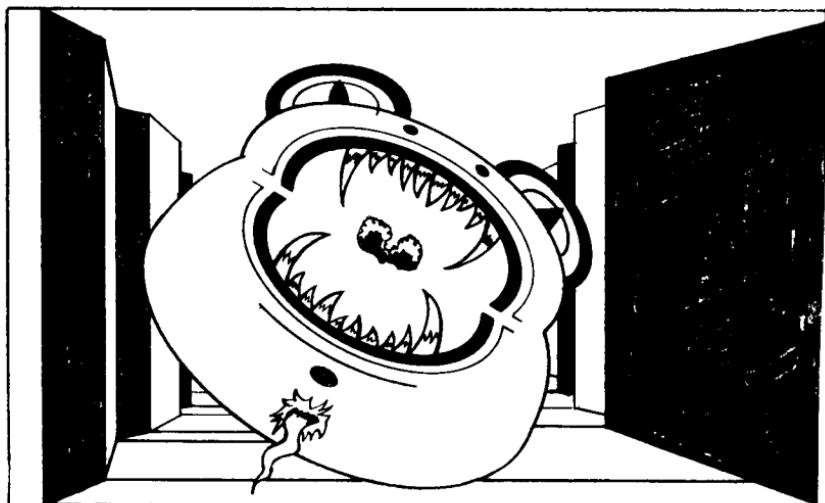
To change the height of the buildings alter the number after the \* sign in line 1020. Remember if you increase the height you will reduce the time you have to respond.

### **The Program**

```
10 REM CLEAR PATH
11 GRAPHICS 0:PRINT "SPEED (1-10) ";
12 INPUT SP:IF SP<1 OR SP>10 THEN 11
15 SC=0
20 GRAPHICS 3+16
30 GOSUB 1000
40 X=0:Y=0
50 E=0:F=0
100 A=X+1:B=Y
105 FOR L=1 TO 4*SP:NEXT L
110 IF A=40 THEN A=0:B=B+1
115 IF B=23 AND A=20 THEN 800
120 LOCATE A,B,C
130 IF C=3 THEN 900
200 COLOR 4:PLOT X,Y
210 COLOR 1:PLOT A,B
220 X=A:Y=B
300 IF PEEK(764)=33 AND F=0 AND Y<>23 TH
EN F=Y+1:E=X:POKE 764,0:COLOR 2:PLOT E,F
350 IF F=0 THEN 100
400 G=F+1:IF G=24 THEN COLOR 4:PLOT E,F:
F=0:GOTO 100
```

```
410 COLOR 4:PLOT E,F
415 LOCATE E,G,D:IF D=3 THEN SC=SC+10
420 COLOR 2:PLOT E,G
430 F=G
440 GOTO 100
800 REM LANDED
810 GRAPHICS 1+16:POSITION 0,10
820 PRINT £6;"YOU LANDED THE PLANE"
830 POSITION 0,14:PRINT £6;"SCORE : ";SC
840 FOR L=1 TO 600:NEXT L
850 GOTO 20
900 REM CRASHED INTO A BUILDING
910 FOR L=0 TO 250 STEP 3
920 SOUND 0,L,3,14:NEXT L:SOUND 0,0,0,0
930 GRAPHICS 1+16
940 POSITION 0,10
950 PRINT £6;"YOU SCORED : ";SC
960 POSITION 0,17:PRINT £6;"      <RETUR
N>"
970 OPEN £1,4,0,"K:"
980 GET £1,D:IF D<>155 THEN 980
990 CLOSE £1:RUN
1000 REM DRAW A RANDOM CITY
1005 COLOR 3
1010 FOR X=0 TO 39
1020 FOR Y=23 TO 23-INT(RND(1)*5+1) STEP
-1
1030 PLOT X,Y
1040 NEXT Y
1050 NEXT X
1099 RETURN
```

# MAZE MOVER



This little monster will soon let you know if your reactions and finger controls are what you think they are.

We have given you a choice of two mazes and you have to move the space star from the bottom left position to the top right of the screen.

Touch any part of the walls and you are a goner.

## How to play

Use keys Z, X, /, +, to move up and down, left and right.

You will be given a choice of mazes at the beginning and will have to select 1 or 2 and press RETURN.

At the end of each attempt you will be asked to reselect a maze and begin again.

If you do complete successfully you will be given a points score.

By the way we think No. 2 is the tougher of the two. See if you agree.

## Programming Hints

To make full use of the memory of your machine we have included a short machine code routine from lines 9500 to 9570, so be careful how you enter this section.

## The Program

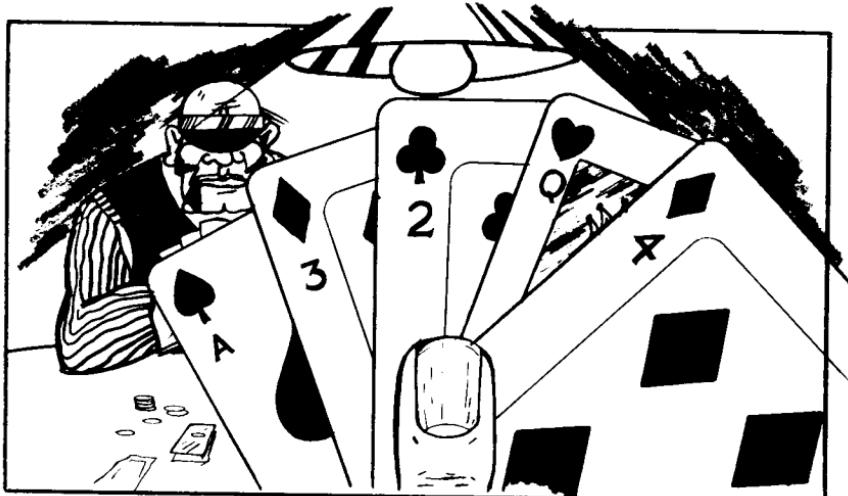
```
10 REM MAZE MOVER
20 REM WITH M/CODE ROUTINES
25 POKE 53248,0:POKE 53249,0
30 GOSUB 1000
40 GOSUB 2000
50 X=52:Y=175:GOSUB 3000
60 POKE H2,180
70 M=0:POKE H1,X
80 CX=3
90 GOSUB 5000
95 SC=5000
100 K=PEEK(764)
102 SC=SC-5
105 POKE 53278,1
110 IF K=23 OR K=22 OR K=38 OR K=6 THEN
M=K
120 IF M=22 THEN X=X+CX:POKE H1,X
130 IF M=23 THEN X=X-CX:POKE H1,X
140 IF M=38 THEN Z=USR(12288)
150 IF M=6 THEN Z=USR(12301)
200 IF PEEK(53252)<>0 THEN 400
210 IF PEEK(53260)<>0 THEN 500
290 GOTO 100
400 GRAPHICS 1+16:POSITION 0,10
```

```
405 POKE H1,0:POKE H2,0
410 PRINT £6;"YOU DIDN'T MAKE IT"
415 POSITION 0,17
420 PRINT £6;"      <SPACE>"
430 IF PEEK(764)<>33 THEN 430
440 RUN
500 GRAPHICS 1+16:POSITION 3,10
505 POKE H1,0:POKE H2,0
510 PRINT £6;"excellent score"
520 POSITION 0,13:PRINT £6;"          OF ";
STR$(SC)
530 POSITION 0,17
540 PRINT £6;"      <SPACE>"
550 IF PEEK(764)<>33 THEN 550
560 RUN
800 REM CHOOSE MAZE
810 GRAPHICS 1+16:POSITION 0,10
820 PRINT £6;"choose maze number"
830 POSITION 0,16
840 PRINT £6;"      (1 OR 2)"
850 OPEN £1,4,0,"K:"
860 GET £1,A:IF A<49 OR A>50 THEN 860
870 RESTORE 9000:IF A=50 THEN RESTORE 10
000
875 CLOSE £1
880 RETURN
1000 REM DRAW THE MAZE ON PLAYFIELD
1005 GOSUB 800:GRAPHICS 5+16
1010 SETCOLOR 2,8,4:COLOR 3
1020 FOR Y=0 TO 40 STEP 8
1030 FOR X=0 TO 64 STEP 8
1040 READ D:IF D=1 THEN PLOT X,Y:DRAWTO
X+8,Y
1050 NEXT X:NEXT Y
1100 FOR Y=0 TO 32 STEP 8
1110 FOR X=0 TO 72 STEP 8
1120 READ D:IF D=1 THEN PLOT X,Y:DRAWTO
X,Y+8
1130 NEXT X:NEXT Y
1199 RETURN
2000 REM INITIALISE PLAYER GRAPHICS
```

```
2010 PMBASE=40:POKE 54279,PMBASE
2020 C1=704:H1=53248
2030 POKE 559,62:POKE 53277,3
2040 P1=PMBASE*256+1024
2045 P2=P1+256:H2=53249:C2=705
2050 POKE C1,88:POKE H1,0
2055 POKE C2,47:POKE H2,0
2060 FOR I=0 TO 255
2070 POKE P1+I,0:POKE P2+I,0:NEXT I
2080 POKE P2+42,129:POKE P2+49,129
2082 POKE P2+43,66:POKE P2+48,66
2084 POKE P2+44,36:POKE P2+47,36
2086 POKE P2+45,24:POKE P2+46,24
2099 RETURN
3000 Q=Y+P1
3010 POKE Q,24:POKE Q+1,24:POKE Q+2,24
3020 POKE Q+3,255:POKE Q+4,255:POKE Q+5,
24
3030 POKE Q+6,24:POKE Q+7,24
3040 RETURN
5000 REM READ MACHINE CODE INTO RAM
5010 RESTORE 9500
5020 FOR L=12288 TO 12313
5030 READ D:POKE L,D
5040 NEXT L:RETURN
9000 DATA 1,1,1,1,1,1,1,1,1,1
9010 DATA 0,1,0,0,0,0,0,0,0,1
9020 DATA 1,0,0,1,0,1,0,1,0,0
9030 DATA 0,1,1,0,0,0,0,0,0,1
9040 DATA 1,0,0,1,1,0,0,0,0,0
9050 DATA 1,1,1,1,1,1,1,1,1,1
9100 DATA 1,0,0,1,0,0,0,1,0,1
9110 DATA 1,0,1,1,0,1,1,1,0,1
9120 DATA 1,0,1,0,1,0,0,1,0,1
9130 DATA 1,0,1,0,0,1,1,1,0,1
9140 DATA 1,0,1,0,0,0,1,0,0,1
9500 DATA 162,252,189,0,44
9510 DATA 157,3,44,202,208,247
9520 DATA 104,96
9550 DATA 162,0,189,3,44
9560 DATA 157,0,44,232,208,247
```

```
9570 DATA 104,96
10000 DATA 1,1,1,1,1,1,1,1,1
10010 DATA 0,1,1,1,0,0,1,0,0
10020 DATA 0,0,1,1,1,0,0,1,0
10030 DATA 0,1,1,1,0,0,0,0,0
10040 DATA 0,0,1,1,1,0,0,0,0
10045 DATA 1,1,1,1,1,1,1,1,1
10050 DATA 1,0,0,0,0,1,0,0,1,1
10060 DATA 1,1,0,0,0,1,1,0,1,1
10070 DATA 1,1,0,0,0,1,1,0,1,1
10080 DATA 1,1,0,0,0,1,1,1,1,1
10090 DATA 1,1,0,0,0,1,0,0,1
```

# PONTOON



It's gamblers corner again as you pit your wits, and money, against the Atari croupier at the old classic game. By the way you can't cheat when you show your hand as your computer already knows what you are holding.

The object of the game, in case you have never strayed into a card school, is to achieve a score of 21 in as few cards as possible. If you over buy, or over twist, and score more than 21 you are 'bust' and you lose your stake. Aces count a 1 or 11 except when you receive two aces in a deal. In this case your hand will stand as 12.

## How to play

The computer will deal your first two cards and ask if you would like to T (Twist, take another card without increasing your stake); S (Stay on your existing, or

eventual hand); B (Buy another card); F (Fold if you think your hand is useless, but remember you will lose your stake money, and give you another hand).

If you buy, or twist, to a five card trick (five cards totalling 21 or less) you will beat the computer, unless it had a pontoon (21).

Press the key corresponding to your choice at each stage. There is no need to press RETURN at each stage.

When buying a card, type in the amount you wish to bet and press RETURN.

Remember, if you lose your shirt on this game you won't have to part with it.

## The Program

```
10 REM PONTOON
20 GRAPHICS 0
30 DIM C(52)
40 DIM P(10),M(2)
50 GOSUB 1000
60 M=100
70 DIM K$(40)
80 OPEN £1,4,0,"K:"
90 DIM A$(1)
100 REM HAND LOOP
110 GRAPHICS 0
120 M=M-2:IF M<0 THEN 800
122 PRINT "YOU HAVE ";M;" POUNDS LEFT"
125 BET=2
130 PRINT "YOUR CARDS :"
135 GOSUB 1500
140 GOSUB 2000:PRINT " THE ";K$
150 P(1)=V:GOSUB 2000:GOSUB 1500
160 PRINT " THE ";K$:P(2)=V:GOSUB 1500
```

```
165 N=2
166 IF P(1)=1 THEN P(1)=11
168 IF P(2)=1 AND P(1)<>11 THEN P(2)=11
170 IF P(1)+P(2)=21 THEN PRINT :PRINT "
    PONTOON !!"
180 SP=P(1)+P(2)
200 REM PLAYER CHOICES
210 PRINT "TWIST/STICK/BUY/FOLD ?"
220 GET £1,A:A$=CHR$(A)
230 IF A$<>"T" AND A$<>"S" AND A$<>"B" AND A$<>"F" THEN 220
240 IF A$=="F" THEN PRINT "O.K. YOU LOSE
    YOUR STAKE":GOSUB 1500:GOTO 110
250 IF A$=="S" THEN 400
260 IF A$=="B" THEN GOSUB 1700:PRINT "O.K.
    GOOD LUCK"
270 N=N+1:REM NEXT CARD
280 GOSUB 1500:GOSUB 2000
290 PRINT "THE ";K$
300 P(N)=V:SP=0
310 FOR L=1 TO N:SP=SP+P(L):NEXT L
320 IF SP>21 THEN PRINT "BUST.....":GOT
0 400
330 IF N>4 THEN PRINT "FIVE CARD TRICK..
    .."
340 IF SP=21 THEN PRINT "TWENTY ONE...."
    "
350 GOTO 210
400 REM NOW COMPUTER PLAYS
410 PRINT :PRINT "MY CARDS :"
415 GOSUB 1500
420 MT=0:GOSUB 2000:PRINT " THE ";K$
430 M(1)=V:GOSUB 1500:GOSUB 2000
440 PRINT " THE ";K$:GOSUB 1500:M(2)=V
450 IF M(1)=1 THEN M(1)=11
460 IF M(2)=1 AND M(1)<>11 THEN M(2)=11
470 IF M(1)+M(2)=21 THEN 600
480 IF P(1)+P(2)=21 AND N=2 THEN 700
490 MT=M(1)+M(2)
500 IF MT<SP AND SP<=21 THEN 510
503 IF N<5 THEN PRINT "I WILL STICK ":GO
SUB 1500:GOTO 600
```

```
510 PRINT "I WILL TWIST...."
520 GOSUB 2000:GOSUB 1500
530 PRINT " THE ";K$
540 MT=MT+V:GOSUB 1500
545 IF MT>21 THEN PRINT "I AM BUST....":
GOTO 700
550 GOTO 500
600 REM PLAYER LOSES
610 PRINT :PRINT "YOU LOSE THAT HAND"
620 GOSUB 1500:GOSUB 1500
699 GOTO 100
700 REM COMPUTER LOSES
710 PRINT :PRINT "YOU WIN THAT HAND"
720 GOSUB 1500:GOSUB 1500
730 M=M+BET
799 GOTO 100
800 REM HERE WHEN PLAYER IS BROKE
810 PRINT :PRINT "YOU ARE BROKE"
820 GOSUB 1500
830 PRINT "COME BACK ON YOUR LUCKY DAY"
840 GOSUB 1500
850 END
1000 REM RANDOMOMIZE PACK
1005 PRINT "+++++ NEW PACK +++++"
1010 FOR L=1 TO 52
1020 C(L)=L:NEXT L
1030 REM SHUFFLE
1040 FOR L=1 TO 100
1050 IF V>10 THEN V=10
1055 A=INT(RND(1)*52+1)
1060 B=INT(RND(1)*52+1)
1070 T=C(A):C(A)=C(B)
1080 C(B)=T
1090 NEXT L
1095 Q=1
1099 RETURN
1500 REM A SHORT DELAY
1510 FOR WW=1 TO 100:NEXT WW:RETURN
1700 REM INCREASE BET
1710 PRINT "BY HOW MUCH ";
1720 INPUT BB:IF M-BB<0 THEN PRINT "YOU
HAVEN'T GOT THAT MUCH MONEY":GOTO 1710
```

```
1730 BET=BET+BB:M=M-BB
1799 RETURN
2000 REM CARD IN K
2001 REM NAME IN K$
2010 K=C(0):Q=Q+1:IF Q=53 THEN GOSUB 100
0:Q=1
2020 S=INT((K-1)/13):V=K-13*S:S=S+1
2030 ON V GOSUB 2100,2110,2120,2130,2140
,2150,2160,2170,2180,2190,2200,2210,2220
2040 ON S GOSUB 2300,2310,2320,2330
2050 IF V>10 THEN V=10
2099 RETURN
2100 K$="ACE ":RETURN
2110 K$="TWO ":RETURN
2120 K$="THREE ":RETURN
2130 K$="FOUR ":RETURN
2140 K$="FIVE ":RETURN
2150 K$="SIX ":RETURN
2160 K$="SEVEN ":RETURN
2170 K$="EIGHT ":RETURN
2180 K$="NINE ":RETURN
2190 K$="TEN ":RETURN
2200 K$="JACK ":RETURN
2210 K$="QUEEN ":RETURN
2220 K$="KING ":RETURN
2300 K$(LEN(K$)+1)=" OF CLUBS ":RETURN
2310 K$(LEN(K$)+1)=" OF DIAMONDS ":RETUR
N
2320 K$(LEN(K$)+1)=" OF HEARTS ":RETURN
2330 K$(LEN(K$)+1)=" OF SPADES ":RETURN
```

# WIZARDS and WARLOCKS



If you have heard of Dragons and Dungeons and the like then you will have an idea what you are about to enter, but if you are new to this strange business then we had better give you a couple of clues.

As a good Wizard (Warlock seems to be the feminine of the species and we would be the last to offend any female Wizard) you are to be found on the sixth level of a infinitely deep maze. All you have to do is to escape to the surface. Easy, huh? Well, we have put several objects in your way but you should overcome all of these with your 'character attributes!'

## How to play

To escape you must move through the six floors above you, but you **can** descend if you wish to increase your

score, before you reach the surface. You will be given a choice of decisions to make, based on your 'attributes' of strength, health and magic.

To make any move simply press the keys without using Return key. After each move the screen will scroll upwards so you will have a brief memory of your previous move.

We shouldn't tell you but we think that running away from the monsters is by far the smartest move. They tend to fight dirty and can do you an awful amount of damage.

To end, if you are tired and can't escape, press BREAK.

### **Programming Hints**

You can change your skills by altering the values of your 'character attributes' in Line 80. This will allow the more callow amongst you to assume the skills of a superman and live longer.

If you are really the coward and miserable poltroon we always thought you were then you will change Line 60 after LV = to 1. This means that you will begin on level 1 and should be able to escape without any trouble.

Cowardly varlet, stay on level 6 and fight your way out.

### **The Program**

```
10 REM WIZARDS AND WARLOCKS
20 DIM N$(80), MG(10), ST(10), FI(10), A$(70)
)
25 DIM T$(10), E$(6)
30 GOSUB 1000
```

```
40 GRAPHICS 0
50 OPEN #1,4,0,"K:"
60 LV=6:REM STUCK ON SIXTH LEVEL
70 SC=0
80 ST=10:HL=ST+5:MG=2
99 REM NEW LOCATION
100 E$(1,6)="          "
101 SC=SC+1
102 IF LV=0 THEN 900
105 M=0
107 MG=MG+1
109 IF HL<ST+5 THEN HL=HL+1
110 IF RND(1)>0.7 THEN E$(1)="N      "
120 IF RND(1)>0.7 THEN E$(2)="E      "
130 IF RND(1)>0.7 THEN E$(3)="S      "
140 IF RND(1)>0.7 THEN E$(4)="W      "
150 IF RND(1)>0.95 THEN E$(5)="U      "
160 IF RND(1)>0.95 THEN E$(6)="D      "
165 IF E$="      " THEN 110
170 PRINT "YOU ARE IN A NEW ROOM"
180 PRINT :PRINT "THERE ARE EXITS :"
190 PRINT "      ";E$
200 PRINT
210 IF RND(1)<0.7 THEN 300
220 M=1:A=INT(RND(1)*10+1):B=INT(RND(1)*
10+1)
230 PRINT " THERE IS A ";:X=A:GOSUB 1500
240 X=B:GOSUB 1600:PRINT " HERE"
300 PRINT "WHAT DO YOU WANT TO DO"
310 PRINT :PRINT "FIGHT / PARRY / MOVE /
RUN"
320 GET #1,T:T$=CHR$(T)
330 IF T$<>"F" AND T$<>"P" AND T$<>"M" A
ND T$<>"R" THEN PRINT " !!! FARDON !!!":GOTO 300
340 IF T$="M" AND M=1 THEN PRINT "YOU CA
N'T WALK AWAY FROM HERE !":GOTO 300
350 IF T$="F" AND M=0 THEN PRINT " !!! F
IGHT WHAT !!!":GOTO 300
360 IF T$="R" AND M=0 THEN PRINT "... GO
OD EXERCISE... I SUPPOSE...":GOTO 100
```

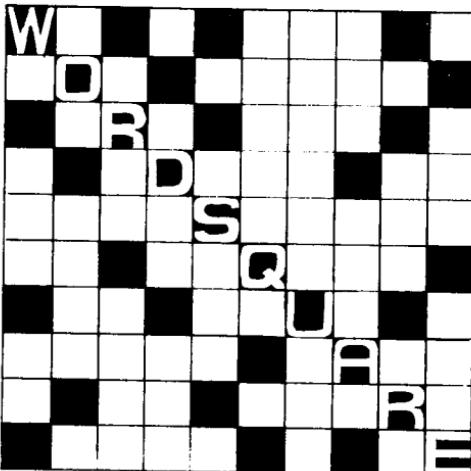
```
370 IF T$="R" AND RND(1)>0.6 THEN PRINT
"....YOU DIDN'T GET AWAY...":GOTO 500
380 IF T$="R" THEN 100
385 IF T$="F" THEN PRINT "...BE ABSOLUTE
LY CLEAR...":PRINT "...THIS IS YOUR IDE
A":GOTO 500
390 IF T$="P" AND M=0 THEN PRINT "...GOO
D PRACTISE...":PRINT ".....NOW ...":GO
TO 300
400 IF T$="P" THEN PRINT "...HANG ON SUN
SHINE":GOTO 500
410 PRINT :PRINT "WHICH DIRECTION ";E$
420 PRINT "? ";
430 GET £1,T:T$=CHR$(T):PRINT T$:F=0:FOR
L=1 TO 6
440 IF E$(L,L)=T$ THEN F=1
450 NEXT L:IF F=0 THEN PRINT "....YOU CA
N'T GO THAT WAY":GOTO 410
460 IF T$="U" THEN LV=LV-1:PRINT "YOU'LL
GET OUT OF HERE YET..."
470 IF T$="D" THEN LV=LV+1:PRINT "DEEPER
AND DEEPER DELVING IS":PRINT "BAD FOR Y
OUR HEALTH"
480 GOTO 100
500 REM FIGHT MONSTER
505 S=INT(RND(1)*ST(B)+1):M=INT(RND(1)*M
G(B)+1)
510 PRINT :PRINT "CAST SPELL / FIGHT / R
UN"
520 GET £1,T:T$=CHR$(T):IF T$<>"C" AND T
$<>"F" AND T$<>"R" THEN PRINT " ??? EH ?
??":GOTO 510
530 IF T$="R" AND RND(1)>0.15 THEN PRINT
"You CAN'T GET AWAY":GOTO 600
540 IF T$="R" THEN 100
550 IF T$="C" AND MG<=0 THEN PRINT "YOU
HAVE USED UP ALL YOUR MAGIC":GOTO 600
560 IF T$="F" AND RND(1)>0.7 THEN PRINT
"You MISSED":GOTO 600
570 IF T$="F" THEN S=S-INT(RND(1)*ST+1):
PRINT "A HIT ....HOW VIOLENT":GOTO 600
```

```
580 T=INT(RND(1)*MG+1):S=S-T:MG=MG-T:PRINT "..POW..ZAP...WHAT A PRETTY FLASH":GO TO 600
600 REM MONSTER ATTACK
610 IF S<=0 THEN PRINT "..YOU KILLED THE
":X=A:GOSUB 1500:X=B:GOSUB 1600:PRINT
:GOTO 650
620 T=INT(RND(1)*100):IF T>FI(B) AND M<>
0 THEN PRINT "..WHAM..A SPELL..":GOTO 64
0
630 PRINT "THE FIEND TRIES TO HIT YOU":I
F RND(1)>0.7 THEN PRINT "BUT MISSES...":
GOTO 648
633 PRINT "AND SUCCEEDS"
636 HL=HL-INT(RND(1)*S+1):PRINT "OH DEAR
! MORE DAMAGE":GOTO 645
640 T=INT(RND(1)*M+1):M=M-T:HL=HL-T
645 IF HL<=0 THEN 800
648 PRINT "STILL ALIVE, BETTER THAN I TH
OUGHT"
649 GOTO 500
650 REM CREATURE IS DEAD
660 PRINT "WELL DONE BRAVE KNIGHT..."
670 T=INT(RND(1)*(MG(B)*2+ST(B)))*5
680 PRINT "HAVE ";T;" PIECES OF GOLD"
690 SC=SC+T:M=0
695 GOTO 180
700 REM PLAYER IS DEAD
710 PRINT :PRINT
720 PRINT "THE WHOLE COURT WILL MOURN"
730 PRINT "THE PASSING OF A BRAVE WARRIOR"
740 PRINT "KNOWN FOR HIS VALOUR AND STRONG WILL"
750 PRINT " (I.E. YOU'RE DEAD MATE)
"
760 FOR L=1 TO 600:NEXT L
770 PRINT "BY THE WAY YOU SCORED ";SC
780 END
790 REM PLAYER GOT OUT
795 GRAPHICS 0:POKE 752,1:PRINT
```

```
907 POSITION 0,12:PRINT £6;"      YOU ES
CAPED"
910 FOR L=1 TO 255:POKE 710,L:POKE 712,(255-L)
920 NEXT L
930 PRINT "YOUR SCORE IS :"
940 PRINT "      ";SC
948 PRINT "PLUS A SMALL PSYCHOLOGICAL AD
VANTAGE"
949 FOR L=1 TO 500:NEXT L:PRINT :PRINT "
...YOU'RE ALIVE"
950 GET £1,A
960 END
1000 REM READ IN CHARACTERISTICS
1001 REM OF MONSTERS
1010 RESTORE :N$=""
1020 FOR L=1 TO 10
1030 READ T$:N$(LEN(N$)+1)=T$
1040 NEXT L
1050 A$=""
1060 FOR L=1 TO 10
1070 READ T$:A$(LEN(A$)+1)=T$
1080 NEXT L
1100 FOR L=1 TO 10
1110 READ A,B,C
1120 MG(L)=A:ST(L)=B:FI(L)=C
1130 NEXT L
1199 RETURN
1500 REM PRINT THE XTH ADJECTIVE
1510 Q=(X-1)*6+1
1520 PRINT A$(Q,Q+5);";";
1530 RETURN
1600 REM PRINT THE XTH NAME
1610 Q=(X-1)*7+1
1620 PRINT N$(Q,Q+6);";";
1630 RETURN
9000 DATA ELF    , DWARF   , TROLL   , WIZARD
     , TOAD    , WARLOCK
9010 DATA ZOMBIE , BEETLE  , ORC     , CHIMER
     A
9100 DATA CRUEL  , GREEDY  , FOUL    , WICKED, SL
     IMY   , SMELLY , CLEVER
```

```
9110 DATA LARGE ,SLY      ,HONEST
9200 DATA 5,5,10
9210 DATA 1,8,70
9220 DATA 0,15,100
9230 DATA 20,7,5
9240 DATA 0,20,100
9250 DATA 0,3,100
9260 DATA 3,10,65
9270 DATA 0,5,100
9280 DATA 2,8,50
9290 DATA 10,40,50
```

# WORD SQUARE



This program is designed to test the wits of members of your circle who think they are keen of eye and sharp of brain.

