

**GETTING  
AHEAD**

Commodore

**64™**

# **FANTASTIC GAMES**



**HAYES**



# **FANTASTIC GAMES**

**for the Commodore 64™**

Programs Compiled and Adapted by Peter Lear

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### NOTE

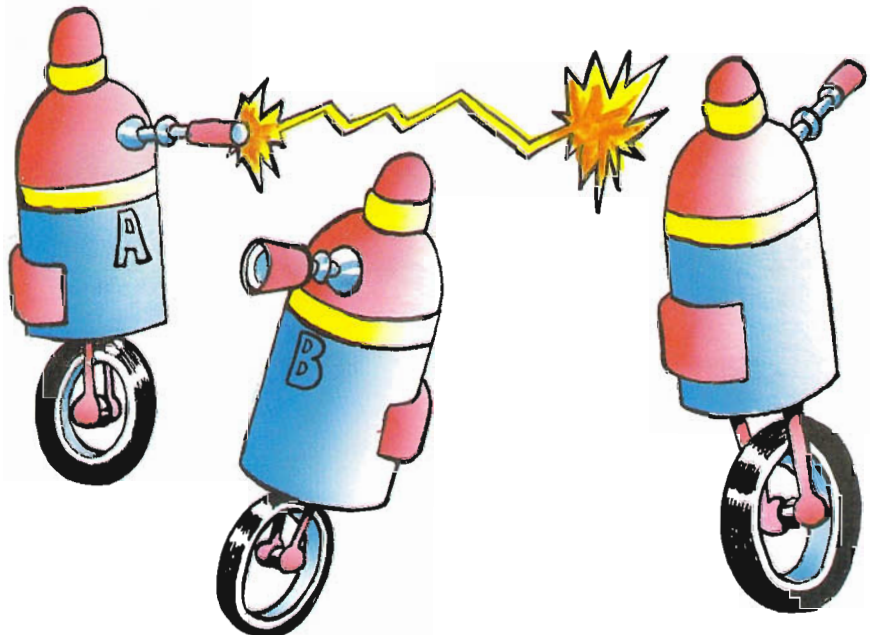
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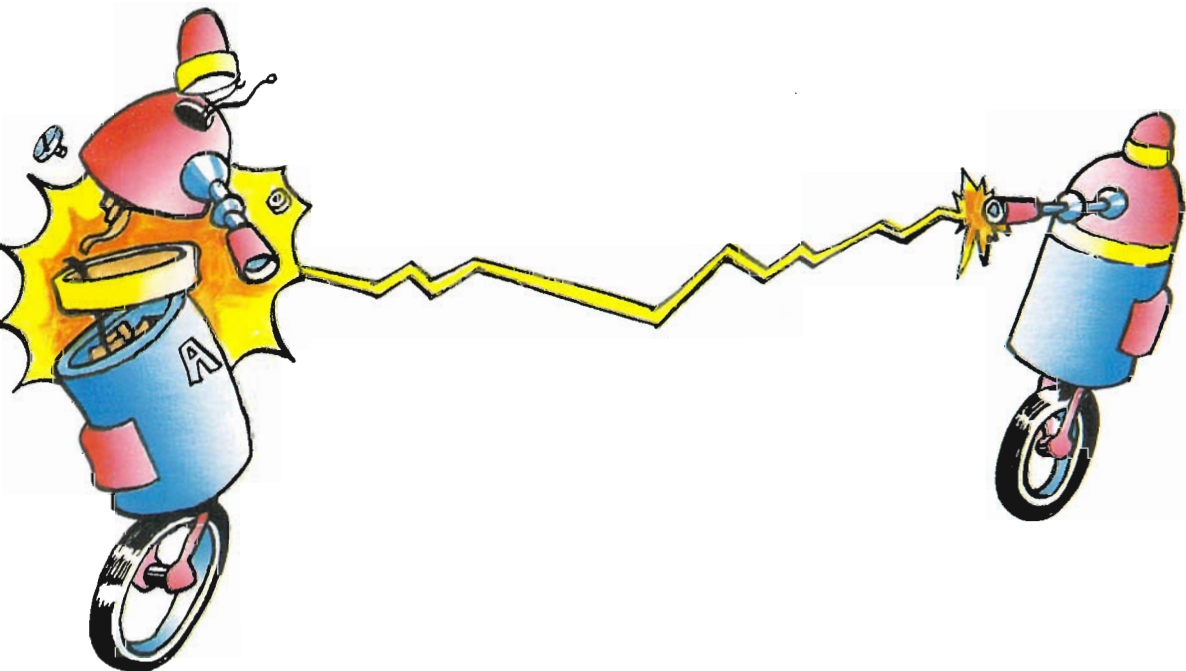
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# INTRODUCTION

This book contains listings for games written in BASIC for the VIC 20 computer made by Commodore Business Machines. All of the games except Logger will work on a VIC 20 with no memory expansion. Logger requires a 3K memory cartridge.

## Typing in the Programs

The listings for each program are

set up like the listings in your VIC 20 owner's manual. For the two programs (Getaway and Sub Attack) that use special VIC graphic characters, a legend has been provided before each. The legend shows how to type in the graphic symbols.

To make the keying of the program easier, a standard has been used. Whenever you encounter square brackets ( [ ] ) in a program listing, refer to the following guide.

	To do this:		Type this:		To do this:		Type this:
[SC]	SHIFT	and	CLR HOME	[YL]	CTRL	and	( 8
[CU]	SHIFT	and	CRSR	[BK]	CTRL	and	! 1
[CL]	SHIFT	and	CRSR	[PU]	CTRL	and	% 5
[IN]	SHIFT	and	INST DEL	[CY]	CTRL	and	\$ 4
[RV]	CTRL	and	) 9	[GR]	CTRL	and	& 6
[RD]	CTRL	and	# 3	[WH]	CTRL	and	" 2
[RO]	CTRL	and	ø	[CR]	CRSR		
[f]	CTRL	and	←	[HM]	CLR HOME		
[BL]	CTRL	and	' 7	[CD]	CRSR		

When typing in these programs you can save time by using the Commodore abbreviations for the BASIC language words. You probably know from your owner's manual that

the question mark (?) is a short way of typing in PRINT. Most other BASIC words can be shortened by typing in the first letter normally, followed by the second letter and shift key

together. This will cause a graphic character to appear instead of the second letter. The C 64 will interpret

this as an entire BASIC word. Here are some examples:

To Get	You Type	As It Appears on Screen
RUN	R shifted U	R □
LIST	L shifted I	L □
GOTO	G shifted O	G □

There are exceptions to this rule. The words RETURN, RESTORE, GOSUB, CLOSE, CLR, LET, STEP, and STR\$ can be abbreviated by

typing the first two characters normally and shifting the third. Here are some examples:

To Get	You Type	As It Appears On Screen
GOSUB	GO shifted s	GO ♥
RETURN	RE shifted T	RE □

The words IF, ON, ST and TI cannot be shortened.

Accidents do happen, you could type in many lines of a program only to have a power failure, or you could unknowingly RUN a program with mistakes that destroy the program. So

SAVE copies of the game on tape or floppy disk as you enter it. Do so at least once an hour. Once you have a final copy of the game you can record over the other versions on tape or delete the disk versions.

## Debugging

After typing in a program and SAVEing it, the C 64 may have trouble RUNning it. This happens when copying a program from paper to computer. Check that you entered all the program lines completely. A common problem is the famous SYNTAX ERROR. If you get one, list the program line on the screen. Compare it to the book listing. You will probably see one of these problems:

1. Spelling error, or
2. Punctuation error (brackets, commas, colons or semi-colons missing), or
3. The number zero confused with the letter 'O' (or vice versa), or
4. The number one confused with the letter 'l' (or vice versa).

Fix it and try RUNning the program again. It may take several attempts to get all the errors out, but the work will be worth it. Remember to save a final copy that has all the corrections made.

## Experiment

If you have some programming knowledge do not be afraid to try changing the games. Maybe there are other colors that you prefer, try them. After each program description is a list of what the program variables are used for. And remember, there is nothing that you can enter into the C 64 by program or through the keyboard that can do any permanent damage. If something goes wrong, you can turn the C 64 off and on to begin again.

# SPEED BOAT





## Row row row your boat gently down the the stream...

Not this time! You have a speed boat instead of the row boat. It isn't too difficult to navigate at first, just use the two cursor keys to steer left and right. Throughout the river are points, by guiding the boat over these, you will build up a score. After a score of 1000 the river will narrow. At 2000 it narrows still more. As well as the points in the water there are logs. Hitting these will get you as far as taking the boat to shore will ... nowhere.

### Graphic Symbols

To Get: Press Together:



### Variables Used

- MS - high score
- T - river position
- M - boat position
- W,VX - trees position
- I - counter
- X - general purpose random number
- A\$ - boat movement
- D\$ - Yes or No responses
- AE\$ - high score
- T\$ - wait for key
- P,DD,DP,V,S2 - sound control



