

SHARPSOFT



13

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SHARPSOFT USER NOTES

ISSUE 13

This special Listings Issue has been produced in place of the real Issue 13 which the Post Office kindly lost on route to the Printer.

Our postal disaster has once again put us behind with publication Dates but Issue 14 will contain the missing PASCAL Tutorial and we will try to recreate as many of the lost articles as possible.

Many thanks for all your contributions, keep them coming, after our disaster The User Notes need your support more than ever.

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MZ-80A

FIVE LISTINGS from S. G. DOW
in
BASIC SA-5510

GRAND PRIX Sharp Basic SA-5510 6.8k with REM's

```
7 REM
8 REM ---INITIALISATION---
9 REM
10 PRINT"█":DIMA(169,3),P1(6),P2(5),P3(8),P4(10):KS=18692:GOSUB3000
20 PRINT"██PRESS THE NUMBER WHEN YOU ARE READY":PRINTSPACE$(21)
30 GETL:IF(L=0)+(PEEK(KS)=1)THEN30
40 PRINT"█":R=2000:S=0:X=1:A=0:T=0:RM=11500:G=0:TH=0:B=0
467 REM
468 REM ---PRINT TRACK---
469 REM
470 Y=0:FORI=1TO189:COURSORA(I,1),A(I,2):PRINT"█":NEXT
480 FORV=1TO6:POKEP1(V),216:NEXT
481 FORV=1TO5:POKEP2(V),213:NEXT
482 FORV=1TO8:POKEP3(V),215:NEXT
483 FORV=1TO10:POKEP4(V),214:NEXT
500 CURSOR10,0:PRINT"███":CURSOR10,2:PRINT"███"
507 REM
508 REM ---PRINT DATA---
509 REM
510 CURSOR4,13:PRINT0:" MIN "10:" SEC
520 CURSOR5,16:PRINT"SPEED 0 MPH
530 CURSOR5,19:PRINT"RPM   ";R;"   "
540 CURSOR12,10:PRINT"MAXIMUM RPM";RM
547 REM
548 REM ---PRINT CAR---
549 REM
550 FORA=1TOL:FORI=1TO189:COURSORA(I,1),A(I,2):PRINTCHR$(204)
597 REM
598 REM ---GEARS/THROTTLE/BRAKES---
600 X=0:CURSOR22,13:PRINT"           ":CURSOR22,13:PRINT"ENTER
610 FORJ=1TO10:CURSOR22,14:PRINT"           ":CURSOR22,14:PRINT"*****":NEXT
620 CURSOR22,15:PRINT"GEAR?"
625 GETG$:IF(VAL(G$)<1)+(VAL(G$)>5)THEN625
630 IF(G$="")+ (PEEK(KS)=1)THEN625
640 G=VAL(G$):CURSOR22,15:PRINT"GEAR           ":G:GOSUB1650
650 CURSOR22,15:PRINTSPACE$(4)
660 CURSOR22,17:PRINT"THROTTLE?"
665 GETT$:IF(T$="")+ (PEEK(KS)=1)THEN665
670 IF(VAL(T$)<0)+(VAL(T$)>9)THEN665
680 TH=VAL(T$):CURSOR22,17:PRINT"THROTTLE ";TH:GOSUB1650
690 CURSOR22,17:PRINTSPACE$(8)
700 CURSOR22,19:PRINT"BRAKES?"
705 GETB$:IF(B$="")+ (PEEK(KS)=1)THEN705
710 IF(VAL(B$)<0)+(VAL(B$)>9)THEN705
720 B=VAL(B$):CURSOR22,19:PRINT"BRAKES           ":B:GOSUB1650
730 CURSOR22,19:PRINTSPACE$(6)
```

```

737 REM
738 REM ---REVISE DATA---
739 REM
740 S=INT(S+((6-G)*TH)-(B*5))
750 IFS<1THEN S=0
760 S=INT(S-(S*5/1000)+(R/8000*(TH/2))^2)
770 IFS=0THEN 800
780 R=INT(S/G*280)
790 T=T+(152/S)
800 CURSOR4,13:PRINT INT(T/60); " MIN "; INT(T-INT(T/60)*60); " SEC
810 CURSOR11,16:PRINT S; " MPH "
820 CURSOR5,19:PRINT "RPM " ; R ; " "
830 CURSOR12,10:PRINT "MAXIMUM RPM"; R
837 REM
838 REM ---EVALUATE DATA---
839 REM
840 IFX=1THEN 880
850 IFS=0THEN 1310
860 IFR<2000THEN 1340
870 IFR>RMTHEN 1370
890 IFI>=185THEN 1970
900 IFI<=189THEN M=A(I,3)
910 IFY=160SUB 1520
915 Y=0: IFRND(1)<0.1 THEN Y=1
920 IFS>MTHEN 1470
930 IFI<=183THEN M=A(I+6,3)
947 REM
948 REM ---PRINT WARNINGS---
949 REM
950 IFN=130THENCURSOR10,5:PRINT "FAST RIGHT BEND AHEAD
960 IFN=90THENCURSOR10,5:PRINT "MEDIUM RIGHT BEND AHEAD
970 IFN=45THENCURSOR10,5:PRINT "SHARP RIGHT BEND AHEAD
980 IFN=30THENCURSOR10,5:PRINT "LEFT HAIRPIN AHEAD
990 IFN=150THENCURSOR10,5:PRINT "FAST RIGHT BEND AHEAD
1000 IFN=55THENCURSOR10,5:PRINT "CHICANE AHEAD
1010 IFN=250THENCURSOR10,5:PRINT "STRAIGHT AHEAD "
1011 IFN=250THENCURSOR14,3:PRINTSPACE$(11)
1020 IFN<>250THENCURSOR14,3:PRINT "***WARNING**
1030 CURSOR9,4:PRINTSPACE$(11)
1040 IFY=1THENCURSOR10,23:PRINT "***WARNING - RAIN**"
1050 CURSOR10,7:PRINT "MAXIMUM SPEED"; N; " MPH
1087 REM
1088 REM ---COVER OLD CAR POSITION/NEXT MOVE
1089 REM
1090 CURSORA(I,1),A(I,2):PRINT "
1100 NEXT I,A
1197 REM
1198 REM ---COURSE COMPLETED---
1199 REM
1200 GOSUB 1250
1210 CURSOR8,3:PRINT "WELL DONE - YOU SURVIVED
1220 CURSOR8,5:PRINT "YOUR TIME WAS"; L*(INT(T/60)); " MIN";
1225 PRINTL*(INT(T-INT(T/60)*60)); " SEC
1230 CURSOR8,7:PRINT "YOUR AVERAGE SPEED WAS"; L*(INT(10800/T)); " MPH
1240 GOTO 1670

```

```

1247 REM
1248 REM ---S/R - CLEAR DATA STATEMENTS---
1250 CURSOR8,3:PRINTSPACE$(25)
1260 CURSOR10,4:PRINTSPACE$(25)
1265 CURSOR10,6:PRINTSPACE$(28)
1270 CURSOR5,5:PRINTSPACE$(30)
1280 CURSOR5,7:PRINTSPACE$(30)
1290 CURSOR0,23:PRINTSPACE$(39)
1305 RETURN
1307 REM
1308 REM ---CAR STOPPED---
1309 REM
1310 CURSOR10,23:PRINT"YOU BRAKED TO A HALT!"
1320 T=T+60:X=1:GOSUB1660:GOSUB1290:GOSUB2050:GOTO860
1337 REM
1338 REM ---ENGINE STALLED---
1339 REM
1340 GOSUB1290:CURSOR12,23:PRINT"YOU HAVE STALLED"
1350 T=T+60:X=1:GOSUB2050:GOSUB1660:GOSUB1290:GOTO870
1367 REM
1368 REM ---ENGINE DAMAGED---
1369 REM
1370 IFRM=9500THEN1420
1380 RM=9500
1390 IFR>12000THEN1420
1400 CURSOR1,23:PRINT"ENGINE DAMAGED - MAXIMUM RPM NOW 9500"
1405 CURSOR22,10:PRINTRM;" "
1410 GOSUB1660:GOSUB1290:GOTO890
1417 REM
1418 REM ---ENGINE BLOWN UP---
1419 REM
1420 CURSOR5,23:PRINT"ENGINE BLOWN UP AT";R;" RPM"
1430 FORQ=1TO10:CURSORA(I,1),A(I,2):PRINT"*":MUSIC"R2"
1450 CURSORA(I,1),A(I,2):PRINT"⌘":MUSIC"R2":NEXTQ:GOTO1670
1467 REM
1468 REM ---OVER MAXIMUM SPEED---
1469 REM
1470 IFS>M+(M/10)THEN1500
1480 CURSOR10,6:PRINT"GOOD DRIVING - BUT WATCH IT!"
1490 GOSUB1660:GOSUB1250:GOTO1090
1500 CURSOR14,8:PRINT"YOU LOST IT!":GOTO1430
1517 REM
1518 REM ---EXCESSIVE SPEED/THROTTLE/BRAKES---
1519 REM
1520 GOSUB1250:IFTH<6GOSUB1250:RETURN
1540 IFTH>7THENCURSOR10,3:PRINT"TOO MUCH THROTTLE":GOTO1570
1545 IFB<7GOSUB1250:RETURN
1550 IFB>6THENCURSOR10,3:PRINT"TOO HEAVY ON BRAKES":GOTO1570
1555 IFS<=MGOSUB1250:RETURN
1560 IFS>MTHENCURSOR10,3:PRINT"TOO FAST IN THE WET"
1570 CURSOR10,5:PRINT"YOU ARE SLIDING.....":GOSUB1660
1590 CURSOR10,6:PRINT".....FIGHTING FOR CONTROL":GOSUB1660
1610 IFRND(1)<0.5THEN1500
1620 CURSOR10,6:PRINT"CLEVER - YOU CAUGHT IT! ":GOSUB1660:GOSUB1250
1630 RETURN

```

```

1647 REM
1648 REM ---TIME DELAYS---
1649 REM
1650 MUSIC"R1":RETURN
1660 MUSIC"R6":RETURN
1667 REM
1668 REM ---RACE AGAIN?---
1669 REM
1670 GOSUB1290:CURSOR7,23:PRINT"TO RACE AGAIN PRESS KEY 1
1705 PRINTTAB(12);"TO STOP, PRESS 9
1710 GETZ:IF(Z=0)+(PEEK(KS)=1)THEN1710
1715 IF(Z<>1)*(Z<>9)THEN1710
1730 IFZ=1GOSUB1650:GOTO1800
1740 IFZ=9THENPRINT"6":CURSOR10,10:PRINT"THANK YOU. GOOD-BYE
1750 MUSIC"R9":END
1800 PRINT"#####HOW MANY LAPS?
1810 GETL:IF(L=0)+(PEEK(KS)=1)THEN1810
1820 GOTO40
1967 REM
1968 REM ---NEARING END OF RACE---
1969 REM
1970 IFA=LTHENCURSOR10,5:PRINT"FINISH IN SIGHT":GOTO1090
2020 IFI<=189THENN=250
2030 GOTO1090
2047 REM
2048 REM ---RE-INITIALISE VARIABLES---
2049 REM
2050 R=2000:S=0:X=1:G=0:TH=0:B=0:RETURN
2997 REM
2998 REM ---S/R, PART 1 - INSTRUCTIONS---
2999 REM
3000 CURSOR14,2:PRINT"INSTRUCTIONS
3020 PRINTTAB(14);"#####
3030 PRINT"YOUR CAR HAS 5 GEARS.
3040 PRINT"THROTTLE SETTING IS FROM 0 TO 9.
3050 PRINT"BRAKE PRESSURE IS FROM 0 TO 9.
3060 PRINT"HOW MANY LAPS DO YOU WANT TO RACE?
3070 PRINT"WAIT A MOMENT, PLEASE
3080 PRINT"#####

```

```

3097 REM
3098 REM ---S/R, PART 2 - TRACK PARAMETERS---
3099 REM
3100 FORI=1T0189:A(I,3)=250:NEXT
3110 FORI=1T025:A(I,1)=I+9:A(I,2)=1:NEXT
3120 FORI=26T028:A(I,1)=I+8:A(I,2)=2:NEXT
3130 FORI=29T031:A(I,1)=I+7:A(I,2)=3:NEXT
3140 FORI=32T033:A(I,1)=I+6:A(I,2)=4:NEXT
3150 FORI=34T036:A(I,1)=39:A(I,2)=I-29:NEXT
3160 J=2:FORI=37T038:A(I,1)=I+J:A(I,2)=8:J=J-2:NEXT
3170 J=1:FORI=39T070:A(I,1)=I-J:A(I,2)=9:J=J+2:NEXT
3180 J=64:FORI=71T072:A(I,1)=I-J:A(I,2)=10:J=J+2:NEXT
3190 FORI=73T0103:A(I,1)=I-66:A(I,2)=11:NEXT
3200 FORI=104T0105:A(I,1)=I-67:A(I,2)=12:NEXT
3210 FORI=106T0108:A(I,1)=38:A(I,2)=I-93:NEXT
3220 FORI=109T0110:A(I,1)=I-71:A(I,2)=16:NEXT
3230 FORI=111T0114:A(I,1)=39:A(I,2)=I-94:NEXT
3240 J=76:FORI=115T0116:A(I,1)=I-J:A(I,2)=21:J=J+2:NEXT
3250 J=79:FORI=117T0152:A(I,1)=I-J:A(I,2)=22:J=J+2:NEXT
3260 J=150:FORI=153T0154:A(I,1)=I-J:A(I,2)=21:J=J+2:NEXT
3270 J=153:FORI=155T0156:A(I,1)=I-J:A(I,2)=20:J=J+2:NEXT
3280 J=156:FORI=157T0158:A(I,1)=I-J:A(I,2)=19:J=J+2:NEXT
3290 J=141:FORI=159T0165:A(I,1)=0:A(I,2)=I-J:J=J+2:NEXT
3300 FORI=166T0168:A(I,1)=I-166:A(I,2)=11:NEXT
3310 A(169,1)=2:A(169,2)=10
3320 J=168:FORI=170T0172:A(I,1)=I-J:A(I,2)=9:J=J+2:NEXT
3330 J=165:FORI=173T0176:A(I,1)=0:A(I,2)=I-J:J=J+2:NEXT
3340 FORI=177T0178:A(I,1)=I-177:A(I,2)=4:NEXT
3350 FORI=179T0180:A(I,1)=I-178:A(I,2)=3:NEXT
3360 FORI=181T0182:A(I,1)=I-179:A(I,2)=2:NEXT
3370 FORI=183T0189:A(I,1)=I-180:A(I,2)=1:NEXT
3380 X=0:FORI=25T033:A(I,3)=130:NEXT
3390 FORI=37T039:A(I,3)=90:NEXT
3400 FORI=70T073:A(I,3)=30:NEXT
3410 FORI=103T0105:A(I,3)=45:NEXT
3420 FORI=114T0116:A(I,3)=90:NEXT
3430 FORI=152T0157:A(I,3)=150:NEXT
3440 FORI=165T0171:A(I,3)=55:NEXT
3450 FORI=176T0182:A(I,3)=150:NEXT
3460 FORV=1T06:READP1(V)
3470 DATA53290,53329,53368,53614,53606,54126
3480 NEXT
3490 FORV=1T05:READP2(V)
3500 DATA53331,53370,53409,53647,54167
3510 NEXT
3520 FORV=1T08:READP3(V)
3530 DATA53323,53365,53407,53726,53887,54009,54050,54091
3540 NEXT
3550 FORV=1T010:READP4(V)
3560 DATA53361,53403,53445,53486,53694,53765,53966,54048,54089,54130
3570 NEXT:RETURN