The screen will generate a square of alphabet which will contain hidden words. The words can be written horizontally, vertically, diagonally and even backwards.

## How to play

When you have identified a word type in the answer and press RETURN. You should note that you may identify small words such as 'of' and 'for' which appear simply because of the structure of the screen, but are not actually acceptable to the computer.

## Programming Hints

To make the program challenging you should have someone else enter the data words which are in the end of the program. Otherwise you will, of course, know the words you are seeking.

## The Program

```

10 REM WORD SQUARE
20 DIM S$(225),N$(10),Q$(1)
25 DIM P(10),X(10),Y(10)
27 DIM A$(10)
28 DIM W(10)
30 GOSUB 1000
40 GOSUB 2000
50 FOR L=1 TO 10:W(L)=0:NEXT L
60 SC=0
80 GOTO 100
90 PRINT "BE SENSIBLE":FOR L=1 TO 100:NE
XT L
100 PRINT "YOUR GUESS ";
110 INPUT A$
115 IF LEN(A$)=0 OR LEN(A$)>10 THEN 90
120 GOSUB 4000
130 IF F=0 THEN PRINT "NOT THERE":GOTO 4
90
140 SC=SC+1
150 REM HIGHLIGHT DISCOVERED WORD
155 IF W(F)=1 THEN PRINT "YOU'VE HAD THA
T":GOTO 490
157 W(F)=1
160 B=INT(P(F)/15):A=P(F)-15*B
170 FOR L=1 TO 0
180 LOCATE A,B,D
190 POSITION A,B:PRINT £6;CHR$(D+32)
200 A=A+X(F):B=B+Y(F)
210 NEXT L
215 IF SC=10 THEN 800

```

```
220 PRINT "WELL DONE ";SC;" CORRECT"
230 GOTO 490
490 FOR L=1 TO 50:NEXT L
500 GOTO 100
800 REM HERE WHEN TEN FOUND
810 PRINT :PRINT :PRINT
820 PRINT "YOU FOUND THEM ALL"
830 PRINT :PRINT "WELL DONE"
840 FOR L=1 TO 500:NEXT L
850 END
1000 REM READ IN DATA AND STORE IN SQUARE
1003 GRAPHICS 1+16
1006 POSITION 0,10:PRINT £6;"      ONE MOME
NT"
1010 S$="":FOR L=1 TO 15
1020 S$(LEN(S$)+1)="                  ":NEX
T L
1025 RESTORE 9000
1030 FOR I=1 TO 10
1040 READ N$:N=LEN(N$)
1050 ON INT(RND(1)*8+0.5) GOSUB 3000,301
0,3020,3030,3040,3050,3060,3070
1060 A=INT(RND(1)*15):B=INT(RND(1)*15)
1070 C=A+X(I)*N:D=B+Y(I)*N
1080 IF C<0 OR D<0 OR C>14 OR D>14 THEN
1050
1090 L=-1
1095 L=L+1
1100 Q=1+(B+Y(I)*L)*15+A+X(I)*L:Q$=S$(Q,
Q)
1110 IF Q$=" " THEN 1130
1120 IF Q$<>N$(L+1) THEN 1050
1130 IF L<>N-1 THEN 1095
1140 FOR L=0 TO N-1
1150 Q=1+(B+Y(I)*L)*15+A+X(I)*L
1160 S$(Q,Q)=N$(L+1)
1170 NEXT L
1175 P(I)=A+B*15
1180 NEXT I
1190 FOR L=1 TO 225
```

```
1200 IF S$(L,L)="" THEN S$(L,L)=CHR$(65+INT(RND(1)*26))
1210 NEXT L
1499 RETURN
2000 REM DISPLAY SQUARE
2010 GRAPHICS 1
2020 FOR L=0 TO 14
2030 POSITION 0,L
2040 PRINT £6;S$(L*15+1,L*15+15)
2050 NEXT L
2199 RETURN
3000 X(I)=-1:Y(I)=-1:RETURN
3010 X(I)=-1:Y(I)=0:RETURN
3020 X(I)=-1:Y(I)=1:RETURN
3030 X(I)=1:Y(I)=-1:RETURN
3040 X(I)=1:Y(I)=0:RETURN
3050 X(I)=1:Y(I)=1:RETURN
3060 X(I)=0:Y(I)=1:RETURN
3070 X(I)=0:Y(I)=-1:RETURN
4000 REM CHECK IF RESPONSE IS VALID
4010 RESTORE 9000
4020 F=0
4030 FOR L=1 TO 10
4040 READ N$
4050 IF N$=A$ THEN F=L:O=LEN(N$)
4060 NEXT L
4099 RETURN
8999 REM WORD LISTS
9000 DATA ATARI,VIDEO,COLOUR
9010 DATA SOUND,GRAPHICS,SPACE
9020 DATA FUTURE,GAMES,FUN
9030 DATA COMPUTER
```

# S.I.M.P.E.R.



At last, you say, in a computer book there must be an acronym somewhere because the whole business is full of Poke, Peek, Byte and Ram. Well, our title stands for Semi Intelligent Machine Psychologist with Extendable Response.

What, you ask, has that got to do with the time of day?

We will explain.

This is your chance to use your computer to make fools out of all your friends, party guests, loved? ones etc. Your SIMPERING Atari will ask questions and respond to your answers with 'semi-intelligent' comments. Can you take the risk?

## How to play

Your computer will ask you to enter statements about yourself.

Type in your comments, making them as long as possible, and your 600XL will make it's considered comment on your character.

It's a little like having a 'shrink' at home.

## Programming Hints

We have given you a selection of appropriate data (words) that might make fun for your family but you can change, add or delete these lines and cause fun and games at your next party.

If you have added a memory expansion unit to your computer you can add to the data statements from lines 5000 onwards and give the computer a much wider choice of response.

## The Program

```
10 REM SIMPER
20 DIM Q$(100),A$(50)
21 GOSUB 3500:OS=U
30 DIM O$(20),T$(20)
40 Q$="HELLO, MY NAME IS SIMPER, I'M HER
E TO DISCUSS YOUR PROBLEMS
      TELL ME ABOUT YOURSELF"
50 BS=0
60 OS=0
100 PRINT Q$:PRINT
```

```
110 INPUT A$:IF A$="" THEN 102
112 IF A$="YES" THEN PRINT "AT LAST SOME
DETERMINATION":Q$="DO YOU OFTEN BEHAVE
QUITE SO FIRMLY":GOTO 100
115 IF A$="PARDON" OR A$(1,2)="EH" OR A$=
"What" THEN 100
117 IF A$="NO" THEN PRINT "SHORT AND TO
THE POINT":IF OS=0 THEN PRINT "GIVE ME S
OMETHING TO GO ON":GOTO 100
120 GOSUB 1100:GOSUB 1200
130 O$=A$:A$=" ":"A$(2)=O$
140 IF V=0 AND U<>0 THEN GOSUB 3000:GOTO
100
160 IF V=0 AND OS<>0 THEN U=OS:OS=0:GOSU
B 3000:GOTO 100
200 IF V=0 THEN GOSUB 4000:GOTO 100
210 GOSUB 3500:OS=U
220 GOTO 100
1000 REM SEARCH FOR T$ IN A$
1010 F=0
1013 IF A$=T$ THEN F=1:RETURN
1016 IF LEN(A$)<=LEN(T$) THEN RETURN
1020 FOR L=2 TO LEN(A$)-LEN(T$)+1
1025 IF A$(L-1,L-1)<>" " THEN 1040
1030 IF A$(L,L+LEN(T$)-1)=T$ THEN F=1
1040 NEXT L:RETURN
1100 REM RETURN VERB NUMBER IN V
1110 V=0:RESTORE 5000
1120 READ N:FOR Q=1 TO N
1130 READ T$:GOSUB 1000:IF F=1 THEN V=Q
1140 NEXT Q:RETURN
1200 REM RETURN NOUN NUMBER IN U
1210 U=0:RESTORE 6000
1220 READ N:FOR Q=1 TO N
1230 READ T$:GOSUB 1000:IF F=1 THEN U=Q
1240 NEXT Q:RETURN
3000 REM FIND REPLY SENTANCE
3010 RESTORE 20000
3020 FOR L=0 TO (U-1)*3+INT(RND(1)*3)
3030 READ Q$:NEXT L
3040 RETURN
```

```
3500 REM CHOOSE SENTANCE
3510 RESTORE 10000
3520 FOR L=0 TO (V-1)*3+INT(RND(1)*3)
3530 READ Q$:NEXT L
3540 RETURN
4000 REM CONJURE A RESPONSE
4010 BS=BS+1:IF BS=7 THEN PRINT "SORRY..
. YOUR TIME IS UP":END
4020 RESTORE 30000
4030 FOR L=1 TO BS
4040 READ Q$:NEXT L
4050 RETURN
5000 DATA B
5010 DATA LOVE,HATE,OWN,WANT,FLY,WALK,TA
KE,GIVE
6000 DATA 9
6010 DATA CAR,COMPUTER,HOLIDAY,MONEY,TEL
E,MUSIC,VIDEO,FOOD
6020 DATA FISH
9999 REM REPLY DATA
10000 DATA HOW DO YOU KNOW THAT IT'S LOV
E
10001 DATA HOW LONG HAVE YOU FELT LIKE T
HIS
10002 DATA WHEN DID THIS FEELING START
10010 DATA ARE YOU SURE THAT YOU'RE NOT
BEING OVER HASTY,WELL IF YOU'RE SURE
ABOUT IT THEN IT'S GOOD FOR YOU
10011 DATA IS THIS FEELING VERY INTENSE.
DO YOU REALLY MEAN IT
10020 DATA THAT'S VERY POSSESSIVE OF YOU,
WOULDN'T 'CARE FOR' BE A BETTER WAY OFFU
TTING IT
10021 DATA BUT DO YOU OWN YOUR SOUL. OR
HAVE YOU TRADED IT WITH CONSUMER SOCIETY
10030 DATA PLEASE CLARIFY YOURSELF. LOVE
OR WANT THE FIRST IS MORE FOLITE
10031 DATA THAT'S VERY IMPULSIVE
10032 DATA I WANT...I WANT...BELLOC HAS
A SURPRISEFOR YOU
```

10040 DATA DO YOU SOMETIMES WISH THAT YOU COULD FLY, AEROPLANES ARE SO EXPENSIVE AREN'T THEY

10041 DATA FLY ME TO THE MOON...DO YOU THINK THAT YOU WOULD ENJOY THAT

10050 DATA NOTHING BEATS SHANK'S PONY, WALKING IS VERY GOOD EXERCISE

10051 DATA IT MIGHT BE QUICKER BY CAR

10060 DATA PERHAPS IF YOU SAID PLEASE I RST IT MIGHT HELP, YOU'RE SHOWING THE POSSESSIVE TRAIT AGAIN

10061 DATA HOW WOULD YOU TAKE THAT

10070 DATA GIVING IS GOOD FOR THE CHARACTER. I HOPE YOU DO A LOT OF IT

10071 DATA CHRISTMAS IS A TIME FOR GIVING

10072 DATA DO YOU RECIEVE MORE THAN YOU GIVE. BE HONEST

20000 DATA DO YOU LIKE FAST CARS, ARE YOU GOOD MECHANICALLY, DO YOU LIKE MOTORWAYS . THEY'RE TOO FAST FOR ME

20010 DATA YOU OBVIOUSLY LIKE COMPUTERS. I CAN TELL THAT YOU ARE A NATURAL AT THE KEYBOARD.

20011 DATA DO COMPUTERS WORRY IN ANY WAY , ISN'T IT A BIT UNNERVING TALKING TO A COMPUTER LIKE THIS

20020 DATA WOULD YOU PLEASE TAKE ME WITH YOU ON YOUR HOLIDAY, THAT'S A GREAT WAY TO GET AWAY FROM IT ALL

20021 DATA DO YOU LIKE TO GO ABROAD. OR PERHAPS YOU PREFER TO STAY AT HOME.

20030 DATA MONEY IS EVERYONE'S FAVOURITE PROBLEM. TALKING OF MONEY I HAVE THESE RATHER LARGE FEES....

20031 DATA HOW DO YOU EARN YOUR MONEY. ARE YOU BY ANY CHANCE A FORTUNE TELLER.

20032 DATA WHAT IT MUST BE TO BE A MILLIONAIRE ALL THAT CAVIAR. IT'S ENOUGH TO MAKE ANYONE ILL

- 20040 DATA I'M WORRIED ABOUT THE PROFUSION OF TELE-THIS AND TELE--THAT DEVICES
- 20041 DATA WHERE DO YOU WATCH TELEVISION MOST OFTEN
- 20042 DATA ARE YOU ADDICTED TO TELEVISION LIKE SOME PEOPLE I KNOW.
- 20050 DATA WHAT TYPE OF MUSIC DO YOU LIKE BEST, I USED TO ADORE SIMON AND GARFUNKEL. WHAT DO YOU THINK OF THEM
- 20051 DATA SO MUCH MODERN MUSIC IS TOOLOUD. I GET LOTS OF CASES CONNECTED WITH DISCO'S
- 20060 DATA DO YOU USE A VIDEO RECORDER AT HOME, HOW LONG HAVE YOU BEEN USING A VIDEO
- 20061 DATA IF YOU VIDEO TOO MUCH THEN YOU WON'T HAVE ANY TIME TO NOTICE THE REAL WORLD
- 20070 DATA SO YOU EAT TOO MUCH DO YOU, FOOD IS ALL VERY WELL BUT YOU MUSN'T BE OBSESSED. YOU'LL GET FAT
- 20071 DATA WHAT'S YOUR FAVOURITE MEAL
- 20080 DATA WOULD YOU LIKE TO TALK ABOUT FISH, HOW ABOUT SOME NICE FISH AND CHIPS
- 20081 DATA HAVE YOU EVER SPENT A DAY BY A RIVER AND NOT CAUGHT ANYTHING
- 30000 DATA TELL ME MORE ABOUT YOUR TALENTS. DO YOU PLAY THE CONCERT PIANO ?
- 30010 DATA WHAT KIND OF HOBBIES HAVE YOU GOT
- 30020 DATA WHERE DO YOU WORK. OR ARE YOU AT SCHOOL.
- 30030 DATA HOW ABOUT A BIT OF WORD ASSOCIATION. + + + MATHS + + +
- 30040 DATA WHAT DOES THE WORD 'MACKEREL' SUGGEST TO YOU
- 30050 DATA I'M AFRAID THAT I WILL HAVE TO GO IN A FEW MOMENTS. I'M EXPECTING A VERY IMPORTANT CLIENT

# CATALOGUER



"All computer books are written for boys and men to play games on and there is never anything that is of any use to girls or harassed housewives."

We have heard that cry many times and we don't agree that it's true as we think that many of the programs in this book can be used by everyone in the family. This program is definitely for everyone.

Using this program you can list, store, and catalogue for future use record collections, cookery recipes, phone numbers, football team detail etc.

## How to use

You will be asked which option you wish to take from a 'menu'.

Select your option. There is no need to press another key as the computer will move to your selected option. When making further moves press the RETURN key.

Remember to press the SPACE key to start the save or load operation.

### **Programming Hints**

If you have a disk drive facility then change the two open £2 statements as shown below

Open £2,4,0, "c:" becomes open £2,4,0, "d: DATA"

and

Open £2,8,0, "c:" becomes open £2,8,0, "d:Data"

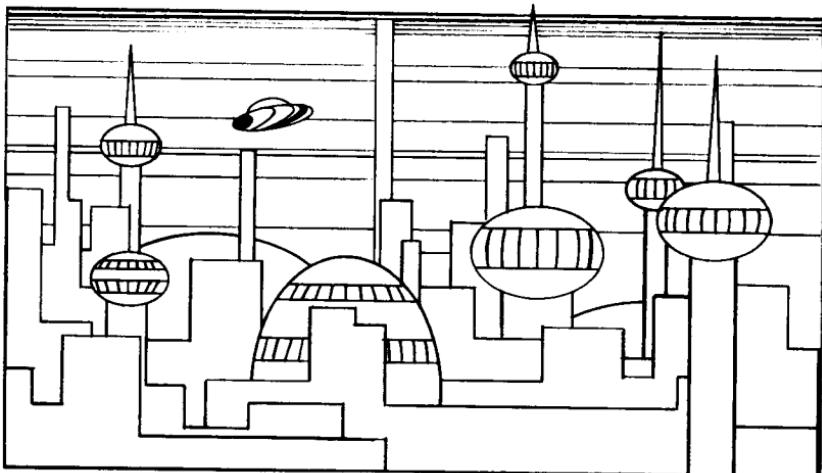
### **The Program**

```
0 REM CATALOGUER
20 OPEN £1,4,0, "K: "
30 DIM R$(500), I$(2000)
40 DIM S$(11), T$(41)
50 C=0
99 REM MAIN MENU
100 GRAPHICS 0:PRINT "                                CATA
LOG"
110 PRINT "                               ====="
120 PRINT :PRINT :PRINT
130 PRINT "1. LOAD DATA FROM TAPE":PRIN
T
140 PRINT "2. CLEAR DATA IN MEMORY":PRI
NT
150 PRINT "3. SAVE DATA TO TAPE":PRINT
160 PRINT "4. SEARCH FOR RECORD":PRINT
170 PRINT "5. INPUT DATA TO MEMORY":PRI
NT
```

```
180 PRINT :PRINT :PRINT
190 PRINT "      YOUR CHOICE"
200 GET £1,T:IF T<49 OR T>53 THEN 200
210 ON T-48 GOSUB 1000,2000,3000,4000,50
00
300 GOTO 100
1000 OPEN £2,4,0,"C:"
1010 INPUT £2,C
1020 FOR L=1 TO C
1030 T=1+(L-1)*10
1035 I=1+(L-1)*40
1040 INPUT £1,S$,T$
1050 R$(T,T+9)=S$:I$(I,I+39)=T$
1060 NEXT L
1070 CLOSE £2:RETURN
2000 PRINT "ARE YOU SURE (Y/N)":
2010 GET £1,T:T$=CHR$(T):IF T$<>"Y" THEN
    RETURN
2020 C=0:RETURN
3000 IF C=0 THEN RETURN
3010 OPEN £2,8,0,"C:"
3020 PRINT £2,C
3030 FOR L=1 TO C
3040 T=1+(L-1)*10
3050 I=1+(L-1)*40
3060 S$=R$(T,T+9):T$=I$(I,I+39)
3070 PRINT £2,S$,T$
3080 NEXT L
3090 CLOSE £2:RETURN
4000 IF C=0 THEN RETURN
4010 PRINT "RECORD NAME ";
4020 INPUT S$:IF S$="" THEN 4010
4030 FOR L=1 TO C
4040 T=1+(L-1)*10
4050 I=1+(L-1)*40
4060 IF R$(T,T+LEN(S$)-1)=S$ THEN PRINT
    R$(T,T+9):PRINT I$(I,I+39)
4070 NEXT L
4080 GET £1,T
4090 RETURN
5000 C=C+1:IF C=51 THEN C=50:RETURN
```

```
5010 PRINT "RECORD NAME ";
5020 INPUT S$: IF S$="" THEN 5010
5025 IF S$="QUIT" THEN C=C-1:RETURN
5030 INPUT T$: IF T$="" THEN 5010
5040 IF T$="QUIT" THEN C=C-1:RETURN
5043 S$(LEN(S$)+1,11)="
5046 T$(LEN(T$)+1,41)="
      "
5050 T=1+(C-1)*10
5060 I=1+(C-1)*40
5070 R$(T,T+9)=S$: I$(I,I+39)=T$
5080 GOTO 5000
```

# SPACE CITY



Returning from deep space in your shuttle you are faced with the dilemma of landing accurately and at the correct speed in the middle of space city.

Slip to either side and you will hit one of the newly built towers. Land at too great a speed and you will smash your way through the specially prepared landing pad and explode. A further problem is that if you over-correct you will drift off into space—forever.

By the way, you only have a limited amount of fuel in your tanks so, if you don't get down in time you will drift into the city.

## How to play

To use the retro rockets to assist your sideways movement press keys Z and X.

Use keys / and + to decrease or increase the thrust from the main engine and ensure a gentle landing.

There are several levels of difficulty so if you shoot off into space you will be returned to the same level of play.

## Programming Hints

To make the game easier, or more difficult, you can alter the amount of fuel available by changing the value of F in Line 55 at the beginning of the program.