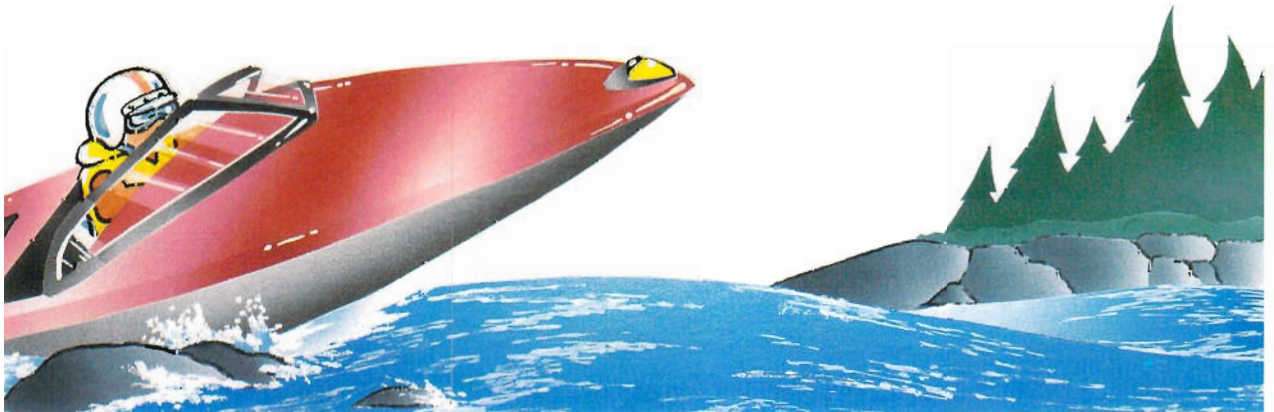
# SPEEDBOAT

```
100 POKE54296,0:POKE54272,1:POKE54273,123:
    POKE54276,33:POKE54277,64:POKE54278,64
110 MS=0:GOSUB780
120 B=2:POKE53280,2:POKE53281,1:GOSUB1120
130 PRINT"[CY]"
140 PRINT"[SC]":T=7:M=10:VV=0:S=0:VV=1944:VX=56216
150 FORI=1TO24
160 PRINTTAB(T)" [RV][BL] [RO]"
170 NEXTI
180 X=INT(RND(1)*20)
190 Y=INT(RND(1)*25)
200 IFX<3THENT=T-1
210 IFX>7THENT=T+1
220 IFS>2000THENGOSUB1280:GOTO320
230 IFS>1000THENGOSUB1240:GOTO320
240 IFX=5THENPRINTTAB(T)" [RV] 6 [RO]"
250 IFX=10THENPRINTTAB(T)" [RV] 3 [RO]"
260 IF30<TTHENT=T-1
270 IF1>TTHENT=T+1
280 IFX=7THENPRINTTAB(T)" [RV][BL]####[BL][RO]"
290 IFY<TTHENPOKEVV+Y,81:POKEVX+Y,5:POKEVV+40+Y,93:
    POKEVX+40+Y,2
300 IFY>T+9THENPOKEVV+Y,81:POKEVX+Y,5:
    POKEVV+Y+40,93:POKEVX+40+Y,2
310 PRINTTAB(T)" [RV] [RO]"
320 GETA$
330 IFA$="[CD]"THENM=M-1
340 IFA$="[CR]"THENM=M+1
350 IFPEEK(M+1024)=101THEN450
360 IFPEEK(M+1024)=32THEN450
370 IFPEEK(M+1024)=103THEN450
380 IFPEEK(M+1024)=102+128THEN450
390 IFPEEK(1024+M)=54+128THENS=S+6:GOSUB1320 SOUND
400 IFPEEK(1024+M)=51+128THENS=S+3:GOSUB1320 SOUND
410 POKEM+1024,42
420 GOSUB1320 SOUND
430 S=S+3
440 GOTO180
450 POKE54276,129:POKE54273,12
460 FORI=228TO127STEP-4
470 POKE1024+M,170
480 POKE1024+M,163
490 POKE1024+M,205
500 POKE1024+M,206
510 POKE1024+M,42
```

```

520 POKE54272,I
530 NEXT
540 POKE54276,128
550 B=-1:GOSUB 1120
560 POKE53280,2:POKE53281,1
570 PRINT"[SC][CD]IN SPEED BOAT YOU SCORED";S;
    " POINTS"
580 IFS>MSTHENVV=0:MS=S:GOTO710
590 GOTO740
600 PRINT"[RD][CD][CD][CD][CD][CD][RV]Y/N TO
    PLAY AGAIN"
610 FORI=1TO500:GETD$:IFD$="[CD]"ORD$="[CR]"THEN
    NEXTI
620 IFD$="Y"THENB=1:POKE54280,2:POKE54281,1:
    GOSUB1120:PRINT"[BL]":GOTO140
630 IFD$="N"THENPRINT"[SC][CD][CD][CD][CD][CD][CD]
    [CD][CD][CD][CD][CD][CR][CR][CR][CR][CR][CR]
    [CR][CR]BYE...BYE...":END
640 NEXTI
650 FORV=1TO50
660 PRINT"[CU] "
670 PRINT"[CU][RD]Y/N TO PLAY AGAIN"
680 NEXTV
690 PRINT"[CU][CU][CU][CU][CU][CU][CU][CU]"
700 GOTO600
710 PRINT"[CD][CD]":MS=S
720 PRINT"YOU HAVE GOT THE HIGH SCORE FOR TODAY!"
730 INPUT"PLEASE PRINT YOUR NAME";AES
740 PRINTAES;" HAS THE HIGH SCORE WITH ";MS:PRINT"POINTS"
750 GOTO600
760 S=S+3
770 POKE54276,0
780 PRINT"[SC]"
790 PRINTSPC(10);"[RV][PU] SPEED BOAT "
795 PRINTSPC(3);"[CD]BY PETER LEAR & STEVEN HOLIDAY"
800 FORI=0TO180:POKE53270,I:NEXTI:POKE53270,200

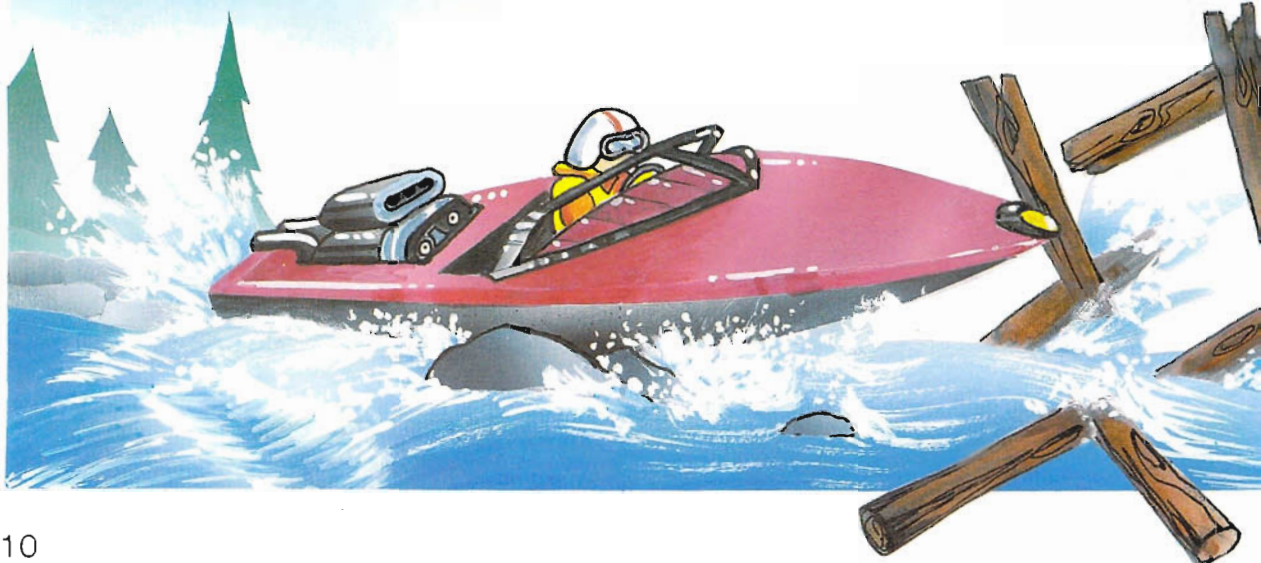
```



```

810 PRINTSPC(10);"[CD][CD][CD][CD][CD][CD][CD][CD]
    [CD][CD][CD][CD][CD][CD][CD][CD][CD][CD]ANY KEY TO
    CONTINUE"
820 FORI=180TO0STEP-1:POKE53270,I:NEXTI:POKE53270,200
830 GETT$:IFT$=""THEN830
840 FORI=0TO180:POKE53270,I:NEXTI:POKE53270,200
850 PRINT"[PU][SC]"
860 PRINTSPC(12);"THE INSTRUCTIONS"
870 PRINTSPC(12);"===== "
880 PRINT"[CD]"
890 PRINTSPC(10);"CRSR RIGHT=BOAT RIGHT"
900 PRINTSPC(11);"CRSR DOWN=BOAT LEFT"
910 PRINTSPC(10);"NUMBERS=EXTRA POINTS"
920 PRINTSPC(12);"[CD]G-O-O-D L-U-C-K"
930 PRINTSPC(12);"[CD] BEWARE!!! "
940 PRINT"[CD] A LOT OF LUMBERING IS TAKING PLACE SO"
950 PRINT" WATCH OUT FOR THE LOGS! IF YOU GO TOO"
960 PRINTTAB(3);"FAR THE RIVER BECOMES A STREAM"
970 PRINTSPC(12);"[CD]ANY KEY TO PLAY"
980 FORI=180TO24STEP-1:POKE36881,I:NEXTI
990 GETT$:IFT$=""THEN990
1000 POKE54280,2:POKE54281,13:RETURN
1010 DATA 1,24,360,1,24,360,1,24,240
1020 DATA 1,45,120,1,81,360,1,81,240
1030 DATA 1,45,120,1,81,240,1,102,120
1040 DATA 1,145,720,1,24,360,1,145,360
1050 DATA 1,81,360,1,24,360,1,145,240
1060 DATA 1,102,120,1,81,240,1,45,120
1070 DATA 1,24,480
1080 DATA -1,-1

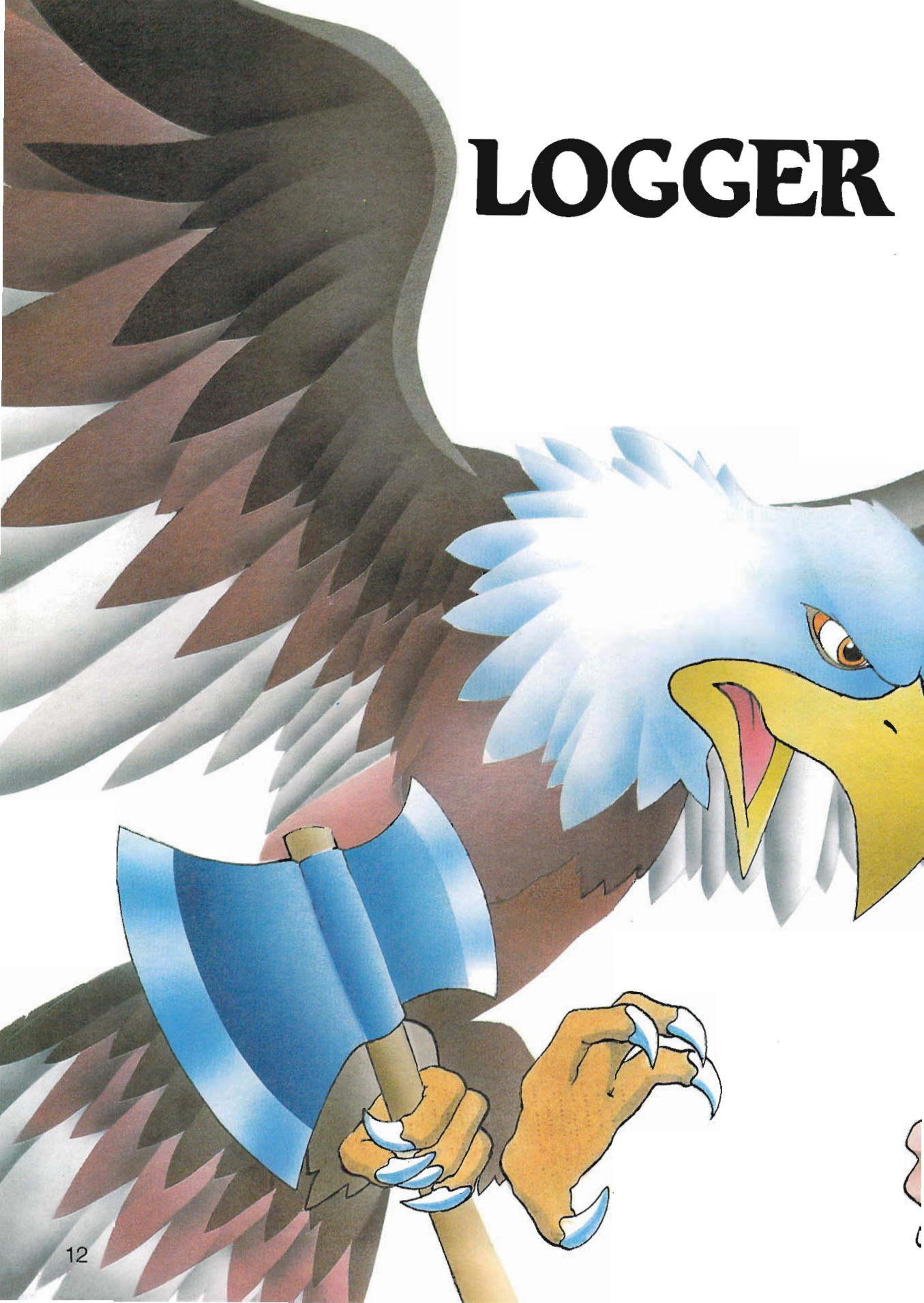
```



```
1090 DATA 1,12,400,0,0,80,1,12,300,0,0,40,1,12,100,
1,12,400,0,0,80
1100 DATA 1,12,300,1,12,100,0,0,80,1,12,300,1,12,
100,0,0,80
1110 DATA 1,12,300,0,0,80,1,12,100,0,0,40,1,12,1000,
-1,-1
1120 S2=54272:S3=54273
1130 IFB>0THENRESTORE
1140 V=54296
1150 POKEV,15
1160 READP,Q
1170 IFP=-1THENB=-1:RETURN
1180 READD
1190 POKES2,P:POKES3,Q:POKE54276,33
1200 FORN=1TOD:NEXTN
1210 POKES2,0:POKE54276,32
1220 FORN=1TO20:NEXTN
1230 GOTOL160
1240 IF32<TTHEN T=T-1
1250 IF1>TTHEN T=T+1
1260 PRINTTAB(T)" [RV] [RO] ":S=S+12
1270 RETURN
1280 IF30<TTHEN T=T-1
1290 IF1>TTHEN T=T+1
1300 PRINTTAB(T)" [RV] [RO] ":S=S+12
1310 RETURN
1320 REM SOUND
1330 POKE54276,17:FORI=1TO2:NEXT:POKE54276,16:RETURN
```



# LOGGER



Picture yourself as a lumberjack out in the great redwood forests. You are cutting one down when suddenly, from out of nowhere, an eagle swoops down and steals your axe. You chase the fiendish bird back to its tree. In order to get your axe back, you must climb up an intricate system of branches. You use the keys D (up),

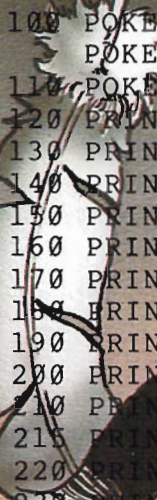
Z (left), and C (right) to do the climbing. But climbing is not the only challenge, all the time you are on the way up, logs are being rolled down at you. To jump over these logs use the space bar.

## Variables Used

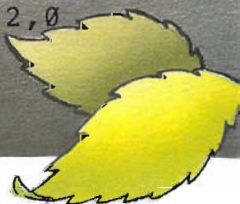
I	- counter
A\$	- Yes or No answers
SC	- score
NM	- number of lumberjacks
BR\$,PO\$	- move cursor
BP,PB	- bonus points
FL,PF	- movement flag
R1\$,R2\$	- bird
PL\$	- ramps
MN,ML	- lumberjack character and color positions
H	- lumberjack
LG	- log
TM\$	- start time of game
DR,K	- keyboard check
BM	- bonus man
P	- sound control
I,D,J	- counters
HI	- high score



# LOGGER

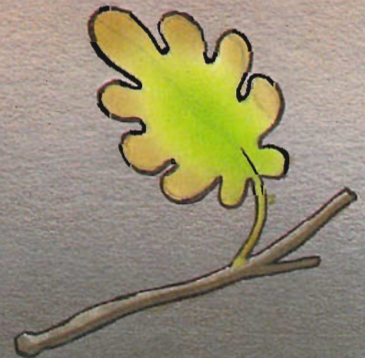


```
100 POKE51,0:POKE52,48:POKE55,0:POKE56,48:POKE53280,1:
    POKE53281,1
110 POKE53272,(PEEK(53272)AND240)+12
120 PRINT"[SC]";CHR$(142)
130 PRINTSPC(17);"[BK]LOGGER"
140 PRINTSPC(12);"BY BRIAN JAIKENS"
150 PRINT"[BL] YOU ARE A LUMBERJACK WHO HAS JUST HAD"
160 PRINTSPC(8);"HIS AXE STOLEN BY A BIRD"
170 PRINTSPC(19);"[YL)]*"
180 PRINTSPC(19);"+,"
190 PRINTSPC(19);"-.[RD]"
200 PRINT"YOU MUST GET TO THE BIRD BY JUMPING LOGS";
210 PRINT"AND CLIMBING LADDERS"
215 PRINT"JUMP UP TO PULL THE LADDERS DOWN"
220 PRINT"GET BONUS POINTS AND AN EXTRA MAN EVERY"
230 PRINT"8000 POINTS THE CONTROLS ARE"
240 PRINT
250 PRINTSPC(17);"CLIMB"
260 PRINTSPC(19);"D"
270 PRINTSPC(13);"LEFT Z C-RIGHT"
280 PRINTSPC(12);"SPACE BAR TO JUMP"
290 FORI=1TO58:READC:NEXTI
300 FORI=12288TO12799:READC:POKEI,C:NEXT
310 RESTORE
312 PRINT
314 PRINTSPC(14);"PRESS A KEY":POKE198,0
316 GETRES$:IFRES$=""THEN316
320 DATA 1825,1702,1382,1505
330 DATA 34,75,400,0,0,40,34,75,300,0,0,40,34,75,100,34,75,
    400
340 DATA 0,0,40,35,134,300,34,75,100,0,0,40,34,75
350 DATA 100,0,0,40,34,75,300,0,0,40,34,75,100,0,0,40,34,75,
    500,-1,-1,-1
360 DATA 60,66,153,165,165,153,66,60
370 DATA 60,102,102,126,102,102,102,0
380 DATA 124,102,102,124,102,102,124,0
390 DATA 60,102,96,96,96,102,60,0
400 DATA 124,102,102,102,102,102,124,0
    410 DATA 124,96,96,120,96,96,124,0
    420 DATA 124,96,96,120,96,96,96,0
    430 DATA 60,102,96,110,102,102,60,0
    440 DATA 102,102,102,126,102,102,102,0
    450 DATA 24,24,24,24,24,24,24,0
    460 DATA 12,12,12,12,12,108,56,0
    470 DATA 102,108,120,112,120,108,102,0
    480 DATA 96,96,96,96,96,96,124,0
```