```

(Based on a game by Bruce Onton for the ZX 81 which was published in "Electronics & Computing", February 1982)

```
7 REM
8 REM ---INSTRUCTIONS---
9 REM
10 PRINT"█":CURSOR14,10:PRINT"BAKERS DOZEN":PRINTTAB(14);"
11 PRINTTAB(7);"Do you want instructions?
12 PRINTTAB(9);"(Y for yes:N for no)
13 GETZ$:IF(Z$<>"N")*(Z$<>"Y")THEN30
14 IFZ$="Y"GOSUB3000
15 REM
16 REM ---DIMENSION ARRAYS---
17 REM
18 DIMA(48),B(24),C(24),L(16,3),S(16),Q(16,3)
19 REM
20 REM ---PRINT BOARD---
21 REM
22 GOSUB2000
23 REM
24 REM ---INITIALISATION---
25 REM
26 X=1:FORZ=1TO16:FORP=1TO3:L(Z,P)=A(X):X=X+1:NEXTP,Z
27 FORZ=1TO16:FORP=1TO3:Q(Z,P)=0:NEXTP,Z
28 A=0
29 REM
30 REM ---CHOICE OF FIRST TURN---
31 REM
32 CURSOR0,0:PRINT"Do you want to go first?(Y or N)
33 GETZ$:IF(Z$<>"N")*(Z$<>"Y")THEN110
34 CURSOR0,0:PRINTSPACE$(40):IFZ$="Y"THEN300
35 REM
36 REM ---COMPUTER'S TURN---
37 REM
38 M=INT(RND(1)*24)+1
39 FORZ=1TO16:FORP=1TO3:IFL(Z,P)=MTHENQ(Z,P)=4
40 NEXTP,Z
41 K=200:GOSUB1000
42 FORZ=1TO16:S(Z)=Q(Z,1)+Q(Z,2)+Q(Z,3):IFS(Z)=3THEN1100
43 NEXT
44 FORZ=1TO16:S(Z)=Q(Z,1)+Q(Z,2)+Q(Z,3)
45 IFS(Z)=12THEN1140
46 NEXT
47 FORZ=1TO16:IF(S(Z)<>5)+(S(Z)<>6)+(S(Z)<>9)THEN300
48 NEXT:GOTO1120
```

```

297 REM
298 REM ----PLAYER'S TURN----
299 REM
300 CURSOR0,0: INPUTM
305 FORZ=1TO16:FORP=1TO3: IFL(Z,P)=MTHENQ(Z,P)=1
307 NEXTP,Z
310 K=204:CURSOR0,0:PRINTSPACE$(8):GOSUB1000
315 FORZ=1TO16:S(Z)=Q(Z,1)+Q(Z,2)+Q(Z,3)
320 IFS(Z)=3THEN1100
325 NEXT
330 FORZ=1TO16: IF (S(Z)<>5)+(S(Z)<>6)+(S(Z)<>9) THEN400
340 NEXT:GOTO1120
397 REM
398 REM ----ASSESSMENT OF COMPUTER'S NEXT MOVE----
399 REM
400 Z=1
410 IF (S(Z)=2)+(S(Z)=8) THEN670
415 Z=Z+1: IFZ<17THEN410
430 Z=1:J=Z+1
434 IF ((S(Z)=1)*(S(J)=1))+((S(Z)=4)*(S(J)=4)) THEN439
436 J=J+1: IFJ<17THEN434
437 IFZ<15THENZ=Z+1:J=Z+1:GOTO434
438 GOTO460
439 K=1:L=1
440 IF (L(Z,K)=L(J,L))*(Q(Z,K)=0) THEN690
442 L=L+1: IFL<4THEN440
444 K=K+1:L=1: IFK<4THEN440
446 J=J+1: IFJ<17THEN434
448 Z=Z+1:J=Z+1: IFZ<16THEN434
460 Z=1:J=1
465 IF (S(Z)=4)*(S(J)=0) THEN600
470 J=J+1: IFJ<17THEN465
475 Z=Z+1:J=1: IFZ<17THEN465
510 M=M+1: IFA/B=INT(A/B) THENM=M+8
520 IFM>25THENM=M-24
530 IFM=9THENM=1
540 IFM=17THENM=9
550 IFM=25THENM=17
560 Z=1:P=1
565 IFL(Z,P)=MTHENM1=Q(Z,P): IFM1=0THEN210: IFM1<>0THEN510
580 P=P+1: IFP<4THEN565
585 Z=Z+1:P=1: IFZ<17THEN565
590 GOTO210
600 B=0
610 FORK=1TO3:FORL=1TO3
620 IFL(Z,K)=L(J,L) THENB=Q(Z,K)
630 NEXTL,K
640 IFB=0THEN470
650 FORK=1TO3: IFB=Q(J,K) THENNEXTK
660 M=L(J,K):GOTO210
670 FORK=1TO3
680 IFQ(Z,K)<>0THENNEXTK
690 M=L(Z,K):GOTO210

```

```

997 REM
998 REM ---S/R - PRINT SYMBOLS---
999 REM
1000 MUSIC"DFA":FORI=1TO5:CURSORB(M)+1,C(M)
1001 PRINTCHR$(K);CHR$(K);:MUSIC"R":PRINT"  ";:MUSIC"R"
1002 PRINT"  ";CHR$(K);CHR$(K):NEXT
1005 A=A+1:IFA=24THEN1120
1040 RETURN
1097 REM
1098 REM ---PLAYER WINS---
1099 REM
1100 CURSOR14,23:PRINT"***YOU WIN***":FORDL=1TO2000:NEXT:GOTO1180
1117 REM
1118 REM ---TIE---
1119 REM
1120 CURSOR16,23:PRINT"***TIE***":FORDL=1TO2000:NEXT:GOTO1180
1137 REM
1138 REM ---COMPUTER WINS---
1139 REM
1140 CURSOR15,23:PRINT"***I WIN***":FORDL=1TO2000:NEXT
1177 REM
1178 REM ---PLAY AGAIN?---
1179 REM
1180 PRINT"␣":CURSOR7,15:PRINT"DO YOU WANT TO PLAY AGAIN?"
1190 PRINTTAB(16);"␣(Y or N)
1195 GETZ$:IF(Z$<>"N")*(Z$<>"Y")THEN1195
1198 IFZ$="Y"THENCLR:PRINT"␣":GOTO50
1200 PRINT"␣":CURSOR10,10:PRINT"THANK YOU. GOOD-BYE."
1210 FORDL=1TO2000:NEXT:END
1997 REM
1998 REM ---S/R - PRINT BOARD---
1999 REM
2000 PRINT"␣"
2010 FORX=1TO48:READA(X):NEXT
2020 DATA1,2,3,3,4,5,5,6,7,7,8,1
2030 DATA9,10,11,11,12,13,13,14,15,15,16,9
2040 DATA17,18,19,19,20,21,21,22,23,23,24,17
2050 DATA2,10,18,4,12,20,6,14,22,8,16,24
2060 FORX=1TO24:READB(X):NEXT
2070 DATA5,20,35,35,35,20,5,5,10,20,30,30
2080 DATA30,20,10,10,15,20,25,25,20,15,15
2090 FORX=1TO24:READC(X):NEXT
2100 DATA3,3,3,12,21,21,21,12,6,6,6,12
2110 DATA18,18,18,12,9,9,9,12,15,15,15,12
2120 X=1:FORZ=1TO16:FORP=1TO3:L(Z,P)=A(X):X=X+1:NEXTP,Z
2130 FORZ=1TO24:CURSORB(Z),C(Z):PRINTZ:NEXT

```

```

2140 CURSOR7,3:PRINT"-----";TAB(22);"-----"
2150 PRINTTAB(6);" |";TAB(21);" |";TAB(36);" |"
2160 PRINTTAB(6);" |";TAB(21);" |";TAB(36);" |"
2170 PRINTTAB(6);" |";TAB(12);"-----";TAB(23);"-----";TAB(36);" |"
2180 PRINTTAB(6);" |";TAB(11);" |";TAB(21);" |";TAB(31);" |";TAB(36);" |"
2190 PRINTTAB(6);" |";TAB(11);" |";TAB(21);" |";TAB(31);" |";TAB(36);" |"
2200 PRINTTAB(6);" |";TAB(11);" |";TAB(18);"-----";TAB(23);"-----"
2210 PRINTTAB(31);" |";TAB(36);" |"
2220 PRINTTAB(6);" |";TAB(11);" |";TAB(16);" |";TAB(26);" |"
2230 PRINTTAB(31);" |";TAB(36);" |"
2240 PRINTTAB(6);" |";TAB(11);" |";TAB(16);" |";TAB(26);" |"
2250 PRINTTAB(31);" |";TAB(36);" |"
2260 PRINTTAB(7);"-----";TAB(13);"-----";TAB(28);"-----";TAB(33);"-----"
2270 PRINTTAB(6);" |";TAB(11);" |";TAB(16);" |";TAB(26);" |"
2280 PRINTTAB(31);" |";TAB(36);" |"
2290 PRINTTAB(6);" |";TAB(11);" |";TAB(16);" |";TAB(26);" |"
2300 PRINTTAB(31);" |";TAB(36);" |"
2310 PRINTTAB(6);" |";TAB(11);" |";TAB(18);"-----";TAB(23);"-----"
2320 PRINTTAB(31);" |";TAB(36);" |"
2330 PRINTTAB(6);" |";TAB(11);" |";TAB(21);" |";TAB(31);" |";TAB(36);" |"
2340 PRINTTAB(6);" |";TAB(11);" |";TAB(21);" |";TAB(31);" |";TAB(36);" |"
2344 PRINTTAB(6);" |";TAB(13);"-----";TAB(23);"-----";TAB(36);" |"
2345 PRINTTAB(6);" |";TAB(21);" |";TAB(36);" |"
2346 PRINTTAB(6);" |";TAB(21);" |";TAB(36);" |"
2350 PRINTTAB(7);"-----";TAB(22);"-----"
2360 RESTORE:RETURN
2997 REM
2998 REM ---S/R - INSTRUCTIONS---
2999 REM
3000 PRINT"█":CURSOR14,0:PRINT"INSTRUCTIONS"
3010 PRINTTAB(14);"~~~~~"
3020 PRINT"██You have to try to get 3 numbers in a
3025 PRINT"row along the connecting lines.
3030 PRINT"██When it is your turn, press a number
3040 PRINT"and you will see an █ on the board.
3050 PRINT"██I will then play and you will see
3060 PRINT"an █ on the board.
3070 PRINT"██Wait for ? in the top left-hand corner
3080 PRINT"of the screen before you press your
3085 PRINT"next number.
3090 PRINT"██I shall try to get 3 in a row first,
3100 PRINT"so watch out!
3110 PRINT"██PRESS R WHEN YOU ARE READY TO PLAY.
3120 GETZ$:IFZ$<>"R"THEN3120
3130 PRINT"█":RETURN

```

(Based on a game in "getting acquainted with your ZX81", by
 Jim Hartnell)

FELMANISM

Sharp Basic SA-5510 5.3k with REMs

```
7 REM
8 REM---INTRODUCTION---
9 REM
10 PRINT"Q":GOSUB6000
97 REM
98 REM---DEFINE VARIABLES AND ARRAYS---
99 REM
100 DIMA(50),Q(50),M(50),P(50)
150 DL=1000:R=0:S=0
997 REM
998 REM---CLEAR SCREEN/PRINT TITLE---
999 REM
1000 PRINT"Q":TAB(15);"PELMANISM":PRINTTAB(15);"*****"
1050 PRINT"Q A GAME TO TEST YOUR MEMORY":PRINT:PRINT
1097 REM
1098 REM---ESTABLISH DEGREE OF DIFFICULTY---
1099 REM
1100 INPUT" ENTER DEGREE OF DIFFICULTY (1-6) ";I
1110 IF(I<1)+(I>6)THEN1100
1120 T=1:FORJ=1TOI:T=T*2:NEXT:IFT>50THEN T=50
1197 REM
1198 REM---CLEAR SCREEN/PUT NUMBERS OVER CARDS---
1199 REM
1200 PRINT"Q":FORI=0TO4:J=I*10+1:CUSOR0,I*4+4
1230 FORK=JTOJ+9:PRINTK:I:IFK/9THEN1250
1240 PRINT" ";:NEXTK
1250 PRINT" ";:NEXTK
1260 NEXTI
1317 REM
1318 REM---CURSOR HOME---
1319 REM
1320 PRINT"Q":FORI=1TO300:NEXT
1397 REM
1398 REM---SHUFFLE CARDS/ZERO MEMORY---
1399 REM
1400 FORI=1TO25:M(I)=0:READA(I):NEXT:RESTORE:FORI=26TO50:M(I)=0
1405 READA(I):NEXT
1410 DATA107,71,74,72,240,189,86,40,163
1412 DATA83,70,68,65,91,255,109
1414 DATA43,81,199,206,100,27,202,101,8
1420 FORI=1TO50
1430 J=INT(RND(1)*50)+1
1440 Q(I)=A(I):A(I)=A(J):A(J)=Q(I):NEXT
```

```

1497 REM
1498 REM---DISPLAY CARDS FACE DOWN---
1499 REM
1500 Y=67
1510 FORX=1TO50:READP(X):NEXT
1520 DATA53449,53453,53457,53461,53465,53469,53473,53477,53481,53485
1521 DATA53609,53613,53617,53621,53625,53629,53633,53637,53641,53645
1522 DATA53769,53773,53777,53781,53785,53789,53793,53797,53801,53805
1523 DATA53929,53933,53937,53941,53945,53949,53953,53957,53961,53965
1524 DATA54089,54093,54097,54101,54105,54109,54113,54117,54121,54125
1530 FORX=1TO50:GOSUB5000:NEXT
1997 REM
1998 REM---MAIN LOOP/ASK FOR NUMBERS ---
1999 REM
2000 N$="1st":GOSUB5100:B=C
2030 N$="2nd":GOSUB5100:IFB=CTHEN2030
2040 MUSIC"R9":Z=1:GOSUB5400
2080 IFR+S=25THEN4000
2090 IFZ=0THEN2000
2097 REM
2098 REM---REMEMBER CARDS---
2099 REM
2100 GOSUB5600
2197 REM
2198 REM---SCAN MEMORY FOR PAIRS---
2199 REM
2200 FORI=1TOT-1:B=M(I):IFA(B)=0THEN2310
2230 IFA(B)=0THEN2310
2240 FORJ=I+1TOT:C=M(J):IFC=0THEN2300
2270 IFB=CTHEN2300
2280 IFA(C)=0THEN2300
2290 IFA(B)=A(C)THEN2700
2300 NEXTJ
2310 NEXTI
2397 REM
2398 REM---SELECT 1ST RANDOM CARD---
2399 REM
2400 B=INT(RND(1)*50)+1:IFA(B)=0THEN2400
2420 FORI=1TOT:IFM(I)=BTHEN2400
2440 NEXT:FORI=1TOT:C=M(I):IFA(B)=A(C)THEN2700
2480 NEXT
2497 REM
2498 REM---SELECT 2ND RANDOM CARD---
2499 REM
2500 C=INT(RND(1)*50)+1:IFB=CTHEN2500
2520 IFA(C)=0THEN2500
2530 FORI=1TOT:IFM(I)=CTHEN2500
2550 NEXT:IFA(B)=A(C)THEN2700