## The Program

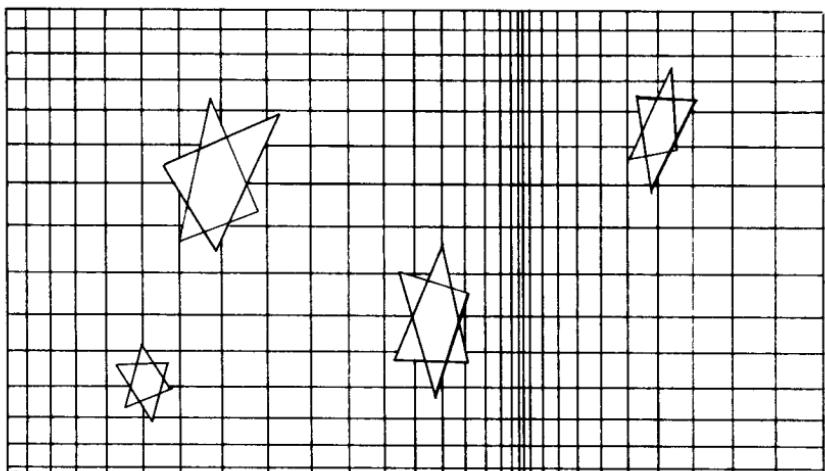
```
10 REM SPACE CITY
15 DIM K(7)
17 G=5:REM GRAVITY
20 GRAPHICS 5+16
30 GOSUB 1000
35 POKE C1,23
40 GOSUB 2000
50 H=40:REM HEIGHT
55 F=300:REM FUEL
60 V=2:REM VELOCITY
70 T=3:REM THRUST
90 X=100:REM HORIZONTAL POSN.
95 S=0:REM SIDEWAYS VELOCITY
100 REM MAIN DESCENT LOOP
102 SOUND 0,50,6,T+5
105 F=F-T:IF F<=0 THEN F=0:T=0:SETCOLOR
4,3,2
110 A=X:B=H
120 V=V+(G-T)/10
130 H=H+V:X=X+S
132 IF X<30 OR X>210 THEN 800
134 IF H<20 THEN 850
140 POKE 53278,1
```

```
150 GOSUB 3000
160 IF PEEK(53252)<>0 THEN 700
200 IF PEEK(764)=23 AND S>-3 THEN S=S-1:
POKE 764,0
210 IF PEEK(764)=22 AND S<3 THEN S=S+1:P
OKE 764,0
220 IF PEEK(764)=6 AND T<9 THEN T=T+1:PO
KE 764,0
230 IF PEEK(764)=38 AND T>0 THEN T=T-1:P
OKE 764,0
299 GOTO 100
600 REM HIT A BUILDING
605 FOR L=1 TO 255 STEP 3:POKE C1,255-L:
POKE 712,L:SOUND 0,L,4,14:NEXT L:SOUND 0
,0,0,0
607 POKE H1,0
610 GRAPHICS 1+16:POSITION 0,10:PRINT £6
;"YOU CRASHED"
615 POSITION 0,4:PRINT £6;" FUEL : ";F
620 POSITION 0,14:PRINT £6;"TRY SOMETHIN
G EASIER":G=G-1
630 IF G<1 THEN G=1
640 GOTO 750
700 REM SHIP FOUND SOMETHING
705 FOR L=1 TO 300:NEXT L
710 IF PEEK(53252)=5 OR PEEK(53252)=4 TH
EN 600
715 IF V>2 THEN 605
717 POKE H1,0
720 GRAPHICS 1+16:POSITION 0,10:PRINT £6
;"SUCCESSFUL LANDING"
725 POSITION 0,4:PRINT £6;" FUEL : ";F
730 POSITION 0,14:PRINT £6;"TRY SOMETHIN
G HARDER":G=G+1
740 IF G>8 THEN G=8
750 FOR L=1 TO 999:NEXT L
760 GOTO 20
800 REM MISSED PLANET
805 POKE H1,0
810 GRAPHICS 1+16:POSITION 0,10
820 PRINT £6;" you missed it"
```

```
830 GOTO 880
850 REM DRIFTED INTO SPACE
855 POKE H1,0
860 GRAPHICS 1+16:POSITION 0,10
870 PRINT £6;"you went into orbit "
880 FOR L=1 TO 500:NEXT L
890 POSITION 0,15:PRINT £6;" same level
again"
895 FOR L=1 TO 500:NEXT L
899 GOTO 20
1000 REM SET UP LANDER GRAPHIC
1010 H1=53248:C1=704:POKE H1,0
1020 POKE 559,62:POKE 53277,3
1030 PMBASE=PEEK(106)-24:POKE 54279,PMBA
SE
1040 P1=PMBASE*256+1024
1050 FOR I=0 TO 255:POKE P1+I,0:NEXT I
1060 RESTORE 9000
1070 FOR I=0 TO 7:READ D
1075 K(I)=D
1080 POKE P1+I+40,D:NEXT I
1099 RETURN
2000 REM DRAW CITY/LANDING AREA
2005 COLOR 3
2010 FOR L=0 TO 75 STEP 5
2020 H=INT(RND(1)*10+4)
2030 FOR I=0 TO 4:PLOT L+I,47
2040 DRAWTO L+I,47-H:NEXT I
2050 NEXT L
2100 COLOR 1:L=INT(RND(1)*14)*5
2110 FOR I=0 TO 4:PLOT L+I,47
2120 PLOT L+I,46:NEXT I
2125 COLOR 4
2130 FOR I=45 TO 31 STEP -1:PLOT L,I
2140 DRAWTO L+4,I:NEXT I
2199 RETURN
3000 REM ERASE OLD/DRAW NEW
3010 FOR I=INT(B) TO INT(B+7):POKE P1+I,
0:NEXT I
3020 FOR I=0 TO 7:POKE P1+I+INT(H),K(I)
```

```
3030 NEXT I
3090 POKE H1,X
3099 RETURN
8999 REM LANDER SHAPE
9000 DATA 90,36,36,60,102,90,66,195
```

# FLASHY GRAPHICS



As the ATARI 600 XL has a superb range of colour graphics we thought it only fair to let it show them off to your friends and family. There are three demonstrations in this section which can be chosen from a 'menu'.

The first program will run through the colours and tones available to the programmer.

The second program will create an intricate mosaic effect which will then pulsate.

The third program in the suite introduces a bouncing ball which moves under gravity and leaves a short coloured trail.

Any, or all, of these programs are ideal for drawing attention to the computer and can be used as an attention getter in a window display.

## How to play

Use keys 1, 2 or 3 to select program. Use SPACE to return to the menu.

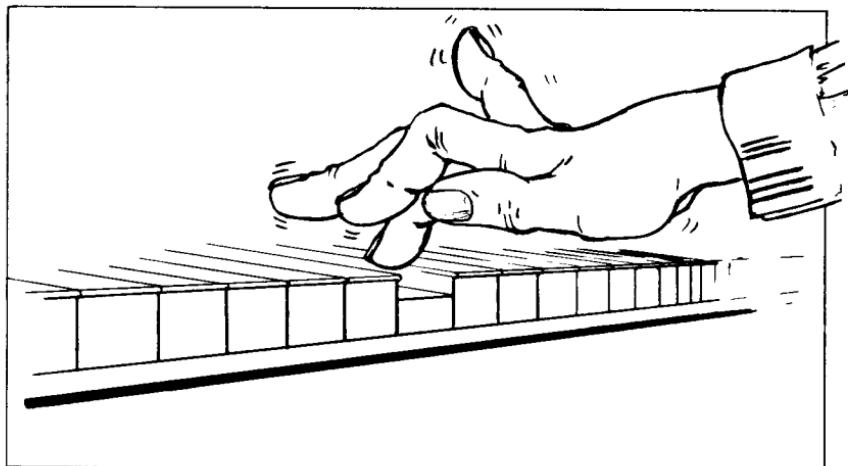
## The Program

```
10 REM FLASHY GRAPHICS
20 DIM A$(1)
100 GRAPHICS 1+16:POSITION 0,4
110 PRINT £6;"CHOOSE DEMO NUMBER"
120 POSITION 0,7:PRINT £6;"      (1 2 3
)"
130 OPEN £1,4,0,"K:"
140 GET £1,A:A$=CHR$(A)
150 IF A$<"1" OR A$>"3" THEN 140
160 CLOSE £1
170 ON A-48 GOSUB 1000,2000,3000
180 GOTO 100
900 END
990 FOR W=1 TO 200:NEXT W:RETURN
1000 REM DEMO ONE
1010 GRAPHICS 9+16
1020 SETCOLOR 4,0,0
1030 FOR X=0 TO 15
1040 COLOR X
1050 FOR D=0 TO 2
1060 C=X*5+D:PLOT C,0:DRAWTO C,191
1070 NEXT D:NEXT X
1100 FOR C=0 TO 15
1110 SETCOLOR 4,C,0:GOSUB 990:NEXT C
1120 SETCOLOR 4,0,0
1130 GRAPHICS 11+32:REM SWITCH TO 16 COL
ORS
1140 FOR C=0 TO 15
1150 SETCOLOR 4,0,C:GOSUB 990:NEXT C
1199 RETURN
2000 REM DEMO TWO
2010 GRAPHICS 15+16
```

```
2015 SETCOLOR 0,2,14:SETCOLOR 1,12,14
2020 FOR X=0 TO 156 STEP 4
2030 COLOR 1:PLOT X,0:DRAWTO 156,X
2040 PLOT 156-X,156:DRAWTO 0,156-X
2050 COLOR 2:PLOT 156,X:DRAWTO 156-X,156
2060 PLOT 0,156-X:DRAWTO X,0
2070 NEXT X
2080 SETCOLOR 2,0,14
2090 COLOR 3
2100 FOR X=0 TO 32
2110 PLOT 78+X,78:DRAWTO 78,78+X:DRAWTO
78-X,78
2120 DRAWTO 78,78-X:DRAWTO 78+X,78
2130 NEXT X
102 FOR C=14 TO 0 STEP -2
2150 FOR C=14 TO 0 STEP -2
2155 SETCOLOR 0,2,C:SETCOLOR 1,12,14-C
2160 SETCOLOR 2,0,C:NEXT C
2165 IF PEEK(764)=33 THEN 2199
2170 FOR C=0 TO 14 STEP 2
2180 SETCOLOR 0,2,C:SETCOLOR 1,12,14-C:S
ETCOLOR 2,0,C
2190 NEXT C
2195 IF PEEK(764)<>33 THEN 2150
2199 RETURN
3000 REM DEMO THREE
3010 GRAPHICS 15+16
3015 SETCOLOR 2,2,14
3016 SETCOLOR 1,2,10:SETCOLOR 0,2,6
3020 X=0:Y=190
3030 A=2.5:B=6
3040 E=0:F=0:G=0:H=0
3050 K=0:L=0:M=0:N=0:D=0:P=0
3100 C=X+A:D=Y+B
3110 IF C<0 OR C>159 THEN A=-A:GOTO 3100
3120 IF D<0 OR D>190 THEN B=-0.95*B:GOTO
3100
3200 COLOR 4:PLOT INT(O),INT(P)
3201 COLOR 1:PLOT INT(M),INT(N)
3202 PLOT INT(K),INT(L)
3203 COLOR 2:PLOT INT(I),INT(J)
```

```
3205 PLOT INT(G),INT(H)
3206 COLOR 3:PLOT INT(E),INT(F)
3210 PLOT INT(C),INT(D)
3211 O=M:P=N:M=K:N=L
3213 K=I:L=J:I=G:J=H
3215 G=E:H=F:E=X:F=Y
3220 X=C:Y=D
3250 B=B+0.11
3260 IF PEEK(764)=33 THEN RETURN
3299 GOTO 3100
```

# CHORD ORGAN



Now is your chance to show off those musical talents you have been boasting about for years.

This program will turn your 600 XL into a mini electric organ, and all for the price of a few minutes work typing in the listing.

Instead of just giving you a few keys to press we have added the refinement of providing you with a selection of chords.

## How to play

The numeric keys represent the chords. Press a number to select.

The keys on rows Q and A represent the 'melody' keys. If

you wish to pause during your recital, but don't wish to hear the continuous tone of your last note, press RETURN. Similarly, if you wish to perform a cadenza within your recital and cut off the chord, press SPACE.

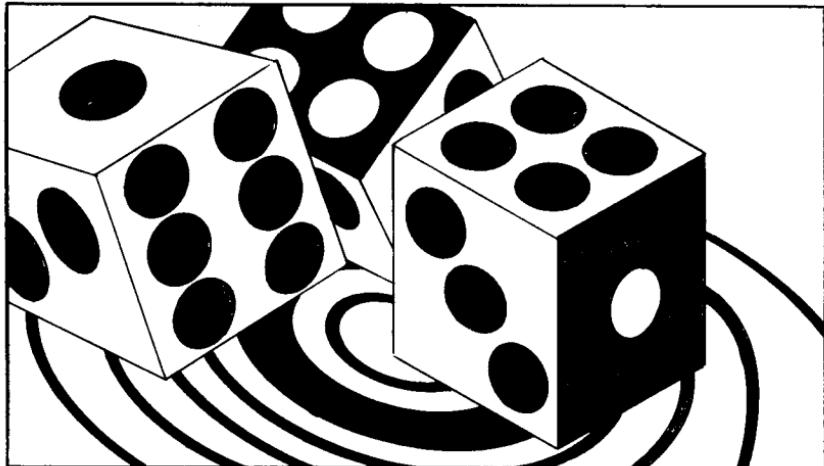
We wish you, and your long suffering relatives, many happy hours.

### The program

```
10 REM CHORD ORGAN
100 K=PEEK(764)
110 IF K=31 THEN SOUND 1,251,10,10:SOUND
2,194,10,10:SOUND 3,164,10,10
120 IF K=30 THEN SOUND 1,162,10,10:SOUND
2,128,10,10:SOUND 3,108,10,10
130 IF K=26 THEN SOUND 1,217,10,10:SOUND
2,173,10,10:SOUND 3,144,10,10
140 IF K=24 THEN SOUND 1,144,10,10:SOUND
2,114,10,10:SOUND 3,96,10,10
150 IF K=29 THEN SOUND 1,193,10,10:SOUND
2,153,10,10:SOUND 3,128,10,10
160 IF K=27 THEN SOUND 1,128,10,10:SOUND
2,102,10,10:SOUND 3,85,10,10
170 IF K=51 THEN SOUND 1,187,10,10:SOUND
2,148,10,10:SOUND 3,124,10,10
180 IF K=53 THEN SOUND 1,251,10,10:SOUND
2,204,10,10:SOUND 3,164,10,10
190 IF K=48 THEN SOUND 1,162,10,10:SOUND
2,136,10,10:SOUND 3,108,10,10
200 IF K=50 THEN SOUND 1,217,10,10:SOUND
2,184,10,10:SOUND 3,144,10,10
210 IF K=33 THEN SOUND 0,0,0,0:SOUND 1,0
,0,0:SOUND 2,0,0,0:SOUND 3,0,0,0
220 IF K=12 THEN SOUND 0,0,0,0
230 IF K=63 THEN SOUND 0,124,10,14
240 IF K=46 THEN SOUND 0,114,10,14
250 IF K=62 THEN SOUND 0,108,10,14
```

```
260 IF K=42 THEN SOUND 0,102,10,14
270 IF K=58 THEN SOUND 0,96,10,14
280 IF K=56 THEN SOUND 0,91,10,14
290 IF K=45 THEN SOUND 0,85,10,14
300 IF K=61 THEN SOUND 0,81,10,14
310 IF K=43 THEN SOUND 0,76,10,14
320 IF K=57 THEN SOUND 0,72,10,14
330 IF K=11 THEN SOUND 0,68,10,14
340 IF K=1 THEN SOUND 0,64,10,14
350 IF K=5 THEN SOUND 0,61,10,14
360 IF K=8 THEN SOUND 0,57,10,14
370 IF K=0 THEN SOUND 0,53,10,14
380 IF K=10 THEN SOUND 0,50,10,14
390 IF K=2 THEN SOUND 0,47,10,14
400 IF K=6 THEN SOUND 0,45,10,14
410 IF K=15 THEN SOUND 0,42,10,14
420 IF K=7 THEN SOUND 0,40,10,14
430 GOTO 100
```

# DICE



If you are bored with shooting down missiles and defending the world from alien attack then here is a game to test your gambling skill.

The Atari will 'throw' five dice for you and you must try to achieve the best sequence possible for the greatest score.

Possibilities to achieve highest scores are:

- One pair
- Three of a kind
- Two pair
- Full house (Three of a kind and two of a kind)
- Four of a kind
- Low run
- High run
- Five of a kind

## How to play

After the computer's first 'throw' you can hold the dice by using keys 1 to 5. Press R to release all the dice. Use SPACE to roll the dice free. You have ten rolls to make your high score and give your partner a target to beat.

## The Program

```

10 REM DICE
20 GRAPHICS 1+16
30 DIM D(5),F(5),S(6),N$(20)
40 T=10
100 T=T-1:IF T=0 THEN 2000
110 FOR L=1 TO 5:F(L)=0:NEXT L
115 POSITION 0,5:PRINT £6;""
116 POSITION 0,10:PRINT £6;""
117 POSITION 0,14:PRINT £6;""
118 POSITION 0,19:PRINT £6;""
120 GOSUB 1000
130 GOSUB 1200
140 GOSUB 1000
150 GOSUB 1200
160 GOSUB 1000
200 GOSUB 3000
210 SC=SC+NS
220 GOTO 100
1000 REM GENERATE AND SHOW 5 DICE
1010 FOR L=1 TO 5
1015 IF F(L)=1 THEN 1060
1020 Q=INT(RND(1)*60+10)
1023 D(L)=1
1025 FOR E=1 TO Q
1030 POSITION L*3+2,4
1035 D(L)=D(L)+1

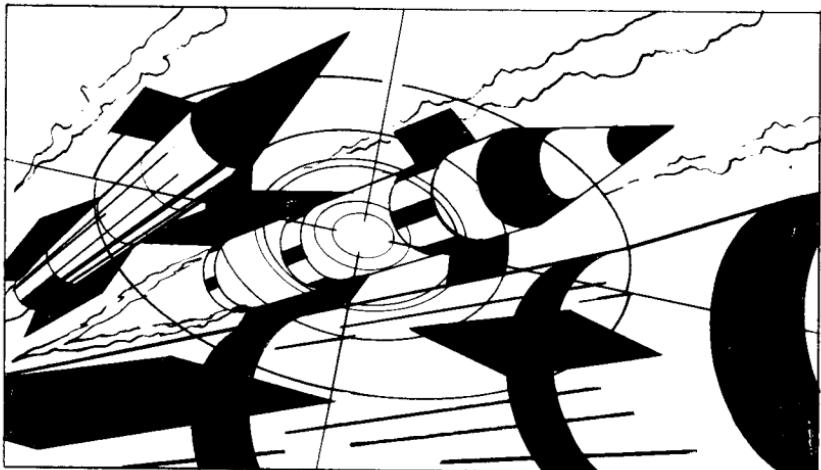
```

```
1040 IF D(L)=7 THEN D(L)=1
1050 PRINT £6:D(L);
1055 NEXT E
1060 NEXT L
1099 RETURN
1200 REM SET STOP FLAGS
1202 POSITION 7,1:PRINT £6;"HOLD NOW"
1204 POSITION 0,5:PRINT £6;"
"
1205 FOR L=1 TO 5:F(L)=0:NEXT L
1210 OPEN £1,4,0,"K:"
1220 GET £1,A
1230 IF A=ASC(" ") THEN 1260
1235 IF A=ASC("R") THEN CLOSE £1:GOTO 12
04
1240 IF A<ASC("1") OR A>ASC("5") THEN 12
20
1245 POSITION 3*(A-48)+2,5:PRINT £6:CHR$(
(ASC("+"))+128)
1250 F(A-48)=1:GOTO 1220
1260 CLOSE £1
1270 POSITION 7,1:PRINT £6;"           "
1280 RETURN
2000 REM END OF GAME
2010 GRAPHICS 1+16
2020 POSITION 0,10
2030 PRINT £6;"      end of game"
2040 POSITION 0,13
2050 PRINT £6;"      your score is"
2060 POSITION 0,16
2070 PRINT £6;"          ";STR$(SC)
2080 POSITION 5,22
2090 PRINT £6;"< SPACE >"
2100 OPEN £1,4,0,"K:"
2110 GET £1,A
2120 IF A<>ASC(" ") THEN 2110
2130 CLOSE £1
2140 RUN
3000 REM SCORE THE DICE
3001 REM SCORE IN NS
3010 FOR L=1 TO 6:S(L)=0:NEXT L
```

```
3020 FOR L=1 TO 5
3030 S(D(L))=S(D(L))+1
3040 NEXT L
3050 Z2=0:FOR L=1 TO 6
3060 IF S(L)=1 THEN Z2=Z2+1
3070 NEXT L
3100 Z1=0:FOR L=1 TO 6
3110 IF S(L)=0 THEN Z1=Z1+1
3120 NEXT L
3130 IF Z1=5 THEN GOSUB 4000:GOTO 3500
3140 IF Z1=1 AND S(6)=0 THEN GOSUB 4350:
GOTO 3500
3150 IF Z1=1 AND S(1)=0 THEN GOSUB 4400:
GOTO 3500
3155 IF Z1=1 THEN GOSUB 4500:GOTO 3500
3160 IF Z1=2 THEN GOSUB 4300:GOTO 3500
3170 IF Z1<>3 THEN 3200
3180 IF Z2=1 THEN GOSUB 4100:GOTO 3500
3190 IF Z2=2 THEN GOSUB 4250:GOTO 3500
3200 IF Z2=1 THEN GOSUB 4200:GOTO 3500
3210 GOSUB 4050:GOTO 3500
3500 REM SCORE NOW IN NS AND
3510 REM MESSAGE IN N$
3520 POSITION 0,10:PRINT £6;""
""
3530 POSITION 0,10:PRINT £6;N$
3540 POSITION 0,14:PRINT £6;"      SCORE :
";STR$(NS);"
"
3550 POSITION 0,19:PRINT £6;"      < SPACE
>"
3600 OPEN £1,4,0,"K:"
3610 GET £1,A
3620 IF A<>ASC(" ") THEN 3610
3630 CLOSE £1
3640 RETURN
4000 REM FIVE OF A KIND
4010 N$="***** EUREKA *****":NS=50:RET
URN
4050 REM PAIR AND THREE
4060 N$="**** FULL HOUSE ****":NS=30:RET
URN
```

```
4100 REM TWO PAIRS
4110 N$="** DOUBLE DOUBLE **":NS=20:RETU
RN
4200 REM FOUR OF A KIND
4210 N$="**** FOUR TIMES ****":NS=15:RET
URN
4250 REM THREE OF A KIND
4260 N$="*** THREE TIMES ***":NS=10:RETU
RN
4300 REM ONE PAIR
4310 N$=" MADE FOR EACH OTHER":NS=7:RETU
RN
4350 REM LOW RUN
4360 N$="***** LOW RUN *****":NS=24:RETU
RN
4400 REM HIGH RUN
4410 N$="***** HIGH RUN *****":NS=40:RET
URN
4500 REM NO SCORE AT ALL
4510 N$="***** ZERO *****":NS=0:RETU
RN
```

# MISSILE COMMAND



The inevitable has happened.

Your defence force is off in deep space going where no man has gone before and you are the only pilot left to defend three cities against waves of missiles. Your force field has gone down so you must fly out and stop the invaders before they reach your undefended cities. Even if you stop the missiles in the first wave they will keep coming, and the colours of the screen will change to make it more difficult for you to identify the attacker's path.

## How to play

The missiles will come from the top of the screen and plot their way down towards you. You must cross their path and fire with your SPACE key. Remember that your

missiles may take a second to fire so you may have to predict the attacker's path of descent.

To move use keys Z and X for left and right and / and + for down and up.

If you score 5000, or multiples of this number, you will be given a bonus city to defend. As the attackers have different values of points according to which wave you are on you may have to decide to let one of your cities be destroyed in order that you achieve the 5000 points you need to proceed. This may seem a little tough on your citizens but you have to play on, don't you?