490 DATA 66,102,126,126,102,102,102,0  
 500 DATA 70,102,118,126,110,102,102,0  
 510 DATA 60,102,102,102,102,102,60,0  
 520 DATA 124,102,102,124,96,96,96,0  
 530 DATA 60,102,102,102,110,102,62,1  
 540 DATA 124,102,102,124,120,108,102,0  
 550 DATA 60,102,96,60,6,102,60,0  
 560 DATA 126,24,24,24,24,24,24,0  
 570 DATA 102,102,102,102,102,102,60,0  
 580 DATA 102,102,102,60,60,24,24,0  
 590 DATA 102,102,102,126,126,102,66,0  
 600 DATA 102,102,60,24,60,102,102,0  
 610 DATA 102,102,102,60,24,24,24,0  
 620 DATA 126,6,12,24,48,96,126,0  
 630 DATA 56,124,127,24,236,195,68,56  
 640 DATA 122,127,126,56,56,48,48,56  
 650 DATA 28,62,254,47,55,67,34,28  
 660 DATA 94,254,126,28,12,12,12,28  
 670 DATA 126,66,126,66,126,66,126,66  
 680 DATA 0,0,0,0,0,0,0,0  
 690 DATA 28,62,62,127,127,127,62,28  
 700 DATA 62,127,127,127,54,54,118,7  
 710 DATA 62,127,127,127,54,54,55,112  
 720 DATA 50,254,254,50,48,48,48,48  
 730 DATA 38,52,8,62,125,125,123,62  
 740 DATA 48,56,36,38,111,253,214,96  
 750 DATA 135,133,165,165,245,37,39,0  
 760 DATA 103,149,149,101,149,149,103,0  
 770 DATA 7,9,29,31,27,12,100,254  
 780 DATA 192,32,112,240,176,96,76,254  
 790 DATA 255,248,242,240,225,104,98,96  
 800 DATA 254,62,30,94,14,44,12,76  
 810 DATA 100,48,26,15,4,4,28,62  
 820 DATA 44,152,48,124,64,64,112,248  
 830 DATA 255,194,127,194,255,66,126,66  
 840 DATA 60,102,110,126,118,102,60,0  
 850 DATA 8,24,56,24,24,24,60,0  
 860 DATA 60,102,6,60,96,96,127,0  
 870 DATA 60,102,6,28,6,102,60,0  
 880 DATA 12,28,60,108,126,12,12,0  
 890 DATA 126,96,124,6,6,102,60,0  
 900 DATA 60,102,96,124,102,102,60,0  
 910 DATA 126,102,12,24,24,24,24,0





```

920 DATA 60,102,102,60,102,102,60,0
930 DATA 60,102,102,62,6,102,60,0
940 DATA 255,170,85,170,255,0,0,0
950 DATA 96,255,255,7,3,0,0,0
960 DATA 3,4,9,10,10,9,4,3
970 DATA 192,32,144,80,80,144,32,92
980 DATA 0,0,0,7,143,255,255,199
990 DATA 4,20,62,239,231,223,254,5
1000 FORI=54272TO54296:POKEI,0:NEXTI
1010 POKE54296,15
1020 POKE54277,64:POKE54278,128:POKE54272,34:POKE54273,75
1030 POKE54283,128:POKE54284,64:POKE54279,43:POKE54280,52
1040 POKE54290,2:POKE54291,4:POKE54286,51:POKE54287,97
1050 SC=0:NM=3:BM=800:BR$="[BL]-.[CU][CL][CL]+,[CU][CL]
[CL])*":BP=990:SC$="[HM][BL]SCORE"
1060 FL=2:PRINT"[SC]":PF=1:PO$="[HM][CD][CD][CD][CD][CD]
[CD][CD][CD][CD][CD][CD][CD][CD][CD][CD][CD][CD][CD]
[CD][CD][CD][CD][CD][CD][CD]"
1070 BP$="[BK]BONUS[CD][CL][CL][CL][CL][CL]POINTS[CD][CL]
[CL][CL][CL][CL][CL]"
1080 GOSUB2580:PRINT"[SC]"
1090 FORL1=55296TO55296+1000:POKEL1,2:NEXTL1
1100 R1$="[CR][CR][CR]":R2$="[CR]":PL$=":::::::::::::::::::
:::::::::::::::::::"
1110 MN=1822:MC=56094:H=29:B=38
1120 GOSUB1660:ONPFGOSUB1530,1600
1130 TI$="000000":TM$=TI$:PB=BP
1140 LG=1192:DR=2:GOSUB1270
1150 IFSC=>BMANDNM<5THENNM=NM+1:BM=BM+800:GOSUB1690:
GOSUB1720
1160 GOSUB1320
1170 K=PEEK(197)
1180 IFK=64THEN1210
1190 IFK=12ORK=20ORK=60ANDH<>33THENGOSUB1750
1200 IFK=18ANDPEEK(MN-40)=31THENGOSUB2120
1210 IFVAL(TI$)>VAL(TM$)ANDPB>0THENPB=PB-10:TM$=TI$
1220 PRINTSC$;SC:PRINT"[HM]"TAB(15);BP$;RIGHT$(STR$(PB),LEN
(STR$(PB))-1);" "
1230 IFPEEK(MN+80)=32ORPEEK(MN+80)=59THEN2240
1240 IFMN=<1152THEN2390
1250 IFLG>MN+80THENPOKELG,32:GOTO1140

```





```

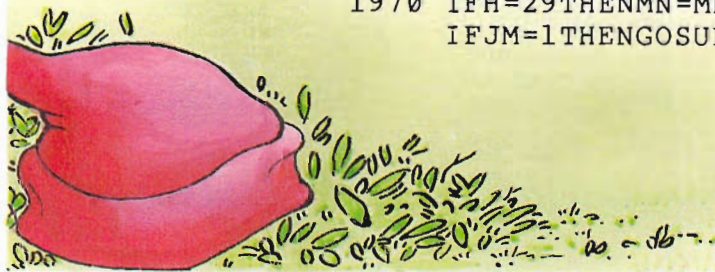
1260 GOTO1160
1270 POKEMN,H:POKEMC,0:POKEMN+40,B:POKEMC+40,0:RETURN
1280 POKEMN,32:POKEMC,2:POKEMN+40,32:POKEMC+40,2:RETURN
1290 FORI=MNTOMN+160STEP40:POKEMN,32:MN=I:MC=I+54272:
      GOSUB1270:GOSUB1320:NEXT
1300 PB=PB-100:IFPB<0THENPB=0
1310 RETURN
1320 POKELG,32
1330 ONDRGOTO1340,1390,1440,1470
1340 IFPEEK(LG+40)=32THENLG=LG+40:DR=3:RETURN
1350 LG=LG-1
1360 IFLG=MN+40THEN2270
1370 POKELG,0
1380 RETURN
1390 IFPEEK(LG+40)=32THENLG=LG+40:DR=4:RETURN
1400 LG=LG+1
1410 IFLG=MN+40THEN2270
1420 POKELG,0
1430 RETURN
1440 IFPEEK(LG+40)=HTHEN2270
1450 IFPEEK(LG+40)=32THENLG=LG+40:POKELG,0:RETURN
1460 DR=2:RETURN
1470 IFPEEK(LG+40)=HTHEN2270
1480 IFPEEK(LG+40)=32THENLG=LG+40:POKELG,0:RETURN
1490 DR=1:RETURN
1500 IFDR=2THENDR=1:GOTO1520
1510 IFDR=1THENDR=2
1520 RETURN
1530 PRINT"[RD]"LEFT$(PO$,6)R2$PL$LEFT$(PO$,10)R1$PL$LEFT$(
      PO$,14)R2$PL$LEFT$(PO$,18)R1$PL$
1540 PRINTLEFT$(PO$,22)PL$"::::";
1550 POKEL259,47:POKEL388,47:POKEL579,47:POKEL709,47
1560 FORI=0TO80STEP40
1570 POKEL299+I,32:POKEL428+I,32:POKEL619+I,32:POKEL749+I,32
1580 NEXTI
1590 RETURN
1600 GOSUB1530:CL=54272
1610 POKEL715,59:POKEL715+CL,6:POKEL733+CL,6:POKEL733,59
1620 POKEL572,59:POKEL572+CL,6:POKEL556,59:POKEL556+CL,6
1630 POKEL413,59:POKEL413+CL,6:POKEL395,59:POKEL395+CL,6
1640 POKEL245,59:POKEL245+CL,6
1650 RETURN
1660 PRINTLEFT$(PO$,4)"[RD]"<="LEFT$(PO$,5)"[RD]"@";BR$

```

```

1670 RESTORE
1680 FORI=1TO2:READP1,P2:POKEP1,37:POKEP1+54272,4:POKEP2,38:
      POKEP2+54272,4:NEXTI
1690 FORI=1TONM+1:POKE1070+I,32:NEXT
1700 FORI=1TONM:POKE1070+I,36:POKE55342+I,5:NEXT
1710 RETURN
1720 REM SOUND
1730 FORI=1TO2:POKE54283,33:FORJ=1TO7:NEXTJ:POKE54283,32:
      NEXTI
1740 RETURN
1750 GOSUB1280
1760 IFK=12THENMN=MN-1:H=29:B=30:MC=MC-1
1770 IFK=20THENMN=MN+1:H=27:B=28:MC=MC+1
1780 IFMN=>1863THENMN=1863:MC=56135
1790 IFMN=1823THENMN=MN+40:MC=MC+40
1800 IFPEEK(MN+40)=37ORPEEK(MN+40)=38THENGOSUB1270:GOSUB2100
1810 IFK=60THENGOSUB1890
1820 GOSUB1270
1830 IFH=29ANDPEEK(MN-39)=31THENPOKEMN+1,31:POKEMN+41,31
1840 IFH=27ANDPEEK(MN-41)=31THENPOKEMN-1,31:POKEMN+39,31
1850 IFPEEK(MN+80)=59THENGOSUB1290
1860 IFPEEK(MN+80)=32THEN2240
1870 POKE54283,129:POKE54283,128
1880 POKE198,0:RETURN
1890 IFH=29THENMN=MN-41:MC=MC-41
1900 IFH=27THENMN=MN-39:MC=MC-39
      1910 GOSUB1270:IFMN+80=LGTHENGOSUB2060
      1920 IFPEEK(MN+120)=59THENPOKEMN+120,32:
            POKEMC+120,2:GOSUB2060
      1930 IFPEEK(MN-40)=47THENJMJ=1
      1940 IFH=29ANDPEEK(MN+1)=31THENGOSUB2020:
            GOTO1970
      1950 IFH=27ANDPEEK(MN-1)=31THENGOSUB2030:
            GOTO1980
      1960 GOSUB1320:GOSUB1280
      1970 IFH=29THENMN=MN+39:MC=MC+39:
            IFJMJ=1THENGOSUB2040

```



```

1980 IFH=27THENMN=MN+41:MC=MC+41:IFJM=1THENGOSUB2050
1990 IFPEEK(MN+40)=37ORPEEK(MN+40)=38THENGOSUB2100
2000 GOSUB1270:IFMN=1823ORMN=1822THENGOSUB1280:MN=MN+40:
    MC=MC+40
2010 RETURN
2020 POKEMN+75,31:POKEMN+82,31:GOSUB1320:GOSUB1280:RETURN
2030 POKEMN+39,31:POKEMN+78,31:GOSUB1320:GOSUB1280:RETURN
2040 POKE54276,17:FORI=MN-39TOMN+41STEP40:POKEI,31:NEXTI:
    JM=0:POKE54276,16:RETURN
2050 POKE54276,17:FORI=MN-41TOMN+39STEP40:POKEI,31:NEXTI:
    JM=0:POKE54276,16:RETURN
2060 POKE54290,129:SC=SC+40:POKEMN+160,39:POKEMC+160,0
2070 POKEMN+160,32:IFPEEK(MN+120)=47THENPOKEMN+160,31:
    POKEMC+160,2
2080 POKE54290,128
2090 RETURN
2100 POKE54283,33:POKEMN+120,40:POKEMC+120,0:SC=SC+80
2110 FORD=1TO100:NEXT:POKEMN+120,32:POKEMC+120,2:
    POKE54283,32:RETURN
2120 POKE54283,129
2130 H=33:B=34
2140 FORI=1TO4
2150 MN=MN-40:MC=MC-40
2160 IFI=1THENPOKEMN+80,31:POKEMC+80,2
2170 GOSUB1270:POKEMN+40,35
2180 IFI<4THENPOKEMN+40,31:POKEMC+40,2
2190 IFI=4THENPOKEMN+80,47:POKEMC+80,2
2200 FORJ=1TO10:NEXTJ
2210 NEXTI
2220 POKE54283,128
2230 RETURN
2240 POKEMN,32:POKEMC,2:MN=MN+40:
    MC=MC+40
2250 IFPEEK(MN+80)<>32THEN2270
2260 GOTO2240
2270 GOSUB1280:IFH=27
    THEN2310