```

```

2597 REM
2598 REM---REMEMBER THE CARDS---
2599 REM
2600 GOSUB5600
2697 REM
2698 REM---COMPARE CARDS---
2699 REM
2700 Z=2:GOSUB5300:IFR+S=25THEN4000
2730 IFZ=0THEN2200
2740 GOTO2000
3997 REM
3998 REM---END OF GAME/PRINT SCORES---
3999 REM
4000 PRINT"██████████YOUR SCORE IS";R
4020 PRINT"██████████MY SCORE IS";S
4030 IFS>RTHENPRINT"███";SPACE$(12);"I HAVE WON
4040 IFR>STHENPRINT"███";SPACE$(12);"YOU HAVE WON
4050 PRINT"██████████WOULD YOU LIKE ANOTHER GAME? (Y/N)
4060 GETZ$:IF(Z$<>"N")*(Z$<>"Y")THEN4060
4070 IFZ$="Y"THENCLR:RESTORE:GOTO100
4080 IFZ$="N"THENPRINT"█
4090 CURSOR10,10:PRINT"THANK YOU. GOOD-BYE.
4095 FORI=1TODL:NEXT:END
4997 REM
4998 REM---S/R - DISPLAY CARD---
4999 REM
5000 POKEP(X),Y:POKEP(X)+1,Y:RETURN
5050 POKEP(X),0:POKEP(X)+1,0:RETURN
5097 REM
5098 REM---S/R - ASK FOR CARD AND TURN OVER---
5099 REM
5100 PRINT"WHAT IS YOUR ";N$;" CHOICE?
5110 INPUTC$
5120 CURSOR0,0:PRINTSPACE$(30):CURSOR0,1:PRINTSPACE$(10)
5150 FORC=1TO50:IFC$=STR$(C)THEN5200
5170 NEXT:GOTO5100
5200 IFA(C)=0THEN5100
5210 X=C:Y=A(C):GOSUB5000:RETURN
5297 REM
5298 REM---S/R, PART 1 - DISPLAY COMPUTER'S CHOICE/DELAY---
5299 REM
5300 X=B:Y=A(B)
5310 FORW=1TO3:GOSUB5050:FORDL=1TO100:NEXTDL:GOSUB5000:NEXTW:MUSIC"R9"
5320 X=C:Y=A(C)
5340 FORW=1TO3:GOSUB5050:FORDL=1TO100:NEXTDL:GOSUB5000:NEXTW:MUSIC"R9"
5397 REM
5398 REM---S/R, PART 2 - COMPARE CARDS/TURN BACK---
5399 REM
5400 IFA(B)=A(C)THEN5500
5410 Y=67:X=B:GOSUB5000
5440 X=C:GOSUB5000:RETURN

```

```

5497 REM
5498 REM---REMOVE IDENTICAL CARDS---
5499 REM
5500 Y=0:X=B:A(B)=0:GOSUB5000:X=C:A(C)=0:GOSUB5000:IFZ=1THENR=R+1
5580 IFZ=2THENS=S+1
5590 Z=0:RETURN
5597 REM
5598 REM---S/R - REMEMBER CARDS---
5599 REM
5600 IFT<=2THENS650
5610 FORI=3TOT:M(I-2)=M(I):NEXT
5650 M(T-1)=B:M(T)=C:RETURN
5997 REM
5998 REM---S/R - INTRODUCTION---
5999 REM
6000 PRINTTAB(15);"PELMANISM":PRINTTAB(15);"*****"
6010 PRINT"THE AIM OF THE GAME IS TO MATCH PAIRS OF CARDS.
6020 PRINT"THE WINNER IS THE ONE WHO HAS MOST CARDSAT THE END
OF THE GAME.
6030 PRINT"YOU AND I TAKE IT IN TURNS TO TURN OVER 2 CARDS EACH.
6040 PRINT"IF THEY ARE NOT A FAIR THEY ARE TURNED BACK.
6050 PRINT"IF THEY ARE A FAIR THEY ARE REMOVED AND
6060 PRINT"THE PLAYER HAS ANOTHER TURN.
6070 PRINT"THE GAME CONTINUES UNTIL ALL THE CARDS ARE REMOVED.
6080 PRINT"PRESS R WHEN YOU ARE READY TO START.
6090 GETZ$:IFZ#<>"R"THEN6090
6095 PRINT"@":RETURN

```

Based on a game for the Triton (Level 7)
 by Don Scales
 Published in 'Computing Today', December, 1981.

LEAPFROG

Sharp Basic SA-5510 3.5k

```

2 REM
3 REM  INTRODUCTION
4 REM
5 PRINT"█":R$="":DIMSP(9),A(9),B(9)
10 CURSOR16,5:PRINT"LEAPFROG":PRINTTAB(16);"*****"
15 PRINTTAB(7);"*****Do you want instructions?":PRINTTAB(16);"███(Y or N)
20 GETB$:IF(B$<>"Y")*(B$<>"N")THEN20
25 IFB$="Y"GOSUB600
30 GOTO200
47 REM
48 REM  C TO CONTINUE AND UNIVERSAL GET
49 REM
50 CURSOR10,15:PRINT"PRESS C TO CONTINUE"
55 GETZ$:IFZ$<>"C"THEN55
60 RETURN
97 REM
98 REM  PRINT PLAYING AREA
99 REM
100 FORC=53248TO53407:POKEC,0:NEXT:RETURN
105 FORC=53808TO53887:POKEC,0:NEXT:RETURN
110 FORC=54048TO54247:POKEC,0:NEXT:RETURN
150 FORC1=160TO200STEP40
155 FORC2=P1TOP1+1
160 POKEC1+C2,S
165 NEXTC2
170 NEXTC1
175 RETURN
180 POKEC1+C2+78,C+32
185 RETURN
197 REM
198 REM  SELECT NUMBER OF SPOTS
199 REM
200 PRINT"█How many spots do you want (3,5,7,9)?
205 GETZ:IFZ=0THEN205
207 IF(Z<>3)*(Z<>5)*(Z<>7)*(Z<>9)THEN205
210 SP1=53248
215 ZL=(Z-1)/2:ZM=(Z+1)/2:ZR=(Z+3)/2
220 FORC=1TOZ:SP(C)=SP1+4*C-2*Z+17:NEXT
225 FORC=1TOZL:A(C)=1:B(C)=2:NEXT
230 A(ZM)=0:B(ZM)=0
235 FORC=ZRTOZ
240 A(C)=2:B(C)=1:NEXT
245 PRINT"█":S=71:FORC=1TOZL:P1=SP(C):GOSUB150:GOSUB180:NEXT
250 S=46:P1=SP(ZM):GOSUB150:GOSUB180
255 S=72:FORC=ZRTOZ:P1=SP(C):GOSUB150:GOSUB180:NEXT:GOSUB105
260 CURSOR0,21:PRINT"If at any time you wish to stop press 0

```

```

297 REM
298 REM   MAKE MOVES
299 REM
300 PRINT"Choose the number of the block that you
305 PRINT"wish to move":INPUTCS
310 IFCS=0THEN550
315 IFA(CS)=0THEN400
320 GOSUB100:GOSUB105
325 PRINT"Choose the number of the spot to which "
330 PRINT"you wish to move":INPUTNS
335 IFNS>ZTHEN400
340 IFNS=0THEN530
345 IFABS(CS-NS)>2THEN415
350 IFA(NS)<>0THEN425
355 IFA(CS)=2THEN380
360 IF(A(CS)=1)*(NS<=CS)THEN435
365 R#=R#+"L"
370 S=46:P1=SP(CS):GOSUB150:S=71:P1=SP(NS):GOSUB150:A(CS)=0:A(NS)=1
375 GOSUB105:GOTO445
380 IFNS>=CSTHEN435
385 R#=R#+"R"
390 S=46:P1=SP(CS):GOSUB150:S=72:P1=SP(NS):GOSUB150:A(CS)=0:A(NS)=2
395 GOSUB105:GOTO445
400 PRINT"There is no block on this spot
410 GOSUB50:GOSUB100:GOSUB105:GOTO300
415 PRINT"The spots are too far apart
420 GOSUB50:GOSUB100:GOSUB105:GOTO300
425 PRINT"This spot is not empty
430 GOSUB50:GOSUB100:GOSUB105:GOTO300
435 PRINT"You cannot move in that direction
440 GOSUB50:GOSUB100:GOSUB105:GOTO300
445 GOSUB100:FORC=1TOZ:IFA(C)<>B(C)THEN455
450 GOTO460
455 C=7:GOSUB105:GOTO300
460 NEXTC
497 REM
498 REM   END OF PLAY
499 REM
500 MUSIC"R6":PRINT"
505 CURSOR12,5:PRINT"CONGRATULATIONS
510 PRINT"Do you wish to see your solution? (Y/N)
515 B#="":GETB#:IF(B#<>"N")*(B#<>"Y")THEN515
517 IFB#="Y"THEN523
520 GOTO550
523 K=19-INT(LEN(R#)/2)
525 CURSORK,12:PRINTR#:GOSUB50
550 PRINT"DO YOU WANT TO PLAY AGAIN? (Y/N)
555 GETZ#:IF(Z#<>"N")*(Z#<>"Y")THEN555
560 IFZ#="Y"THENR#="":GOTO200
565 PRINT":CURSOR9,10:PRINT"THANK YOU FOR PLAYING. :END

```

```

597 REM
598 REM   INSTRUCTIONS
599 REM
600 PRINT"#####You can have 3, 5, 7, or 9 blocks in
605 PRINT"each game.  I will demonstrate with 7
610 PRINT"and you can then choose the number you want.
615 GOSUB50:PRINT"
620 SP1=53255:FORC=1TO7:SP(C)=SP1+4*(C-1):NEXT
625 FORC=1TO3:A(C)=1:B(C)=2:NEXT
630 A(4)=0:B(4)=0:FORC=5TO7:A(C)=2:B(C)=1:NEXT
640 PRINT"      First of all there are 7 spots
645 S=46:FORC=1TO7:P1=SP(C):GOSUB150:GOSUB180:NEXT
650 GOSUB50:GOSUB100
655 PRINT"      There are 3 blocks on the left, like   this:-
660 S=71:FORC=1TO3:P1=SP(C):GOSUB150:NEXT
665 GOSUB50:GOSUB100
670 PRINT"      There are 3 blocks on the right, like  this:-
675 S=72:FORC=5TO7:P1=SP(C):GOSUB150:NEXT
680 GOSUB50:GOSUB100
685 PRINT"      The aim is to move the blocks to the "
690 PRINT"      opposite positions, so that they finish
695 PRINT"      like this:-
700 FORC=1TO3:P1=SP(C):GOSUB150:NEXT
705 S=71:FORC=5TO7:P1=SP(C):GOSUB150:NEXT
710 GOSUB50
715 PRINT"      There are three rules:-
720 PRINT"      1. Left blocks can move only to the
725 PRINT"      right and right blocks can move only to
730 PRINT"      the left.
735 PRINT"      2. A block can be moved to an
740 PRINT"      adjoining spot if it is empty.
745 PRINT"      3. A block can jump over an adjoining
750 PRINT"      block as in draughts.
755 PRINT"      #####PRESS R WHEN YOU ARE READY TO START
760 B$="":GETB$:IFB$<>"R"THEN760
765 PRINT"      ":RETURN

```

(Based on a game for the PET by Seamus
Dunn and published in 'Computing Today'
in January 1982)

BINARY NUMBERS

Sharp Basic SA-5510

```
10 M=0:N=204:A=1
20 FORK=MTONSTEP51:GOSUB100
30 ONAGOSUB80,82,84,86,88
40 A=A+1:NEXTK
50 M=M+1:N=N+1:IFM>50THEN70
60 A=1:GOTO20
70 K=255:GOSUB100:GOSUB88:END
80 PRINT/PTAB(4);K;TAB(9);B#;:RETURN
82 PRINT/PTAB(19);K;TAB(24);B#;:RETURN
84 PRINT/PTAB(34);K;TAB(39);B#;:RETURN
86 PRINT/PTAB(49);K;TAB(54);B#;:RETURN
88 PRINT/PTAB(64);K;TAB(69);B#;:RETURN
100 I=K:A#="":FORJ=1TO8
110 IF I/2<>INT(I/2) THEN A#=#A#+ "1":GOTO130
120 A#=#A#+ "0"
130 I=INT(I/2):NEXTJ
140 B#="":FORJ=1TO8
150 B#=#B#+RIGHT$(A#,1)
160 A#=LEFT$(A#,LEN(A#)-1)
170 NEXTJ:RETURN
```