### **Programming Hints**

To slow the attackers down, put in a delay statement as follows:

Line 100 FOR QW = 1 to 30: NEXT QW: IF J = 0 THEN 110

### **The Program**

```
10 CI=3:BO=0:SC=0:WV=1
11 DIM X(10),Y(10),A(10),B(10)
12 GRAPHICS 7+16:POKE 752,1
13 GOSUB 6000
14 N=INT(RND(1)*8+3)
15 GOSUB 3000
16 C=0:M=N
17 IF WV<>1 THEN GOSUB 8000
18 IF CI<3 AND BO>0 THEN CI=CI+1:BO=BO-1:GOTO 96
19 IF J=0 THEN 110
20 J=J-1:IF J=0 THEN E=1
21 C=C+1:IF C=80 THEN 700
22 IF N=0 THEN 700
```

```
120 FOR L=1 TO M
121 GOSUB 200
122 IF E=0 THEN 125
123 COLOR 2:S=E:X=0:Y=R:SOUND 0,E*12,4,1
4:GOSUB 4000:E=E+1
124 IF E=21 THEN E=0:SOUND 0,0,0,0
125 IF Y(L)=-1 THEN 190
127 COLOR 3
130 PLOT X(L),Y(L)
140 X(L)=X(L)+A(L):Y(L)=Y(L)+B(L)
145 IF Y(L)>78 THEN Y(L)=-1:N=N-1:GOTO 1
90
150 LOCATE X(L),Y(L),D
160 IF D<>2 THEN 190
170 IF Y(L)>70 THEN GOSUB 7000
180 Y(L)=-1:N=N-1
185 SC=SC+10*WV
190 NEXT L
195 GOTO 499
200 IF PEEK(764)=33 AND E=0 AND J=0 THEN
J=3:Q=G:R=H
220 IF PEEK(764)=23 AND G>5 THEN COLOR 4
:PLOT G,H:COLOR 2:G=G-1:PLOT G,H
230 IF PEEK(764)=6 AND H>5 THEN COLOR 4:
PLOT G,H:COLOR 2:H=H-1:PLOT G,H
240 IF PEEK(764)=22 AND G<154 THEN COLOR
4:PLOT G,H:COLOR 2:G=G+1:PLOT G,H
250 IF PEEK(764)=38 AND H<64 THEN COLOR
4:PLOT G,H:COLOR 2:H=H+1:PLOT G,H
290 RETURN
499 IF CI+B0>0 THEN 100
500 GRAPHICS 17
520 POSITION 0,5
530 PRINT £6;" score :";SC
540 POSITION 0,12
550 PRINT £6;" GAME OVER"
560 POSITION 0,7
570 PRINT £6;" WAVE NUMBER ";WV
580 POSITION 0,19
590 PRINT £6;" < RETURN >"
```

```
600 OPEN #1,4,0,"K:"
610 GET #1,D
620 IF D<>155 THEN 610
630 CLOSE #1:RUN
700 GRAPHICS 17
710 SOUND 0,0,0,0:SOUND 1,0,0,0
720 POSITION 0,5:PRINT #6;"END OF WAVE :"
";WV
730 WV=WV+1
740 POSITION 0,10:PRINT #6;"      ";CI;" C
ITIES"
750 POSITION 0,17:PRINT #6;"      "bon
us"
760 B=(CI+B0)*100*WV
770 FOR L=B TO 0 STEP -10
775 SOUND 1,L*200/B+40,10,10
780 POSITION B,19:PRINT #6;"    ";L;"    "
790 NEXT L
795 SOUND 1,0,0,0
800 SC=SC+B:IF INT(SC/5000)=SC/5000 THEN
    B0=B0+1:POSITION 6,2:PRINT "BONUS CITY"
890 FOR L=1 TO 800:NEXT L:GOTO 40
1000 COLOR 1
1010 FOR S=1 TO 20
1020 SOUND 0,S*12,4,14:GOSUB 4000
1030 NEXT S
1099 SOUND 0,0,0,0:RETURN
3000 FOR L=1 TO 10
3020 X(L)=INT(RND(1)*160):Y(L)=0
3025 S=INT(RND(1)*40)+40
3030 ON INT(RND(1)*3+1) GOTO 3040,3050,3
060
3040 A(L)=(25-X(L))/S:B(L)=(78-Y(L))/S:G
0TO 3070
3050 A(L)=(65-X(L))/S:B(L)=(77-Y(L))/S:G
0TO 3070
3060 A(L)=(135-X(L))/S:B(L)=(75-Y(L))/S
3070 NEXT L
3080 G=80:H=50:COLOR 1:PLOT G,H
3090 J=0:E=0:RETURN
4000 SS=S:IF S>10 THEN COLOR 4:SS=S-10
```

**70**

```
4010 ON SS GOTO 4020,4030,4040,4050,4060
,4070,4080,4090,4100,4110
4020 PLOT X,Y:PLOT X+1,Y:PLOT X,Y+1:RETU
RN
4030 PLOT X-1,Y:PLOT X,Y-1:RETURN
4040 PLOT X+2,Y:PLOT X+1,Y+1:PLOT X,Y+2:
PLOT X-1,Y+1:RETURN
4050 PLOT X-2,Y:PLOT X-1,Y-1:PLOT X,Y-2:
PLOT X+1,Y-1:RETURN
4060 PLOT X-2,Y+2:PLOT X-2,Y+1:PLOT X-3,
Y:PLOT X-2,Y-1:PLOT X-2,Y-2:PLOT X-1,Y-2
4065 PLOT X,Y-3:PLOT X+1,Y-3:PLOT X+1,Y-
2:RETURN
4070 PLOT X+2,Y-2:PLOT X+2,Y-1:PLOT X+3,
Y:PLOT X+2,Y+1:PLOT X+2,Y+2:PLOT X+1,Y+2
4075 PLOT X,Y+3:PLOT X-1,Y+3:PLOT X-1,Y+
2:RETURN
4080 PLOT X,Y-4:PLOT X-1,Y-4:PLOT X-1,Y-
3:PLOT X-2,Y-3:PLOT X-3,Y-2:PLOT X-3,Y-1
:PLOT X-4,Y-1
4085 PLOT X-4,Y:PLOT X-3,Y+1:PLOT X-3,Y+
2:PLOT X-2,Y+3:PLOT X-1,Y+4:RETURN
4090 PLOT X,Y+4:PLOT X+1,Y+4:PLOT X+1,Y+
3:PLOT X+2,Y+3:PLOT X+3,Y+2:PLOT X+3,Y+1
:PLOT X+4,Y+1
4095 PLOT X+4,Y:PLOT X+3,Y-1:PLOT X+3,Y-
2:PLOT X+2,Y-3:PLOT X+1,Y-4:RETURN
4100 PLOT X,Y-5:PLOT X-1,Y-5:PLOT X-2,Y-
4:PLOT X-3,Y-3:PLOT X-4,Y-2:PLOT X-5,Y-1
:PLOT X-5,Y
4105 PLOT X-5,Y+1:PLOT X-4,Y+1:PLOT X-4,
Y+2:PLOT X-3,Y+3:PLOT X-2,Y+4:PLOT X-1,Y
+5
4107 RETURN
4110 PLOT X,Y-5:PLOT X+1,Y+5:PLOT X+2,Y+
4:PLOT X+3,Y+3:PLOT X+4,Y+2:PLOT X+5,Y+1
:PLOT X+5,Y
4115 PLOT X+5,Y-1:PLOT X+4,Y-1:PLOT X+4,
Y-2:PLOT X+3,Y-3:PLOT X+2,Y-4:PLOT X+1,Y
-5
4117 RETURN
```

```
6000 COLOR 1
6010 RESTORE 10000
6015 READ D:PLOT O,D
6020 FOR L=10 TO 150 STEP 10
6030 READ D:DRAWTO L,D:NEXT L
6040 READ D:DRAWTO 159,D
6045 COLOR 2
6047 ON CI GOTO 6070,6060,6050
6050 X=20:Y=78:GOSUB 6500
6060 X=60:Y=77:GOSUB 6500
6070 X=130:Y=75:GOSUB 6500
6499 RETURN
6500 RESTORE 11000
6520 PLOT X,Y
6530 READ A,B
6540 DRAWTO X+A,Y+B
6550 X=X+A:Y=Y+B
6560 IF A<>0 OR B<>0 THEN 6530
6599 RETURN
7000 IF X(L)<35 THEN X=25:Y=78:GOSUB 100
0:CI=CI-1:X=20:COLOR 4:GOSUB 6500:GOTO 7
099
7020 IF X(L)<75 THEN X=65:Y=77:GOSUB 100
0:CI=CI-1:X=60:COLOR 4:GOSUB 6500:GOTO 7
099
7030 X=135:Y=75:GOSUB 1000:CI=CI-1:X=130
:COLOR 4:GOSUB 6500:GOTO 7099
7099 RETURN
8000 C1=INT(RND(1)*16)
8020 C2=INT(RND(1)*16):IF C2=C1 THEN 802
0
8030 C3=INT(RND(1)*16):IF C3=C2 OR C3=C1
THEN 8030
8040 C4=INT(RND(1)*16):IF C4=C3 OR C4=C2
OR C4=C1 THEN 8040
8050 C5=INT(RND(1)*16):IF C5=C4 OR C5=C3
OR C5=C2 OR C5=C1 THEN 8050
8060 SETCOLOR 1,C2,INT(RND(1)*10+5)
8070 SETCOLOR 2,C3,INT(RND(1)*10+5)
8080 SETCOLOR 3,C4,INT(RND(1)*10+5)
8090 SETCOLOR 4,C5,INT(RND(1)*16)
```

**72**

```
8099 RETURN
10000 DATA 72,75,79,79,73,76,78,78,74,71
,72,74,79,76,76,73,70
11000 DATA 9,0,0,-3,-1,0,0,-2,-3,0,0,3
11010 DATA -2,0,0,-2,-2,0,0,3,-1,0,0,1
11020 DATA 3,0,0,-2,4,0,0,1,1,0,0,-1
11030 DATA 0,0
```

# BIORHYTHM GRAPHING AND PREDICTION



Don't worry it isn't going to hurt you, just lie back and enjoy the sensation of your life flashing past you.

In simple terms this is a system which will allow you to predict the type of day you are going to have, or check and see if the day just passed, is as bad as you think possible.

You type in the data and your 600 XL will tell you, and show you the shape of the day to come. It will also give you an idea of the days on both sides of the day in question.

## How to use

The 600 XL will ask you to enter your birth date and the

date of the day on which you are using the program.

You will then be asked for the year, month and day/date of the week you wish to predict. When you are asked for the day remember to enter the day/date not just any day as there are, of course, several Tuesdays in a month.

Press RETURN key after each entry.

After you key in the final information the computer will produce a chart of your physical, emotional and intellectual state on the day in question. As we said before, you will also see a picture of the days on either side and you may then decide not to leave your bed for the next week.

To clear, type RUN and return to the menu.

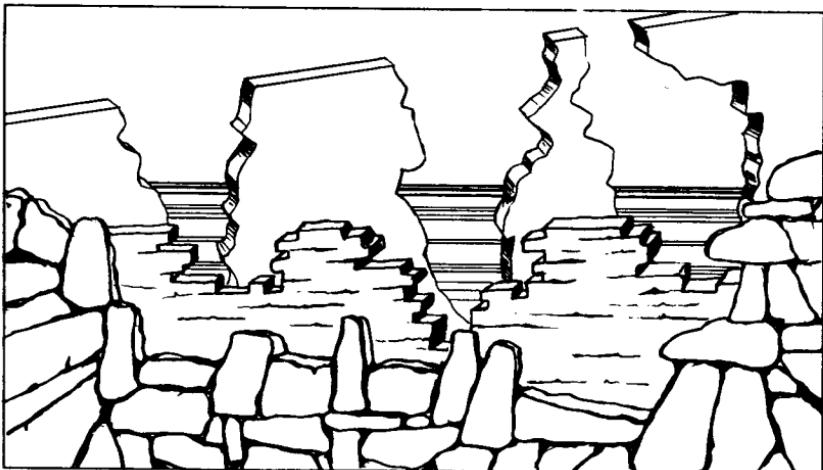
## The Program

```
REM BIORHYTHM GRAPHING AND PREDICTION
12 DEG
15 DIM T$(20),M$(20)
20 GRAPHICS 0:POSITION 0,4:PRINT "BIRTH
DATE :"
30 GOSUB 1000
40 BY=Y:BM=M:BD=D
50 GRAPHICS 0:POSITION 0,4:PRINT "DATE T
O INVESTIGATE :"
60 GOSUB 1000
100 GOSUB 2000
110 PH=DAYS-23*INT(DAYS/23)
120 EM=DAYS-28*INT(DAYS/28)
130 IT=DAYS-33*INT(DAYS/33)
140 GRAPHICS 7:POKE 752,1:PRINT
150 PRINT "PHYSICAL CYCLE"
160 O=PH/23*360:MU=28/23
170 COLOR 1:GOSUB 3000
```

```
200 PRINT "EMOTIONAL CYCLE"
210 D=EM/28*360:MU=1
220 COLOR 2:GOSUB 3000
300 PRINT "INTELLECTUAL CYCLE"
310 D=IT/33*360:MU=28/33
320 COLOR 3:GOSUB 3000
330 PRINT "DATE REQUESTED"
340 PLOT 80,0:DRAWTO 80,79
400 END
1000 REM READ IN A DATE
1010 POSITION 0,10:PRINT "YEAR....."
1020 INPUT Y:IF Y<>INT(Y) THEN 1010
1030 POSITION 0,15:PRINT "MONTH...."
1040 INPUT M$":POSITION 9,10
1050 IF M$(1,1)>"0" AND M$(1,1)<="9" THEN
N=M=VAL(M$):GOTO 1100
1060 RESTORE 9000
1070 M=0:FOR L=1 TO 12
1080 READ T$:IF T$(1,3)=M$(1,3) THEN M=L
1090 NEXT L
1100 IF M=0 OR M<>INT(M) OR M>12 THEN 10
30
1110 POSITION 0,20:PRINT "DAY....."
1120 INPUT D:IF D<1 OR D>31 OR D<>INT(D)
THEN 1110
1199 RETURN
2000 REM FIND NUMBER OF DAYS
2010 DP=0:DM=0
2020 DP=365.25*Y:DM=365.25*BY
2030 RESTORE 9500
2040 FOR L=1 TO 12
2050 READ T
2060 IF M=L THEN DP=DP+T
2070 IF BM=L THEN DM=DM+T
2080 NEXT L
2090 DP=DP+D:DM=DM+BD
2100 DAYS=DP-DM
2999 RETURN
```

```
3000 REM DRAW A CYCLE
3005 PLOT 0,75-(37.5+37.5*SIN(-360*MU+0))
)
3010 FOR TH=-360 TO 350 STEP 2.5
3020 X=TH/4.5+80:Y=37.5+37.5*SIN(TH*MU+0)
)
3030 DRAWTO X,75-Y
3040 NEXT TH
3100 FOR W=1 TO 600:NEXT W
3999 RETURN
9000 DATA JAN,FEB,MAR,APR,MAY,JUN
9010 DATA JUL,AUG,SEP,OCT,NOV,DEC
9500 DATA 0,31,59,90,120,151,181,212,243
,273,304,334
```

# WALL DODGE



This time you have a very unusual objective as you must crash your space vessel to earn points.

Let us all hope that there is some sense in what we have been asked to do by Command Headquarters.

### How to play

Scrolling down the screen are three walls of different colour and construction.

Each wall has gaps within it's structure and you must shoot through the first two walls and hit the third. If you think that is simple we should tell you that the walls 'spin' at different speeds and the gaps are of different sizes, and are in different places from reel to reel.

You must anticipate the spins, line up the gaps, and launch your vessel using SPACE bar.

To line up your launch use keys A and Z.

You have ten shots and you achieve maximum points if you hit the third wall.

By the way, the third wall has more gaps than wall so you could fly straight through and get no points at all.

If you score 150 exactly you will be given ten bonus points and ten extra attempts.

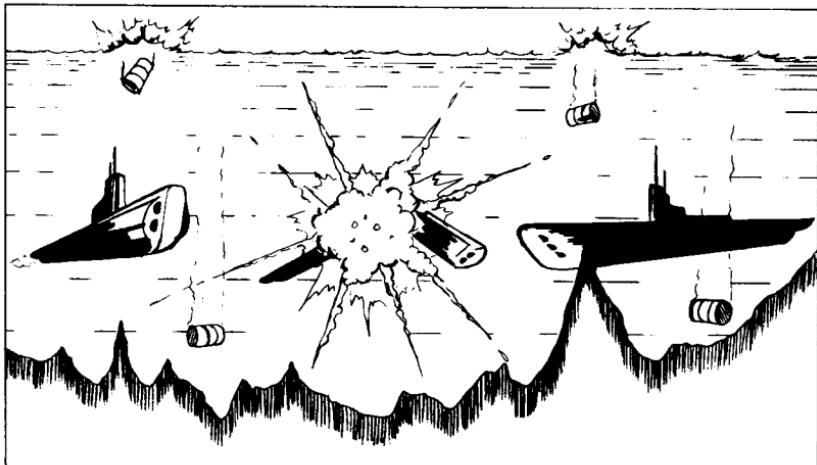
## The Program

```
10 REM WALL DODGE
11 REM WITH M/CODE MOVEMENT
20 GRAPHICS 5:POKE 752,1:PRINT
30 GOSUB 1000
40 GOSUB 1500
50 F=0:S=65
60 Y=100:X=S:GOSUB 3000
70 POKE H1,100:POKE H2,150:POKE H3,200
80 POKE C1,200:POKE C2,100:POKE C3,50
90 POKE C4,38
95 SC=0:G=10
97 N=10
100 GOSUB 2000
105 IF F=1 THEN 300
107 IF G=0 THEN 800
110 IF PEEK(764)=23 THEN Z=USR(12381)
120 IF PEEK(764)=63 THEN Z=USR(12412)
130 IF PEEK(764)=33 THEN F=1:G=G-1:POKE
764,0
200 GOTO 100
300 X=X+2:POKE 53278,1:POKE H4,X
310 IF PEEK(53263)=0 THEN 380
```

```
320 SC=SC+10*PEEK(53263)
330 PRINT "      ";10*PEEK(53263):X=220
340 IF SC=150 THEN SC=SC+10:N=20:G=G+10:
PRINT " 10 BONUS SHOTS"
380 IF X<210 THEN 100
390 F=0:X=S:POKE H4,X:GOTO 100
800 GRAPHICS 1+16
805 POKE H1,0:POKE H2,0:POKE H3,0:POKE H
4,0
810 POSITION 0,3:PRINT £6;" game over"
820 POSITION 0,10:PRINT £6;N;" SHOTS FI
RED"
830 POSITION 0,17:PRINT £6;" SCORE :";SC
840 OPEN £1,4,0,"K:"
850 GET £1,A:IF A<>32 THEN 850
860 CLOSE £1
870 RUN
1000 REM SET UP THE PLAYERS
1010 POKE 559,62:POKE 53277,3
1020 PMBASE=40:POKE 54279,PMBASE
1030 H1=53248:H2=H1+1:H3=H2+1:H4=H3+1
1040 C1=704:C2=C1+1:C3=C2+1:C4=C3+1
1050 POKE H1,0:POKE H2,0:POKE H3,0:POKE
H4,0
1060 P1=PMBASE*256+1024:P2=P1+256:P3=P2+
256:P4=P3+256
1070 FOR I=0 TO 254 STEP 2
1080 POKE P1+I,170:POKE P1+I+1,85
1090 POKE P2+I,170:POKE P2+I+1,85
1100 POKE P3+I,170:POKE P3+I+1,85
1105 POKE P4+I,0:POKE P4+I+1,0
1110 NEXT I
1120 FOR I=0 TO 192 STEP 64:FOR L=0 TO 3
1
1130 POKE P2+L+I,0:NEXT L:NEXT I
1140 FOR I=0 TO 127:POKE P3+I,0:NEXT I
1150 FOR I=0 TO 224 STEP 32:FOR L=0 TO 1
5
1160 POKE P1+L+I,0:NEXT L:NEXT I
1199 RETURN
1500 REM READ IN THE MACHINE CODE
```

```
1510 RESTORE 9000
1520 FOR L=12288 TO 12442
1530 READ D:POKE L,D
1540 NEXT L
1599 RETURN
2000 REM MOVE THE WALLS
2010 Z=USR(12288):Z=USR(12311)
2020 Z=USR(12342):RETURN
3000 REM DRAW SHIP
3010 POKE H4,X
3020 POKE P4+Y,240:POKE P4+Y+1,112:POKE
P4+Y+2,60
3030 POKE P4+Y+3,112:POKE P4+Y+4,240
3040 RETURN
9000 DATA 173,255,44,72,162,254,189,0,44
,157,1,44,202,224,255,208,245
9010 DATA 104,141,0,44,104,96
9100 DATA 173,254,45,72,173,255,45,72,16
2,253,189,0,45,157,2,45,202,224,255
9110 DATA 208,245,104,141,1,45,104,141,0
,45,104,96
9200 DATA 173,253,46,72,173,254,46,72,17
3,255,46,72,162,252
9210 DATA 189,0,46,157,3,46,202,224,255,
208,245
9220 DATA 104,141,2,46,104,141,1,46,104,
141,0,46,104,96
9300 DATA 173,254,47,72,173,255,47,72,16
2,253,189,0,47,157,2,47,202,224,255,208,
245,104,141,1,47,104,141,0,47,104,96
9400 DATA 173,0,47,72,173,1,47,72,162,0,
189,2,47,157,0,47,232,224,253
9410 DATA 208,245,104,141,255,47,104,141
,254,47,104,96
```

# SUBMARINE HUNTER



Before the advent of missiles and the like submarines used to hunt in packs after unsuspecting merchant ships who couldn't retaliate. We have taken things back to this situation but we have changed the rules in your favour. This time the submarines can't retaliate.

A pack of subs. is heading for a rendezvous and are under attack from your cruiser. Although there are many submarines in the area, only two will appear on the screen at any time.

One of the wolf pack is much slower than the other and should be easy to depth charge, but the leader is quicker and is diving for the sea floor.

## How to play

Both submarines begin near the surface and try to dive to the bottom to escape. You must sink them before they escape as, if three get away, the game will end.

Use keys Z and X for left and right and SPACE for dropping your depth charges.

You will get 30 points for sinking the leader and 15 points for hitting the slower of the two vessels.

## Programming Hints

To alter the size of the submarines, and make them easier to hit, change LINE 40 to 1. This will double the size of the targets.

To change the rate of descent of the depth charges alter LINE 330 by adding Z=USR (12381):Z = USR (12381).

## The Program

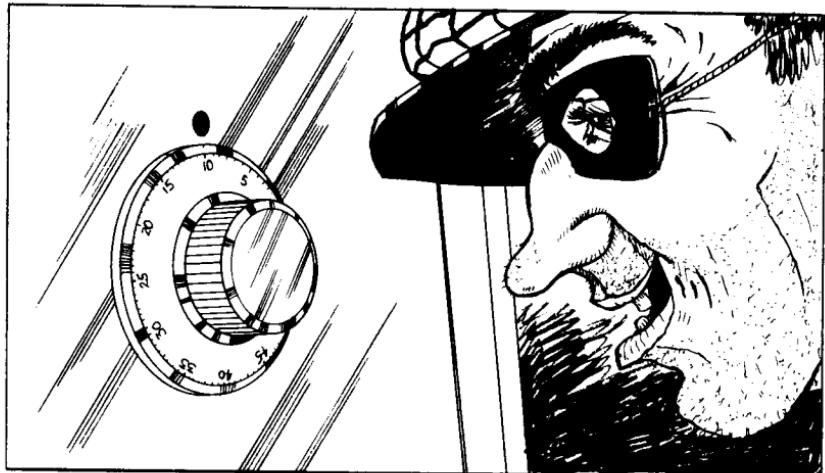
```
10 REM SUBMARINE HUNTER
11 REM WITH M/CODE MOVEMENT
15 GOSUB 1500
20 GRAPHICS 5:POKE 752,1:PRINT
25 WV=1:E=0
30 GOSUB 1000
40 V=0:REM DIFFICULTY 0 OR 1
50 Y=80:GOSUB 2000
60 X=100:POKE H1,X
65 A=40:B=200:POKE H2,A:POKE H3,B
67 C=1:D=-3
70 POKE 53256,V:POKE 53257,V:POKE 53258,
V
```

```
75 P=0:Q=0
80 POKE 623,1
90 SETCOLOR 4,9,4:SETCOLOR 2,9,4
95 POKE C1,200:POKE C2,90:POKE C3,158
100 IF PEEK(764)=23 AND X>40 THEN X=X-2:
POKE H1,X
110 IF PEEK(764)=22 AND X<200 THEN X=X+2
:POKE H1,X
120 IF PEEK(764)=33 AND F=0 THEN F=1:POKE H4,X+4:GOSUB 2100
190 IF A=0 THEN 210
200 A=A+C:POKE H2,A:IF A<40 OR A>200 THEN C=-C:GOSUB 4000
205 IF B=0 THEN 300
210 B=B+D:POKE H3,B:IF B<40 OR B>200 THEN D=-D:GOSUB 4100
300 IF F=0 THEN 400
310 F=F+1:IF F=50 THEN F=0:POKE 764,0:GOTO 400
320 POKE 53278,1
330 Z=USR(12381):Z=USR(12381)
340 IF PEEK(53263)=0 THEN 400
350 SC=SC+15*PEEK(53263):PRINT "
":SC
355 FOR L=0 TO 240 STEP 3:SOUND 2,L,4,14
:NEXT L:SOUND 2,0,0,0
360 IF PEEK(53263)=2 THEN A=0:POKE H2,0:GOTO 400
370 B=0:POKE H3,0
400 IF A+B>>0 THEN 100
410 IF E<3 THEN WV=WV+1:GOTO 30
420 GRAPHICS 1+16:POSITION 0,5:PRINT £6;"THREE SUBS. ESCAPED"
425 POKE H1,0:POKE H2,0:POKE H3,0:POKE H4,0
430 POSITION 0,12:PRINT £6;" end of game"
440 POSITION 0,14:PRINT £6;" SCORE :";SC
445 POSITION 0,16:PRINT £6;" wave ";WV
```

```
450 POSITION 0,19:PRINT £6;" <SPACE>"  
460 OPEN £1,4,0,"K:"  
470 GET £1,A:IF A<>32 THEN 470  
480 CLOSE £1  
490 RUN  
1000 REM SET UP THE PLAYERS  
1010 POKE 559,62:POKE 53277,3  
1020 PMBASE=40:POKE 54279,PMBASE  
1030 H1=53248:H2=H1+1:H3=H2+1:H4=H3+1  
1040 C1=704:C2=C1+1:C3=C2+1:C4=C3+1  
1050 POKE H1,0:POKE H2,0:POKE H3,0:POKE  
H4,0  
1060 P1=PMBASE*256+1024:P2=P1+256:P3=P2+  
256:P4=P3+256  
1070 Z=USR(12396)  
1080 PRINT CHR$(125);" WAVE NUMBER ";  
WV;""  
1199 RETURN  
1500 REM READ IN THE MACHINE CODE  
1510 RESTORE 9000  
1520 FOR L=12288 TO 12416  
1530 READ D:POKE L,D  
1540 NEXT L  
1599 RETURN  
2000 REM DRAW IN INITIAL SHIP/SUBS.  
2010 RESTORE 10000  
2020 FOR L=0 TO 7:READ A,B,C  
2030 POKE P1+L+48,A:POKE P2+L+Y,B  
2040 POKE P3+L+Y,C  
2050 NEXT L  
2099 RETURN  
2100 REM DRAW IN INITIAL DEPTH CHARGE  
2110 POKE P4+60,24:POKE P4+61,60:POKE P4  
+62,60:POKE P4+63,24:RETURN  
4000 REM MOVE SUB.1 DOWN  
4010 FOR L=1 TO 10:SOUND 1,10*L,10,14:Z=  
USR(12311):NEXT L:SOUND 1,0,0,0  
4020 P=P+1:IF P=8 THEN A=0:POKE H2,0:E=E  
+1  
4099 RETURN  
4100 REM MOVE SUB.2 DOWN
```

```
4110 FOR L=1 TO 10:SOUND 1,20*L,10,14:Z=
USR(12342):NEXT L:SOUND 1,0,0,0
4120 Q=Q+1:IF Q=6 THEN B=0:POKE H3,0:E=E
+1
4199 RETURN
9000 DATA 173,255,44,72,162,254,189,0,44
,157,1,44,202,224,255,208,245
9010 DATA 104,141,0,44,104,96
9100 DATA 173,254,45,72,173,255,45,72,16
2,253,189,0,45,157,2,45,202,224,255
9110 DATA 208,245,104,141,1,45,104,141,0
,45,104,96
9200 DATA 173,253,46,72,173,254,46,72,17
3,255,46,72,162,252
9210 DATA 189,0,46,157,3,46,202,224,255,
208,245
9220 DATA 104,141,2,46,104,141,1,46,104,
141,0,46,104,96
9300 DATA 162,253,189,0,47,157,2,47,202,
224,255
9310 DATA 208,245,104,96
9400 DATA 162,0,169,0,157,0,44,157,0,45,
157,0,46,157,0,47
9410 DATA 232,208,241,104,96
10000 DATA 64,4,32
10001 DATA 94,4,32
10002 DATA 82,4,32
10003 DATA 243,126,126
10004 DATA 255,193,131
10005 DATA 127,193,131
10006 DATA 63,126,126
10007 DATA 0,0,0
```

# SAFECRACKER



Here is your chance to see if you could be of any use to Smiley's People as an inside man.