```



```

2280 POKEMN+40+1,63:POKEMC+40+1,0:
      POKEMN+40,62:POKEMC+40,0:POKEMN,32
2290 GOSUB2360
2300 POKEMN+40+1,32:POKEMC+40+1,2:POKEMN+40,32:POKEMC+40,2:
      POKEMC,2:GOTO2340
2310 POKEMN+40-1,62:POKEMC+40-1,0:POKEMN+40,63:POKEMC+40,0:
      POKEMN,32
2320 GOSUB2360
2330 POKEMN+40-1,32:POKEMC+40-1,2:POKEMN+40,32:POKEMC+40,2:
      POKEMC,2
2340 NM=NM-1:GOSUB1690:IFNM=0THENL050
2350 POKELG,32:H=29:B=30:POKELG+54272,2:POKE198,0:GOTO1100
2360 READLO:IFLO=-1THENRESTORE:FORD=1TO1500:NEXT:
      POKE54290,32:RETURN
2370 READHI,DUR:POKE54287,LO:POKE54286,HI:POKE54290,33:
      FORN=1TODUR:NEXT
2380 POKE54290,32:GOTO2360
2390 FORI=4TOLSTEP-1
2400 IFI>2THENPRINTLEFT$(PO$,I)TAB(3)BR$
2410 IFI=2THENPRINTLEFT$(PO$,I)TAB(3)LEFT$(BR$,8)
2420 IFI=1THENPRINTLEFT$(PO$,I)TAB(3)LEFT$(BR$,3)
2430 IFI<5THENPRINTLEFT$(PO$,I+1)TAB(3)"  "
2440 FORD=1TO500:NEXTD,I
2450 PRINT"[HM]"TAB(4)"  ":FORD=1TO1000:NEXT
2460 IFPB<=0THEN2540
2470 FORL=1TO8:PRINT"[HM]"TAB(15)"  ":FORD=1TO200:NEXT
2480 PRINT"[HM][BK]"TAB(15)"BONUS":FORM=180TO235STEP2:
      POKE54290,33:NEXTM:POKE54290,32:NEXTL
2490 FORJ=PBTO0STEP-10:SC=SC+10:POKE54276,17
2500 PRINTSC$SC:PRINT"[HM]"TAB(15)BP$;RIGHT$(STR$(J),
      LEN(STR$(J))-1);"  "
2510 POKE54276,16:NEXTJ
2520 IFSC>HITHENHI=SC:PRINT"[HM]";TAB(25);"HIGH ";HI
2530 IFSC=>BMANDNM<5THENNMM=NM+1:BM=BM+800:GOSUB1690:GOSUB1720
2540 BP=BP+500:FORD=1TO1500:NEXT:GOSUB1280:POKELG,32
2550 IFBP>4000THENBP=990
2560 PF=PF+1:IFPF>2THENPF=1
2570 GOTO1100

```

```

2580 POKE198,0:PRINTCHR$(8)"[BL]"
2590 PRINTSPC(10);" @ @ @ @ @"
2600 PRINTSPC(10);" @ @ @ @ @ @"
2610 PRINTSPC(10);" @ @ @ @ @"
2620 PRINTSPC(10);" @ @ @ @ @ @ @"
2630 PRINTSPC(10);" @ @ @ @ @ @ @"
2640 PRINTSPC(10);" @ @ @ @ @ @ @"
2650 PRINTSPC(10);" @ @ @ @ @ @ @"
2660 PRINTSPC(16);"[CD][CD] @ @ @ @ @"
2670 PRINTSPC(16);" @ @ @"
2680 PRINTSPC(16);" @ @ @"
2690 PRINTSPC(10);" @ @ @ @ @ @ @ @ @"
2700 PRINTSPC(16);" @ @ @"
2710 PRINTSPC(16);" @ @ @"
2720 PRINTSPC(16);" @ @ @ @ @ @"
2730 PRINTSPC(15);"[CD][CD]PRESS A KEY":POKE198,0
2740 GETA$:IFA$=""THEN2740
2750 POKE53280,7:POKE53281,13:RETURN

```



Have you ever felt like a mouse in a maze? Well with this game you might as well be one. You won't be relying on your nose to find the cheese at the end because there is none. At all times you can see the maze exit. While the maze is being built, you have a chance to plan a way out.

There is only one way out. Once the maze is complete your 'mouse' appears at the top left-hand corner. Using the keys N (left), M (right), J (up), and the space bar (down) you race against time to get to the lower right-hand corner of the screen.

### Variables Used

U%	- cell openings
MZ%(XM,YM)	- maze and dimensions
A\$	- Yes or No answers
L,A	- counters
X,Y	- cell co-ordinates
B	- random door opening
R	- cell character selector
P	- cell character
DP,Q	- sound control

## HAZE MAZE PROGRAM

```

100 POKE650,128
110 FORI=54272TO54296:POKEI,0:NEXTI
120 POKE54277,64:POKE54278,128:POKE54272,17:POKE54273,19
130 POKE54296,15
140 PRINTCHR$(142);" [SC] [BK] ";
150 POKE53281,1:POKE53281,1
160 INPUT "[SC] [CD] INSTRUCTIONS";A$:IFLEFT$(A$+"Y",1)<>
    "N"THEN GOSUB820
170 POKE53280,5:POKE53281,5
180 PRINT"[SC]"
190 XM=24:YM=40
200 DIMMZ%(XM,YM),U%(3)
210 FORL=55296TO56295:POKE54276,17:POKEL,2:POKE54276,16:
    NEXTL
220 FORL=1TO39:MZ%(0,L)=10:MZ%(XM,L)=10:NEXTL
230 FORL=1TO24:MZ%(L,0)=5:MZ%(L,YM)=5:NEXTL
240 MZ%(0,0)=15:MZ%(0,YM)=15:MZ%(XM,0)=15:MZ%(XM,YM)=15
250 X=10:Y=10
260 A=0
270 POKE54276,17
280 IFMZ%(X-1,Y)=0THENU%(A)=1:A=A+1
290 IFMZ%(X,Y-1)=0THENU%(A)=4:A=A+1
300 IFMZ%(X,Y+1)=0THENU%(A)=2:A=A+1
310 IFMZ%(X+1,Y)=0THENU%(A)=3:A=A+1
320 POKE54276,16
330 IFA=0ANDX=10ANDY=10THEN530
340 IFA=0THENR=INT(MZ%(X,Y)/256):GOTO450
350 B=INT(RND(1)*(A+1));IFB>=ATHEN350
360 R=U%(B)
370 POKE54276,33

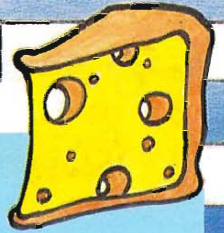
```



# HAZE MAZE



# HAZE MAZE CONTINUED



```
380 IFR=1THENMZ%(X,Y)=(MZ%(X,Y)OR1):
    MZ%(X-1,Y)=(3*256OR4)
390 IFR=2THENMZ%(X,Y)=(MZ%(X,Y)OR2):
    MZ%(X,Y+1)=(4*256OR8)
400 IFR=3THENMZ%(X,Y)=(MZ%(X,Y)OR4):MZ%(X+1,Y)=(256OR1)
410 IFR=4THENMZ%(X,Y)=(MZ%(X,Y)OR8):MZ%(X,Y-1)=(2*256OR2)
420 POKE54276,32
430 GOSUB990
440 POKE55296+40*X+Y,7
450 POKE54276,65
460 IFR=1THENX=X-1
470 IFR=2THENY=Y+1
480 IFR=3THENX=X+1
490 IFR=4THENY=Y-1
500 GOSUB990
510 POKE55296+40*X+Y,2:POKE54276,64
520 GOTO260
530 POKE54276,0
540 X=1:Y=1:MZ%(1,1)=MZ%(1,1)OR8:GOSUB990
550 X=1:Y=0:MZ%(1,0)=2:GOSUB990
560 X=1:Y=0:MZ%(1,0)=2:GOSUB990
570 X=23:Y=39:MZ%(23,39)=MZ%(23,39)OR2:GOSUB990
580 X=24:Y=39:MZ%(24,39)=8:GOSUB990
590 X=1:Y=0
600 TI$="000000"
610 GETA$
620 PRINT"[HM][CD]"RIGHT$(STR$(INT(TI/6)/10),
    LEN(STR$(INT(TI/6)/10))-1)
630 POKE55296+40*X+Y,4
640 IFA$="J"AND(MZ%(X,Y)AND1)<>0THENX=X-1
650 IFA$="N"AND(MZ%(X,Y)AND8)<>0THENY=Y-1
660 IFA$="M"AND(MZ%(X,Y)AND2)<>0THENY=Y+1
670 IFA$=" "AND(MZ%(X,Y)AND4)<>0THENX=X+1
680 POKE55296+40*X+Y,3
690 IFX<>24ANDY<>40THEN610
700 RESTORE
710 POKE54296,15
720 FORL=0TO24
730 READLO,HI,Q
740 POKE54272,LO:POKE54273,HI:
    POKE54276,33
750 FORT=0TO30*Q:NEXTT
760 POKE54276,32
```



```

770 FORT=0TO10*Q:NEXTT
780 NEXTL
790 PRINT"[HM][YL]PRESS <RETURN> TO PLAY AGAIN";
800 GETA$:IFA$<>CHR$(13)THEN800
810 CLR:GOTO180
820 PRINT"[SC]"
825 PRINTTAB(15);"HAZE MAZE":PRINTTAB(12);
    "BY MATS OEHRAN"
830 PRINTTAB(8);"[CD][RV]      INSTRUCTIONS:
    [RO]"
840 PRINT"[PU][CD]THIS PROGRAM DRAWS A MAZE."
850 PRINT"YOU'RE TO MOVE ACROSS IT IN THE
    SHORTEST";
860 PRINT"POSSIBLE TIME."
870 PRINT"WHEN THE MAZE IS READY (TOTALLY RED);"
880 PRINT"YOU GUIDE THE LITTLE LIGHT SQUARE WITH:"
890 PRINTTAB(17);"[CY]UP"
900 PRINT"
    [BK][RV]J[RO]"
910 PRINT"
    [CY]LEFT[BK]  [RV]N[RO]  [RV]M
    [RO]  [CY]RIGHT[BK]"
920 PRINT"
    [RV]<SPACE>[RO]"
930 PRINTTAB(15);"[CY]DOWN[BK]"
940 PRINT"[CD][PU]THE START IS IN THE UPPER LEFT
    CORNER."
950 PRINT"THE FINISH IS IN THE LOWER RIGHT
    CORNER."
960 PRINTTAB(11);"[BK][CD][RV]PRESS <RETURN>[RO]"
970 GETA$:IFA$<>CHR$(13)THEN970
980 RETURN
990 IF((MZ%(X,Y)AND1)<>0)AND((MZ%(X,Y)AND8)<>0)
    THENP=32+128:GOTO1030
1000 IF((MZ%(X,Y)AND1)<>0)THENP=101+128:GOTO1030
1010 IF((MZ%(X,Y)AND8)<>0)THENP=99+128:GOTO1030
1020 P=79+128
1030 POKE1024+40*X+Y,P
1040 RETURN
1050 DATA 61,126,4,61,126,4,38,126,2,38,126,4,38,
    126,2,68,149,2
1060 DATA 68,149,2,57,172,2,45,198,2,51,97,6,45,
    198,1,51,97,1
1070 DATA 57,172,2,68,149,2,68,149,2,38,126,2,68,
    149,2,57,172,2
1080 DATA 45,198,3,51,97,1,57,172,2,57,172,2,51,
    97,2,51,97,2,45,198,6

```



# GETAWAY

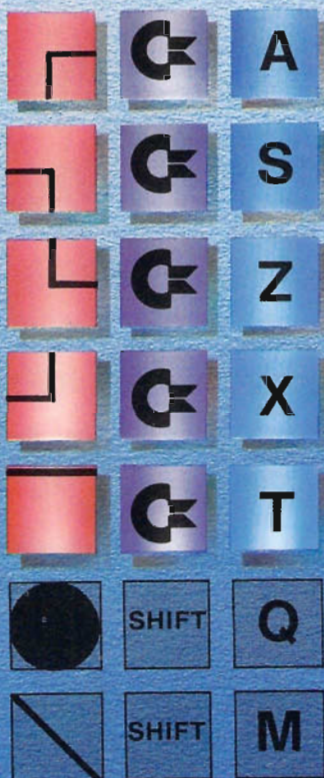


You are the driver for a bank robbery. Sitting impatiently at the wheel of the van you await your colleagues' return. They are inside the bank throwing money out to you. As they are in the second story in several locations, you drive to the spots where they are throwing the money.

Watch out though! Here come the police. Quickly you try to leave. In the rush you drop the van keys on the floor. You fumble about in the dark to pick the correct key to restart the engine before the police arrive.