50	00110010	101	01100101	152	10011000	203	11001011	255	11111111
49	00110001	100	01100100	151	10010111	202	11001010	254	11111110
48	00110000	99	01100111	150	10010110	201	11001001	253	11111101
47	00101111	98	01100010	149	10010101	200	11001000	252	11111100
46	00101110	97	01100001	148	10010100	199	11000111	251	11111011
45	00101101	96	01100000	147	10010011	198	11000110	250	11111010
44	00101100	95	01011111	146	10010010	197	11000101	249	11111001
43	00101011	94	01011110	145	10010001	196	11000100	248	11111000
42	00101010	93	01011101	144	10010000	195	11000011	247	11110111
41	00101001	92	01011100	143	10001111	194	11000010	246	11110110
40	00101000	91	01011011	142	10001110	193	11000001	245	11110101
39	00100111	90	01011010	141	10001101	192	11000000	244	11110100
38	00100110	89	01011001	140	10001100	191	10111111	243	11110011
37	00100101	88	01011000	139	10001011	190	10111110	242	11110010
36	00100100	87	01010111	138	10001010	189	10111101	241	11110001
35	00100011	86	01010110	137	10001001	188	10111100	240	11110000
34	00100010	85	01010101	136	10001000	187	10111011	239	11110111
33	00100001	84	01010100	135	10000111	186	10111010	238	11110110
32	00100000	83	01010011	134	10000110	185	10111001	237	11110101
31	00011111	82	01010010	133	10000101	184	10111000	236	11110100
30	00011110	81	01010001	132	10000100	183	10110111	235	11110101
29	00011101	80	01010000	131	10000011	182	10110110	234	11110100
28	00011100	79	01001111	130	10000010	181	10110101	233	11110100
27	00011011	78	01001110	129	10000001	180	10110100	232	11110011
26	00011010	77	01001101	128	10000000	179	10110101	231	11110010
25	00011001	76	01001100	127	01111111	178	10110010	230	11110010
24	00011000	75	01001011	126	01111110	177	10110001	229	11110010
23	00010111	74	01001010	125	01111101	176	10110000	228	11110010
22	00010110	73	01001001	124	01111100	175	10110011	227	11110001
21	00010101	72	01001000	123	01111011	174	10110110	226	11110001
20	00010100	71	01001111	122	01111010	173	10110101	225	11110000
19	00010011	70	01001110	121	01111001	172	10101100	224	11110000
18	00010010	69	01001011	120	01111000	171	10101011	223	11110111
17	00010001	68	01001010	119	01111011	170	10101010	222	11011110
16	00010000	67	01000011	118	01110110	169	10101001	221	11011101
15	00001111	66	01000010	117	01110101	168	10101000	220	11011100
14	00001110	65	01000001	116	01110100	167	10100111	219	11011011
13	00001101	64	01000000	115	01110011	166	10100110	218	11011010
12	00001100	63	00111111	114	01110010	165	10100101	217	11011001
11	00001011	62	00111110	113	01110001	164	10100100	216	11011000
10	00001010	61	00111101	112	01110000	163	10100011	215	11011011
9	00001001	60	00111100	111	01110111	162	10100010	214	11010110
8	00001000	59	00111011	110	01110110	161	10100001	213	11010101
7	00001111	58	00111010	109	01110101	160	10100000	212	11010100
6	00000110	57	00111001	108	01110100	159	10011111	211	11010101
5	00000101	56	00111000	107	01110111	158	10011110	210	11010010
4	00000100	55	00111011	106	01110110	157	10011101	209	11010001
3	00000011	54	00110110	105	01110101	156	10011100	208	11010000
2	00000010	53	00110101	104	01110100	155	10011011	207	11001111
1	00000001	52	00110100	103	01110111	154	10011010	206	11001110
0	00000000	51	00110011	102	01110010	153	10011001	205	11001101
								204	11001100

FOUR GAMES from Kevin O'Donnell

STALKERS

A game of fun but challenging. If you are sensible and lucky then you may succeed, but if you are not then your men will die.

Ordinary Game

The board (grid) is made up of circles joined with lines. At the start of the game you choose from the top three circles (labelled A, B & C) where you want to start. Then a diagram of how to move is displayed on the screen. You now have to move that man from circle to circle until he lands on one of the bottom three circles. This may seem easy but there are three invisible Stalkers who are guarding the Grid. These stalkers start on the bottom three circles and randomly move over the grid. If a stalker moves onto a circle that contains your man then your man has been killed (represented by a black & white flashing face). If however your man moves onto a circle containing a stalker then that stalker has been killed (represented by a white face flashing on the circle). If your man has been killed then you start again with the next man until all four men have attempted to cross the grid (note: when each man starts there are always the starting number of stalkers). Luckily you are given a magical crystal which allows you to see where the invisible stalkers are on the grid, but you may only use the crystal four times throughout the complete game (it is a good idea to use the crystal once per man). To use the crystal press the '5' key.

Advanced Game

Exactly the same as the Ordinary game except there are five stalkers.

```
870 POKE 7017,24
880 CLR
890 FOR L=1 TO 500:NEXT L
900 PRINT"█"
903 PRINT"Stalkers."
904 PRINT"-----"
905 PRINT"██████Do you want the Ordinary (O) "
910 PRINT"██████or the Advanced (A) Game."
915 PRINT"██████Type in 'O' or 'A' "
920 GET G$:IF G$="" THEN 920
930 IF G$="O" THEN 1000
940 IF G$="A" THEN 960
950 GOTO 920
960 LEVEL=1
1000 PRINT"██████████"
1002 DIM MAP(24)
1003 LIV=3: MEN=4: SEE=4
1004 FOR L=1 TO 24
1005 MAP(L)=71:NEXT L
1007 PRINT"██████████":ENE=3
1008 IF LEVEL=1 THEN ENE=5
1009 FOR L=1 TO 24:MAP(L)=71:NEXT L
1010 PRINT TAB(13);" ■ ■ ■"
```

```

1020 FOR L=1 TO 3
1030 PRINT TAB(13); "  \  \  \  \  \"
1040 PRINT TAB(13); "  ■  ■  ■  \"
1050 PRINT TAB(13); "  \  \  \  \  \"
1060 PRINT TAB(13); "  ■  ■  ■  \"
1070 NEXT L
1074 PRINT TAB(27); "MEN      ="; MEN; "■"
1075 PRINT TAB(27); "■CRYSTAL ="; SEE
1076 PRINT TAB(27); "■STALKERS ="; ENE
1080 CURSOR 9,1
1100 PRINT"WHERE WILL YOU START ?"
1110 POKE 53423,1:USR(3E)
1120 POKE 53427,2:USR(3E)
1130 POKE 53431,3:USR(3E)
1140 GET A$:IF A$="" THEN 1140
1150 IF A$="A" THEN YOU=53463
1160 IF A$="B" THEN YOU=53467
1170 IF A$="C" THEN YOU=53471
1172 IF A$="A" THEN MAP(1)=206
1174 IF A$="B" THEN MAP(2)=206
1176 IF A$="C" THEN MAP(3)=206
1177 IF A$="A" THEN Q=1
1178 IF A$="B" THEN Q=2
1179 IF A$="C" THEN Q=3
1180 IF ASC(A$)>67 THEN 1140
1182 IF ASC(A$)<65 THEN 1140
1190 POKE 53423,0
1200 POKE 53427,0
1210 POKE 53431,0
1212 CURSOR 9,1
1215 PRINT"          STALKERS.          "
1220 FOR L=1 TO 2
1230 POKE YOU,0
1240 FOR K=1 TO 700:NEXT K
1250 POKE YOU,206
1255 FOR I=1 TO 700:NEXT I
1260 NEXT L
1270 CURSOR 1,7
1275 PRINT"MOVE■"
1280 PRINT" 7  9"
1290 PRINT"  \  /"
1300 PRINT:PRINT"  /  \"
1310 PRINT" 1  3"
1320 POKE 53691,206
1330 R=INT(RND(1)*3+1)
1340 MAP(22)=207
1350 ADM=22
1360 MAP(23)=207
1370 BDM=23
1380 MAP(24)=207
1390 DDM=24
1400 IF LEVEL=0 THEN 2000
1410 MAP(19)=207
1420 EDM=19
1430 MAP(20)=207
1440 FDM=20
2000 REM *** YOU MOVE ***
2001 POKE 53534,196
2010 GET M$:IF M$="" THEN 2010
2020 IF M$="7" THEN 2500
2030 IF M$="9" THEN 3000
2040 IF M$="1" THEN 3500
2050 IF M$="3" THEN 4000
2055 IF M$="5" THEN 9900
2060 GOTO 2010
2500 POKE 53534,0

```

```

2502 IF Q<5 THEN 2001
2504 PEEP=MAP(Q-4)
2510 IF (Q=11)+(Q=18) THEN 2001
2511 AL=-4
2512 IF PEEP=207 THEN GOSUB 8000
2515 RESTORE
2520 FOR Z=1 TO Q
2530 READ POS
2535 NEXT Z
2540 POKE POS,71
2542 MAP(Q)=71
2545 Q=Q-4
2547 RESTORE
2550 FOR T=1 TO Q
2560 READ POS
2570 NEXT T
2580 POKE POS,206
2590 MAP(Q)=206
2999 GOTO 5000
3000 POKE 53534,0
3010 IF Q<4 THEN 2001
3020 PEEP=MAP(Q-3)
3030 IF (Q=7)+(Q=14)+(Q=21) THEN 2001
3035 AL=-3
3040 IF PEEP=207 THEN GOSUB 8000
3050 RESTORE
3060 FOR Z=1 TO Q
3070 READ POS
3080 NEXT Z
3090 POKE POS,71
3095 MAP(Q)=71
3100 Q=Q-3
3105 RESTORE
3110 FOR T=1 TO Q
3120 READ POS
3130 NEXT T
3140 POKE POS,206
3150 MAP(Q)=206
3499 GOTO 5000
3500 POKE 53534,0
3510 IF Q>21 THEN 9500
3520 PEEP=MAP(Q+3)
3530 IF (Q=4)+(Q=11)+(Q=18) THEN 2001
3535 AL=+3
3540 IF PEEP=207 THEN GOSUB 8000
3550 RESTORE
3560 FOR Z=1 TO Q
3570 READ POS
3580 NEXT Z
3590 POKE POS,71
3595 MAP(Q)=71
3600 RESTORE
3610 Q=Q+3
3620 FOR T=1 TO Q
3630 READ POS
3640 NEXT T
3650 POKE POS,206
3660 IF (Q=22)+(Q=23)+(Q=24) THEN 9500
3670 MAP(Q)=206
3999 GOTO 5000
4000 POKE 53534,0
4005 IF (Q=7)+(Q=14)+(Q=21) THEN 2001
4010 IF Q>20 THEN 9500
4020 PEEP=MAP(Q+4)
4035 AL=+4
4040 IF PEEP=207 THEN GOSUB 8000

```

```

4050 RESTORE
4060 FOR Z=1 TO Q
4070 READ POS
4080 NEXT Z
4085 POKE POS,71
4090 RESTORE
4095 MAP(Q)=71
4100 Q=Q+4
4110 FOR T=1 TO Q
4120 READ POS
4130 NEXT T
4140 POKE POS,206
4145 MAP(Q)=206
4150 IF (Q=22)+(Q=23)+(Q=24) THEN 9500
4500 POKE 53534,0
5000 REM *** MY TURN ***
5001 H=H+1
5002 IF H=1 THEN COM=ADM
5003 IF H=2 THEN COM=BOM
5004 IF H=3 THEN COM=DOM
5005 IF LEVEL=1 THEN 5008
5006 IF H>3 THEN 5550
5007 IF COM<1 THEN 5001
5008 IF H=4 THEN COM=EDM
5009 IF H=5 THEN COM=FOM
5010 IF H>5 THEN 5550
5012 IF COM<1 THEN 5001
5019 R=INT(RND(1)*4+1)
5020 IF R=1 THEN 5100
5030 IF R=2 THEN 5200
5040 IF R=3 THEN 5300
5050 IF R=4 THEN 5400
5100 IF COM<5 THEN 5019
5110 IF (COM=11)+(COM=18) THEN 5019
5112 POP=MAP(COM-4)
5115 IF POP=206 THEN 9700
5120 MAP(COM)=71
5130 COM=COM-4
5135 IF COM=Q THEN 9700
5140 MAP(COM)=207
5150 GOTO 5500
5200 IF COM<4 THEN 5019
5210 IF (COM=7)+(COM=14)+(COM=21) THEN 5019
5212 POP=MAP(COM-3)
5215 IF POP=206 THEN 9700
5220 MAP(COM)=71
5230 COM=COM-3
5235 IF COM=Q THEN 9700
5240 MAP(COM)=207
5250 GOTO 5500
5300 IF COM>21 THEN 5019
5310 IF (COM=4)+(COM=11)+(COM=18) THEN 5019
5312 POP=MAP(COM+3)
5315 IF POP=206 THEN 9700
5320 MAP(COM)=71
5330 COM=COM+3
5340 IF COM=Q THEN 9700
5350 MAP(COM)=207:GOTO 5500
5400 IF COM>20 THEN 5019
5410 IF (COM=7)+(COM=14) THEN 5019
5412 POP=MAP(COM+4)
5415 IF POP=206 THEN 9700
5420 MAP(COM)=71
5430 COM=COM+4
5440 IF COM=Q THEN 9700
5450 MAP(COM)=207