We have set up a series of numeric codes for you to 'crack' in order to open the safe.

Digits range from 1 to 8 inclusive.

### How to play

Your computer will select, at random, it's own sequence and ask for your first choice of four numbers.

Enter your numbers and press RETURN.

After your first 'guess' your 600 XL will put up it's 'mark' to show you how many of your numbers are correct, and how many are in the right place.

You will not be told **which** of your numbers is in the correct place, only that one, or more, is in the correct place. You will still have to decide for your next move which of your first selection is correct.

We told you it was a test for Smiley's People didn't we.

## The Program

```

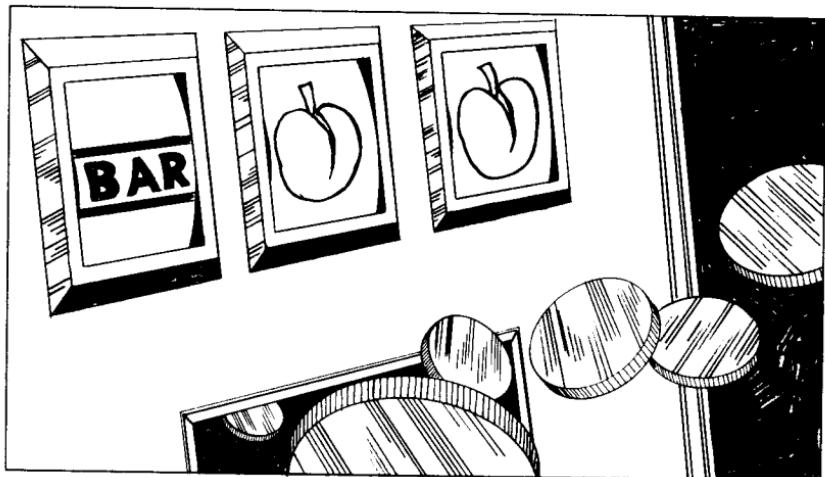
10 REM SAFE CRACKER
20 DIM C(3),G(3),T(3)
30 GOSUB 1000
40 GRAPHICS 1+16
50 G=0:F=0
60 OPEN #1,4,0,"K:"
80 GOSUB 1500
100 G=G+1:IF G=11 THEN 900
110 GOSUB 2000
120 GOSUB 3000
130 IF F=0 THEN 100
200 REM CORRECT DEDUCTION
210 POSITION 0,18:PRINT #6;"CORRECT"
";
220 FOR L=0 TO 3
230 PRINT #6;C(L);";";
240 NEXT L
250 POSITION 0,20:PRINT #6;"    IN ";G;" "
TURNS"
260 GOTO 940
900 REM NUMBER NOT GUessed
910 POSITION 0,18:PRINT #6;"THE NUMBER W
AS :"
920 POSITION 0,20:PRINT #6;"      ";
930 FOR L=0 TO 3:PRINT #6;C(L);";";NEXT
L
940 GET #1,A:IF A<>32 THEN 940
950 CLOSE #1
960 RUN
1000 REM RANDOM DIGITS TO C()

```

```
1010 C(0)=INT(RND(1)*8+1)
1020 FOR L=1 TO 3
1030 C(L)=INT(RND(1)*8+1)
1040 FOR I=0 TO L-1
1050 IF C(L)=C(I) THEN C(L)=INT(RND(1)*8
+1):GOTO 1050
1060 NEXT I
1070 NEXT L
1099 RETURN
1500 REM TITLE COLUMNS
1510 POSITION 0,0:PRINT £6;"YOUR GUESS m
y mark"
1599 RETURN
2000 REM GET A GUESS INTO G()
2010 L=0
2020 GET £1,D:D=D-48
2025 IF D=78 THEN 2100
2027 IF D=107 THEN 2200
2030 IF D<1 OR D>8 THEN 2020
2035 IF L=4 THEN 2020
2040 POSITION 2+L*2,G+2:PRINT £6;CHR$(D+
144)
2050 G(L)=D:L=L+1:GOTO 2020
2100 L=L-1:IF L=-1 THEN L=0
2110 POSITION 2+L*2,G+2:PRINT £6;" ";
2120 GOTO 2020
2200 IF L<3 THEN 2020
2299 RETURN
3000 REM SCORE G() AGAINST C()
3010 B1=0:W1=0
3020 FOR H=0 TO 3
3030 IF G(H)=C(H) THEN B1=B1+1
3040 NEXT H
3050 FOR L=0 TO 3:T(L)=C(L):NEXT L
3060 FOR J=0 TO 3
3070 IF T(J)=-1 THEN 3110
3080 FOR L=0 TO 3
3090 IF T(J)=G(L) THEN W1=W1+1:T(J)=-1
3100 NEXT L
3110 NEXT J
```

```
3120 W1=W1-B1
3130 IF B1=4 THEN F=1
3200 POSITION 14,2+G
3210 PRINT £6;B1;"    ";W1
3999 RETURN
```

# FRUIT MACHINE



This is a cheap way to play the machines without having to risk any of your hard earned cash.

You will be given a fixed amount of credits at the beginning of the game and you are then playing against fate.

## How to play

The 600 XL will spin the reels to begin the game and then stop on the centre line of the 'window'.

Two of a kind will give a small payout and three will, obviously, give a greater reward.

There are random holds available to you and you select these by pressing 1, 2 or 3. If you change your mind on the holds you can release all reels by pressing R. You can then re-select the hold function if you wish.

If the third reel stops on A then the machine will go into an auto-seek function and will stop when it selects three of a kind.

After selecting your holds press SPACE to spin the remaining reels. If you do not wish to hold, or cannot hold, then press RETURN for the next spin.

The game ends when you are broke, or if you press BREAK.

### **Programming Hints**

To change the success rate alter the data in Lines 9000 to 9150. Digits 0 to 9 are allowed.

To change the payouts alter the data in Lines 20000 to 20010. This will mean you can have greater earnings, or greater losses.

### **The Program**

```
10 REM FRUIT MACHINE
11 REM WITH M/CODE SPIN
15 DIM A(31),B(31),C(31),G(79)
17 DIM P(3),H(3)
20 GOSUB 1000
30 GOSUB 2000
40 GOSUB 3000
45 POKE 752,1
50 POKE H1,100:POKE H2,124:POKE H3,148
```

```
60 M=20
65 COLOR 3:PLOT 10,12:PLOT 29,12
70 PRINT "CREDITS :"
80 P(1)=16:P(2)=16:P(3)=16
90 POKE C1,88:POKE C2,200:POKE C3,38
100 PRINT "";STR$(M);"
110 IF M=0 THEN 900
115 H(1)=0:H(2)=0:H(3)=0:REM NO HOLDS
117 COLOR 2:PLOT 13,8:DRAWTO 26,8
120 IF RND(1)>0.7 THEN GOSUB 4000
200 REM SPIN REELS
202 M=M-1
205 IF H(1)+H(2)+H(3)=3 THEN 400
210 GOSUB 4100
220 IF RND(1)<0.95 THEN 210
230 H(1)=1
240 GOSUB 4100
250 IF RND(1)<0.92 THEN 240
260 H(2)=1
270 GOSUB 4100
280 IF RND(1)<0.9 THEN 270
290 REM REELS ALL STOPPED
400 REM SCORE REEL SETTING
410 P=A(P(1)):Q=B(P(2)):R=C(P(3))
420 IF R>>9 THEN 450
425 PRINT "           AUTO HUNT           ":"PR
INT "
427 FOR I=200 TO 0 STEP -3:SOUND 0,I,10,
14:NEXT I
428 SOUND 0,0,0,0
430 H(1)=1:H(2)=0:H(3)=0
432 GOSUB 4100:IF P>>B(P(2)) THEN 432
433 H(2)=1
434 GOSUB 4100:IF P>>C(P(3)) THEN 434
440 GOTO 410
450 IF P>>0 THEN 540
460 IF Q=R THEN 500
469 REM PAIR ON THE LEFT
470 RESTORE 20000:REM SCORES
480 FOR I=1 TO P+1:READ D:NEXT I
490 M=M+D:PRINT "      PAIR SCORES : ";STR
$(D):PRINT "":GOTO 550
```

```
499 REM ALL THE SAME
500 RESTORE 20010:REM SCORES
510 FOR I=1 TO P+1:READ D:NEXT I
520 M=M+D:PRINT " TRIPLE SCORES : ";STR
$(D):PRINT "":GOTO 550
530 REM NO SCORE
540 PRINT " NO WIN LINE":PRINT ""
549 REM END OF SCORING
550 OPEN £1,4,0,"K:"
560 GET £1,A
570 IF A<>155 THEN 560:REM "RETURN"
580 CLOSE £1
585 PRINT " "":P
RINT ""
590 GOTO 100
900 REM END OF CREDITS
910 PRINT " YOU'RE BROKE NOW"
920 PRINT " <SPACE> TO TRY AGAIN"
930 OPEN £1,4,0,"K:"
940 GET £1,A
950 IF A<>32 THEN 940
960 CLOSE £1
970 RUN
1000 REM DRAW PLAYFIELD
1010 GRAPHICS 3
1012 SETCOLOR 2,3,4
1015 COLOR 2:SETCOLOR 1,9,2
1020 FOR L=0 TO 23:PLOT 0,L
1030 DRAWTO 39,L:NEXT L
1040 COLOR 4
1050 FOR L=10 TO 14:PLOT 10,L
1060 DRAWTO 29,L:NEXT L
2000 REM READ IN THE MACHINE CODE
2005 RESTORE 10000
2010 FOR I=12288 TO 12380
2020 READ D:POKE I,D
2030 NEXT I
2099 RETURN
3000 REM INITIALISE PLAYERS
3010 PMBASE=40:POKE 54279,PMBASE
3015 POKE 559,62:POKE 53277,3
```

```
3020 P1=PMBASE*256+1024
3030 P2=P1+256:P3=P2+256
3040 C1=704:C2=C1+1:C3=C2+1
3050 H1=53248:H2=H1+1:H3=H2+1
3060 POKE H1,0:POKE H2,0:POKE H3,0
3070 RESTORE 9500
3080 POKE 623,4:REM PLAYERS AT BACK
3100 FOR L=0 TO 79
3110 READ D:G(L)=D
3120 NEXT L
3125 RESTORE 9000
3130 FOR L=0 TO 31
3140 READ P,Q,R
3150 A(L)=P:B(L)=Q:C(L)=R
3155 S=L*8
3160 FOR I=0 TO 7
3170 POKE P1+S+I,G(P*8+I)
3180 POKE P2+S+I,G(Q*8+I)
3190 POKE P3+S+I,G(R*8+I)
3200 NEXT I
3210 NEXT L
3499 RETURN
4000 REM SET HOLD FLAGS
4005 H(1)=0:H(2)=0:H(3)=0
4007 COLOR 2:PLOT 13,8:DRAWTO 26,8
4010 OPEN £1,4,0,"K:"
4020 PRINT "                      HOLD NOW"
4030 PRINT ""
4040 GET £1,K
4050 IF K=32 THEN PRINT "
        :PRINT ":"CLOSE £1:RETURN
4060 IF K=ASC("R") THEN CLOSE £1:GOTO 40
05
4070 IF K<49 OR K>51 THEN 4040
4075 COLOR 3:PLOT 7+6*(K-48),8:PLOT 8+6*(
(K-48),8
4080 H(K-48)=1:GOTO 4040
4100 REM ADVANCE SPINNING REELS
4110 FOR Q=0 TO 3
4120 IF H(1)=0 THEN A=USR(12288)
4130 IF H(2)=0 THEN A=USR(12319)
```

```
4140 IF H(3)=0 THEN A=USR(12350)
4150 NEXT Q
4160 FOR Q=1 TO 3
4170 IF H(Q)<>1 THEN P(Q)=P(Q)-1
4180 IF P(Q)=-1 THEN P(Q)=31
4190 NEXT Q:RETURN
8999 REM REEL DATA
9000 DATA 0,1,4,1,3,3
9010 DATA 2,5,1,3,2,4
9020 DATA 4,4,9,5,6,6
9030 DATA 6,7,5,7,8,8
9040 DATA 8,6,4,9,3,3
9050 DATA 8,2,1,7,4,4
9060 DATA 6,7,2,5,9,4
9070 DATA 4,1,1,3,2,8
9080 DATA 2,3,2,1,6,9
9090 DATA 2,7,4,3,5,1
9100 DATA 4,4,2,5,4,1
9110 DATA 6,3,1,7,8,4
9120 DATA 8,1,6,7,7,2
9130 DATA 6,3,7,5,6,5
9140 DATA 4,2,1,3,4,4
9150 DATA 2,1,2,1,5,3
9499 REM SHAPE DATA
9500 DATA 0,24,36,211,203,36,24,0
9510 DATA 8,16,86,127,255,126,126,60
9520 DATA 0,255,85,85,85,85,255,0
9530 DATA 0,63,127,124,248,252,126,63
9540 DATA 129,66,36,24,24,36,66,129
9550 DATA 56,186,146,124,16,40,68,68
9560 DATA 0,7,3,5,8,16,32,64
9570 DATA 24,24,24,255,255,24,24,24
9580 DATA 0,66,231,255,126,60,60,24
9590 DATA 0,24,36,36,126,66,66,66
9999 REM MACHINE CODE DATA
10000 DATA 173,254,44,72,173,255,44,72
10010 DATA 162,253,189,0,44,157,2,44,202
,224,255
10020 DATA 208,245,104,141,1,44
10030 DATA 104,141,0,44,104,96
10050 DATA 173,254,45,72,173,255,45,72
```

```
10060 DATA 162,253,189,0,45,157,2,45,202
,224,255
10070 DATA 208,245,104,141,1,45
10080 DATA 104,141,0,45,104,96
10100 DATA 173,254,46,72,173,255,46,72
10110 DATA 162,253,189,0,46,157,2,46
10120 DATA 202,224,255,208,245,104,141,1
,46
10130 DATA 104,141,0,46,104,96
19999 REM FAIR SCORES
20000 DATA 1,1,2,2,3,3,4,4,5,5
20009 REM TRIPLE SCORES
20010 DATA 2,3,4,5,6,7,8,9,10,20
```

# ROBOT ISLAND



This is going to be a nasty experience for those who don't like robots, ghosts, water, or quicksand.

You are the only survivor of the mad professor's plans to turn humans into robots and you are being pursued across an island by one of the robots, and a ghost.

You can kill the robot (if kill is the correct word) by luring it into quicksands or by leading it towards the cliffs where it may stumble and fall into the sea.

You cannot kill the ghost (it stands to reason as it is already dead) but you can stop it catching, and killing, you by destroying the robot. This will release the ghost's spirit.

## How to play

The game will commence with the ghost appearing from the left hand side and the robot from the top right. The quicksand is to be found in the top left. Remember that you can also become a victim of the quicksand so don't stray too close to the edge.

Use keys Z and X for left and right and / and + for up and down.

Your score appears at the game end and you can recommence the chase by pressing SPACE.

## Programming Hints

Changing starting points for each of the 'characters' is achieved by altering lines 50, 60 and 70.

You can also change the size of the quicksand area by altering the data in Line 1110.

To slow the game down for younger players, enter a delay by inserting Line 105 FOR Z= 1 to 40: NEXTZ

## The Program

```
10 REM ROBOT ISLAND
20 GRAPHICS 5+16
25 POKE 623,4
30 GOSUB 1000
40 GOSUB 2000
45 GOSUB 3000
50 X1=120:Y1=75
60 X2=80:Y2=80
70 X3=140:Y3=50
```

```
80 POKE C1,13*16+12:POKE C2,4*16+8:POKE  
C3,6*16+10  
90 POKE H1,X1:POKE H2,X2:POKE H3,X3  
95 M=22:R1=1:R2=1  
97 SC=0:T=500  
100 K=PEEK(764):IF K=22 OR K=23 OR K=38  
OR K=6 THEN M=K  
110 IF M=22 THEN X1=X1+2:POKE H1,X1  
120 IF M=23 THEN X1=X1-2:POKE H1,X1  
130 IF M=38 THEN Y1=Y1+2:A=USR(12288)  
140 IF M=6 THEN Y1=Y1-2:A=USR(12301)  
200 POKE 53278,1  
210 IF PEEK(53260)<>0 OR PEEK(53252)<>0  
THEN 4000  
300 REM MOVE ONE OF THE ROBOTS  
305 POKE 53278,1  
310 IF R1=0 THEN 500  
320 IF R2=0 THEN 400  
330 IF RND(1)<0.5 THEN 500  
400 REM MOVE THE GHOST ROBOT  
410 IF X2>X1 THEN X2=X2-2:POKE H2,X2  
420 IF X2<X1 THEN X2=X2+2:POKE H2,X2  
430 IF Y2>Y1 THEN Y2=Y2-2:A=USR(12327)  
440 IF Y2<Y1 THEN Y2=Y2+2:A=USR(12314)  
490 GOTO 600  
500 REM SECOND ROBOT  
510 IF X3>X1 THEN X3=X3-2:POKE H3,X3  
520 IF X3<X1 THEN X3=X3+2:POKE H3,X3  
530 IF Y3>Y1 THEN Y3=Y3-2:A=USR(12353)  
540 IF Y3<Y1 THEN Y3=Y3+2:A=USR(12340)  
600 REM SEE WHAT HAPPENED  
650 IF R2=1 AND PEEK(53254)<>0 THEN GOSU  
B 5500  
660 IF PEEK(53260)<>0 THEN 4000  
670 IF T>0 THEN T=T-5  
680 SC=SC+1  
690 IF R2=1 THEN 100  
700 REM BOTH ROBOTS ARE DEAD  
710 GOTO 4400  
1000 REM DRAW ISLAND  
1010 COLOR 3:PLOT 5,0
```

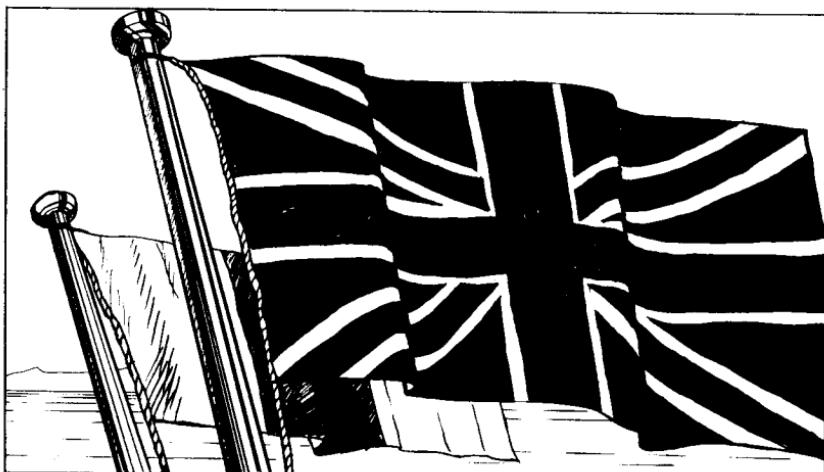
**100**

```
1020 DRAWTO 50,3:DRAWTO 73,12
1030 DRAWTO 52,19:DRAWTO 76,34
1040 DRAWTO 36,47:DRAWTO 15,38
1050 DRAWTO 5,0
1100 COLOR 2
1110 PLOT 20,18:PLOT 21,18:PLOT 21,17
1199 RETURN
2000 REM DEFINE PLAYERS
2010 PMBASE=40:POKE 54279,PMBASE
2020 POKE 559,62:POKE 53277,3
2030 H1=53248:H2=H1+1:H3=H2+1
2040 POKE H1,0:POKE H2,0:POKE H3,0
2050 C1=704:C2=C1+1:C3=C2+1
2060 P1=PMBASE*256+1024
2070 P2=P1+256:P3=P2+256
2080 FOR I=0 TO 255
2090 POKE P1+I,0:POKE P2+I,0:POKE P3+I,0
2100 NEXT I
2110 RESTORE 9000
2120 FOR I=0 TO 7
2130 READ A,B,C
2140 POKE P2+I+80,C:POKE P3+I+50,A
2150 POKE P1+I+75,B
2160 NEXT I
2199 RETURN
3000 REM COPY MACHINE CODE DOWN
3010 RESTORE 8000
3020 FOR L=12288 TO 12365
3030 READ D
3040 POKE L,D
3050 NEXT L
3060 RETURN
4000 REM HERE IF PLAYER LOSES
4010 FOR L=0 TO 240 STEP 3
4015 POKE C1,L
4020 SOUND 0,L,10,10:SOUND 1,L+4,10,10
4030 SOUND 2,L+8,10,10:SOUND 3,L+12,10,10
4040 NEXT L
4050 FOR L=0 TO 3:SOUND L,0,0,0:NEXT L
4100 POKE H1,0:POKE H2,0:POKE H3,0
```

```
4110 GRAPHICS 1+16:POSITION 0,10
4120 PRINT £6;"caught by the robots"
4130 POSITION 0,14
4140 PRINT £6;"    SCORE : ";STR$(SC)
4150 POSITION 0,17
4160 PRINT £6;"      <space>"
4190 OPEN £1,4,0,"K:"
4200 GET £1,A
4210 IF A<>ASC(" ") THEN 4200
4220 CLOSE £1
4399 RUN
4400 REM HERE WHEN PLAYER WINS
4405 POKE H1,0:POKE H2,0:POKE H3,0
4410 GRAPHICS 1+16:POSITION 0,10
4420 PRINT £6;" YOU GOT THE ROBOT"
4430 GOTO 4130
5000 REM ROBOT ONE KILLED
5010 R1=0
5020 SC=SC+T
5030 POKE H2,0
5040 RETURN
5090 RETURN
5500 REM ROBOT TWO KILLED
5510 R2=0
5520 SC=SC+T
5530 POKE H3,0
5540 RETURN
7999 REM NOW THE MACHINE CODE
8000 DATA 162,253,189,0,44,157,2,44,202,
208,247,104,96
8010 DATA 162,0,189,2,44,157,0,44,232,20
8,247,104,96
8020 DATA 162,253,189,0,45,157,2,45,202,
208,247,104,96
8030 DATA 162,0,189,2,45,157,0,45,232,20
8,247,104,96
8032 DATA 162,253,189,0,46,157,2,46,202,
208,247,104,96
8050 DATA 162,0,189,2,46,157,0,46,232,20
8,247,104,96
8999 REM THE SHAPES FOR THE PLAYERS
```

```
9000 DATA 0,56,0  
9001 DATA 0,56,0  
9002 DATA 6,56,14  
9003 DATA 15,150,15  
9004 DATA 6,120,29  
9005 DATA 9,16,25  
9006 DATA 0,40,31  
9007 DATA 0,68,62
```

# FLAGS OF THE WORLD



How many times have you heard the muttered comment at a football, athletic or international meeting about whose flag is whose?

Your worries are over after you use this program. You will be able to attend the United Nations and show off your knowledge with a smile and a shrug.

## How to use

Your 600 XL will print on your screen, for a few seconds, the names of three countries.

You will then be shown, in full colour of course, a flag which will represent one of the countries which has just been listed on your screen.

To make your choice of country press 1, 2 or 3.

If your answer is incorrect you will be told the correct answer. You will be given a score out of ten at the end of the game.

## Programming Hints

If you are a keen programmer and want to experiment with the contents of the program then change lines 9000 onwards to alter the colours, sizes and shapes of the flags.