## Getaway Graphic Symbols

To Get: Press Together:



## Variables Used

SY,NU,C,L,VO,R-	sound control
A(U)	- random number function
M,G,A,Z,D,B	- counters
RS,T,SG,P,F	- screen setup
Y	- helicopter frequency
Q	- helicopter
O	- amount of money sack
X	- van position
H	- high score
US	- move cursor
J	- number of lives
VS,AS	- Yes or No answers
HS	- delay
S,H	- goods collected



# GETAWAY



```
10 FX=0:VV=53248:POKE2042,13
20 DATA 0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,1,255,
0,0,64,0,0,64
25 DATA 160,0,224,0,3,12,160,12,2,127,240,1,32,0,2,24,0,4,
15,255,240,0,16,16
30 DATA 0,16,16,0,16,16,0,255,254
40 FORI=0TO62:READJ:POKE832+I,J:NEXTI
100 POKE53280,4:POKE53281,11:POKE54277,64:POKE54278,128
110 C=54296:R=54272:L=54273:W=54276:PRINT"[SC]":H=0:
U$="[CD][CD][CD][CD][CD][CD][CD][CD][CD][CD][CD]
[CD]":F=54272:VO=3
120 DEFFNA(U)=INT(U*RND(0)):GOTO240
130 M=250:POKEC,10:POKER,175:GOSUB220
140 POKER,24:POKEL,16:POKEW,33:GOSUB220:POKEW,32
150 POKER,22:POKEL,13:POKEW,33:GOSUB220:POKEW,32
160 POKER,20:POKEL,25:POKEW,33:GOSUB220:POKEW,32
170 POKER,19:POKEL,17:POKEW,33:GOSUB220:POKEW,32
180 POKER,23:POKEL,22:POKEW,33:GOSUB220:POKEW,32
190 M=50:POKER,0:POKEL,0:GOSUB220
200 POKER,64:POKEL,30:POKEW,33:M=250:GOSUB220:POKEW,32
210 POKEC,0:POKER,0:POKEL,0:GOTO230
220 FORE=1TOM:NEXT:RETURN
230 S=0:J=3:X=0:RETURN
240 FORA=1024TO1103:POKEA,164:POKEA+F,5:NEXTA
250 FORB=1944TO2023:POKEB,164:POKEB+F,5:NEXTB
260 PRINT"[HM][CD][CD][CD]"
270 PRINTSPC(16);"[BK]GETAWAY"
280 PRINTSPC(4);"[CD][CD]PRESS [RV][WH]Q[RO][BK] FOR
INSTRUCTIONS OR ANY"
290 PRINTSPC(9);"OTHER KEY TO CONTINUE"
300 GOSUB130
310 POKEL98,0
320 GETA$:IF A$="" THEN 320
330 IF A$ <> "Q" THEN PRINT"[SC]":GOTO430
340 PRINT"[SC][CD] YOU ARE THE DRIVER OF THE GETAWAY VAN."
350 PRINT"THE BANK ROBBERS ARE THROWING MONEY OUT"
360 PRINT"TO YOU. MOVE THE VAN BACK AND FORTH"
370 PRINT"(WITH THE KEYS [RV]Z[RO] AND [RV]TXE) TO
CATCH THE"
380 PRINT"MONEY AS IT DROPS. WHEN THE POLICE COME"
390 PRINT"YOU MUST PICK A KEY TO START THE ENGINE."
400 PRINTSPC(5);"[CD]PRESS ANY KEY TO CONTINUE"
410 GETH$:IF H$="" THEN 410
420 PRINT"[C]"
430 FORI=1944TO2023:POKEI,160:POKEI+F,0:NEXT
```

```

440 RS=FNA(5):FORA=1904TO1943:POKEA,160:POKEA+F,0:NEXT:
IFRS>=4THENSG=40
450 PRINT"[HM][BK]"
460 PRINT"[HM]GOODS=$";S
470 PRINT"[HM]"SPC(14)"LIVES=";J
480 PRINT"[HM][CD]HI-GOODS=$";H
490 PRINT"[RV][BL]$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$
$$$";
500 PRINT"[RV][YL]$$$$$$$$$$$$$$$$$$$$[PU]BANK[YL]$$$$$$$$
$$$$$$$$$$$$$$$";
510 PRINT"[RV][BL]$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$
$$$";
520 P=FNA(37)+1:O=FNA((10)+1)*10:IFRS<4THENSG=80
530 T=P+1265
540 FORD=TTOT+600STEPSPG
550 POKEC,9:POKER,38:POKEL,126:POKE54276,33:
POKE54276,32
560 POKED,164:POKED+F,4:POKED-40,32:POKED=80,32
570 IFPEEK(197)=36ANDX<34THENX=X+1
580 IFPEEK(197)=12ANDX>0THENX=X-1
590 PRINT"[HM][CD][CD][CD][CD][CD][CD]"U$
600 PRINTTAB(X)"[RD][RV]▣▣[RO][WH]▣":PRINTTAB(X)
"[RD][RV]▣▣[RO]":PRINTTAB(X)"[BK]■●"
610 IFPEEK(D+40)<>32ANDPEEK(D+40)<>160THEN660
620 POKEC,0:NEXTD
630 POKEC,10:POKED,32:POKED-80,32:POKED-40,32:S=S-20
640 POKER,34:POKEL,75:POKEW,33:M=100:GOSUB220:POKEW,32
650 POKER,0:GOTO680
660 S=S+O:POKED,32:POKED-80,32:POKED-40,32:POKEW,33
670 M=100:GOSUB220:POKEW,32
680 POKEC,0:Y=FNA(7):IFY=4THEN780
690 GOTO440
700 PRINT"[SC][HM]GOODS=$";S
710 IFH<STHENH=S
720 PRINT"[BK][CD]HI-GOODS=$";H
730 PRINTU$"[CR][CR]ANOTHER GAME (Y/N)"
740 POKE198,0:INPUTV$
750 IFV$="Y"THENH=0:J=3:X=0:GOTO420
760 IFV$<>"N"THEN700
770 PRINT"[SC][HM]"U$"[PU][CR][CR]{CR}[CR][CR][RV]OK,
BYE BYE!":END
780 PRINT"[SC]"
790 VO=0:NU=0:POKE198,0
800 Q=1789:V=FNA(26)+65:IFX=16THENX=15
810 N$=CHR$(V)
820 FORI=1 TO 50
830 PRINT"[SC]";U$

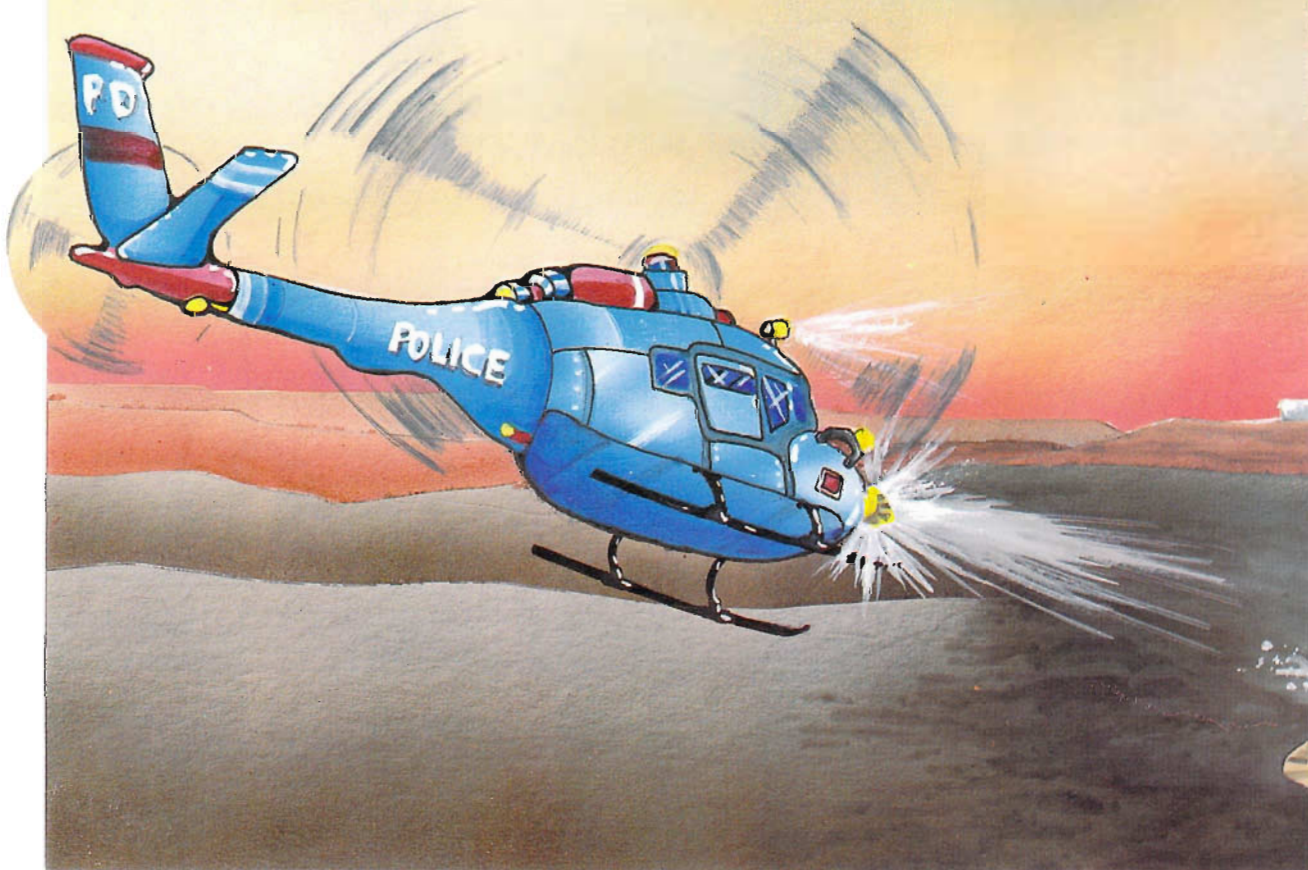
```



```

840 PRINTTAB(16);"[BK][CY]LOOK OUT!":NEXTI
845 XS=0:FX=0:POKEVV+21,4:POKEVV+29,4:POKEVV+23,4
850 PRINT"[SC]":PRINTSPC(10);"[YL][CD][CD][CD]THE POLICE
    ARE COMING"
860 PRINT"[CD][CD]TO LOSE THEM FIND THE CORRECT KEY"
870 XS=XS+10:IFXS>=255THENXS=0:POKEVV+16,4:FX=255
875 POKEVV+5,169:POKEVV+4,XS
880 VO=VO+.4:POKEC,VO:POKE198,0
890 PRINT"[HM][CD][CD][CD][CD][CD][CD]"U$
900 PRINTTAB(X)"[RD][RV]▣▣[RO][WH]▣":PRINTTAB(X)
    "[RD][RV]▣▣▣[RO]":PRINTTAB(X)"[BK]▣▣[RO]"
980 PRINT"[HM]"U$"[CR][BK]PRESS A KEY"
990 POKER,45:POKEL,198:POKEW,129:M=10:GOSUB220:POKEW,128
1000 POKER,40:POKEL,200:POKEW,128
1010 GETM$:IFM$=""THENPOKER,0:GOTO990
1020 IFM$=N$THENPOKEVV+21,0:GOTO1050
1030 IF(FX+XS+20)/10=>XTHENPOKEVV+21,0:GOTO1110
1040 GOSUB1230:Q=Q+1:NU=1:GOTO870
1050 PRINT"[SC][HM]";U$;TAB(13);"[YL][RV]YOU WERE LUCKY!"
1060 PRINTTAB(13);"[PU][CD][RV]YOU GUESSED IT"
1070 POKEC,10
1080 FORSY=128TO250STEP3

```





```

1090 POKER,SY:POKEL,255-SY:POKEW,33:M=30:GOSUB220:
    POKEW,32:NEXTSY
1100 PRINT"[SC]":POKEL,0:POKER,0:POKEW,0:GOTO430
1110 POKEL,0:POKER,0:POKEW,0
1120 FORZ=1TO50:PRINT"[SC]":PRINTTAB(13);U$;"[PU][RV]
    YOU'RE CAUGHT!!!":NEXTZ
1130 PRINTTAB(13);"[YL][CD][CD][RV]THE LETTER WAS ";N$
1140 POKEC,10
1150 POKER,38:POKEL,63:POKEW,33:M=250:GOSUB220:POKEW,32
1160 POKER,43:POKEL,52:POKEW,33:M=150:GOSUB220:POKEW,32
1170 POKER,38:POKEL,63:POKEW,33:M=250:GOSUB220:POKEW,32
1180 POKER,64:POKEL,58:POKEW,33:M=450:GOSUB220:POKEW,32
1190 POKEC,0:POKER,0:POKEW,0:GOTO1200
1200 J=J-1:S=S-100
1210 IFJ=0THENPRINT"[SC]":GOTO700
1220 PRINT"[SC]":GOTO 430
1230 FORI=Q-2TOQ:POKEI,32:NEXT:POKEQ-41,32:POKEQ-40,32:
    POKEQ-161,32:POKEQ-163,32
1240 FORI=Q-85TOQ-80:POKEI,32:NEXT
1250 FORI=Q-125TOQ-120:POKEI,32:NEXT:FORI=Q-203TOQ-199:
    POKEI,32:NEXT:RETURN

```



# SUB ATTACK

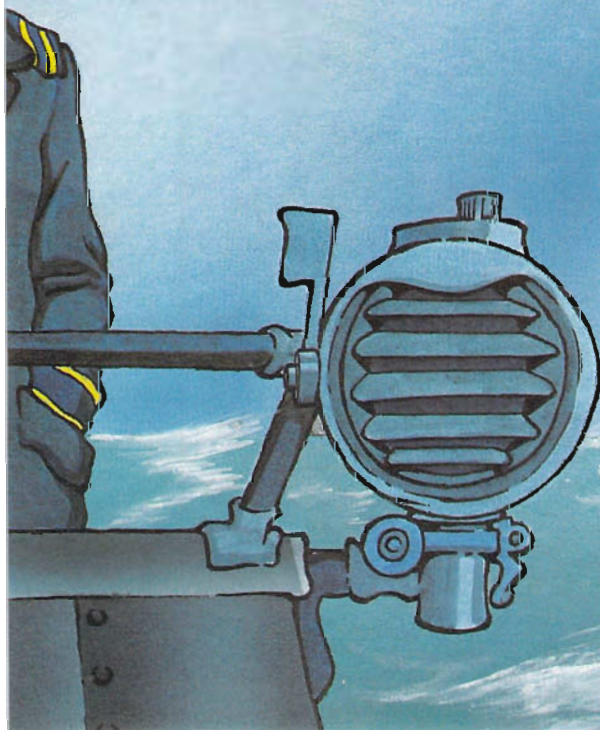


The south coast is in danger. The waters are plagued by pirates. They travel the waters in many different vessels. The ones that are commonly encountered are stolen cargo boats, launches, speed boats and tankers. You are the Captain of the Guardian, a submarine, and you have been selected to patrol the pirate-infested waters. The best strategy, you decide, is to sit on the ocean floor

and use torpedoes to cripple the pirate ships. Your submarine's movement is controlled with the keys I (left) and P (right). Missiles are fired with the O key. You have only two minutes to destroy as much of the pirate fleet as you can.