```

```

5500 IF H=1 THEN AQM=COM
5510 IF H=2 THEN BQM=COM
5520 IF H=3 THEN DQM=COM
5521 IF H=4 THEN EQM=COM
5524 IF H=5 THEN FQM=COM
5525 IF H=0 THEN 2000
5530 GOTO 5000
5550 IF AQM>0 THEN MAP(AQM)=207
5555 IF BQM>0 THEN MAP(BQM)=207
5560 IF DQM>0 THEN MAP(DQM)=207
5565 IF EQM>0 THEN MAP(EQM)=207
5570 IF FQM>0 THEN MAP(FQM)=207
5580 H=0:GOTO 2000
8000 REM *** KILL ***
8001 RESTORE
8002 FOR S=1 TO Q
8003 READ V:NEXT S
8004 POKE V,71
8010 GH=Q+AL
8015 RESTORE
8020 FOR L=1 TO GH
8030 READ N:NEXT L
8035 POKE N,206
8037 FOR T=1 TO 800:NEXT T
8040 FOR L=1 TO 3
8050 POKE N,71
8060 FOR T=1 TO 800:NEXT T
8070 POKE N,206
8080 FOR T=1 TO 800:NEXT T
8090 NEXT L
8095 IF AQM=Q+AL THEN 8120
8100 IF BQM=Q+AL THEN 8125
8110 IF DQM=Q+AL THEN 8130
8112 IF EQM=Q+AL THEN 8135
8114 IF FQM=Q+AL THEN 8140
8117 GOTO 8180
8120 AQM=-1
8122 ORC=ORC+1:ENE=ENE-1
8124 GOTO 8100
8125 BQM=-1
8127 ORC=ORC+1:ENE=ENE-1
8129 GOTO 8110
8130 DQM=-1
8132 ORC=ORC+1:ENE=ENE-1
8134 GOTO 8112
8135 EQM=-1
8137 ORC=ORC+1:ENE=ENE-1
8139 GOTO 8114
8140 FQM=-1
8142 ORC=ORC+1:ENE=ENE-1
8180 CURSOR 27,22
8190 PRINT"STALKERS =";ENE
8200 RETURN
9000 DATA 53463,53467,53471,53541,53545,53549,53553,53623,53627,53631,53701
9010 DATA 53705,53709,53713,53783,53787,53791,53861,53865,53869,53873,53943
9020 DATA 53947,53951
9499 STOP
9500 REM *** YOU WIN ***
9510 OVER=OVER+1
9515 MEN=MEN-1
9520 IF MEN<1 THEN 9535
9530 GOTO 1007
9535 PRINT"☐"
9536 IF LEVEL=0 THEN 9540
9537 PRINT TAB(10);"☐ ADVANCED GAME☐"
9540 PRINT TAB(10);"*****"

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```

9550 PRINT TAB(10);"* YOU GOT";OVER;" OVER *"
9551 IF ORC>9 THEN 9554
9552 PRINT TAB(10);"* & KILLED";ORC;" *"
9553 PRINT TAB(10);"* STALKERS *":GOTO 9555
9554 PRINT TAB(10);"* & KILLED";ORC;" *":GOTO 9553
9555 PRINT TAB(10);"*****"
9561 TEMPO 2
9562 MUSIC"A+A+B-G+FFDG#+A+A"
9564 PRINT TAB(14);"PLEASEDO YOU WANT"
9565 PRINT TAB(10);"PLEASEANOTHER 60 Y/N"
9570 GET AA$:IF AA$="" GOTO 9570
9580 IF AA$="Y" GOTO 880
9585 IF AA$<>"N" THEN 9570
9590 PRINT"@"
9600 PRINT:PRINT "STALKERS was written by"
9610 PRINT:PRINT " Kevin O'Donnell."
9620 CURSOR 0,22
9630 POKE 7017,32:END
9700 REM *** COMP WIN ***
9701 RESTORE
9710 FOR X=1 TO 0
9720 READ F
9730 NEXT X
9740 FOR E=1 TO 3
9750 POKE F,206
9760 FOR T=1 TO 800:NEXT T
9770 POKE F,207
9780 FOR T=1 TO 800:NEXT T
9790 NEXT E
9800 MUSIC "ABCCDE"
9805 MEN=MEN-1
9807 IF MEN<1 THEN 9515
9810 GOTO 1007
9900 IF SEE=0 THEN 2010
9905 RESTORE
9910 FOR L=1 TO 24
9920 READ W
9930 POKE W,MAP(L)
9940 NEXT L
9950 FOR T=1 TO 1000:NEXT T
9960 RESTORE
9970 FOR L=1 TO 24
9980 READ W
9985 IF MAP(L)=206 THEN 9994
9990 POKE W,71
9991 GOTO 9996
9992 NEXT L
9994 POKE W,206
9996 NEXT L
9997 SEE=SEE-1
9998 CURSOR 23,20
9999 PRINT TAB(27);"CRYSTAL =":SEE:GOTO 2010

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```

1520 REM
1530 GET MOVE$:IF MOVE$="" THEN RETURN
1540 IF MOVE$="1" GOSUB 3610:GOTO 1700
1550 IF MOVE$="2" GOSUB 3610:GOTO 1900
1560 IF MOVE$="3" GOSUB 3610:GOTO 2100
1570 IF MOVE$="4" GOSUB 3610:GOTO 2300
1580 IF MOVE$="5" GOTO 3500
1590 IF MOVE$="6" GOSUB 3610:GOTO 2450
1600 IF MOVE$="7" GOSUB 3610:GOTO 2600
1610 IF MOVE$="8" GOSUB 3610:GOTO 2750
1620 IF MOVE$="9" GOSUB 3610:GOTO 2850
1630 RETURN
1700 REM          → LEFT & DOWN ←
1705 REM
1730 IF (HX=1)+(HY=15) THEN RETURN
1740 IF (HY=14)*(HX<26) THEN 9000
1750 IF HY=14 THEN 1830
1755 A3=0
1760 IF HE$=HF$ THEN A1=HX:A2=HX+1
1770 IF HE$=HL$ THEN A1=HX:A2=HX+1:A3=HX+4
1780 IF HE$=HR$ THEN A1=HX+1:A2=HX+3
1790 P1=PEEK(53288+(40*(HY+2))+A1)
1800 P2=PEEK(53288+(40*(HY+2))+A2)
1803 IF A3=0 THEN P3=0:GOTO 1830
1805 P3=PEEK(53288+(40*(HY+1))+A3)
1830 IF HE$=HL$ THEN DE$=DL$
1840 IF HE$=HF$ THEN HE$=HL$:DE$=DF$
1850 IF HE$=HR$ THEN HE$=HF$:DE$=DR$
1854 IF (P1><0)+(P2><0)+(P3><0) THEN 9000
1855 IF HY=14 THEN HE$=HF$
1860 CURSOR HX, HY:PRINT DE$
1870 HX=HX-1:HY=HY+1
1880 CURSOR HX, HY:PRINT HE$
1885 IF HY=15 THEN CURSOR 26,17:PRINT"██████████":GOSUB 4000
1890 RETURN
1900 REM          → DOWN ←
1905 REM
1910 IF HY=15 THEN RETURN
1915 A3=0
1920 IF (HY=14)*((HX<25)+(HX>28)) THEN 9000
1925 IF HY=14 THEN 2000
1940 IF HE$=HF$ THEN A1=HX+1:A2=HX+3
1950 IF HE$=HL$ THEN A1=HX+1:A2=HX+2:A3=HX+4
1960 IF HE$=HR$ THEN A1=HX+2:A2=HX+3:A3=HX
1970 P1=PEEK(53288+(40*(HY+2))+A1)
1980 P2=PEEK(53288+(40*(HY+2))+A2)
1983 IF A3=0 THEN P3=0:GOTO 2024
1985 P3=PEEK(53288+(40*(HY+1))+A3)
1987 P4=PEEK(53288+(40*(HY+1))+A3+1)
1988 IF A3=HX THEN P4=PEEK(53288+(40*(HY+1))+A3-1)
2000 IF HE$=HF$ THEN DE$=DF$
2010 IF HE$=HL$ THEN DE$=DL$
2020 IF HE$=HR$ THEN DE$=DR$
2024 IF (P1><0)+(P2><0)+(P3><0)+(P4><0)+(P5><0) THEN 9000
2025 IF HY=14 THEN HE$=HF$
2030 CURSOR HX, HY:PRINT DE$
2040 HY=HY+1
2050 CURSOR HX, HY:PRINT HE$
2055 IF HY=15 THEN CURSOR 26,17:PRINT"██████████":GOSUB 4000
2060 RETURN
2100 REM          → RIGHT & DOWN ←
2105 REM
2110 IF (HY=15)+(HX=34) THEN RETURN
2120 IF (HY=14)*(HX<24) THEN 9000
2123 IF HY=14 THEN 2190

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2125 A3=0
2130 IF HE$=HF$ THEN A1=HX+3:A2=HX+4
2140 IF HE$=HL$ THEN A1=HX+2:A2=HX+4
2150 IF HE$=HR$ THEN A1=HX+3:A2=HX+4:A3=HX+1:A4=HX-1
2160 P1=PEEK(53288+(40*(HY+2))+A1)
2170 P2=PEEK(53288+(40*(HY+2))+A2)
2173 IF A3=0 THEN P3=0:P4=0:P5=0:GOTO 2190
2175 P3=PEEK(53288+(40*(HY+1))+A3)
2177 P4=PEEK(53288+(40*(HY+1))+A4)
217B P5=PEEK(53288+(40*(HY+1))+A4)+1)
2190 IF HE$=HR$ THEN DE$=DR$
2200 IF HE$=HF$ THEN HE$=HR$:DE$=DF$
2210 IF HE$=HL$ THEN HE$=HF$:DE$=DL$
2214 IF (P1><0)+(P2><0)+(P3><0)+(P4><0)+(P5><0) THEN 9000
2215 IF HY=14 THEN HE$=HF$
2220 CURSOR HX, HY: PRINTDE$
2230 HX=HX+1:HY=HY+1
2240 CURSOR HX, HY:PRINT HE$
2245 IF HY=15 THEN CURSOR 26, 17:PRINT "██████████":GOSUB 4000
2250 RETURN
2300 REM → LEFT ←
2305 REM
2310 IF (HX=1)+(HY=15) THEN RETURN
2320 A1=HX-1:A2=HX:A3=HX
2330 P1=PEEK(53248+(40*HY)+A1)
2340 P2=PEEK(53288+(40*HY)+A2)
2350 P2=PEEK(53288+(40*(HY+1))+A2)
2360 IF (P1><0)+(P2><0)+(P3><0) THEN 9000
2370 IF HE$=HL$ THEN DE$=DL$
2380 IF HE$=HF$ THEN HE$=HL$:DE$=DF$
2390 IF HE$=HR$ THEN HE$=HF$:DE$=DR$
2400 CURSOR HX, HY:PRINT DE$
2410 HX=HX-1
2420 CURSOR HX, HY:PRINT HE$
2430 RETURN
2450 REM → RIGHT ←
2455 REM
2460 IF (HX=34)+(HY=15) THEN RETURN
2470 A1=HX+5:A2=HX+4:A3=HX+4
2480 P1=PEEK(53248+(40*HY)+A1)
2490 P2=PEEK(53288+(40*HY)+A2)
2500 P2=PEEK(53288+(40*(HY+1))+A2)
2510 IF (P1><0)+(P2><0)+(P3><0) THEN 9000
2520 IF HE$=HR$ THEN DE$=DR$
2530 IF HE$=HF$ THEN HE$=HR$:DE$=DF$
2540 IF HE$=HL$ THEN HE$=HF$:DE$=DL$
2550 CURSOR HX, HY:PRINT DE$
2560 HX=HX+1
2570 CURSOR HX, HY:PRINT HE$
2580 RETURN
2600 REM → LEFT & UP ←
2605 REM
2610 IF (HX=1)+(HY=1) THEN RETURN
2620 A1=HX-1:A2=HX
2630 P1=PEEK(53208+(40*HY)+A1)
2640 P2=PEEK(53288+(40*HY)+A2)
2645 IF P2=54 THEN 2660:REM COPTER TAIL
2650 IF (P1><0)+(P2><0) THEN 9000
2660 IF HE$=HL$ THEN DE$=DL$
2670 IF HE$=HF$ THEN HE$=HL$:DE$=DF$
2680 IF HE$=HR$ THEN HE$=HF$:DE$=DR$
2690 CURSOR HX, HY:PRINT DE$
2695 IF HY=15 THEN CURSOR 26, 17:PRINT "██████████"

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2700 HX=HX-1:HY=HY-1
2710 CURSOR HX, HY:PRINT HE$
2720 RETURN
2750 REM          →          UP          ←
2755 REM
2760 IF HY=1 THEN RETURN
2770 IF HE$=HL$ THEN DE$=DL$
2780 IF HE$=HF$ THEN DE$=DF$
2790 IF HE$=HR$ THEN DE$=DR$
2800 CURSOR HX, HY:PRINT DE$
2805 IF HY=15 THEN CURSOR 26, 17:PRINT "██████████"
2810 HY=HY-1
2820 CURSOR HX, HY:PRINT HE$
2830 RETURN
2850 REM          →  RIGHT & UP  ←
2855 REM
2860 IF (HY=1)+(HX=34) THEN RETURN
2870 A1=HX+5:A2=HX+4
2880 P1=PEEK(5320B+(40*HY)+A1)
2890 IF HE$=HL$ THEN P2=0:GOTO 2910
2900 P2=PEEK(5328B+(40*HY)+A2)
2910 IF (P1<0)+(P2<0) THEN 9000
2920 IF HE$=HR$ THEN DE$=DR$
2930 IF HE$=HF$ THEN HE$=HR$:DE$=DF$
2940 IF HE$=HL$ THEN HE$=HF$:DE$=DL$
2950 CURSOR HX, HY:PRINT DE$
2955 IF HY=15 THEN CURSOR 26, 17:PRINT "██████████"
2960 HY=HY-1:HX=HX+1
2970 CURSOR HX, HY:PRINT HE$
2980 RETURN
3000 REM
3005 REM *****
3010 REM *>>>>>>> BLADES <<<<<<<<*
3015 REM *****
3020 REM
3030 IF B=1 THEN 3070
3040 IF B=2 THEN 3090
3050 IF B=3 THEN 3110
3060 IF B=4 THEN 3130
3070 CURSOR HX, HY:PRINT "———"
3080 B=B+1:RETURN
3090 CURSOR HX, HY:PRINT "—  "
3100 B=B+1:RETURN
3110 CURSOR HX, HY:PRINT "———"
3120 B=B+1:RETURN
3130 CURSOR HX, HY:PRINT "  ——"
3140 B=1:RETURN
3500 REM
3505 REM *****
3510 REM *>>>>>>> DROP ROPE <<<<<<<<*
3515 REM *****
3520 REM
3530 IF R0=1 THEN RETURN
3535 R0=1
3540 P=PEEK(5324B+((HY+2)*40)+(HX+2))
3550 IF P>0 THEN R0=0:RETURN
3560 POKE(5324B+((HY+2)*40)+(HX+2)), 121
3570 P=PEEK(5324B+((HY+3)*40)+(HX+2))
3580 IF P>0 THEN RETURN
3590 POKE(5324B+((HY+3)*40)+(HX+2)), 121
3600 RETURN
3610 REM
3620 REM *****
3630 REM *>>>>>>> LIFT ROPE <<<<<<<<*
3640 REM *****

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3650 REM
3660 IF RO=0 THEN RETURN
3665 RO=0
3670 P=PEEK(53248+((HY+3)*40)+(HX+2))
3680 IF (P><121)*(P><202) THEN 3700
3690 POKE (53248+((HY+3)*40)+(HX+2)),0
3700 P=PEEK(53248+((HY+2)*40)+(HX+2))
3710 IF (P><121)*(P><202) THEN RETURN
3720 POKE (53248+((HY+2)*40)+(HX+2)),0
3730 RETURN
3800 REM
3810 REM *****
3820 REM *>>>>>>> RESCUE <<<<<<<<<*
3830 REM *****
3840 REM
3845 IF (RE=1)+(RO=0) THEN RETURN
3850 P=PEEK(53248+((HY+4)*40)+(HX+2))
3860 IF P><143 THEN 3900
3870 POKE(53248+((HY+4)*40)+(HX+2)),0
3880 POKE(53248+((HY+3)*40)+(HX+2)),202
3890 RE=1:RETURN
3900 P=PEEK(53248+((HY+3)*40)+(HX+2))
3910 IF P><143 THEN RETURN
3920 POKE(53248+((HY+3)*40)+(HX+2)),0
3930 POKE(53248+((HY+2)*40)+(HX+2)),202
3940 RE=1:RETURN
4000 REM
4010 REM *****
4020 REM *>>>>>>> HOME <<<<<<<<<*
4030 REM *****
4040 REM
4050 IF RE=0 THEN RETURN
4060 A=53248+((HY+1)*40)+(HX+4)
4070 POKE A,202:RE=0:RETURN
4100 REM
4110 REM *****
4120 REM *>>>>> MAN RUNNING <<<<<<*
4130 REM *****
4140 REM
4150 IF A=0 THEN RETURN
4160 POKE A,B1
4170 A=A+1
4180 B1=PEEK(A)
4190 IF A=53923 THEN 4210
4200 POKE A,202:RETURN
4210 A=0:MR=MR+1:B1=0
4220 IF MR=3 THEN GOTO 5000
4300 REM
4310 REM *****
4320 REM *>>>>>>>>> WIND <<<<<<<<<<*
4330 REM *****
4340 REM
4345 IF HY=15 THEN RETURN
4350 R1=INT(RND(1)*100+1)
4360 IF R1>6F THEN RETURN
4370 R2=INT(RND(1)*10+1)
4380 IF R2=5 THEN R2=4
4390 IF R2=10 THEN R2=6
4400 MOVE$=STR$(R2)
4410 GOSUB 1540:RETURN
4500 REM
4510 REM *****
4520 REM *>>>>> INSTRUCTIONS <<<<<<*
4530 REM *****