## The Program

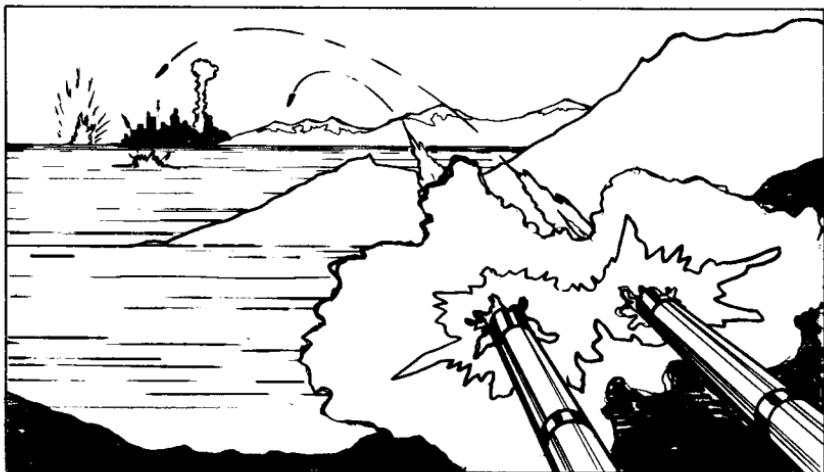
```
10 REM FLAGS OF THE WORLD
20 OPEN #1,4,0,"K:"
30 DIM P(3)
40 DIM T$(20)
50 SC=0:J=0
100 J=J+1:IF J=11 THEN 800
110 GOSUB 4000
120 GOSUB 5000
130 RESTORE 8900+G*100
140 GOSUB 1000
150 GET #1,D:IF D<ASC("1") OR D>ASC("3")
    THEN 150
200 IF P(D-48)=G THEN 400
300 REM WRONG ANSWER
310 GRAPHICS 1+16:POSITION 0,12
320 PRINT #6;" INCORRECT"
330 FOR L=1 TO 200:NEXT L
335 RESTORE 10000
340 FOR L=1 TO G:READ T$:NEXT L
350 POSITION 5,17:PRINT #6;T$
360 FOR L=1 TO 500:NEXT L
370 GOTO 100
400 REM CORRECT ANSWER
410 GRAPHICS 1+16:POSITION 0,12
420 PRINT #6;" CORRECT"
```

```
430 FOR L=1 TO 500:NEXT L
440 SC=SC+1
450 GOTO 100
800 REM TEN QUESTIONS ANSWERED
810 GRAPHICS 1+16
820 POSITION 0,8:PRINT £6;" END OF QUIZ"
" "
830 POSITION 0,14:PRINT £6;" YOU SCORED
:";SC
840 POSITION 0,17:PRINT £6;" OUT OF 10
"
850 POSITION 0,20:PRINT £6;" < SPACE >
"
860 GET £1,A
870 IF A<>32 THEN 860
880 RUN
1000 REM DRAW FLAG
1010 GRAPHICS 7+16
1013 FOR L=0 TO 2:READ A,B:SETCOLOR L,A,
B:NEXT L
1020 C=0
1030 C=C+1:COLOR C:IF C=4 THEN 1999
1040 READ X:IF X=0 THEN 1030
1050 READ Y,X1,Y1,CX,CY,N
1060 FOR L=1 TO N
1070 PLOT X,Y:DRAWTO X1,Y1
1080 X=X+CX:Y=Y+CY
1090 X1=X1+CX:Y1=Y1+CY
1100 NEXT L
1110 GOTO 1040
1999 SETCOLOR 4,0,2:RETURN
4000 REM CHOOSE A FLAG
4001 REM AND THE TWO INCORRECT ONES
4010 G=INT(RND(1)*8+1)
4020 W1=INT(RND(1)*8+1)
4030 IF W1=G THEN 4010
4040 W2=INT(RND(1)*8+1)
4050 IF W2=W1 OR W2=G THEN 4040
4099 RETURN
5000 REM PRINT THE THREE CHOICES
5010 GRAPHICS 1+16
```

```
5020 POSITION 0,4:PRINT £6;"      the choi
ces are:"
5030 POSITION 0,10:PRINT £6;" 1) ";
5040 POSITION 0,13:PRINT £6;" 2) ";
5050 POSITION 0,16:PRINT £6;" 3) ";
5060 P(1)=G:P(2)=W1:P(3)=W2
5070 FOR L=1 TO 10:T=INT(RND(1)*3+1)
5080 S=INT(RND(1)*3+1)
5090 TT=P(T):P(T)=P(S):P(S)=TT
5100 NEXT L
5110 FOR L=1 TO 3
5120 RESTORE 10000
5130 FOR I=1 TO P(L)
5140 READ T$:NEXT I
5150 POSITION 4,7+L*3
5160 PRINT £6;T$
5170 NEXT L
5180 FOR L=1 TO 700:NEXT L
5199 RETURN
9000 DATA 8,2,13,10,0,0
9010 DATA 1,1,1,38,1,0,50
9020 DATA 1,58,1,95,1,0,50
9030 DATA 70,1,70,38,1,0,90
9040 DATA 70,58,70,95,1,0,90
9050 DATA 0,1,39,1,57,1,0,159
9060 DATA 51,1,51,95,1,0,19
9099 DATA 0,0
9100 DATA 11,2,0,14,3,4
9110 DATA 1,1,1,95,1,0,52
9120 DATA 0,52,1,52,95,1,0,52
9130 DATA 0,103,1,103,95,1,0,52
9199 DATA 0
9200 DATA 5,2,0,14,3,4
9210 DATA 1,1,1,95,1,0,52
9220 DATA 0,52,1,52,95,1,0,52
9230 DATA 0,103,1,103,95,1,0,52
9299 DATA 0
9300 DATA 0,0,13,10,3,2
9310 DATA 1,1,1,95,1,0,52
9320 DATA 0,52,1,52,95,1,0,52
9330 DATA 0,103,1,103,95,1,0,52
```

9399 DATA 0  
9400 DATA 8,2,0,14,0,0  
9410 DATA 1,1,1,20,1,0,25  
9420 DATA 1,30,1,46,1,0,25  
9422 DATA 40,1,40,20,1,0,25  
9424 DATA 40,30,40,46,1,0,25  
9426 DATA 65,1,159,1,0,1,10  
9428 DATA 65,38,159,38,0,1,9  
9430 DATA 65,21,159,21,0,1,9  
9432 DATA 1,58,159,58,0,1,14  
9434 DATA 1,82,159,82,0,1,12  
9440 DATA 0,65,11,159,11,0,1,10  
9450 DATA 65,30,159,30,0,1,9  
9460 DATA 1,47,159,47,0,1,12  
9465 DATA 1,70,159,70,0,1,12  
9470 DATA 26,1,26,47,1,0,14  
9480 DATA 1,21,64,21,0,1,9  
9499 DATA 0,0  
9500 DATA 3,2,0,14,8,2  
9510 DATA 1,1,159,1,0,1,32  
9520 DATA 0,1,32,159,32,0,1,32  
9530 DATA 0,1,63,159,63,0,1,32  
9599 DATA 0  
9600 DATA 3,2,0,14,3,2  
9610 DATA 1,1,159,1,0,1,32  
9620 DATA 0,1,32,159,32,0,1,32  
9630 DATA 0,1,63,159,63,0,1,32  
9699 DATA 0  
9700 DATA 0,0,3,2,2,6  
9710 DATA 1,1,159,1,0,1,32  
9720 DATA 0,1,32,159,32,0,1,32  
9730 DATA 0,1,63,159,63,0,1,32  
9799 DATA 0  
10000 DATA SWEDEN,ITALY,FRANCE  
10010 DATA BELGIUM,GREECE,NETHERLANDS  
10020 DATA AUSTRIA,GERMANY

# CRUISE ATTACK



You are in charge of a missile launcher which is seeking to destroy a series of stationary targets on the other side of a range of hills.

### **How to play**

You must work out the trajectory and speed of your proposed launch and fire using the RETURN key.

The 600 XL will, automatically, calculate the gravity involved in letting the missile fall.

After each shot the target will be moved and the hills will assume a different shape which is randomly generated by your computer. You will have to recalculate your approach after each shot.

You have five missiles and each hit is worth ten points.

## Programming Hints

To change the gravity of the atmosphere, and therefore increase or decrease the rate of fall, alter LINE 60.

### The program

```

10 REM CRUISE ATTACK
20 T=5
30 OPEN #1,4,0,"K:"
50 DEG
60 G=9.81
70 SC=0
100 GOSUB 1000
110 GOSUB 2000
150 GOSUB 3000
200 REM MOVE MISSILE
210 X=V*COS(TH):Y=V*SIN(TH)
220 A=10:B=10
230 C=A+X/30:D=B+Y/30
240 Y=Y-G/30:X=X-0.02
245 Z=0
250 IF C>159 THEN 700
260 IF B>79 THEN 305
270 IF D<=0 THEN 500
300 COLOR 4:PLOT A,79-B
305 IF D>79 THEN 320
307 LOCATE C,79-D,Z
310 COLOR 1:PLOT C,79-D
320 A=C:B=D
400 IF Z=0 THEN 230
500 REM DECIDE WHAT HAPPENED
510 IF Z=0 THEN 700
520 COLOR 1:PLOT C-3,B0-D:DRAWTO C,79-D
530 DRAWTO C-2,77-D:PLOT C,79-D
540 DRAWTO C-1,82-D
550 ON Z-1 GOTO 600,700
600 REM HIT THE TARGET
610 PRINT CHR$(125);"
HIT !!! "

```

A

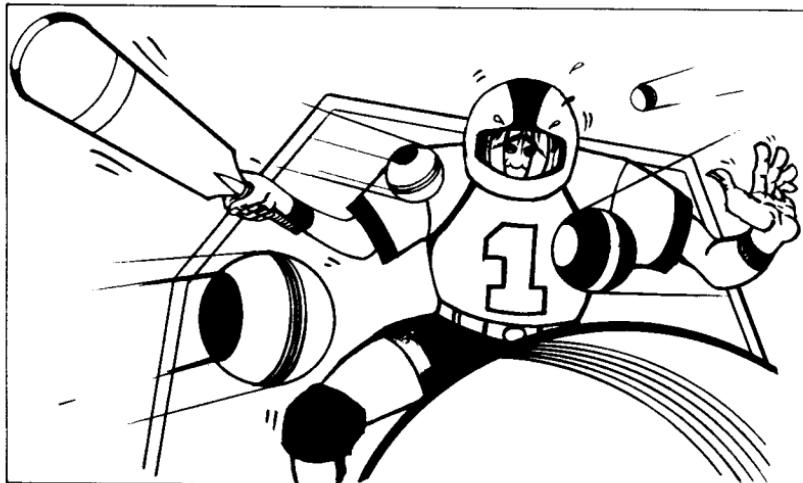
```

620 FOR L=1 TO 200:SOUND 0,L,8,L/14:NEXT
L
630 SC=SC+10
640 PRINT "           SCORE ";SC
650 SOUND 0,0,0,0
660 GOTO 790
700 REM MISSED THE TARGET
710 PRINT CHR$(125);"      MISSE
D          "
730 FOR L=0 TO 250:SOUND 0,L,10,14
740 SOUND 1,L+7,10,14:NEXT L
750 SOUND 0,0,0,0:SOUND 1,0,0,0
790 T=T-1:IF T<>0 THEN 100
800 GRAPHICS 1+16:POSITION 0,8:PRINT £6;"FIVE MISILES FIRED"
810 POSITION 0,12:PRINT £6;"    end of tu
rn"
820 POSITION 0,15:PRINT £6;" score :";SC
830 POSITION 0,19:PRINT £6;"      < SPAC
E >"
840 GET £1,D:IF D<>32 THEN 840
850 CLOSE £1
860 RUN
1000 REM DRAW A HILL
1010 GRAPHICS 7
1015 Y=79
1020 COLOR 3:PLOT 19,79
1030 FOR X=21 TO 93 STEP 3
1040 DRAWTO X,Y
1050 IF X<50 THEN Y=Y-INT(RND(1)*14)
1060 IF X>55 THEN Y=Y+INT(RND(1)*11)
1070 IF Y>79 THEN Y=79-INT(RND(1)*10)
1080 IF Y<10 THEN Y=10+INT(RND(1)*5)
1090 NEXT X
1095 DRAWTO 95,79
1199 RETURN
2000 REM DRAW GUN AND TARGET
2010 COLOR 2:PLOT 0,79:DRAWTO 0,76:DRAWT
0 4,76:DRAWTO 4,79
2020 DRAWTO 0,79:DRAWTO 0,77:DRAWTO 4,77
:DRAWTO 7,74:DRAWTO 7,73

```

```
2030 DRAWTO 4,76
2100 X=INT(RND(1)*50+100)
2110 PLOT X,79:DRAWTO X+8,75
2120 PLOT X+8,79:DRAWTO X,75
2130 PLOT X,79:DRAWTO X+8,79
2199 RETURN
3000 REM GET ANGLE / VELOCITY
3010 PRINT CHR$(125); "ANGLE ";
3020 INPUT TH:IF TH<1 OR TH>89 THEN 3010
3030 PRINT CHR$(125); "MUZZLE VELOCITY (1
-50) ";
3040 INPUT V:IF V<1 OR V>50 THEN 3030
3050 POKE 752,1:PRINT :REM CURSOR OFF
3099 RETURN
```

# BAT 'N' BALL



This game is for two players each of whom has to guard a goal from their opponent.

Each player has five balls to play and score with but you can, of course, score a goal with your opponent's ball.

## How to play

Each player has two keys to move their bat up and down as follows

Player One	A and Z for Up and Down
Player Two	+ and / for Up and Down

## Programming Hints

To make the game more difficult you can reduce the size of the bats by altering the number in Line 60.

By the way, you cannot cheat by altering the size of one of the bats to your advantage. Sorry.

## The Program

```

10 REM BAT 'N' BALL
30 POKE 752,1:REM DISABLE CURSOR
40 P1=0:P2=0:REM INITIALISE SCORES
50 G=10:REM NUMBER OF GAMES LEFT
60 H=4:REM LENGTH OF BAT
70 Z=19-H:REM MAX Y POS. FOR BATS
80 Q=5:REM MIN Y POS. FOR BATS
90 SETCOLOR 2,7,10
100 REM GAME LOOP
110 GOSUB 1000
120 A=10:B=10:REM INITIAL POS
122 COLOR 2
124 PLOT 0,A:DRAWTO 0,A+H-1
126 PLOT 39,B:DRAWTO 39,B+H-1
130 C=0:D=0:REM NO
135 IF G=0 THEN 7000
140 IF G>5 THEN GOSUB 1500:GOTO 200
150 GOSUB 1600
200 REM PLAY LOOP
210 K=PEEK(764)
220 IF K=63 OR K=23 THEN C=K
230 IF K=38 OR K=6 THEN D=K
240 IF C=63 AND A>Q THEN GOSUB 3000
250 IF C=23 AND A<Z THEN GOSUB 3100
260 IF D=6 AND B>Q THEN GOSUB 3500
270 IF D=38 AND B<Z THEN GOSUB 3600
300 S=X+I:T=Y+J
305 IF S=-1 OR S=40 THEN 700
310 LOCATE S,T,U

```

```
320 IF U=2 THEN I=-I:GOTO 300
330 IF U=1 AND T=0 THEN J=-J:GOTO 300
340 IF U=1 AND T=23 THEN J=-J:GOTO 300
350 IF U=1 THEN I=-I:GOTO 300
400 COLOR 4:PLOT X,Y
410 COLOR 3:PLOT S,T
420 X=S:Y=T
490 GOTO 200:REM REPEAT MOVEMENT
500 REM BALL OUT OF PLAY
503 IF S=-1 THEN P2=P2+1
506 IF S=40 THEN P1=P1+1
510 FOR L=0 TO 100 STEP 2
520 SOUND 0,L,10,14:SOUND 1,L+6,10,14
530 SOUND 2,L+12,10,14:SOUND 3,L+18,10,1
540
540 NEXT L
550 FOR L=0 TO 3:SOUND L,0,0,0:NEXT L
560 G=G-1:REM REDUCE NO. OF GAMES LEFT
570 GOTO 100
1000 REM DRAW COURT
1005 GRAPHICS 3+16
1010 COLOR 1:PLOT 1,5:DRAWTO 1,0
1020 DRAWTO 38,0:DRAWTO 38,5
1030 PLOT 1,18:DRAWTO 1,23
1040 DRAWTO 38,23:DRAWTO 38,18
1099 RETURN
1500 REM PLAYER ONE SERVES
1510 X=2:Y=12:I=1:J=1
1520 RETURN
1600 REM PLAYER TWO SERVES
1610 X=37:Y=12:I=-1:J=1
1620 RETURN
3000 REM PLAYER ONE UP
3010 COLOR 2:A=A-1:PLOT 0,A
3020 COLOR 4:PLOT 0,A+H:RETURN
3100 REM PLAYER ONE DOWN
3110 COLOR 2:PLOT 0,A+H:A=A+1
3120 COLOR 4:PLOT 0,A-1:RETURN
3500 REM PLAYER TWO UP
3510 COLOR 2:B=B-1:PLOT 39,B
3520 COLOR 4:PLOT 39,B+H:RETURN
```

```
3600 REM PLAYER TWO DOWN
3610 COLOR 2:PLOT 39,B+H:B=B+1
3620 COLOR 4:PLOT 39,B-1:RETURN
7000 REM TEN BALLS USED UP
7010 GRAPHICS 1+16:POSITION 0,8
7020 PRINT £6;" --- match over ---"
7030 POSITION 0,11
7040 PRINT £6;"PLAYER      PLAYER"
7050 POSITION 0,13
7060 PRINT £6;" ONE      TWO"
7070 POSITION 3,17:PRINT £6;STR$(P1)
7080 POSITION 13,17:PRINT £6;STR$(P2)
7100 OPEN £1,4,0,"K:"
7110 GET £1,A
7120 IF A<>ASC(" ") THEN 7110
7130 CLOSE £1
7140 RUN
```

# EGG CATCHER



Here is a chance to see if you would be of any use on a battery chicken farm.

We are going to drop an endless stream of eggs from the top of the screen, at random, and you are going to have to run left and right to catch them.

When you have caught one you run to the left, drop it into a chute and it shoots back to the top, earning you points.

By the way, you can only have one egg in the basket at one time; you know that it's not safe to have all your eggs in one basket! Sorry about that one.

## How to play

Using keys Z and X you move the basket left and right. Press SPACE to stop beneath the falling egg.

You don't need to press any keys when you reach the chute on the left, your 600 XL will pick up the eggs for you.

Drop five eggs and the game is over. By that time anyway you will be standing in a large omelette.

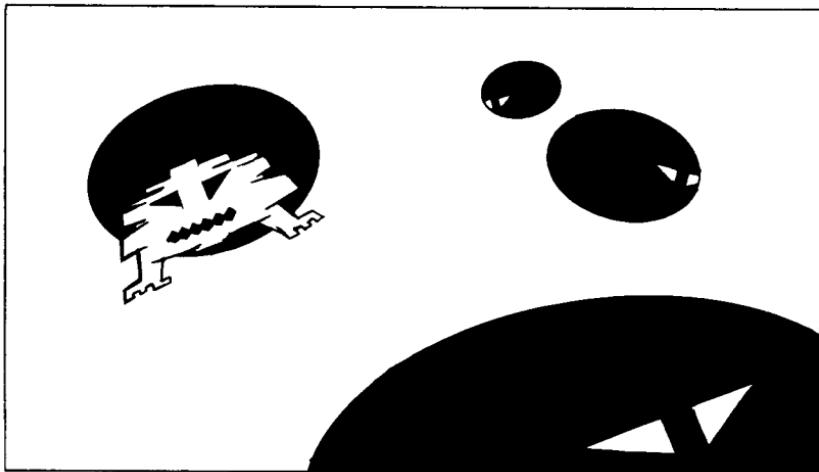
## The Program

```

10 REM EGG CATCHER
20 DIM S$(5)
30 S$=" \_ "
50 GRAPHICS 0:POKE 752,1:PRINT
55 FOR L=0 TO 18:POSITION 1,L:PRINT £6;""
| ":"NEXT L
60 SETCOLOR 2,4,0:SETCOLOR 1,0,10
70 B=5:POSITION B,20:PRINT £6;S$;
80 X=0:F=0
90 M=0:SC=0
100 POSITION B,20:PRINT £6;S$;
102 IF M=5 THEN 800
105 IF PEEK(764)=23 AND B>0 THEN B=B-1
110 IF PEEK(764)=22 AND B<36 THEN B=B+1
200 IF X<>0 THEN 210
203 IF RND(1)<0.98 THEN 300
206 X=5+INT(RND(1)*30):Y=0
210 LOCATE X,Y+1,H:IF H>92 AND H<47 AN
D H<>95 THEN 215
211 F=1:S$=" =0= ":"SC=SC+10
213 POSITION X,Y:PRINT £6;" ":"X=0:GOTO
300
215 POSITION X,Y:PRINT £6;" ";
220 Y=Y+1:POSITION X,Y:PRINT £6;"0";
230 IF Y=22 THEN POSITION X,Y:PRINT £6;""
":X=0:M=M+1
300 IF B<>0 OR F<>1 THEN 100
310 S$=" \_ "
320 F=0:POSITION 0,20:PRINT £6;S$
```

```
330 FOR L=18 TO 0 STEP -1
340 SC=SC+1:SOUND 0,L*20,10,14
350 POSITION 2,L:PRINT £6;"0"
355 POSITION 2,L+1:PRINT £6;" ";
357 POSITION 15,23:PRINT £6;"SCORE : ";SC
360 NEXT L
370 POSITION 2,0:PRINT £6;" ";
380 SOUND 0,0,0,0
400 GOTO 100
800 REM FIVE ESCAPED THE CATCHER
805 GRAPHICS 1+16
810 POSITION 0,8:PRINT £6;"you dropped five"
820 POSITION 0,15:PRINT £6;" SCORE : "
;SC
830 POSITION 0,20:PRINT £6;" < return"
>""
840 OPEN £1,4,0,"K:"
850 GET £1,D:IF D<>155 THEN 850
860 CLOSE £1
870 RUN
```

# BLACK HOLES



Coming at you this time, intent on a collision course, are two suicidal aliens.

You will have very little time to spot them and react as they have the advantage of vanishing into a 'black hole'. While they are inside the void they will still be able to alter course and will therefore shoot out towards you from angles which you may not have had time to cover.

You will need all your wits and powers of concentration to estimate their eventual flight path.

### **How to play**

Use keys Z and X to move left and right and SPACE to fire.

Remember that anticipation is the name of the game and try not to 'bite the dust'.