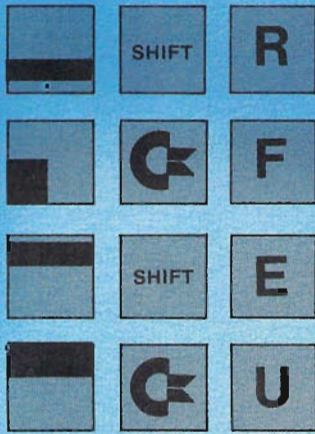
## Variables Used

S\$	- submarine
T\$	- cargo ship
T(E)	- type of ship
C\$	- carrier
LA\$	- launch
SP\$	- speedboat
B\$	- blank out line
B	- direction of ship movement
C	- height of missile
D	- height of ship
G	- probability of ship
J	- delay
K	- flag
NO, V, SO	- sound control
R(X)	- general purpose random number
SC	- score
X	- counter

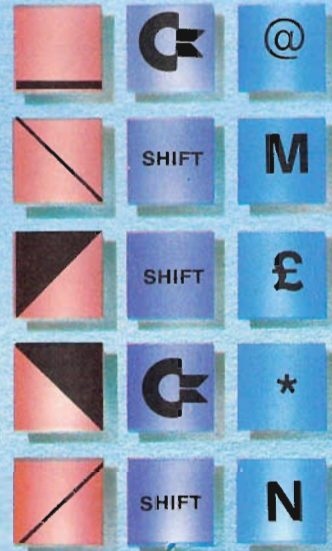


# Sub Attack Graphic Symbols

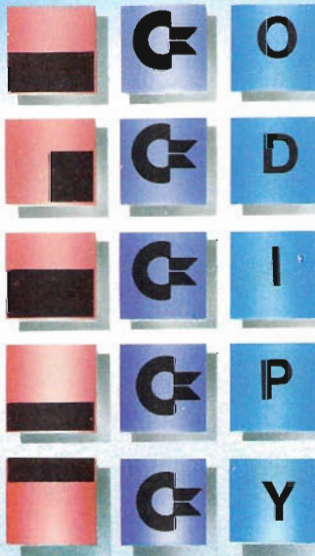
To Get: Press Together:



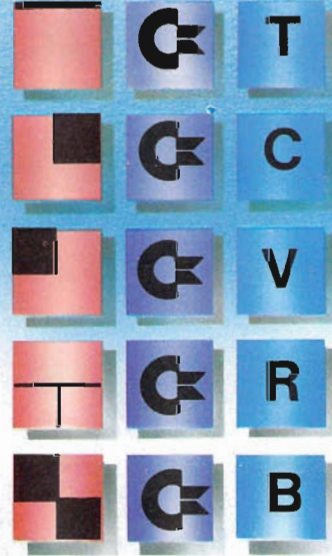
To Get: Press Together:



To Get: Press Together:



To Get: Press Together:



```

100 POKE53280,5:POKE53281,3
110 GOTO930
120 PRINT"[SC]";
130 DEFFNR(X)=INT(X*RND(2))+1
140 NO=54272:V=54296:SO=54273
150 POKE54277,128:POKE54278,128:POKE54272,34:POKE54273,75
160 PRINT"[YL]#####[RV]■ ■[RO]#####[BK]■[YL]
[RV] [RO]#####";
170 PRINT"[BK] [RV] [RO] ■■[RV] ■ ■■■[RO]####[RV]
[RO]#####";
180 PRINT"[YL]■■■[RV] ■ ■■■[RO]■[BK]■■■ ■[YL]■■[RV]■
[RO] ■#####";
190 PRINTTAB(10);"[BK] ■■■■ [RV]■ ■■[RO]■"
200 S$="[BK][RO] [RV] [RO] [CD][CL][CL][CL][CL][CL] [RV]
■ ■■[RO] ":T=8:CO=54272
210 T$="[GR] ■[BK] ■ [BL]■■ [CD][CL][CL][CL][CL][CL][CL]
[CL][BL] ■[RV]C62[RO]■ "
220 SP$="[BK] ■[WH][RV]■[RO][CD][CL][CL][CL][CL][RD] [RV]
6 [RO][PU]■"
230 C$="[WH]■[BL][RV] [RO][WH]■■■ [CD][CL][CL][CL][CL]
[CL][CL][CL][CL][CL][CL] ■[RV] [RO]■ "
240 LA$="[BL]■ [WH][RV]■[BK] [RO][RD]■ [CD][CL][CL][CL]
[CL][CL][CL][CL][CL]■[RV] ■[RO] "
250 BL$=" " " :BL$=BL$
+BL$+BL$
260 IFK=1THEN990
270 PRINT"[HM][CD][CD][CD][CD][CD][CD][CD][CD][CD][CD][CD]
[CD][CD][CD][CD][CD][CD][CD] ";S$
280 PRINT"[BK][YL]#####
■";
290 POKE2023,227:POKE56295,7
300 POKE198,0
310 TI$="000000"
320 GOTO520
330 IFTI$>"000200"THEN360
340 IFC>0THEN480
350 GOTO710
360 POKENO,0
370 PRINT"[BL][SC][CD][CR]YOUR SCORE IS";SC:FORT=1TO5000:
NEXT:CLR:GOTO1130
380 POKESO,0:POKE55313,1:GETA$:IFA$="0"THEN460
390 IFPEEK(203)=64THEN330
400 IFPEEK(203)=33THENT=T-1:GOTO430
410 IFPEEK(203)=41THENT=T+1:GOTO430
420 GOTO330
430 IFT<0THENT=T+1:GOTO330
440 IFT>32THENT=T-1:GOTO330
450 PRINT"[HM][CD][CD][CD][CD][CD][CD][CD][CD][CD][CD][CD]
[CD][CD][CD][CD][CD][CD][CD][CD]"TAB(T)S$;:GOTO330
460 IFPEEK(M)=93THENPOKEM,32
470 POKESO,250:M=1786+T:POKEM,93:POKEM+CO,0:C=1:I=T+1:
GOTO710

```



```

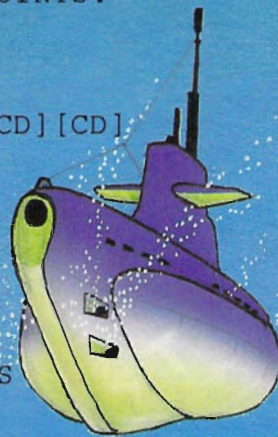
480 POKESO,0:POKEM,32:M=M-40:C=C+1
490 IFC>15THENC=0:GOTO710
500 IFPEEK(M)=32THENPOKEM+CO,1:POKEM,93:GOTO710
510 GOSUB650:GOSUB870:C=0:SC=SC+(20*E)
520 D=FNR(3):G=FNR(10)
530 B=INT(2*RND(1))*2-1:
540 GOSUB640:POKEV,D
550 ONGGOTO560,570,570,570,600,600,600,600,630,630
560 PRINTSP$:T(4)=0:E=4:POKENO,152:GOTO710
570 POKENO,210:E=2
580 IFB=1THENT(2)=0:PRINTT$:GOTO710
590 T(2)=32:PRINTTAB(32);T$:GOTO710
600 E=1:POKENO,230
610 IFB=1THENT(1)=0:PRINTC$:GOTO710
620 T(1)=32:PRINTTAB(32)C$:GOTO710
630 POKENO,148:PRINTTAB(32)LA$:T(3)=32:E=3:GOTO710
640 PRINT"[HM][CD][CD][CD]":FORX=1TOD:PRINT:NEXT:RETURN
650 GOSUB640:PRINTTAB(I)"■[CR][RV]■[CD][CL][CL][CD]■[RO]
■":POKEV,15
660 FORX=255TO128STEP-1:POKE54276,129:POKENO,X:NEXT:
POKENO,250
670 GOTO890
680 FORX=15TO0STEP-.04:POKEV,X:NEXT
690 POKEV,2:POKE198,0
700 POKENO,0:GOSUB640:RETURN
710 POKE55313,0
720 J=J+1:IFJ=10THENJ=0:POKE54273,230
730 GOSUB640
740 ONEGOTO810,780,840,750
750 T(4)=T(4)+1

```

```

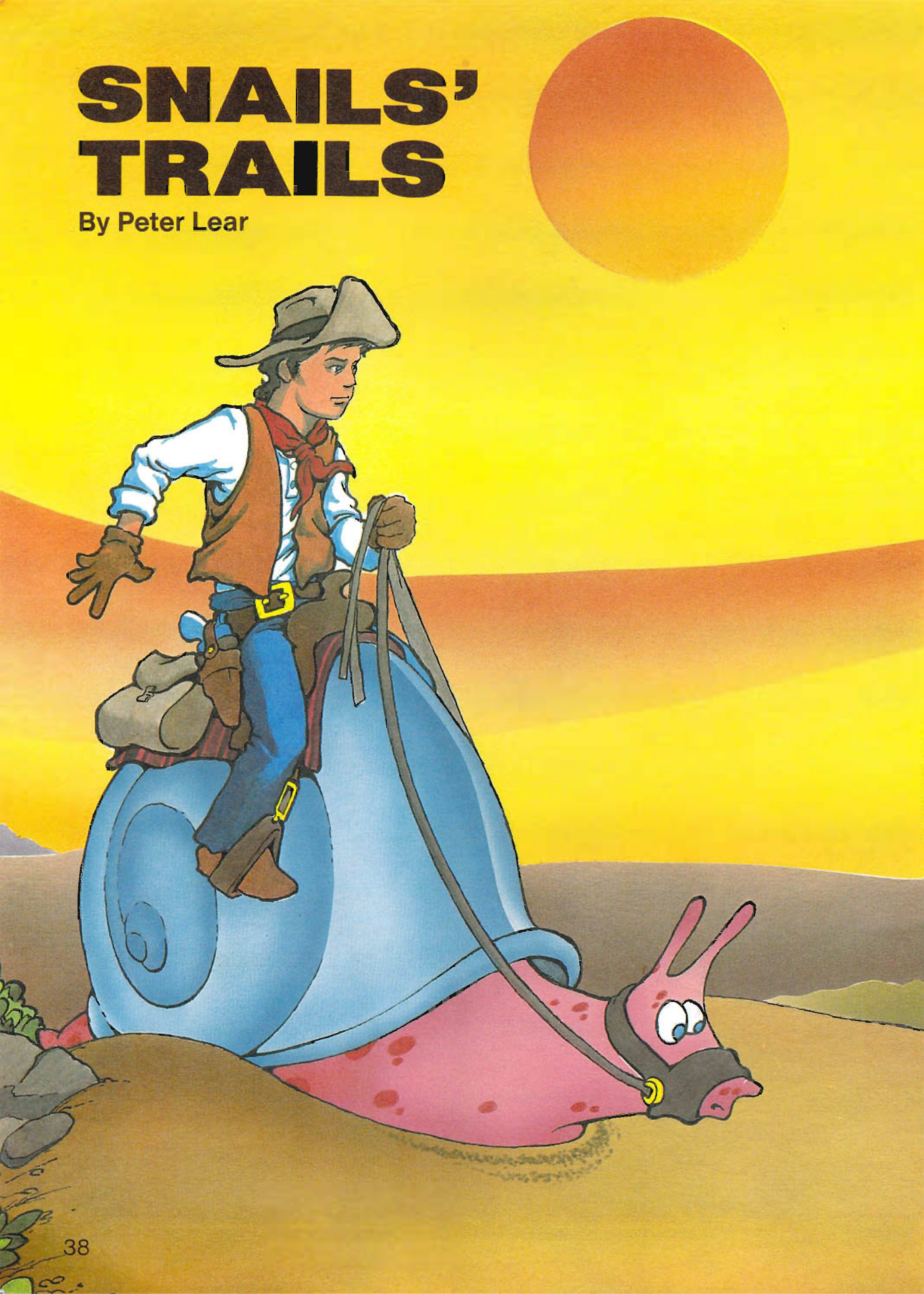
760 IFT(4)>34THENGOSUB870:GOTO520
770 PRINTTAB(T(4))SP$:GOTO380
780 T(2)=T(2)+B
790 IFT(2)=-LORT(2)=34THENGOSUB870:GOTO520
800 PRINTTAB(T(2))T$:GOTO380
810 T(1)=T(1)+B
820 IFT(1)=-LORT(1)=33THENGOSUB870:GOTO520
830 PRINTTAB(T(1))C$:GOTO380
840 T(3)=T(3)-1
850 IFT(3)<0THENGOSUB870:GOTO520
860 PRINTTAB(T(3))LA$:GOTO380
870 PRINTBL$
880 RETURN
890 GOSUB640:GOSUB870
900 PRINT"[CU][CU][CU]"SPC(T(E)+2);"[RV]▣▣▣▣[RO]";SPC(35);
    "[WH]□□□□□□"
910 IFI>T(E)+3THENSC=SC+(T(E)+6-I)*10:GOTO680
920 SC=SC+(I-T(E))*10:GOTO680
930 PRINT"[SC]":PRINTTAB(12);"[CD][PU]>>>>>>[BL]SUB ATTACK
    [PU]<<<<<<<"
940 PRINT"[BK][CD][CD][CD][CD][CD][CD][CD]DESTROY AS MANY
    ENEMY SHIPS AS POSSIBLE IN TWO MINUTES."
950 PRINTTAB(15);"[PU][CD][CD][CD][CD][CD][CD]PRESS A KEY"
960 POKE198,0
970 GETDE$:IFDE$=""THEN970
980 K=1:GOTO200
990 K=0
1000 PRINT"[SC]":PRINTTAB(15);"[CD][CD][CD]SCORING:"
1010 PRINTTAB(10);"[CD]";C$;"[BK] - 20 POINTS"
1020 PRINTTAB(10);"[CD]";T$;"[BK] - 40 POINTS"
1030 PRINTTAB(10);"[CD]";LA$;"[BK] - 60 POINTS"
1040 PRINTTAB(10);"[CD]";SP$;"[BK] - 80 POINTS"
1050 PRINTTAB(10);"[CD][CD]+ BONUS POINTS!"
1060 PRINTTAB(12);"[CD]PRESS A KEY"
1070 POKE198,0
1080 GETDE$:IFDE$=""THEN1080
1090 PRINT"[SC]":PRINTTAB(15);"[CD][CD][CD]
    [CD][CD][CD]CONTROLS:"
1100 PRINTTAB(10);"[CD]'I' - MOVES
    LEFT"
1110 PRINTTAB(10);"[CD]'P' - MOVES
    RIGHT"
1120 PRINTTAB(10);"[CD]'O' - FIRES A
    MISSILE"
1130 PRINTTAB(10);"[BL][CD][CD] PRESS
    A KEY TO START"
1140 POKE198,0
1150 GETDE$:IFDE$=""THEN1150
1160 GOTO120