```

```

4540 REM
4550 PRINT "Air-Sea Rescue. ";
4560 CURSOR 14,4:PRINT "INSTRUCTIONS";
4570 PRINT "You'r in command of a rescue helicopter"
4580 PRINT "which has to rescue three people from"
4590 PRINT "the sea. This is because of the high "
4600 PRINT "winds, which will make the rescue more"
4610 PRINT "difficult."
4612 PRINT "Type in the difficulty factor (0-9)"
4614 GET G$:IF G$="" THEN 4614
4615 IF (ASC(G$)<48)+(ASC(G$)>57) THEN 4614
4616 GF=(VAL(G$)+1)*5
4620 PRINT "The wind is at gale force";(GF/5)
4625 FOR L=1 TO 1000:NEXT L
4630 CURSOR 7,23:PRINT">> Press 'C' to continue <<"
4640 GET A$:IF A$<"C" THEN 4640
4650 PRINT "Air-Sea Rescue. ";
4660 CURSOR 14,4:PRINT "INSTRUCTIONS";
4670 PRINT "How to move:"
4680 PRINT "7 B 9 / 4 - - 6 / \ ";
4690 PRINT "1 2 3"
4695 FOR L=1 TO 1000:NEXT L
4700 CURSOR 7,23:PRINT">> Press 'C' to continue <<"
4710 GET A$:IF A$<"C" THEN 4710
4720 PRINT "Air-Sea Rescue. ";
4730 CURSOR 14,4:PRINT "INSTRUCTIONS";
4740 PRINT "To rescue somebody you must first be"
4750 PRINT "facing forward,and secondly you must be"
4760 PRINT "above that person. You then press the"
4770 PRINT "'5' button which will drop the rope."
4780 PRINT "When this is done you then land on the"
4790 PRINT "beach. The helicopter will only carry"
4800 PRINT "one person at a time."
4805 FOR L=1 TO 1000:NEXT L
4810 CURSOR 9,23:PRINT">> Press 'S' to start <<"
4820 GET A$:IF A$<"S" THEN 4820
4830 RETURN
5000 REM
5010 REM *****
5020 REM >>>>>> FINNISH <<<<<<<<
5030 REM *****
5040 REM
5050 PRINT "Air-Sea Rescue. ";
5060 PRINT "Well done, you have succeeded in a"
5070 PRINT "";(GF*2);" mph wind"
5080 PRINT "You took";VAL(TI$);" seconds."
5090 GOTO 9190
9000 REM
9005 REM *****
9010 REM >>>>>>> CRASH <<<<<<<<<
9015 REM *****
9020 REM
9030 CURSOR HX,HY:PRINT DE$
9040 FOR L=1 TO 3
9050 IF ((BX-1)+L)=HX THEN CURSOR BX,16:PRINT DB$
9060 NEXT L
9070 FOR L=33 TO 37
9080 IF L=(HX+3) THEN CURSOR SX,16:PRINT DH$:MR=0
9090 NEXT L
9100 CURSOR HX,16:PRINT CRASH$
9110 CURSOR 10,18

```



```

3040 REM
3050 PRINT "E"
3060 CURSOR 15,1
3070 FOR L=1 TO 22
3080 IF L=12 THEN CURSOR 15,2
3090 A#=MID$(I1$,L,1)
3100 PRINT A#;
3110 FOR L1=1 TO 200:NEXT L1:NEXT L
3120 CURSOR 1,4
3130 FOR L=1 TO 12
3140 A#=MID$(I2$,L,1)
3150 PRINT A#;
3160 FOR L1=1 TO 200:NEXT L1:NEXT L
3170 CURSOR 10,8
3180 FOR L=1 TO 34
3185 IF L=8 THEN CURSOR 10,11
3190 IF L=15 THEN CURSOR 10,14
3195 IF L=22 THEN CURSOR 12,10
3200 IF L=25 THEN CURSOR 14,11
3210 IF L=26 THEN CURSOR 14,12
3220 IF L=33 THEN CURSOR 12,11
3230 A#=MID$(I3$,L,1)
3240 PRINT A#;
3245 IF A#="E" THEN 3255
3250 FOR L1=1 TO 200:NEXT L1
3255 NEXT L
3260 CURSOR 23,11
3270 FOR L=1 TO 28
3275 IF L=15 THEN CURSOR 23,13
3290 A#=MID$(I4$,L,1)
3300 PRINT A#;
3310 FOR L1=1 TO 200:NEXT L1:NEXT L
3320 CURSOR 3,18
3330 FOR L=1 TO 35
3340 A#=MID$(I5$,L,1)
3350 PRINT A#;
3360 FOR L1=1 TO 200:NEXT L1:NEXT L
3370 CURSOR 7,20
3380 FOR L=1 TO 25
3390 A#=MID$(I6$,L,1)
3400 PRINT A#;
3410 FOR L1=1 TO 200:NEXT L1:NEXT L
3420 CURSOR 8,23
3430 FOR L=1 TO 25
3440 A#=MID$(I7$,L,1)
3450 PRINT A#;
3460 FOR L1=1 TO 200:NEXT L1:NEXT L
3465 FOR L=1 TO 7000
3470 GET A#:IF A#="S" THEN 3480
3474 NEXT L
3476USR(62):CD=1:GOTO 9000
3480 RETURN
4000 REM
4010 REM *****
4020 REM *>>>> START OF GAME <<<<<
4030 REM *****
4040 REM
4050 PRINT "E"
4060 CURSOR X,Y:PRINT S#
4065 CURSOR 13,24:PRINT"> Night Sight <E>"
4070 RETURN
5000 REM
5010 REM *****
5020 REM *>>>> PLAYERS MOVE. <<<<<
5030 REM *****

```

```

5040 REM
5045 IF CO=1 THEN GOTO 9000
5050 GET MOVE$:IF MOVE$="" THEN RETURN
5054 IF MOVE$="+" THEN T=0:RETURN
5055 IF (ASC(MOVE$)=42)+(ASC(MOVE$)=106) THEN 5070
5056 IF MOVE$="-" THEN T=10:RETURN
5060 IF (ASC(MOVE$)<49)+(ASC(MOVE$)>57) THEN RETURN
5070 MOVE=VAL(MOVE$)
5080 IF MOVE=1 THEN C1=39:X1=-1:Y1=1
5090 IF MOVE=2 THEN C1=40:X1=0:Y1=1
5100 IF MOVE=3 THEN C1=41:X1=1:Y1=1
5110 IF MOVE=4 THEN C1=-1:X1=-1:Y1=0
5120 IF MOVE=5 THEN 5230
5130 IF MOVE=6 THEN C1=1:X1=1:Y1=0
5140 IF MOVE=7 THEN C1=-41:X1=-1:Y1=-1
5150 IF MOVE=8 THEN C1=-40:X1=0:Y1=-1
5160 IF MOVE=9 THEN C1=-39:X1=1:Y1=-1
5165 IF MOVE=10 THEN RETURN
5170 IF ((Y+Y1)<0)+((Y+Y1)>19) THEN RETURN
5180 IF ((X+X1)<0)+((X+X1)>34) THEN RETURN
5190 CURSOR X,Y:PRINT D$
5200 C=C+C1:X=X+X1:Y=Y+Y1
5210 CURSOR X,Y:PRINT S$
5220 POKE UFO,199:RETURN
5230 POKE C,0
5235 IF C>UFO THEN 5280
5240 POKE UFO,0
5250 CURSOR X,Y:PRINT S$
5260 GOSUB 9200:REM → BLEEP ←
5270 UFO=0:K=K+1
5280 MOVE=T:GOTO 5080
6000 REM
6010 REM *****
6020 REM *>>>> MOVE THE UFO. <<<<<*
6030 REM *****
6040 REM
6050 IF UFO>0 THEN 6110
6060 R1=INT(RND(1)*100+1)
6070 IF R1<40 THEN RETURN
6080 R2=INT(RND(1)*17+4)
6090 UFO=53248+(40*R2)
6100 POKE UFO,199:RETURN
6110 R3=INT(RND(1)*3+1)
6120 IF R3=1 THEN U1=-39
6130 IF R3=2 THEN U1=1
6140 IF R3=3 THEN U1=41
6150 IF ((UFO+U1)<53248)+((UFO+U1)>54207) THEN 6210
6160 IF (UFO-53248)/40=0.975 THEN 6210
6170 POKE UFO,0
6180 UFO=UFO+U1
6190 CURSOR X,Y:PRINT S$
6200 POKE UFO,199:RETURN
6210 POKE UFO,0
6220 CURSOR X,Y:PRINT S$
6230 UFO=0:RETURN
7000 REM
7010 REM *****
7020 REM *>>>> GAME FINNISH. <<<<<*
7030 REM *****
7040 REM
7045 IF S=1 THEN PRINT CHR$(101):S=0
7050 PRINT"█":MUSIC"AA"

```

```

7060 IF K>-1 THEN F1$="    Poor"
7070 IF K>4 THEN F1$="    Good"
7080 IF K>9 THEN F1$="    Very good"
7090 IF K>14 THEN F1$="    Excellent"
7100 IF K>19 THEN F1$="    Exceptional"
7110 CURSOR 7,5:PRINT"You shot down";K;" attackers"
7130 CURSOR 12,7:PRINT"*****"
7140 PRINT TAB(12);"*    GRADE    *"
7150 PRINT TAB(12);"*";F1$;TAB(26);"*"
7160 PRINT TAB(12);"*****"
7170 PRINT"Do you want another go ?"
7175 FOR L=1 TO 7000
7180 GET A$:IF A$<<" " THEN 7190
7184 NEXT L
7186 CO=1:GOTO 7225
7190 IF A$="N" THEN 7350
7200 IF A$<<"Y" THEN 7180
7210 FOR L=1 TO 200:NEXT L
7220 PRINT"Do you want the instructions ?"
7225 FOR L=1 TO 7000
7230 GET A$:IF A$<<" " THEN 7240
7234 NEXT L
7235 CO=1:GOTO 7260
7240 IF A$="Y" THEN 1000
7250 IF A$<<"N" THEN 7230
7255 CO=0
7260 K=0:X=18:Y=10:D=53748:UFO=0:T=10
7265 R4=INT(RND(1)*100+1)
7267 IF R4>95 THEN GOSUB 8000
7269 REM          → INFA RED ←
7270 PRINT"█"
7280 CURSOR 21,10:PRINT"  |"
7290 PRINT TAB(8);"Count down → |!"
7300 PRINT TAB(21);"  |"
7310 FOR L=9 TO 0 STEP -1
7320 CURSOR 21,11:PRINT L;"█|!"
7325 USR(62)
7330 FOR L1=1 TO 300:NEXT L1
7340 NEXT L
7345 IF S=1 THEN PRINT CHR$(101)
7347 GOTO 2060
7350 PRINT"Night Sight was written by"
7360 PRINT TAB(27);"K.O'Donnell"
7370 CURSOR 0,20
7375 POKE 7017,32:REM → + BREAK KEY ←
7380 END
8000 REM
8010 REM *****
8020 REM *>>>>>> INFA-RED. <<<<<<<<*
8030 REM *****
8040 REM
8050 PRINT"█"
8060 FOR L=1 TO 4
8070 CURSOR 15,9:PRINT"          "
8080 FOR L1=1 TO 500:NEXT L1
8090 CURSOR 15,9:PRINT"A L E R T"
8100 FOR L1=1 TO 500:NEXT L1:NEXT L
8110 PRINT"We have hit a heavy space storm and must"
8120 PRINT"use the infa-red system to detect the█"
8130 PRINT"attackers."
8140 FOR L=1 TO 5000:NEXT L
8150 S=1:RETURN

```

```

9000 REM
9010 REM *****
9020 REM *>>> COMPUTER PLAY'S <<<<*
9030 REM *****
9035 REM
9040 GET A$: IF A$="S" THEN 7255
9050 IF UFO=0 THEN MO=10:GOTO 5080
9055 U1=INT((UFO-53248)/40)
9060 U2=((UFO-53248)/40)-U1)*40
9070 X3=X+2:Y3=Y+2
9080 IF (U2>X3)*(U1=Y3) THEN 5240
9090 IF (U2>X3)*(U1<Y3) THEN X1=1:Y1=-1
9100 IF (U2>X3)*(U1=Y3) THEN X1=1:Y1=0
9110 IF (U2>X3)*(U1>Y3) THEN X1=1:Y1=1
9120 IF (U2=X3)*(U1<Y3) THEN X1=0:Y1=-1
9130 IF (U2=X3)*(U1>Y3) THEN X1=0:Y1=1
9140 IF (U2<X3)*(U1<Y3) THEN X1=-1:Y1=-1
9150 IF (U2<X3)*(U1=Y3) THEN X1=-1:Y1=0
9160 IF (U2<X3)*(U1>Y3) THEN X1=-1:Y1=1
9170 GOTO 5170
9200 REM
9210 REM *****
9220 REM *>>>>>>>> BLEEP <<<<<<<<<*
9230 REM *****
9240 REM
9250 FOR A=2 TO 3:POKE 4513,A
9270 FOR B=1 TO 10:POKE 4514,B
9280 USR(68):NEXT B,A:USR(69)
9290 RETURN