## The Program

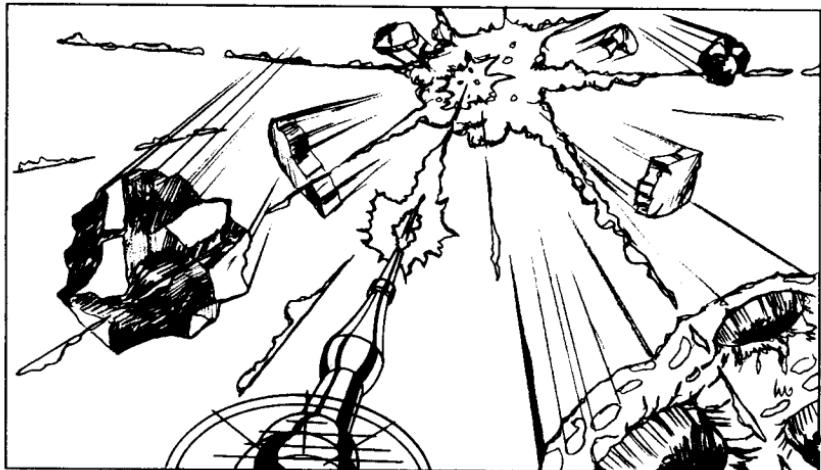
```
10 REM BLACK HOLES
11 REM WITH M/CODE MOVEMENT
12 DIM M$(20)
15 GOSUB 1500
17 SC=0:LV=0
18 POKE 623,4
20 GRAPHICS 5:POKE 752,1:PRINT
30 GOSUB 1000
40 GOSUB 2000
50 X=120:POKE H3,X:POKE C3,200
60 A=INT(RND(1)*110+55):B=INT(RND(1)*110
+55)
70 P=50:Q=50
80 POKE C1,40:POKE C2,74:POKE H1,A:POKE
H2,B
90 M=0:HI=0
95 GOSUB 5000
100 Z=USR(12288):Z=USR(12311):Z=USR(1228
8):Z=USR(12311)
102 POKE 53278,1
105 IF HI=2 THEN 700
110 P=P+2:Q=Q+4
115 IF A=0 THEN 125
117 A=A+INT(RND(1)*5-2)
120 IF P>100 THEN A=A+3*SGN(X-A):POKE H1
,A
122 IF P>240 THEN A=INT(RND(1)*110+55):P
=P-256:POKE H1,A
125 IF B=0 THEN 200
127 B=B+INT(RND(1)*5-2)
130 IF Q>100 THEN B=B+3*SGN(X-B):POKE H2
,B
132 IF Q>240 THEN B=INT(RND(1)*110+55):Q
=Q-256:POKE H2,B
200 IF PEEK(53262)<>0 THEN 800
205 IF PEEK(764)=23 AND X>45 THEN X=X-2:
POKE H3,X
210 IF PEEK(764)=22 AND X<200 THEN X=X+2
:POKE H3,X
```

```
220 IF PEEK(764)=33 AND M=0 THEN POKE H4
,X:GOSUB 2500:M=190
300 IF M=0 THEN 400
305 POKE 53278,1
310 M=M-5:IF M<35 THEN M=0:POKE 764,0
320 Z=USR(12342):POKE C4,INT(RND(1)*256)
330 IF PEEK(53263)=0 THEN 400
335 GOSUB 6000
340 IF PEEK(53263)=1 THEN HI=HI+1:SC=SC+
10:A=0:POKE H1,A:M=0:POKE H4,M:POKE 764,
0:GOTO 390
350 IF PEEK(53263)=2 THEN HI=HI+1:SC=SC+
20:B=0:POKE H2,B:M=0:POKE H4,M:POKE 764,
0:GOTO 390
360 HI=2:SC=SC+40:A=0:B=0:POKE H1,A:POKE
H2,B:M=0:POKE H4,M:POKE 764,0
390 PRINT "      SCORE : ";SC
400 GOTO 100
700 GRAPHICS 1+16:POKE H1,0:POKE H2,0:PO
KE H3,0:POKE H4,0
705 POSITION 0,10
710 M$="SO... YOU SURVIVED...":GOSUB 4000
720 FOR L=1 TO 400:NEXT L
725 POSITION 0,15
730 M$=" TRY THIS FOR SIZE...":GOSUB 40
00
740 FOR L=1 TO 400:NEXT L
750 LV=LV+1
760 GOTO 20
800 REM PLAYER DEAD
810 GRAPHICS 1+16
815 POKE H1,0:POKE H2,0:POKE H3,0:POKE H
4,0
820 POSITION 0,10:PRINT £6;"YOU BIT THE
DUST.."
830 POSITION 0,14:PRINT £6;"      SCORE : "
";SC
840 POSITION 0,19:PRINT £6;"      < return
n >"
850 OPEN £1,4,0,"K:"
860 GET £1,D:IF D<>155 THEN 860
```

```
870 CLOSE #1
880 GOTO 17
1000 REM SET UP THE PLAYERS
1010 POKE 559,62:POKE 53277,3
1020 PMBASE=40:POKE 54279,PMBASE
1030 H1=53248:H2=H1+1:H3=H2+1:H4=H3+1
1040 C1=704:C2=C1+1:C3=C2+1:C4=C3+1
1050 POKE H1,0:POKE H2,0:POKE H3,0:POKE
H4,0
1060 P1=PMBASE*256+1024:P2=P1+256:P3=P2+
256:P4=P3+256
1070 Z=USR(12357)
1199 RETURN
1500 REM READ IN THE MACHINE CODE
1510 RESTORE 9000
1520 FOR L=12288 TO 12389
1530 READ D:POKE L,D
1540 NEXT L
1599 RETURN
2000 REM DRAW PLAYERS AT INITIAL POSN.
2010 RESTORE 10000
2020 FOR L=184 TO 191:READ D:POKE P3+L,D
:NEXT L
2030 FOR L=50 TO 57:READ D
2040 POKE P1+L,D:POKE P2+L,D
2050 NEXT L
2199 RETURN
2500 Z=USR(12378):FOR L=176 TO 183:POKE
P4+L,24:NEXT L:RETURN
4000 FOR L=1 TO LEN(M$)
4010 PRINT #6;M$(L,L);
4020 FOR W=1 TO 30:NEXT W
4030 NEXT L
4040 RETURN
5000 REM DRAW PLAYFIELD
5010 DP=LV*3
5020 IF DP>25 THEN DP=25
5030 COLOR 1:SETCOLOR 0,INT(RND(1)*15+1),
,INT(RND(1)*10+5)
5040 FOR L=6 TO DP+12
5050 PLOT 0,L:DRAWTO 79,L
```

```
5060 NEXT L
5080 COLOR 4
5100 FOR L=1 TO 20
5110 PLOT INT(RND(1)*80),INT(RND(1)*(DP+
6)+6)
5120 NEXT L
5999 RETURN
6000 FOR EX=0 TO 200 STEP 4:SOUND 0,EX,4
,14:NEXT EX:SOUND 0,0,0,0:RETURN
9000 DATA 173,255,44,72,162,254,189,0,44
,157,1,44,202,224,255,208,245
9010 DATA 104,141,0,44,104,96
9100 DATA 173,254,45,72,173,255,45,72,16
2,253,189,0,45,157,2,45,202,224,255
9110 DATA 208,245,104,141,1,45,104,141,0
,45,104,96
9300 DATA 162,0,189,6,47,157,0,47
9310 DATA 232,224,248,208,245,104,96
9400 DATA 162,0,169,0,157,0,44,157,0,45,
157,0,46,157,0,47
9410 DATA 232,208,241,104,96
9500 DATA 162,0,169,0,157,0,47,232
9510 DATA 208,250,104,96
10000 DATA 0,0,24,24,24,60,126,255
10020 DATA 195,102,102,126,231,60,24,24
```

# METEOROID STORM



Your force field defences have disintegrated; your lasers have overheated and you are now approaching a meteoroid belt.

We don't hold out much hope for your survival as it's only a matter of time, and manual dexterity, as to how long you can keep going.

Your cruiser is moving down the screen and a continuous wave of rocks and star particles are rising to meet you so good luck.

## How to play

As you have no defence systems left you must try to stay alive by moving left and right using keys Z and X and pausing, if you dare, by using SPACE.

To help you live a little longer we have given you three lives. You'll need them.

### Programming Hints

To slow up the meteroids you can insert a delay as follows:

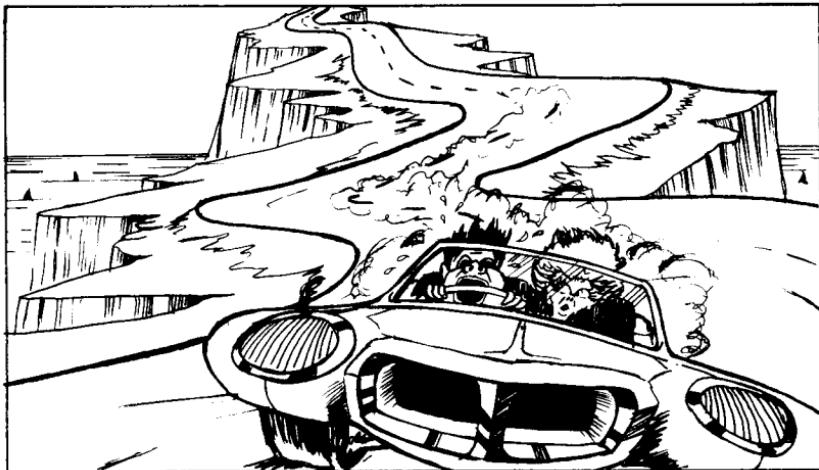
Line 102 FOR Z= 1 to 30: NEXT Z

### The Program

```
10 REM METEROID STORM
20 GRAPHICS 0:POKE 752,1:PRINT
30 SETCOLOR 2,0,0
40 LI=3:SC=0
100 GOSUB 1000
105 SC=SC+2
110 LOCATE X+1,0,A:LOCATE X+2,0,B:LOCATE
    X+3,0,C
120 IF A+B+C=96 THEN 190
130 LI=LI-1:GOSUB 2000
140 GRAPHICS 0:POKE 752,1:PRINT
150 IF LI<>0 THEN SETCOLOR 2,0,0:GOTO 10
0
160 GOTO 400
190 POSITION X,0:PRINT " <=> ";
200 IF PEEK(764)=23 AND X>0 THEN X=X-1
210 IF PEEK(764)=22 AND X<35 THEN X=X+1
300 GOTO 100
400 REM OUT OF SHIPS
410 GRAPHICS 0:POKE 752,1:PRINT
420 POSITION 0,10:PRINT " YOU HAVE DESTR
    OYED THREE"
425 GOSUB 3000
430 POSITION 0,13:PRINT ".....VERY EXPE
    NSIVE....."
```

```
435 GOSUB 3000
440 POSITION 0,16:PRINT "....GALACTIC CR
UISERS....."
450 GOSUB 3000
460 POSITION 0,20:PRINT "YOU SCORED :   "
;SC
470 POKE 764,0
480 END
1000 REM METEORITE / AND UP
1010 POSITION INT(RND(1)*40),23:PRINT "*"
"
1099 RETURN
2000 REM SHOW HOW MANY LIVES LEFT
2002 GOSUB 4000
2005 GRAPHICS 0:POKE 752,1:PRINT
2007 POSITION 10,5:PRINT "YOU'RE RUNNING
OUT OF SHIPS"
2010 IF LI=0 THEN 2099
2020 POSITION 12,12
2030 FOR L=1 TO LI
2040 PRINT " <=> ";
2050 NEXT L
2060 SOUND 0,0,0,0
2070 GOSUB 3000
2099 RETURN
3000 FOR W=1 TO 500:NEXT W
3010 RETURN
4000 REM EXPLOSIONS CAN BE MADE LIKE THI
S
4010 FOR L=0 TO 255 STEP 3
4020 SOUND 0,L,B,16-L/16
4030 NEXT L
4099 RETURN
```

# ROADRUNNER



You have been hurtling down country lanes in your new sports car, trying to impress your lady friend by your side, only to find that your brakes have gone and there is a steep incline before you.

Try to stay on the road — you know it makes sense.

### How to play

Steer the car using Z and X for left and right and use the SPACE bar to correct the rear end drift as you go through the bends. When you finally run out of road you will see a score on the screen.

**The program**

```
10 REM ROAD RUNNER
20 GOSUB 1000
30 GRAPHICS 0
40 POKE 752,1:PRINT :REM TURN OFF THE CURSOR
50 R=20
60 SETCOLOR 2,0,0
70 FOR L=0 TO R-1:POSITION L,23:PRINT "+":NEXT L
80 FOR L=R+7 TO 39:POSITION L,23:PRINT "+":NEXT L
90 B=15
95 SC=0
100 GOSUB 2000
102 SC=SC+1
105 POSITION B,0:PRINT "]=["
110 IF PEEK(764)=23 AND B>0 THEN B=B-1
120 IF PEEK(764)=22 AND B<37 THEN B=B+1
130 LOCATE B,1,E:LOCATE B+1,1,F:LOCATE B+2,1,G
140 IF E+F+G=96 THEN 100
150 REM CRASHED INTO THE BARRIERS
160 FOR L=0 TO 255 STEP 3
170 SOUND 0,L,12,L/16
180 NEXT L
190 GRAPHICS 1+16
200 POSITION 0,8:PRINT £6;" you crashed"
210 POSITION 0,10:PRINT £6;"ANOTHER WRECKED CAR"
220 POSITION 0,15:PRINT £6;"YOU SCORED : ";SC
230 OPEN £1,4,0,"K:"
240 GET £1,D
250 IF D<>155 THEN 240
260 CLOSE £1
270 RUN
1000 REM INSTRUCTIONS
1010 GRAPHICS 1+16
```

```
1020 POSITION 0,5:PRINT £6;"....road run  
ner...."  
1030 POSITION 0,12:PRINT £6;"< SPACE >  
STRAIGHT"  
1040 POSITION 0,14:PRINT £6;"    'Z'  
LEFT"  
1050 POSITION 0,16:PRINT £6;"    'X'  
RIGHT"  
1060 POSITION 0,20:PRINT £6;"<RETURN> TO  
START"  
1070 OPEN £1,4,0,"K:"  
1080 GET £1,D:IF D<>155 THEN 1080  
1090 CLOSE £1  
1099 RETURN  
2000 REM DRAW ROAD AND MOVE IT  
2010 POSITION R,23:PRINT "+"      "+"  
2020 IF RND(1)>0.7 AND R>0 THEN R=R-1  
2030 IF RND(1)>0.7 AND R<33 THEN R=R+1  
2099 RETURN
```

# WALL BREAKER



This is our version of the popular arcade game of the same name. Along the top of the screen you will see three rows of coloured 'bricks' and you must use the bouncing ball to demolish the wall in as few moves as possible.

A little hint. If you break through the first two rows and get to the back wall the ball will stay bouncing, and demolishing, from behind until it breaks out again.

### How to play

Use keys Z and X to move the bat across the screen.

### Programming Hints

If you are finding the game too easy, or too difficult, you

can change the size of the bat by altering Line 80. Increase, or reduce the number after BL=. If you want to sit back and let the ball bounce on it's own then simply increase the bat size until it fills the bottom of the screen.

## The Program

```

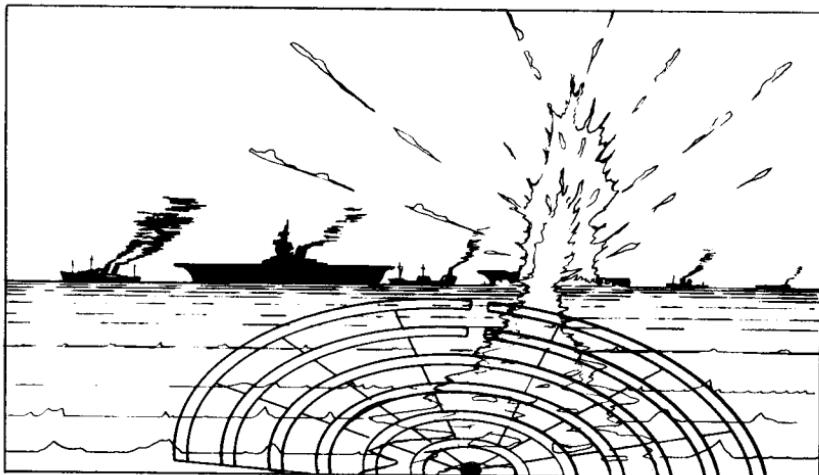
10 REM WALL BREAKER
20 GRAPHICS 7+16
25 MX=159:MY=95
30 GOSUB 1000
40 X=10:Y=60
50 CX=2:CY=-1
60 SC=0:W=0
70 BX=10:BY=90
80 BL=19
90 COLOR 3:PLOT BX,BY:DRAWTO BX+BL,BY
100 TX=X+CX:TY=Y+CY
105 IF SC=1950 THEN W=W+1:SC=0:GOSUB 100
O
110 LOCATE TX,TY,D
120 IF TX<2 OR TX>MX-2 THEN GOSUB 500:GO
TO 100
130 IF TY<1 THEN GOSUB 550:GOTO 100
140 IF D<>0 THEN GOSUB 600:GOTO 100
150 IF TY>93 THEN GOTO 800
200 COLOR 4:PLOT X,Y
210 COLOR 3:PLOT TX,TY
220 X=TX:Y=TY
300 K=PEEK(764)
310 IF K=22 AND BX+BL<MX-3 THEN GOSUB 70
O
320 IF K=23 AND BX>3 THEN GOSUB 750
330 GOTO 100
500 REM HIT SIDE WALL
510 SOUND 1,81,10,12:CX=-CX
520 SOUND 1,0,0,0:RETURN
550 REM HIT TOP WALL OR BAT
560 SOUND 1,126,10,12:CY=-CY

```

```
570 SOUND 1,0,0,0:RETURN
600 REM HIT BAT OR BRICK
610 IF D=3 THEN 650
620 SOUND 1,63,10,15:COLOR 4:SOUND 1,0,0,
,0:Z=2*INT(TX/2)
630 PLOT Z,TY:PLOT Z+1,TY:SC=SC+D*10
640 CY=-CY:RETURN
650 REM HIT THE BAT
660 SOUND 1,40,10,14:CY=-CY:SOUND 1,0,0,
0
670 SETCOLOR 2,INT(RND(1)*16),15:RETURN
700 REM BAT RIGHT
710 COLOR 4:PLOT BX,BY:PLOT BX+1,BY
720 BX=BX+2:COLOR 3:PLOT BX+BL-1,BY:PLOT
BX+BL,BY:RETURN
750 REM BAT LEFT
760 COLOR 4:PLOT BX+BL,BY:PLOT BX+BL-1,B
Y
770 BX=BX-2:COLOR 3:PLOT BX,BY:PLOT BX+1
,BY:RETURN
800 REM THE BALL IS OUT OF PLAY
802 FOR L=0 TO 240 STEP 3
804 SOUND 0,L,10,10:SOUND 1,L,10,10
806 SOUND 2,L+8,10,6:SOUND 3,L+15,10,8
808 NEXT L
809 FOR L=0 TO 3:SOUND L,0,0,0:NEXT L
810 GRAPHICS 1+16:POSITION 0,10:PRINT £6
;"*****";
820 PRINT £6;"      SCORE : ";STR$(SC+W*
2000)
830 PRINT £6;"*****";
840 POSITION 0,19:PRINT £6;"      <spac
e>"
850 OPEN £1,4,0,"K:"
855 IF PEEK(764)=33 THEN GET £1,A
860 GET £1,A
865 SOUND 1,63,10,15:SOUND 1,0,0,0
870 IF A<>32 THEN 860
880 CLOSE £1:GOTO 10
1000 REM DRAW WALLS AND BRICKS
```

```
1010 SETCOLOR 2,2,10:SETCOLOR 0,7,4
1020 SETCOLOR 1,6,8:COLOR 3
1030 PLOT 0,0:DRAWTO MX,0
1040 PLOT 0,0:DRAWTO 0,MY
1050 PLOT 1,0:DRAWTO 1,MY
1060 PLOT MX,0:DRAWTO MX,MY
1070 PLOT MX-1,0:DRAWTO MX-1,MY
1100 FOR L=2 TO MX-5 STEP 4
1110 COLOR 1:PLOT L,20:PLOT L+1,20
1120 COLOR 2:PLOT L,12:PLOT L+1,12
1130 PLOT L,28:PLOT L+1,28
1140 NEXT L
1199 RETURN
```

# SEEK and DESTROY



Here comes the old command from the boys at the War Department.

Your enemy is out of sight on the other side of the horizon and hasn't even been warned that you are about to attack so you have the element of surprise on your side.

Your enemy has a full fleet on the high seas intent on attacking your bases so 'get your retaliation in first'.

Besides, it's only a game. Isn't it?

## How to play

Your enemy's fleet consists of One Flag Ship — 240 points; One Cruiser — 160 points; One Frigate — 100

points but you only have a limited number of shots left in your locker so make them count.

Use the keys Z and X to move the base control left and right and the / and + keys to move the upper gun control down and up.

When you feel that you have located your target press the SPACE bar to fire at the co-ordinated target.

### **Programming Hints**

To make the game more limited, and therefore more demanding, you can reduce the fire power of your fleet by changing the number of shots available by altering the figure in Line 40 of the program.

### **The Program**

```
10 REM SEEK AND DESTROY
15 DIM A(9,9)
17 FOR X=0 TO 9:FOR Y=0 TO 9
18 A(X,Y)=0:NEXT Y:NEXT X
20 GOSUB 1000
30 SC=0
40 G=40
50 GOSUB 1500
60 GOSUB 2000
70 X=5:Y=5:COLOR 2:PLOT X,10:PLOT 10,Y
100 REM MAIN LOOP
110 IF SC=500 THEN 800
115 IF G=0 THEN 700
120 GET £1,D
130 IF D=32 THEN 300
140 IF D=ASC("Z") AND X>0 THEN COLOR 4:PLOT X,10:COLOR 2:X=X-1:PLOT X,10
150 IF D=ASC("X") AND X<9 THEN COLOR 4:PLOT X,10:COLOR 2:X=X+1:PLOT X,10
```

```
160 IF D=ASC("/") AND Y<9 THEN COLOR 4:F  
LOT 10,Y:COLOR 2:Y=Y+1:PLOT 10,Y  
170 IF D=ASC("+") AND Y>0 THEN COLOR 4:F  
LOT 10,Y:COLOR 2:Y=Y-1:PLOT 10,Y  
200 GOTO 100  
300 REM FIRE  
305 G=G-1  
310 IF A(X,Y)=0 THEN PRINT "MISS...":COL  
OR 4:PLOT X,Y:A(X,Y)=-1:GOTO 100  
320 IF A(X,Y)=-1 THEN PRINT "O.K. YOU M  
ISSED":GOTO 100  
330 ON A(X,Y) GOSUB 4000,4100,4200  
340 COLOR 1:PLOT X,Y:PRINT "***** HIT **  
***":A(X,Y)=4:GOTO 100  
700 REM RUN OUT OF SHOTS  
710 PRINT "THEY WERE HIDDEN LIKE THIS"  
720 GOSUB 3000  
730 GET £1,D:IF D=32 THEN 850  
740 GOTO 730  
800 REM ALL SHIPS SUNK  
810 PRINT "CONGRATULATIONS"  
820 PRINT "ALL SUNK WITH ";G%;" SHOTS LEF  
T"  
830 FOR W=1 TO 500:NEXT W  
850 PRINT " AGAIN (Y/N)"  
860 GET £1,D:IF D<>ASC("Y") AND D<>ASC("N") THEN 860  
870 IF D=ASC("Y") THEN RUN  
880 END  
1000 REM GIVE SCORES  
1010 GRAPHICS 1+16:POSITION 0,3  
1020 PRINT £6;"BATTLESHIP SCORES"  
1030 POSITION 0,7  
1040 PRINT £6;" 0 FRIGATE    100"  
1050 POSITION 0,11  
1060 PRINT £6;"000 CRUISER    160"  
1070 POSITION 0,12  
1080 PRINT £6;" 0"  
1090 POSITION 0,14  
1100 PRINT £6;"000"  
1110 POSITION 0,15
```

```
1120 PRINT £6;"O O FLAG SHIP 240"
1130 POSITION 0,16
1140 PRINT £6;"000"
1150 OPEN £1,4,0,"K:"
1160 GET £1,D:IF D<>32 THEN 1160
1199 RETURN
1500 REM DRAW PLAY AREA
1510 GRAPHICS 3
1515 POKE 752,1:COLOR 3
1520 FOR X=0 TO 9
1530 PLOT X,0:DRAWTO X,9
1540 NEXT X
1599 RETURN
2000 REM CHOOSE POSITIONS
2010 A=INT(RND(1)*8):B=INT(RND(1)*8)
2020 FOR L=0 TO 2:A(A+L,B)=3
2030 A(A+L,B+2)=3:A(A,B+L)=3
2040 A(A+2,B+L)=3:NEXT L
2050 A=INT(RND(1)*10):B=INT(RND(1)*10)
2060 IF A(A,B)<>0 THEN 2050
2070 A(A,B)=1
2080 A=INT(RND(1)*8):B=INT(RND(1)*9)
2090 IF A(A,B)<>0 OR A(A+1,B)<>0 OR A(A+2,B)<>0 OR A(A+1,B+1)<>0 THEN 2080
2100 A(A,B)=2:A(A+1,B)=2:A(A+2,B)=2
2110 A(A+1,B+1)=2
2199 RETURN
3000 REM SHOW WHERE THEY WERE
3005 COLOR 1
3010 FOR X=0 TO 9
3020 FOR Y=0 TO 9
3030 IF A(X,Y)>0 THEN PLOT X,Y
3040 NEXT Y
3050 NEXT X
3099 RETURN
4000 SC=SC+100:RETURN
4100 SC=SC+40:RETURN
4200 SC=SC+30:RETURN
```

# ROAD BLOCK



You have arrived at the Berlin Wall with a coach full of passengers intent on reaching the other side but the guards are putting up blocks as fast as you can manoeuvre.

Make a mistake and hit one of the blocks and it's all over for everyone and you are off to the Gulags.

### How to play

Entering the screen at top left you will be faced with a fast growing spread of road blocks. Make your moves by using keys Z and X for left and right and / and + for down and up.

If you decide to drive off the edge of the screen it will do you no good as you will only appear on the other side as the screen 'wraps around'.

## Programming Hints

If you would like to make it easier to play then you can alter the length of the coach by changing the values from 1 to 20 in Line 30 of the program.

## The Program

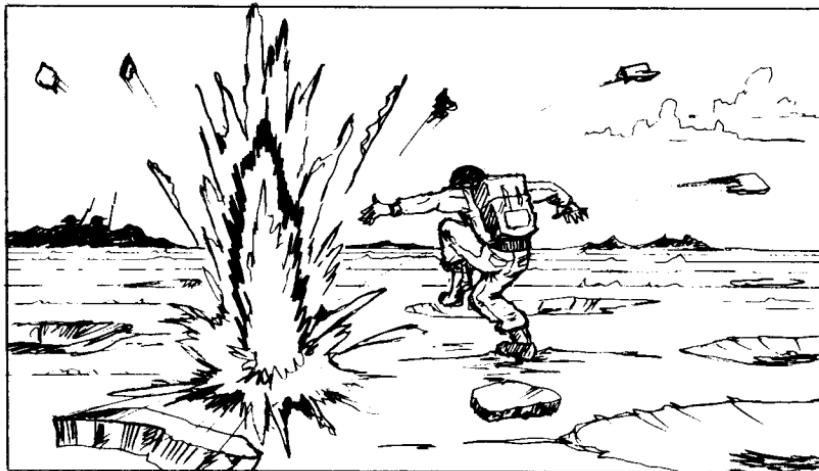
```

10 REM ROAD BLOCK
20 DIM X(20),Y(20)
30 N=4
40 GRAPHICS 3+16
50 FOR L=1 TO N:X(L)=0:Y(L)=0:NEXT L
60 SC=0
100 REM MAIN LOOP
105 A=X(1):B=Y(1)
110 K=PEEK(764):IF K=23 OR K=22 OR K=6 OR K=38 THEN M=K:SC=SC+10
120 IF M=23 THEN A=A-1:IF A=-1 THEN A=39
130 IF M=22 THEN A=A+1:IF A=40 THEN A=0
140 IF M=38 THEN B=B+1:IF B=24 THEN B=0
150 IF M=6 THEN B=B-1:IF B=-1 THEN B=23
160 LOCATE A,B,D:IF D<>0 THEN 800
200 COLOR 1:PLOT A,B
210 COLOR 2:PLOT X(1),Y(1)
220 COLOR 4:PLOT X(N),Y(N)
230 FOR L=N-1 TO 1 STEP -1
240 X(L+1)=X(L):Y(L+1)=Y(L)
250 NEXT L
260 X(1)=A:Y(1)=B
270 G=INT(RND(1)*40):H=INT(RND(1)*24)
280 LOCATE G,H,I
290 IF I=1 OR I=2 THEN 270
300 COLOR 3:PLOT G,H

```

```
400 GOTO 100
800 REM COACH HIT A ROADBLOCK
810 GRAPHICS 1+16
820 POSITION 0,10:PRINT £6;"YOU SCORED :"
";SC
830 POSITION 0,17:PRINT £6;"      < SPACE
>"
840 OPEN £1,4,0,"K:"
850 GET £1,D
860 IF D<>32 THEN 850
870 CLOSE £1
880 RUN
```

# MINELAYER



It's a darned hard life for the little man who has been deserted by his fellow soldiers, in the middle of a mine field. See if you can help him reach the dug-out where his colleagues are hiding.