```



# SNAILS' TRAILS

By Peter Lear





This is a game for two players. Each player starts with an arrow in a corner. The upper left corner has player one's arrow, the lower right corner is where player two can be found. When the game starts each arrow will begin moving. While each arrow moves it leaves a trail of arrows behind it. Neither player's arrow may touch these or the wall boundaries. If either does, that player loses the game. To change directions, use the

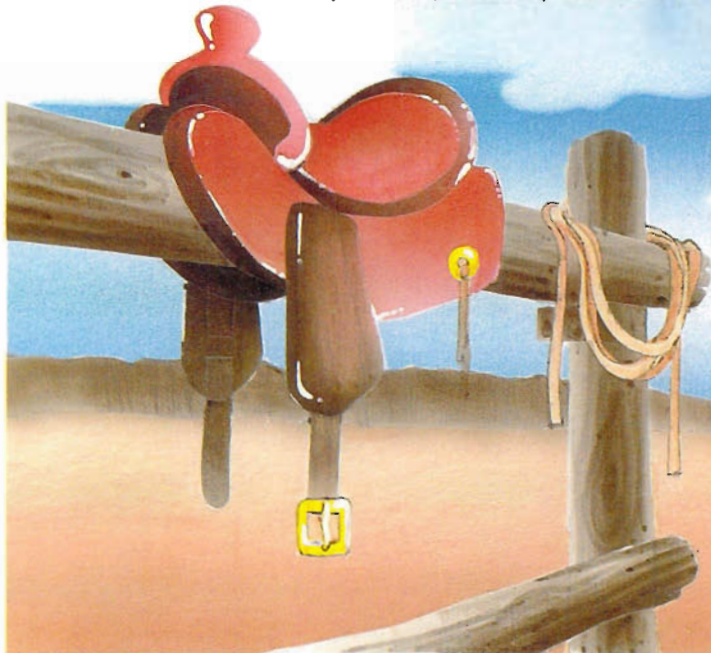
keys shown in the program. Player one may use a joystick. The joystick must be plugged into control port 2 by the power switch. Points are awarded for placing arrows in the highest valued color areas. Program one displays the values.

## Variables Used

X,I	-	counters
A\$	-	select joystick or keyboard
BR	-	end of memory
M,B,X,I	-	counters
N	-	data holder
SD,L	-	sound control
DU,JK	-	joystick or keyboard flag
D1,D2	-	player directions
H1,H2	-	arrowhead types
C1,C2	-	player positions
S1,S2	-	player scores
CC	-	character/color difference
LF,NF	-	flag
P1,P2	-	point value for players' next square
A\$	-	delay

# SNAILS' TRAILS

```
100 POKE53280,7:POKE53281,1
110 PRINT"[SC][BL]"
120 PRINTSPC(15)"SNAILS' TRAILS"
130 PRINTSPC(15);"COPYRIGHT 1982"
140 PRINTSPC(15);"BY PETER LEAR"
150 PRINT
160 PRINTSPC(16);"KEYS TO USE:"
170 PRINTSPC(12);"[CD]PLAYER          PLAYER"
180 PRINTSPC(13);"ONE                TWO"
190 PRINTSPC(14);"E                    @"
200 PRINTSPC(13);"S D                [ ]"
210 PRINTSPC(14);"X                    ?"
220 PRINTSPC(18);"POINTS:"
230 PRINTSPC(17);"[CD]WHITE=1 '[RV][WH] [RO][BL]'"
240 PRINTSPC(17);"CYAN =3 '[RV][CY] [RO][BL]'"
250 PRINTSPC(17);"PURPLE=5 '[RV][PU] [RO][BL]'"
260 PRINTSPC(17);"BLUE =6 '[RV] [RO]'"
270 PRINTSPC(7);"[CD]WINNER GETS A 50 POINT BONUS"
280 PRINTSPC(16);"[CD]1-KEYBOARD"
290 PRINTSPC(16);"2-JOYSTICK"
300 PRINTSPC(13);"(PLAYER ONE ONLY)"
310 PRINTSPC(15);"SELECT 1 OR 2"
320 FORI=1TO10:GETA$:NEXT
330 GETA$:JK=VAL(A$):IFJK<1ORJK>2THEN330
340 IFJK=1THENJK=197
350 POKE251,JK
360 PRINT"[SC]ONE MOMENT"
370 POKE52,48:POKE56,48:CLR
380 BR=PEEK(51)+PEEK(52)*256
390 POKE56334,PEEK(56334)AND254:POKE1,PEEK(1)AND251
400 FORX=BRT0BR+511:POKEX,
    PEEK(X+53248-BR):NEXT
410 POKE1,PEEK(1)OR4:POKE
    56334,PEEK(56334)OR1:
    POKE53272,(PEEK(53272)
    AND240)+12
420 FORX=12528TO12535:READI:
    POKEX,I:NEXTX
430 FORX=12552TO12559:READI:
    POKEX,I:NEXTX
440 FORX=12768TO12775:READI:
    POKEX,I:NEXTX
450 FORX=12784TO12791:READI:
    POKEX,I:NEXTX
```



```
460 FORX=12544TO12551:POKEX,255:NEXTX
470 DATA 24,60,90,153,24,60,90,153,153,90,60,24,153,90,60,
24
480 DATA 17,34,68,255,255,68,34,17,136,68,34,255,255,34,68,
136
490 JK=PEEK(251)
500 POKE53280,3:POKE53281,13:GOTO660
510 FORH=15TO0STEP-3
520 POKE54296,H
530 FORI=0TO20STEP5
540 POKE54276,129
550 FORJ=1TO10:NEXTJ
560 POKE54276,128
570 POKE54273,72-I:POKE54272,169-I
580 NEXTI,H
590 RETURN
600 PA=PEEK(56320)
610 IF-((PAAND2^0)=0)=1THEND1=-40:H1=30:RETURN
620 IF-((PAAND2^1)=0)=1THEND1=40:H1=33:RETURN
630 IF-((PAAND2^2)=0)=1THEND1=-1:H1=60:RETURN
640 IF-((PAAND2^3)=0)=1THEND1=1:H1=62:RETURN
650 RETURN
660 HI=1
670 CC=54272:C1=1269:C2=1937:D1=40:D2=-40:H1=33:H2=30:
S1=0:S2=0:LF=0
680 POKE54296,15:POKE646,0:SD=1
690 PRINT"[WH][SC]"
700 PRINTSPC(9);"ONE--TIME---TWO----HI"
710 TI$="000000"
720 PRINTTAB(9);"-0---";RIGHT$(TI$,3)"----0-----";-HI
730 FORI=0TO39
740 POKE1144+I,42:POKE1144+CC+I,2:POKE1984+I,42:
POKE1984+CC+I,2
750 NEXTI
760 FORI=4TO24
770 POKE1024+I*40,42:POKE55296+I*40,2:POKE1063+I*40,42:
POKE55335+I*40,2
780 NEXTI
790 FORI=55536TO56136STEP40
800 FORJ=10TO30
810 POKEI+J,3
820 NEXTJ,I
830 FORI=55696TO55976STEP40
840 FORJ=15TO25
850 POKEI+J,4
```

```

860 NEXTJ,I
870 FORI=55816TO55856STEP40
880 FORJ=18TO22
890 POKEI+J,6
900 NEXTJ,I
910 TI$="000000"
920 POKE54277,64:POKE54278,128:POKE54273,17:POKE54272,37
930 IFPEEK(197)=55THEND2=40:H2=33
940 IFPEEK(197)=46THEND2=-40:H2=30
950 IFPEEK(197)=45THEND2=-1:H2=60
960 IFPEEK(197)=50THEND2=1:H2=62
970 IFJK=2THENGOSUB600:GOTO1020
980 IFPEEK(JK)=18THEND1=1:H1=62
990 IFPEEK(JK)=13THEND1=-1:H1=60
1000 IFPEEK(JK)=23THEND1=40:H1=33
1010 IFPEEK(JK)=14THEND1=-40:H1=30
1020 C1=C1+D1:C2=C2+D2
1030 IFPEEK(C1)<>32THENLF=1:C1=C1-D1:S1=S1-P1
1040 P1=PEEK(C1+CC):P1=ABS(P1-INT(P1/16+.5)*16)
1050 S1=S1+P1:PRINT"[HM][CD][CD]";TAB(9);-S1
1060 IFPEEK(C2)<>32THENLF=2:C2=C2-D2:S2=S2-P2
1070 P2=PEEK(C2+CC):P2=ABS(P2-INT(P2/16+.5)*16)
1080 S2=S2+P2:PRINT"[HM][CD][CD]";TAB(20);-S2
1090 POKEC1,H1:POKEC1+CC,5
1100 POKEC2,H2:POKEC2+CC,7
1110 IFLF>0THENGOSUB510:GOTO1150
1120 POKE54276,17:FORI=1TO5:NEXTI:POKE54276,16
1130 PRINT"[HM][CD][CD][CR][CR][CR][CR][CR][CR][CR][CR][CR]
[CR][CR][CR][CR][CR][CR][CR]"RIGHT$(TI$,3)
1140 GOTO930
1150 IFLF=1THENPRINT"[HM][CD][CD][CD][CR][CR][CR][CR][CR]
[CR][CR][CR][CR][CR][CR][CR]PLAYER-TWO-WINS":S2=S2+50

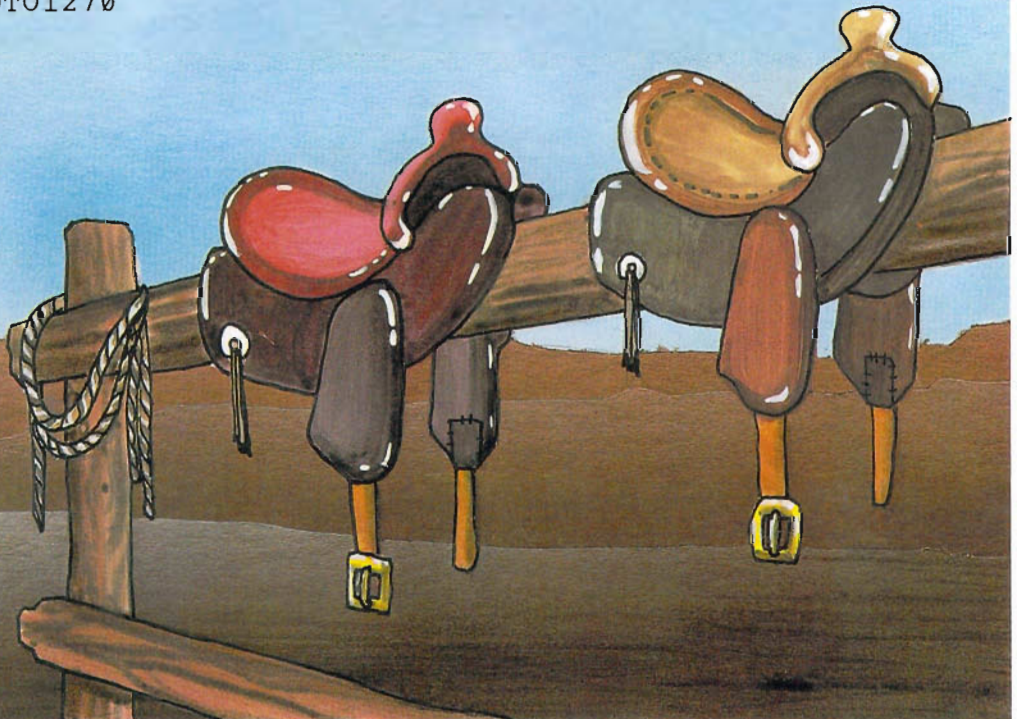
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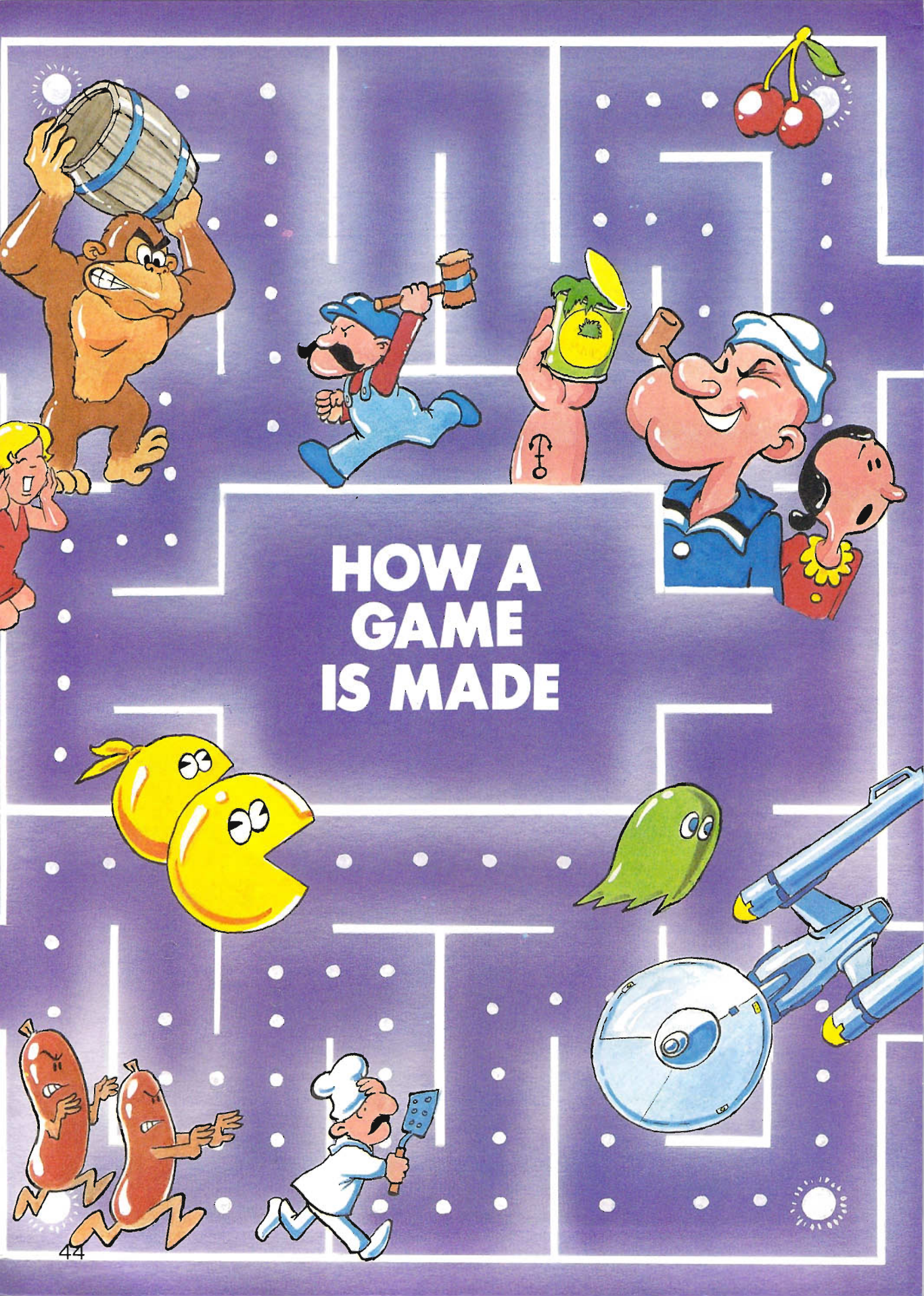