```

SURVIVAL

```

80 POKE 7017,24
90 GOSUB 4000
100 PRINT"█" > Survival <"
105 FOR L=1 TO 150
110 X1=INT(RND(1)*38+1)
120 Y1=INT(RND(1)*22+2)
130 CURSOR X1,Y1:PRINT"█"
140 NEXT L
150 X=18:Y=13:U=53786:SC=0
155 POKE (U-1),0
160 POKE U,172
170 TI$="000000"
200 GOSUB 1000
210 GOSUB 2000
230 GOTO 200
1000 IF C>0 THEN 1060
1010 R1=INT(RND(1)*2)
1020 R2=INT(RND(1)*23+1)
1030 IF R1=1 THEN R1=39
1040 C=53248+(R2*40)+R1
1050 POKE C,199:RETURN
1060 Y1=INT((C-53248)/40)
1061 X1=((C-53248)/40)-Y1)*40
1069 IF (X=X1)*(Y=Y1) THEN 3000
1070 IF (X>X1)*(Y<Y1) THEN C1=-39
1080 IF (X>X1)*(Y=Y1) THEN C1=1
1090 IF (X>X1)*(Y>Y1) THEN C1=41
1100 IF (X=X1)*(Y<Y1) THEN C1=-40
1110 IF (X=X1)*(Y>Y1) THEN C1=40
1120 IF (X<X1)*(Y<Y1) THEN C1=-41
1130 IF (X<X1)*(Y=Y1) THEN C1=-1
1140 IF (X<X1)*(Y>Y1) THEN C1=39

```

```

1150 P=PEEK(C+C1)
1160 IF P=172 THEN 3000
1170 IF P><0 THEN 1190
1180 GOTO 1210
1190 USR(62):POKE C,0
1200 POKE (C+C1),0:C=0:SC=SC+1:RETURN
1210 POKE C,0
1220 C=C+C1:POKE C,199:RETURN
2000 GET M$:IF M$="" THEN RETURN
2005 IF (ASC(M$)<49)+(ASC(M$)>57) THEN RETURN
2010 IF M$="1" THEN X3=-1:Y3=1:P1=39
2020 IF M$="2" THEN X3=0:Y3=1:P1=40
2030 IF M$="3" THEN X3=1:Y3=1:P1=41
2040 IF M$="4" THEN X3=-1:Y3=0:P1=-1
2050 IF M$="6" THEN X3=1:Y3=0:P1=1
2060 IF M$="7" THEN X3=-1:Y3=-1:P1=-41
2070 IF M$="8" THEN X3=0:Y3=-1:P1=-40
2080 IF M$="9" THEN X3=1:Y3=-1:P1=-39
2082 IF M$="5" THEN RETURN
2085 IF((U+P1)<53288)+((U+P1)>54247) THEN RETURN
2087 IF ((X+X3)>39)+((X+X3)<0) THEN RETURN
2090 P=PEEK(U+P1)
2100 IF P><0 THEN 3000
2105 POKE U,0
2110 U=U+P1:X=X+X3:Y=Y+Y3
2120 POKE U,172:RETURN
3000 PRINT"@"
3005 PRINT"Survival. ██████████"
3010 A$=TI$
3020 A=VAL(A$)
3030 M=INT(A/100)
3040 S=A-(M*100)
3045 CURSOR 0,7
3050 PRINT"You survived for";M;" minutes &";S;" seconds"
3055 PRINT TAB(12);"███and you scored ";SC
3060 PRINT"███Do you want another go?"
3070 GET A$:IF A$="" THEN 3070
3080 IF A$="Y" THEN C=0:RUN
3090 IF A$><"N" THEN 3070
3100 PRINT"███Survival was written by"
3110 PRINT TAB(24);"██.O'Donnell."
3115 PRINT"██████████████████"
3120 POKE 7017,32
3130 END
4000 PRINT"@"
4010 PRINT"Survival. ██████████"
4020 PRINT"███How to move:"
4030 PRINT"███7 8 9██████\|██████4 - - 6";
4040 PRINT"██████\|██████1 2 3"
4050 CURSOR 18,10
4060 PRINT"The object of the game"
4070 PRINT TAB(18);"is to avoid being hit"
4080 PRINT TAB(18);"by ' ',and also avoid"
4090 PRINT TAB(18);"hitting ' '."
4100 POKE 53830,199
4105 CURSOR 7,18:PRINT"You -"
4107 POKE 53981,172
4110 CURSOR 4,21:PRINT">> Press any button to start. <<"
4120 GET A$:IF A$="" THEN 4120
4130 RETURN

```



```

340 CURSOR 4,1:PRINTBL$
350 FOR T=1 TO 18
355 CURSOR 3,T-1:PRINT"      "
360 CURSOR 3,T:PRINT PA$
365 POKE 4514,1:POKE 4513,T:USR(68)
366 FOR J=1 TO 40:NEXT J
370 NEXT:USR(71)
375 CURSOR 1,T-2:PRINTBB$:CURSOR 3,T-2:PRINT BA$
376 CURSOR 0,23:PRINT STRING$("X",39);"█":USR(71)
377 FOR J=1 TO 500:NEXT
380 USR(71)
390 O=10:FOR T=5 TO 14
400 CURSOR 1,T:PRINTMT$(T-4)
401 FOR U=1 TO O:NEXT U
405 GOSUB 600
410 NEXT:USR(71):FOR J=1 TO 500:NEXT
420 I$="Press I for instructions "
430 S$="          Press S to start "
440 I=0:FOR R=40 TO 9 STEP-1
450 POKE 4514,I:USR(68):I=I+1
460 CURSOR R-1,17:PRINT LEFT$(I$,I)
470 NEXT
480 USR(71)
490 I=0:FOR K=1 TO LEN(S$)
500 CURSOR 0,19:PRINT RIGHT$(S$,K)
510 POKE 4514,1:USR(68)
520 I=I+1
530 NEXT:USR(71)
540 GOTO 690
550 REM
560 REM =====
570 REM SUBROUTINE
580 REM =====
590 REM
600 O=0-1:POKE 4514,O:USR(68)
610 FOR J=1 TO 20:NEXT J
620 RETURN
630 REM
640 REM =====
650 REM INSTRUCTIONS OR START GAME ?
660 REM =====
670 REM
690 GET KEY$
700 IF KEY$="I" THEN 4000
710 IF KEY$="S" THEN 952
720 GOTO 690
910 REM
920 REM =====
930 REM MAIN LOOP
940 REM =====
950 REM
952 PRINT"█":SC=0
955 GOSUB 3000:PL=53327
960 O=100:POKE 4514,O:USR(68)
970 GET T$:IF T$=" " THEN 1050
980 PL=PL+1:IF PEEK(PL)<>0 THEN 1400
985 POKE PL,200:POKE PL-1,0
986 FOR J=1 TO 40:NEXT
987 IF PL=54178 THEN 3150
990 GOTO 970
1000 REM
1010 REM =====
1020 REM DROP BOMB
1030 REM =====

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```

1040 REM
1050 IF PL>54167 THEN 980
1055 D=99:FOR BM=PL+40 TO 54247 STEP 40
1060 IF PEEK(BM)<>0 THEN 1190
1065 POKE BM,68:POKE BM-40,0
1070 PL=PL+1:IF PEEK(PL)<>0 THEN 1400
1080 POKE PL,200:POKE PL-1,0
1081 D=D+1:POKE 4514,D:USR(68)
1085 FOR J=1 TO 20:NEXT
1090 NEXT BM
1100 FOR K=2 TO 4
1110 POKE BM-40,107:NEXT:USR(71)
1120 POKE BM-40,0:BM=0
1125 PRINT"###Score";SC
1130 GOTO 960
1140 REM
1150 REM =====
1160 REM BOMB HIT PART OF BUILDING
1170 REM =====
1180 REM
1190 IF PEEK(BM)=114 THEN POKE BM,0:POKE BM+1,0:GOTO 1235
1200 IF PEEK(BM)=115 THEN POKE BM,0:POKE BM-1,0:GOTO 1235
1210 IF PEEK(BM)=118 THEN POKE BM,0:POKE BM+1,0:GOTO 1235
1220 IF PEEK(BM)=119 THEN POKE BM,0:POKE BM-1,0: GOTO 1235
1230 IF PEEK(BM)=166 THEN 1100
1235 PL=PL+1:IF PEEK(PL)<>0 THEN END
1240 POKE PL,200:POKE PL-1,0:POKE PL,200
1245 SC=SC+10
1250 REM
1260 REM =====
1270 REM BOMB HIT ENOUGH
1280 REM =====
1290 REM
1300 BH=BH+1:IF BH=6 THEN BH=0:GOTO1100
1310 GOTO 1065
1400 REM
1410 REM =====
1420 REM CRASHED
1430 REM =====
1440 REM
1445 PL=PL-1:POKE BM,0
1450 FOR K=50 TO 87
1455 POKE PL,255-INT(RND(1)*15+1)
1460 PRINT"█";CHR$(0)
1470 POKE PL-41,119:POKE PL-39,118:POKE PL+39,118:POKE PL+41,119
1480 POKE 4514,K:USR(68)
1490 NEXT:USR(71)
1500 POKE PL-41,0:POKE PL+41,0
1510 POKE PL-39,0:POKE PL+39,0
1520 FOR DROP=PL TO 54207 STEP 40
1530 POKE 4514,INT(RND(1)*255+1)
1535 USR(68)
1540 POKE DR,255-INT(RND(1)*15+1)
1545 POKE DR-40,0
1550 NEXT DR:USR(71)
1560 POKE DR-40,107
1570 FOR K=1 TO 100:POKE 4514,K
1580 USR(68):NEXT:USR(71)
1590 POKE DR-40,0
1595 FOR I=1 TO 1000:NEXT I
1600 FOR P=1 TO 12
1610 CURSOR 0,P:PRINT STRING$( "X",39)
1620 CURSOR 0,24-P:PRINT STRING$( "X",39)
1640 NEXT:USR(71)
1650 FOR P=1 TO 12

```

```

1660 CURSOR 0,P:PRINT STRING$(" ",39)
1670 CURSOR 0,24-P:PRINT STRING$(" ",39)
1680 NEXT
1690 REM
1700 REM =====
1710 REM GOT A HI-SCORE ?
1720 REM =====
1725 REM
1730 IF SC>HS(10) THEN 2030
1740 S$="GAME OVER"
1750 FOR K=1 TO LEN(S$)
1760 FOR I=60 TO 70:POKE 4514,I:USR(68)
1770 NEXT:USR(71)
1780 CURSOR 13,7:PRINT LEFT$(S$,K)
1790 NEXT
1800 S$="Try Again (Y--YES)"
1810 FOR K=1 TO LEN(S$)
1820 FOR I=20 TO 25:POKE 4514,I:USR(68)
1830 NEXT:USR(71)
1840 CURSOR 9,9:PRINT LEFT$(S$,K)
1850 NEXT
1860 FOR K=1 TO 10
1870 GET T$:IF T$="Y" THEN 4050
1880 IF T$="N" THEN PRINT"☐":END
1890 CURSOR 13,7:PRINT"GAME OVER"
1900 NEXT
1910 FOR K=1 TO 10
1920 GET T$
1930 IF T$="Y" THEN 4050
1940 IF T$="N" THEN PRINT"☐":END
1950 CURSOR 13,7:PRINT" "
1960 NEXT
1965 CO=CO+1:IF CO>20 THEN CO=0:GOTO 2470
1970 GOTO 1860
1980 REM
1990 REM =====
2000 REM ENTER NAME ON TABLE
2010 REM =====
2020 REM
2030 PRINT"☐"
2040 PRINT TAB(9);"YOU HAVE A HI-SCORE!☐"
2050 PRINT "☐ Please enter your initials using the"
2060 PRINT "☐ A & D keys to select the correct"
2070 PRINT "☐ letter, and then press 'CR' key."
2080 CURSOR 15,13:PRINT"? ?"
2090 REM
2100 REM =====
2110 REM KEY INPUT
2120 REM =====
2130 REM
2140 A=65
2150 GET T$
2160 IF T$="A" THEN IF A>65 THEN A=A-1
2165 IF T$="D" THEN IF A<90 THEN A=A+1
2170 GET Y$
2180 IF Y$=CHR$(102) THEN GOTO 2205
2190 CURSOR 15,13:PRINT CHR$(A)
2200 GOTO 2150
2205 FOR K=1 TO 200:NEXT:L$=CHR$(A)
2210 A=65
2220 GET S$
2230 IF S$="A" THEN IF A>65 THEN A=A-1
2240 IF S$="D" THEN IF A<90 THEN A=A+1
2245 GET Y$

```

```

2250 IF Y#=CHR$(102) THEN 2275
2260 CURSOR 17,13:PRINT CHR$(A)
2270 GOTO 2220
2275 K#=CHR$(A)
2280 N#=L#+". "+K$
2290 PRINT "█"
2300 REM
2310 REM =====
2320 REM SORT ARRAY
2330 REM =====
2340 REM
2350 FOR I=1 TO 10:IF HS(I)>SC THEN2520
2360 FOR J=9 TO I STEP-1:HS(J+1)=HS(J):HS$(J+1)=HS$(J):NEXT:HS(I)
2420 REM
2430 REM =====
2440 REM HALL OF FAME
2450 REM =====
2460 REM
2470 PRINT"█"
2480 PRINT TAB(10);"Hall of fame..."
2490 PRINT"█"
2500 FOR K=1 TO 9
2510 PRINT TAB(10);"█";K;". ";TAB(12);HS(K);TAB(20);HS$(K)
2520 NEXT
2530 PRINT"█";TAB(9);K;". ";TAB(12);HS(K);TAB(20);HS$(K)
2540 PRINT"█";TAB(10);"Hall of fame..."
2550 FOR I=1 TO 20:GET T$
2560 IF T$="" THEN NEXT:GOTO 2570
2565 GOTO 4000
2570 PRINT"█";TAB(10);" "
2580 FOR I=1 TO 20:GET T$
2590 IF T$="" THEN NEXT:GOTO 2540
2600 GOTO 4000
3000 REM
3010 REM =====
3020 REM DRAW BUILDINGS
3030 REM =====
3040 REM
3060 PRINT"█Score";SC;TAB(15);"Hi-score";HS
3070 FOR P=54208 TO 54247:POKE P,$A5:NEXT
3080 BU=54169
3090 FOR T=1 TO 13
3100 FOR R=BU TO BU-INT(RND(1)*740+SH*40) STEP-40
3110 POKE R,114:POKE R+1,115:NEXT
3115 POKE R,118:POKE R+1,119
3120 BU=BU+3
3130 NEXT
3140 RETURN
3150 REM
3160 REM =====
3170 REM MADE IT
3180 REM =====
3190 REM
3200 USR(71):FOR T=0 TO 23
3210 CURSOR 0,T:PRINT STRING$("█",39)
3220 NEXT
3230 FOR T=0 TO 23
3240 CURSOR 0,T:PRINT STRING$(" ",39)
3250 NEXT
3260 PRINT"█"