The mines are randomly generated, so be careful of your moves. Don't tell the little soldier but we believe, on very good authority, that when he reaches the safety of the dug-out he is going to be sent out on another mission.

Every time he makes it through the minefield the number of mines increase and he must keep going until .....

## How to play

Use keys Z and X for left and right and / and + for up and down. When the inevitable overcomes your hero you will

see a score on the screen and you may press RETURN to send the poor little beggar back into the field.

### **Programming hints**

If you feel that our hero deserves a break then you can reduce the rate at which the mines generate by reducing D1 = 10 in Line 25.

This will slow down the mines and prolong your time response.

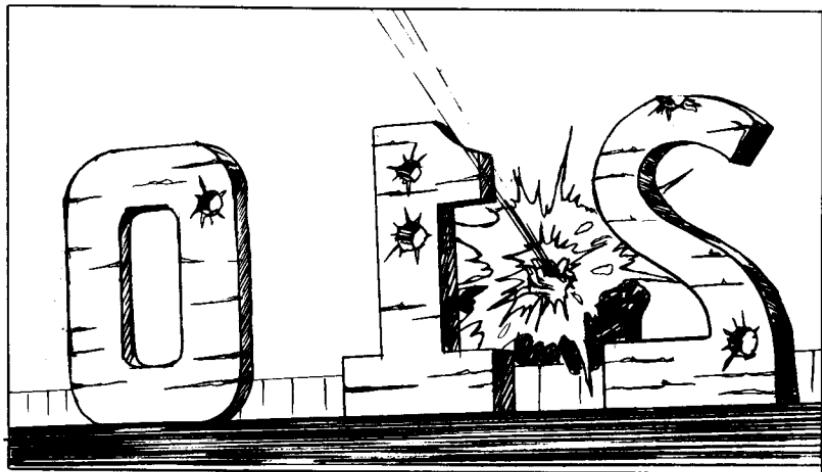
### **The program**

```
10 REM MINELAYER
11 REM WITH M/CODE MOVEMENT
20 GRAPHICS 5+16
25 DI=10:REM DIFFICULTY
30 GOSUB 1500
40 GOSUB 1000
50 M=70:POKE H1,M
60 N=120:POKE C1,200
70 SC=0:WV=1
80 X=20:Y=20:GOSUB 5000
90 POKE 53278,1
100 IF PEEK(764)=23 AND M>45 THEN M=M-2:
POKE H1,M
110 IF PEEK(764)=22 AND M<205 THEN M=M+2
:POKE H1,M
120 IF PEEK(764)=6 AND N>25 THEN N=N-3:Z
=USR(12300)
130 IF PEEK(764)=38 AND N<220 THEN N=N+3
:Z=USR(12339)
140 IF PEEK(53252)=0 THEN 200
150 IF PEEK(53252)=2 THEN 400
160 GOTO 800
200 GOTO 100
```

```
400 REM END OF WAVE/TARGET FOUND
410 FOR L=0 TO 250 STEP 3:SOUND 0,L,10,1
4
420 NEXT L
430 SOUND 0,0,0,0
440 GOSUB 5000:SC=SC+WV*10:WV=WV+1
450 GOTO 100
800 REM HIT A MINE
810 REM SO DETONATE THEM
820 FOR L=0 TO 255 STEP 2
830 SOUND 0,L,8,L/32
835 SETCOLOR 2,L/16,L/16
840 NEXT L
850 SOUND 0,0,0,0
860 GRAPHICS 1+16
865 POKE H1,0
870 POSITION 0,6:PRINT £6;"you hit a min
e"
880 POSITION 0,10:PRINT £6;" YOU SCORED
: ";SC
890 POSITION 0,20:PRINT £6;"      < RETURN
>"
900 OPEN £1,4,0,"K:"
910 GET £1,D:IF D<>155 THEN 910
920 CLOSE £1
930 RUN
1000 REM SET UP THE PLAYERS
1010 POKE 559,62:POKE 53277,3
1020 PMBASE=40:POKE 54279,PMBASE
1030 H1=53248
1040 C1=704
1050 POKE H1,0
1060 P1=PMBASE*256+1024
1070 Z=USR(12288)
1080 RESTORE 7000
1090 FOR L=0 TO 7
1100 READ D:POKE P1+L+120,D
1110 NEXT L
1199 RETURN
1500 REM READ IN THE MACHINE CODE
```

```
1510 RESTORE 9000
1520 FOR L=12288 TO 12377
1530 READ D:POKE L,D
1540 NEXT L
1599 RETURN
5000 REM ERASE TARGET/ DRAW TARGET
5010 COLOR 4:GOSUB 5500
5020 X=INT(RND(1)*70+5):Y=INT(RND(1)*40+
5)
5030 COLOR 2:GOSUB 5500
5100 FOR L=1 TO DI
5110 POKE 53278,1
5120 P=INT(RND(1)*70+5):Q=INT(RND(1)*40+
5)
5130 COLOR 3:GOSUB 5600
5140 IF PEEK(53252)<>0 THEN COLOR 4:GOSU
B 5600:GOTO 5110
5150 NEXT L
5199 RETURN
5500 PLOT X-1,Y-1:DRAWTO X+1,Y-1
5510 DRAWTO X+1,Y+1:DRAWTO X-1,Y+1
5520 DRAWTO X-1,Y-1
5530 RETURN
5600 PLOT P-1,Q:DRAWTO P+1,Q
5610 PLOT P,Q-1:DRAWTO P,Q+1
5620 RETURN
7000 DATA 56,186,146,124,16,40,68,68
9000 DATA 162,0,169,0,157,0,44
9010 DATA 232,208,250,104,96
9100 DATA 173,2,44,72,173,1,44,72,173,0,
44,72,162,0
9110 DATA 189,3,44,157,0,44,232,224,253,
208,245
9120 DATA 104,141,253,44,104,141,254,44,
104,141,255,44,104,96
9200 DATA 173,255,44,72,173,254,44,72,17
3,253,44,72,162,252
9210 DATA 189,0,44,157,3,44,202,224,255,
208,245
9220 DATA 104,141,0,44,104,141,1,44,104,
141,2,44,104,96
```

# RIFLE GALLERY



Sharp shooter time again as you try to prove that you have spent too many hours in entertainment arcades shooting ducks.

We have not given you ducks or chickens to shoot at but a series of numbers from 1 to 9 inclusive.

### How to play

The numbers will scroll across the screen from left to right and, if they are missed by the marksman, scroll off the edge and come round again on the left. Any numbers which have been shot out will be missing on subsequent scrolls of the screen.

Use keys Z and X to move left and right and SPACE to fire.

Each player has ten shots and a score will be displayed at the end of the ten shots, or sooner if that is possible.

### **Programming Hints**

If there are members of your circle who are having problems in shooting all the numbers in the gallery because of the speed of the spin try this delay.

Enter LINE 1080 FOR Z = 1 to 40: NEXT Z

This will slow down the scroll.

### **The Program**

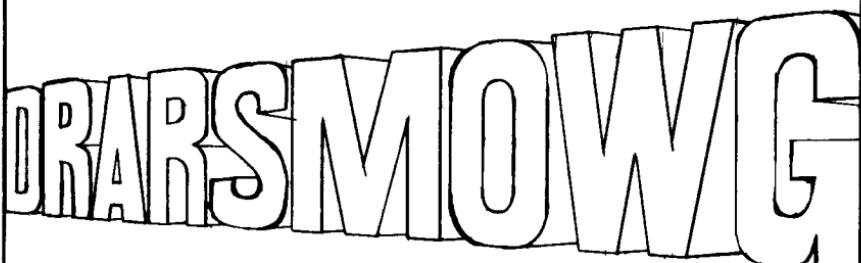
```

REM RIFLE
20 DIM A$(41),B$(41),T$(1)
30 GRAPHICS 0:POKE 752,1:PRINT
40 A$(1,40)="1    2    3    4    5    6    7
     8    9    0    "
50 Q=0
60 Y=0
70 SC=0:B=10:POSITION B,21:PRINT "";
80 SH=10
100 GOSUB 1000
200 IF PEEK(764)=23 AND B>0 THEN B=B-1:POSITION B,22:PRINT " ";
210 IF PEEK(764)=22 AND B<36 THEN POSITION B,22:PRINT " ";:B=B+1
300 GOSUB 1000
310 IF PEEK(764)=33 AND Y=0 THEN Y=21:X=B+1:SH=SH-1
400 IF Y=0 THEN 100
410 POSITION X,Y:PRINT " ";
420 Y=Y-1:IF Y<>0 THEN 430
423 IF SH=0 THEN 800
426 GOTO 100

```

```
430 LOCATE X,Y,D
440 IF D<>32 THEN 500
450 POSITION X,Y:PRINT "!";
460 GOTO 100
500 T=X+1
510 A$(T,T)=" ":"SC=SC+D*5-240
520 POSITION 12,23:PRINT " SCORE : ";SC;
" ";
530 Y=0:POKE 764,0
540 GOTO 100
800 REM RUN OUT OF SHOTS.
810 GRAPHICS 1+16:POSITION 0,4
820 PRINT £6;"TEN SHOTS FIRED"
830 POSITION 0,10:PRINT £6;"      score : "
;SC
840 POSITION 0,17:PRINT £6;"      < RETURN
>"
850 OPEN £1,4,0,"K:"
860 GET £1,D:IF D<>155 THEN 860
870 RUN
1000 REM ROTATE STRING AND PRINT
1010 T$=A$(40,40)
1020 B$(2,40)=A$(1,39)
1030 A$(1,1)=T$:A$(2,40)=B$(2,40)
1040 POSITION 0,10:PRINT A$;
1050 Q=Q+1
1060 IF Q=40 THEN Q=0:SETCOLOR 2,INT(RND
(1)*16),0
1099 RETURN
```

# WORDGRAMS



If you are tired of zapping, crunching and powing the aliens of the Universe perhaps you would like to try something a little more cerebral.

Your 600 XL will choose a word at random, from a selection, and scramble the letters on the screen. You must determine the word and enter your answer.

### **How to play**

Type in the word you think has been scrambled and press RETURN.

You will be given a selection of ten words and will receive points based on your efforts.

## Programming Hints

You can alter the words by changing the data in lines 9000 onwards but remember, if you change the number of words, you must change the items in Line 20.

## The Program

```

10 REM WORDGRAMS
20 DIM S$(20),W$(20),I$(20),T$(1)
30 GRAPHICS 0
40 SETCOLOR 2,0,0
50 SC=0
100 FOR T=1 TO 10
110 GOSUB 1000
120 GOSUB 2000
130 GRAPHICS 0:SETCOLOR 2,0,0
140 POSITION 0,4:PRINT "WORDGRAM NUMBER
":T
150 POSITION 0,12:PRINT "WHAT IS ...."
160 POSITION 0,14:PRINT "      ";S$
170 POSITION 0,20:PRINT "....:
"
180 POSITION 5,20
190 INPUT I$
200 IF LEN(I$)=0 THEN 170
205 POKE 752,1:PRINT
210 IF I$=W$ THEN 300
220 POSITION 0,16:PRINT " INCORRECT...";W$
230 POSITION 25,17:PRINT "WAS THE WORD"
240 GOTO 400
300 POSITION 0,16:PRINT " CORRECT.....
YOU SCORE 10 POINTS"
310 SC=SC+10
400 FOR W=1 TO 700:NEXT W
500 NEXT T
600 GRAPHICS 0
610 POSITION 17,10:PRINT "RESULTS"
```

```
620 POSITION 0,14:PRINT "      SCORE.....  
.: ";SC  
630 POSITION 15,20:PRINT "< SPACE >"  
640 POKE 764,0  
650 IF PEEK(764)<>33 THEN 650  
660 RUN  
1000 REM CHOOSE A WORD AT RANDOM  
1010 RESTORE 8999  
1020 READ N  
1030 FOR L=1 TO INT(RND(1)*N+1)  
1040 READ W$  
1050 NEXT L  
1099 RETURN  
2000 REM SCRAMBLE THE WORD INTO S$  
2010 S$=W$  
2020 FOR L=1 TO 30  
2030 A=INT(RND(1)*LEN(S$)+1)  
2040 B=INT(RND(1)*LEN(S$)+1)  
2050 T$=S$(A,A):S$(A,A)=S$(B,B)  
2060 S$(B,B)=T$  
2070 NEXT L  
2099 RETURN  
8999 DATA 20  
9000 DATA ARTISTIC, INTELLECTUAL  
9010 DATA FRANCHISE, IMPETUS  
9020 DATA TELEVISION, PRINTER  
9030 DATA SKY, BRUSHED, PORTABLE  
9040 DATA FORMATION, CLOCK  
9050 DATA ENTERTAINMENT, VIDEO  
9060 DATA COMPUTER, AUTOMATIC  
9070 DATA SYMBOLIC, REGISTERED  
9080 DATA SYNONYM, ABSTRACT, WRONG
```

# HUNT THE DAY



Have you ever wondered if your old dad was 'Fair of Face', 'Full of Grace', 'Full of Woe', had 'Far to Go' or, hopefully, was 'Full of Loving and Giving'?

Now is your chance to find out.

If you ask any members of your family, or your friends, when they were born you will be able to tell them, using this program, the actual day of the week when the great event happened.

By the way, this chart is only effective as far back as 1st January, 1753 which was when the calendar changed to its present form. Of course, you already knew that didn't you?

Oh, by the way, we have taken account of leap years just in case you thought you could catch us out.

## How to play

You will be asked for details of the date you have in mind.

When you have typed in the data press RETURN after each item.

When you have completed the requested material your 600 XL will do the rest for you.

## The Program

```

10 REM HUNT THE DAY
20 DIM M$(20),T$(20)
100 GRAPHICS 0
110 POSITION 0,3:PRINT "PLEASE GIVE THE
DATE YOU REQUIRE"
120 GOSUB 1000
130 GOSUB 2000
140 POSITION 0,1
150 PRINT "      THAT WAS/IS/WILL BE A ";T
$
160 POKE 752,1:PRINT
170 POSITION 0,3:PRINT "      PLEASE PRE
SS <SPACE> WHEN READY"
200 OPEN £1,4,0,"K:"
210 GET £1,D:IF D<>32 THEN 210
220 CLOSE £1
230 RUN
1000 REM GET A DATE
1010 POSITION 0,10:PRINT "YEAR...."
":POSITION 9,10
1020 INPUT Y:IF Y<1753 OR Y>INT(Y) THEN
1010
1100 POSITION 0,15:PRINT "MONTH..."
":POSITION 9,15
1110 INPUT M$:IF M$(1,1)>="1" AND M$(1,1)
<="9" THEN M=VAL(M$):GOTO 1200
1120 RESTORE 9000

```

```
1130 FOR L=1 TO 12
1140 READ T$
1150 IF T$=M$(1,3) THEN M=L
1160 NEXT L
1200 IF M<1 OR M>12 OR M<>INT(M) THEN 11
10
1300 POSITION 0,20:PRINT "DAY....."
                                         ":POSITION 9,20
1310 INPUT D
1320 IF D<1 OR D>31 OR D<>INT(D) THEN 13
00
1999 RETURN
2000 REM FIND OUT DAY OF WEEK
2010 A=Y+1+31*(M-1)+INT((Y-1)/4)-INT(3*INT((Y+99)/100)/4)
2020 IF M<=2 THEN 2040
2030 A=Y+1+31*(M-1)-INT((4*M+23)/10)+INT((Y/4)-INT(3*(INT(Y/100)+1)/4))
2040 A=A-INT(A/7)*7
2050 IF A=0 THEN A=7
2060 A=A-1:IF M=2 THEN 2100
2070 N=31
2080 IF M=4 OR M=6 OR M=9 OR M=11 THEN N=30
2090 GOTO 2120
2100 N=28
2110 IF Y-INT(Y/4)*4=0 THEN N=29
2120 IF D>N THEN T$="NON-DAY":RETURN
2130 A=A+D:D=A-INT(A/7)*7:IF D=0 THEN D=7
2135 RESTORE 9500
2140 FOR L=1 TO D
2150 READ T$
2160 NEXT L
2999 RETURN
9000 DATA JAN,FEB,MAR
9010 DATA APR,MAY,JUN
9020 DATA JUL,AUG,SEP
9030 DATA OCT,NOV,DEC
9500 DATA SUNDAY,MONDAY,TUESDAY
9510 DATA WEDNESDAY,THURSDAY,FRIDAY
9520 DATA SATURDAY
```

# SURROUND



Ever wondered how to surround someone on your own?  
When they are trying to surround you, at the same time.  
Now is your chance to find out.

Try not to fall over your own tracks or you are out of the game.

## How to play

For this little gem we have put all the playing instructions on the screen at the commencement of play

## The program

```
10 REM SURROUND  
15 DIM M$(12),N1$(12),N2$(12)
```

```
20 GOSUB 1000:GOSUB 2000
30 GRAPHICS 5+16
40 E=22:F=34
50 A=20:C=60
60 B=24:D=24
100 REM PLAYER ONE
110 K=PEEK(764):IF K=47 OR K=23 OR K=22
OR K=63 THEN E=K
120 IF E=23 THEN A=A+79
130 IF E=22 THEN A=A+81
140 IF E=47 THEN B=B+47
150 IF E=63 THEN B=B+49
160 A=A-80*INT(A/80):B=B-48*INT(B/48)
200 K=PEEK(764):IF K=14 OR K=34 OR K=38
OR K=6 THEN F=K
210 IF F=34 THEN C=C+79
220 IF F=38 THEN C=C+81
230 IF F=14 THEN D=D+47
240 IF F=6 THEN D=D+49
250 C=C-80*INT(C/80):D=D-48*INT(D/48)
300 LOCATE A,B,G:IF G<>0 THEN 800
310 LOCATE C,D,H:IF H<>0 THEN 900
400 COLOR 1:PLOT A,B
410 COLOR 2:PLOT C,D
500 GOTO 100
800 REM PLAYER ONE CRASHED
810 M$=N1$:GOTO 920
900 REM PLAYER TWO CRASHED
910 M$=N2$
920 GRAPHICS 1+16
930 POSITION 0,10:PRINT £6;M$;" CRASHED"
980 OPEN £1,4,0,"K:"
990 GET £1,D:IF D<>32 THEN 990
995 CLOSE £1:RUN
1000 REM INSTRUCTIONS
1010 GRAPHICS 1+16:POSITION 0,3
1020 PRINT £6;"instructions (y/n)"
1030 OPEN £1,4,0,"K:"
1040 GET £1,D:IF D<>ASC("Y") AND D<>ASC(
"N") THEN 1040
```

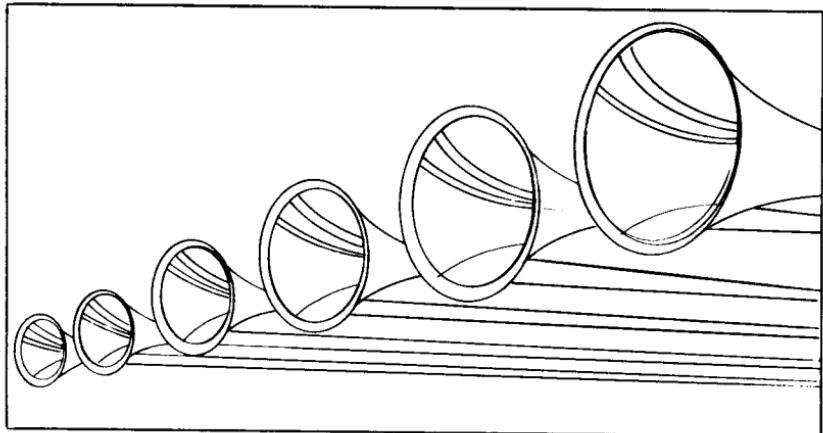
```

1050 IF D=ASC("N") THEN 1999
1100 POSITION 0,3:PRINT £6;"==== instructions ==="
1110 POSITION 0,5:PRINT £6;"PLAYER      PL
AYER"
1120 POSITION 0,6:PRINT £6;" ONE
TWO"
1130 POSITION 0,8:PRINT £6;" Z    LEFT
"
1140 POSITION 0,9:PRINT £6;" X    RIGHT
/"
1150 POSITION 0,10:PRINT £6;" Q    UP
"
1160 POSITION 0,11:PRINT £6;" A    DOWN
"
1170 POSITION 0,19:PRINT £6;"TRY TO STAY
ALIVE"
1180 POSITION 0,21:PRINT £6;"avoid each
other"
1190 POSITION 0,23:PRINT £6;"< space
>"
1200 GET £1,D:IF D<>32 THEN 1200
1300 CLOSE £1
1999 CLOSE £1:RETURN
2000 REM GET NAMES
2010 GRAPHICS 1
2020 POSITION 0,10:PRINT £6;"PLAYER ONE'S NAME"
2025 PRINT
2030 POSITION 18,10:PRINT £6;"":POSITION 18,10:INPUT N1$:IF
N1$="" THEN 2020
2100 POSITION 0,10:PRINT £6;"PLAYER TWO'S NAME"
2110 POSITION 18,10:PRINT £6;"":POSITION 18,10:INPUT N2$:IF
N2$="" THEN 2100
2200 IF N1$<>N2$ THEN 2999
2210 POSITION 0,5:PRINT £6;" how conf
using"

```

```
2220 FOR L=1 TO 500:NEXT L  
2230 GOTO 2010  
2999 RETURN
```

# HARK THE HERALD ANGELS SING



We were feeling festive when we came to this program so we decided to throw in a Christmas carol instead of the latest David Bowie hit.

To make it more fun we have written this program so that the words of the carol appear on the screen, line by line. Call it 'Sing-a-long-a-600 XL' if you like.

## How to play

When you have typed in the program just sit back and enjoy the music.

## Programming hints

If you don't like our selection of carol then you can change the tune by altering the data in Lines 9000 onwards. The words are in lines 5000 — 5100. Note that the last word must be a full stop (.)

Line 8000 has the number of notes in the tune.

## The program

```

10 REM HARK THE HERALD ANGELS SING
20 DIM T(6):RESTORE 8000
30 READ T
40 FOR L=1 TO 6:T(L)=L*T:NEXT L
50 DIM W$(400),T$(40)
60 GOSUB 3000
70 GRAPHICS 0:POSITION 0,8
80 POKE 752,1:PRINT
100 RESTORE 9000
110 GOSUB 1000
120 END
1000 REM PLAY A TUNE
1005 C=0
1010 READ P,D
1012 IF P<>-1 THEN 1020
1014 PRINT :PRINT W$(C*40+1,C*40+40)
1016 C=C+1
1018 GOTO 1010
1020 IF P=0 THEN 1099
1030 SOUND 0,P,10,14
1040 FOR W=1 TO T(D):NEXT W
1050 SOUND 0,0,0,0
1060 GOTO 1010
1099 RETURN
3000 REM READ IN WORDS
3002 C=0
3005 RESTORE 5000

```

```
3010 T$=""  
    "  
3015 READ T$:T$(40)=" "  
3020 IF T$(1,1)=". ." THEN 3099  
3030 W$(C*40+1,C*40+40)=T$(1,40)  
3040 C=C+1  
3050 GOTO 3010  
3099 RETURN  
5000 DATA HARK THE HERALD-ANGELS SING  
5010 DATA GLORY TO THE NEW-BORN KING  
5020 DATA PEACE ON EARTH AND MERCY MILD  
5030 DATA GOD AND SINNERS RECONCILED  
5040 DATA JOYFUL ALL YE NATIONS RISE  
5050 DATA JOIN THE TRIUMPH OF THE SKIES  
5060 DATA WITH THE ANGELIC HOST PROCLAIM  
5070 DATA CHRIST IS BORN IN BETHLEHEM  
5080 DATA HARK! THE HERALD-ANGELS SING  
5090 DATA GLORY TO THE NEW BORN KING  
5100 DATA .  
8000 DATA 80  
9000 DATA -1,0,108,2,81,2,81,3,85,1,81,2  
,64,2,64,2,72,2  
9010 DATA -1,0,53,2,53,2,53,3,61,1,64,2,  
72,2,64,4  
9020 DATA -1,0,108,2,81,2,81,3,85,1,81,2  
,64,2,64,2,72,2  
9030 DATA -1,0,53,2,72,2,72,3,85,1,85,2,  
96,2,108,4  
9040 DATA -1,0,53,2,53,2,53,2,81,2,61,2,  
64,2,64,2,72,2  
9050 DATA -1,0,53,2,53,2,53,2,81,2,61,2,  
64,2,64,2,72,2  
9060 DATA -1,0,47,2,47,2,47,2,53,2,61,2,  
64,2,61,4  
9070 DATA -1,0,72,2,64,1,61,1,53,3,81,1,  
81,2,72,2,64,4  
9080 DATA -1,0,47,3,47,1,47,2,53,2,61,2,  
64,2,61,4  
9090 DATA -1,0,72,2,64,1,61,1,53,3,81,1,  
81,2,72,2,81,6  
9099 DATA 0,0
```

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