```

1160 IFLF=1THENPRINT"[HM][CR][CR][CR][CR][CR][CR][CR][CR]
[CR][CR][CR][CD][CD][CD][CD][CD][CD][CD][CD][CD][CD]
[CD][CD][CD][CD][CD][CD][CD][CD][CD][CD][CD][CD][CD]
[CD]PLAYER-ONE-LOSES";
1170 IFLF=2THENPRINT"[HM][CD][CD][CD][CR][CR][CR][CR][CR]
[CR][CR][CR][CR][CR][CR]PLAYER-ONE-WINS":S1=S1+50
1180 IFLF=2THENPRINT"[HM][CR][CR][CR][CR][CR][CR][CR][CR]
[CR][CR][CR][CD][CD][CD][CD][CD][CD][CD][CD][CD][CD]
[CD][CD][CD][CD][CD][CD][CD][CD][CD][CD][CD][CD][CD]
[CD]PLAYER-TWO-LOSES";
1190 PRINT"[HM][CD][CD]";TAB(9);-S1
1200 PRINT"[HM][CD][CD]";TAB(20);-S2
1210 IFS1>HITHENHI=S1
1220 IFS2>HITHENHI=S2
1230 FORI=1TO400:NEXTI
1240 IFPEEK(197)<>64THENPRINT"[HM][CD][CD][CD][CR][CR]
[CR][CR][CR][CR][CR][CR][CR][RD]*[BL]ANOTHER-ROUND?
[RD]***[CL][CL]";:GOTO1260
1250 GOTO1240
1260 FORI=1TO10:GETA$:NEXTI:FORI=1TO400:NEXTI
1270 IFPEEK(197)=25THENPRINT"-YES":FORI=1TO1200:NEXTI:
GOTO670
1280 IFPEEK(197)=13THENPRINT"-SURE":FORI=1TO1200:NEXTI:
GOTO670
1290 IFPEEK(197)=39THENPRINT"-NO [RV]!":FORI=1TO1200:
NEXTI:NF=1
1300 IFNF=1THENFORI=1TO10:GETA$:NEXTI:POKE36878,15:
PRINT"[SC]":END
1310 GOTO1270

```





# HOW A GAME IS MADE



Every game starts in the same place... in someone's head. The idea is then put down on paper. All the features of that game are written down. Pictures of the different characters and backgrounds are drawn. Every rule and aspect of the game is included in this paper plan.

The next step is to put all this information into an order of events. On another piece of paper shapes are drawn and each event of the game is put in a box, circle, or diamond. With each figure a brief note is made. The name of this series of shapes and notes is a flowchart.

Every event in the flowchart is a small program in itself. These small programs are commonly called subroutines. Breaking all the events

into subroutines makes the task of programming the game much easier. Tracing a flaw in any particular subroutine is easier than tracing a flaw in a game made not using subroutines.

Quite often subroutines can be used more than once. They can even be transferred from one game to another. There is no point in designing a new subroutine to examine which way a player has moved the joystick for every game using a joystick. By using some of the same subroutines from game to game, a programmer will save himself/herself a lot of time.

Here are some guidelines to follow when designing a game:

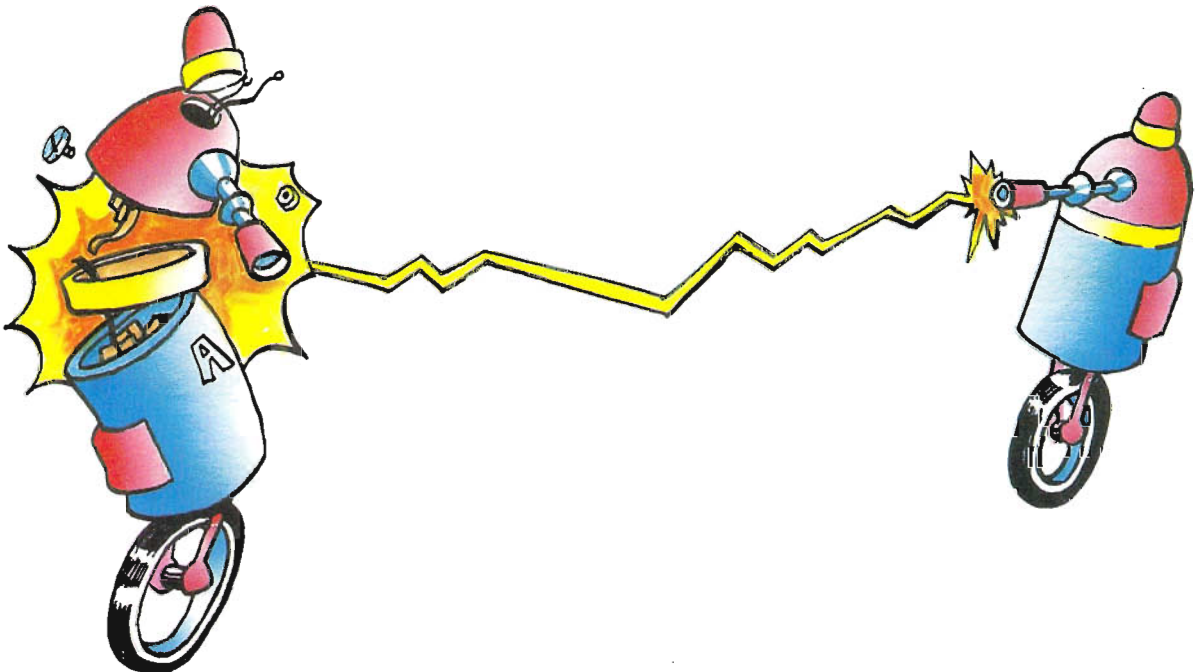
1. Write down your ideas.
2. Draw up a flowchart.
3. Use subroutines.
4. Use the same subroutines where possible.

Here is a description of how the game Snails' Trails works:

**Line Number (s) Operation**

100	Set screen colors.
100 to 310	Display game instructions.
320 to 350	Joystick or keyboard options.
370	Lock off section of memory for custom characters.
380 to 460	Set up custom characters.
470 to 480	Custom character data.
130 to 150	Data for joystick subroutine.

500	Set screen colors and move to main program.
510 to 590	Sound effect subroutine.
600 to 650	Joystick subroutine.
670	Set player colors, positions, directions, and scores and flag.
680	Turn up volume and set cursor color.
690 to 900	Set up screen and make noise.
910	Reset timer.
920 to 1140	Main loop.
920	Make beep.
930 to 1010	Check player movement.
1020 to 1100	Adjust player positions and update scores.
1110	Check for loss of game.
1120	Make beep.
1130	Display time.
1140	Move to beginning of main loop.
1150 to 1200	End of game.
1210 to 1220	Check for new high score.
1230	Delay.
1240 to 1260	Ask if another game is desired.
1270 to 1300	Print response.
1310	Loop back to beginning of another game inquiry.

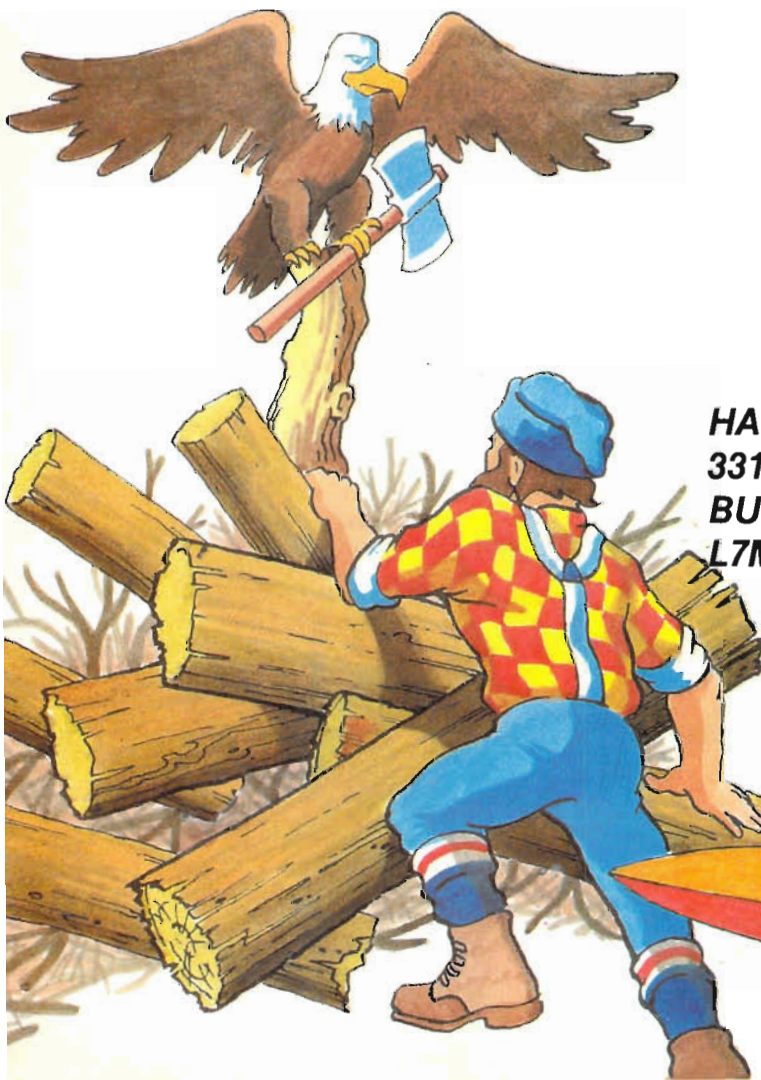












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