```



```

610 M=-40:N=40
620 B=B+M:POKE B,C:POKE B-M,0
630 A=A+N:POKE A,S:POKE A-N,0
640 POKE 4514,10:USR(68):USR(71)
650 FOR DE=1 TO 40:NEXT DE
680 GET A$
690 IF A$="B" THEN M=-40
700 IF A$="2" THEN M=40
710 IF A$="4" THEN M=-1
720 IF A$="6" THEN M=1
730 GET M$
740 IF M$="W" THEN N=-40
750 IF M$="X" THEN N=40
760 IF M$="A" THEN N=-1
770 IF M$="D" THEN N=1
780 POKE 4514,10:USR(68):USR(71)
785 IF PEEK(A+N)<>208 THEN P=A:EA=EA+1:GOTO 820
786 IF PEEK(B+M)<>208 THEN P=B:RA=RA+1:GOTO 800
790 GOTO 620
800 IF PEEK(A+N)<>208 THEN EA=EA+1:GOTO 890
810 P=B:M=206:GOTO 960
820 IF PEEK(B+M)<>208 THEN RA=RA+1:GOTO 890
825 P=A:M=207:GOTO 960
830 REM
840 REM =====
850 REM BOTH CRASHED
860 REM =====
865 REM
890 FOR I=100 TO 0 STEP-1:POKE 4514,I:USR(68):FOR J=1 TO 100 STEP 50
900 POKE 4513,J:USR(68):POKE A,206:POKE B,207:POKE A,107:POKE B,107
910 POKE A,0:POKE B,0:NEXT J,I:USR(71)
920 GOTO 1010
930 REM
940 REM =====
950 REM PLAYER CRASHED
960 REM =====
970 REM
990 FOR I=100 TO 0 STEP-1:FOR J=1 TO 100 STEP 50:POKE 4514,I:USR(68)
1000 POKE 4513,J:USR(68):POKE P,M:POKE P,107:POKE P,0:NEXT J,I:USR(71)
1010 PRINT"█":Y=1
1020 GOSUB 140:PRINT"██"
1040 CURSOR 15,2:PRINT"DIG-DUG":GOSUB 140
1045 CURSOR 15,3:PRINT"_____":GOSUB 140
1050 CURSOR 8,6:PRINT"|_____|" :GOSUB 140
1060 CURSOR 7,8:PRINT"█ | ";N$;" HAS";EA;" GAME(S)";TAB(30);" |":GOSUB 140
1070 CURSOR 7,8:PRINT" | _____ |"
1080 CURSOR 7,10:PRINT"█ | ";H$;" HAS";RA;" GAME(S)";TAB(30);" |":GOSUB 140
1090 CURSOR 7,10:PRINT" | _____ |" :GOSUB 140
1100 CURSOR 8,12:PRINT"██ _____|" :GOSUB 140
1120 CURSOR 7,14:PRINT"| _____|" :GOSUB 140
1130 CURSOR 7,15:PRINT"| PRESS (P) TO PLAY AGAIN |":GOSUB 140
1140 CURSOR 7,16:PRINT"| _____|" :GOSUB 140
1150 CURSOR 7,17:PRINT"| PRESS (C) TO CLEAR ALL. |":GOSUB 140
1160 CURSOR 7,18:PRINT"| _____|"
1170 GET A$
1180 IF A$="P" THEN 410
1190 IF A$="C" THEN CLR:T=1:Y=1:GOSUB 100:GOTO 1300
1200 GOSUB 140:NU=NU+1:IF NU=120 THEN NU=0:GOTO 1750
1205 GOTO 1170
1300 PRINT"███"
1310 PRINT"███ DIG-DUG "
1320 PRINT"███"
1330 PRINT"█████"
1340 INPUT"██" INPUT NAME OF FIRST PLAYER:";H$
1370 IF LEN(H$)<6 THEN H$=H$+" ":GOTO 1370

```

```

1375 H#=LEFT$(H$,6)
1380 INPUT "INPUT NAME OF SECOND PLAYER:";N$
1400 IF LEN(N$)<6 THEN N#=N$+" ":GOTO 1400
1405 N#=LEFT$(N$,6)
1410 FOR P=3 TO 22:CURSOR 2,P:PRINT STRING$( " ",37):NEXT
1420 CURSOR 2,5:PRINT H$;" Starts from the top.":GOSUB 140
1430 CURSOR 2,7:PRINT"Your keys are - W...Up      X...Down":GOSUB 140
1440 CURSOR 2,8:PRINT"           A...Left    D...Right":GOSUB 140
1450 CURSOR 2,12:PRINT N$;" Starts from the bottom":GOSUB 140
1460 CURSOR 2,14:PRINT"Your keys are - 8...Up      2...Down":GOSUB 140
1470 CURSOR 2,16:PRINT"           4...Left    6...Right":GOSUB 140
1480 CURSOR 4,19:PRINT"Press 'S' key to start the game":GOSUB 140
1490 GET T$:IF T$="S"=0 THEN CO=CO+1:IF CO=100 THEN CO=0:GOTO 1750
1500 IF T$="S" THEN 410
1510 GOSUB 140:GOTO 1490
1520 REM
1530 REM =====
1540 REM INSTRUCTIONS
1550 REM =====
1560 REM
1570 GOSUB 1740
1600 CURSOR 14,2:PRINT"DIG-DUG":GOSUB 140
1610 CURSOR 14,3:PRINT"-----":GOSUB 140
1620 CURSOR 2,5:PRINT"This is a two player game, where one":GOSUB 140
1630 CURSOR 2,7:PRINT"player starts at the top and the":GOSUB 140
1640 CURSOR 2,9:PRINT"other starts at the bottom of the":GOSUB 140
1650 CURSOR 2,11:PRINT"screen. As each player moves, they":GOSUB 140
1660 CURSOR 2,13:PRINT"dig a trail.If any player hits part":GOSUB 140
1670 CURSOR 2,15:PRINT"of a trail, or hits the edge of the":GOSUB 140
1680 CURSOR 2,17:PRINT"screen, then that player will lose.":GOSUB 140
1690 CURSOR 7,20:PRINT"PRESS SPACE BAR WHEN READY"
1700 GET T$:IF T$=" " THEN 1730
1705 CO=CO+1:IF CO=100 THEN CO=0:GOTO 1750
1710 Y=1:GOSUB 140:GOTO 1700
1730 GOTO 1300
1740 FOR I=2 TO 20:CURSOR 2,I:PRINT STRING$( " ",37):GOSUB 140:NEXT:RETURN
1750 GOSUB 1740
1760 CURSOR 7,7:PRINT"|-----|"':GOSUB 140
1770 CURSOR 7,8:PRINT"|           |"':GOSUB 140
1780 CURSOR 7,9:PRINT"|           |"':GOSUB 140
1790 CURSOR 7,10:PRINT"| Copyright 1984 Sharpsoft |"':GOSUB 140
1800 CURSOR 7,11:PRINT"|           |"':GOSUB 140
1810 CURSOR 7,12:PRINT"| Written by Simon Jones |"':GOSUB 140
1820 CURSOR 7,13:PRINT"|           |"':GOSUB 140
1830 CURSOR 7,14:PRINT"|-----|"':GOSUB 140
1840 FOR U=1 TO 70
1850 GOSUB 140
1860 GET T$:IF T$="S" THEN 1880
1870 NEXT:Y=1:NU=0:GOSUB 1740:Y=0:GOTO 140
1880 IF N$="" THEN 1300
1890 GOTO 410

```

RACETRACK from Jasmit Singh

```

1 GOSUB 500
2 DIM X(213)
3 H=3:S=0
4 TEMPO 7
5 PRINT "E"
6 PRINT "RACETRACK"
7 FOR B=1 TO 500
8 NEXT B
9 PRINT "E"
10 A=10
20 B=7
30 C=24
33 GOSUB 299
34 FOR N=14 TO 213
35 X(N)=INT(7*RAND(1))
40 CURSOR X(N),C
50 PRINT "█"
60 GET X$
70 IF X$="Z" THEN B=B-1
80 IF X$="M" THEN B=B+1
85 IF X$="S" THEN 110
90 CURSOR B,A-2
91 PRINT "█":CURSOR B,A-1:PRINT "█"
92 IF B<X(N-14)-1 THEN 145
93 IF B>X(N-14)+4 THEN 145
94 S=S+1:IF S=200THEN 700
95 CURSOR 15,0:PRINT "YOUR SCORE; ";S
96 FOR T=1 TO D
97 NEXT T
98 A$="-C"
99 USR(4B,A$)
100 NEXT N
110 END
145 H=H-1 :IF H=0 THEN 180
146 LET LF$="CHANCES"
147 IF H=1 THEN LF$="CHANCE"
150 PRINT "E":PRINT "YOU HAVE GONE OFF THE TRACK."
160 PRINT H;" ";LF$;" LEFT
165 FOR Y=1 TO 1000:NEXT Y
170 GOTO 5
180 PRINT "E":PRINT H;"CHANCES LEFT"
190 PRINT "E"
200 CURSOR 15,12:PRINT "GAME OVER"
205 CURSOR 12,20
210 PRINT "PRESS 'S' TO START"
211 CURSOR 1,1
212 PRINT "SCORE=";S
220 GET C$:IF C$="S" THEN H=3
225 IF C$="S" THEN 1
230 GOTO 220
299 FOR K=0 TO 14
300 X(K)=INT(7*RAND(1))
310 CURSOR X(K),C
320 PRINT "█"
330 GET X$:IF X$="Z" THEN B=B-1
340 IF X$="M" THEN B=B+1
342 IF B<0 THEN B=0
347 IF B>39 THEN B=39
350 CURSOR B,A-2
360 PRINT "█"
365 CURSOR B,A-1

```

```

370 PRINT "###"
371 A$="-C"
372 USR(48,A$)
375 FOR Y=1 TO D
377 NEXT Y
380 NEXT K
390 RETURN
500 PRINT "E"
510 PRINT "          RACETRACK"
520 PRINT "
530 PRINT "This is a game where you have to stay "
540 PRINT "on the road"
550 PRINT "The road looks like this:#####"
560 PRINT "and your car looks like this +"
570 PRINT "You will see this: around and behind"
580 PRINT "your car but this is only your dustrack"
590 PRINT "PRESS 'Z' TO MOVE LEFT & 'M' TO MOVE"
600 PRINT "RIGHT"
601 PRINT "THE HIGHEST SCORE YOU CAN GET IS 200"
602 PRINT "YOU HAVE 3 CHANCES"
603 PRINT "EACH TIME YOU GO OFF THE TRACK"
604 PRINT "YOU LOSE 1 LIFE"
605 PRINT
610 CURSOR 0,21:PRINT "          HIT SPACE BAR TO CONTINUE"
620 GET Y$:IF Y$=" " THEN 800
630 GOTO 620
700 PRINT "E"
705 PRINT "          YOU HAVE WON !!"
710 B$="C3DEG+CEG+CCDEG+CEG+CC"
720 USR(48,B$)
725 PRINT "YOUR SCORE=";S
730 PRINT "PRESS 'S' TO START AGAIN"
740 GET J$:IF J$="S" THEN GOTO 1
750 GOTO 740
800 PRINT "E"
810 PRINT "WHAT SKILL LEVEL ?"
820 PRINT "1=SLOW,2=FAST,3=VERY FAST"
825 CURSOR 0,3
830 INPUT V
840 ON V GOTO 860,880,900
850 GOTO 825
860 LET D=200
870 RETURN
880 LET D=90
890 RETURN
900 LET D=0
910 RETURN

```

TWO GAMES from BEN PAYNE
in
BASIC SP-5025A

STAR RAIDERS - an idea from 4D Time Gate on the ZX-Spectrum

```

1 REM***BY BEN PAYNE***
2 REM**FROM LINGWOOD NORWICH**
3 REM**          **
4 TEMPOS
5 PRINT"E"
10 REM**4D STARRAIDERS**
20 B$="** STAR RAIDERS **":FORN=1TOLEN(B$):PRINT" ";LEFT$(B$,N)
30 POKE4514,N:USR(68):USR(71):NEXT
35 FORG=1TO5
40 FORN=1TO13:PRINTSPC(13):PRINTIO,N;B$:POKE4514,N*N:USR(68):NEXT
45 NEXT

```

```

50 FORN=12TDOOSTEP-1:PRINT[0,N];" ":POKE4514,N:USR(68):NEXT
60 FORN=1T010:PRINT[0,11];B$;" ":POKE4514,N:USR(68):NEXT
70 FORN=1T010:PRINT[0,9];B$;" ":POKE4514,N:USR(68):NEXT
80 FORN=1TOLEN(B$):PRINT[1,N+8];" ":POKE4514,N:USR(68):NEXT
90 FORN=LEN(B$)T01STEP-1:PRINT[1,N+8];" ":POKE4514,N:USR(68):NEXT
100 PRINT"Be prepared for star raiders my freind!":MUSIC"C3"
110 FORN=1T01000:NEXT
120 PRINT"So were no man has gone before!":MUSIC"D3"
130 FORN=1T01000:NEXT
140 PRINT"Experience sites of the fantastic!":MUSIC"E3"
145 FORN=1T01000:NEXT
150 PRINT"Yes play star raiders and be frightened out of your armchair!"
160 MUSIC"_C1_E_GCEG^C^E^G^#B"
165 MUSIC"~#B^G^E^C^GEC_G_E_C"
170 PRINT"Press I for instructions or P to Play"
180 GETR$:IFR$="I"THEN200
190 IFR$="P"THEN330
195 GOTO180
200 PRINT"@"
210 FORN=1T09:PRINT"[ ]";TAB(N);B$;"[ ]";SPC(N):POKE4514,INT(50*RND(1))+1:USR
220 NEXT
225 USR(71)
230 PRINT" You are the Incredible captain copper"
240 PRINT" Nitrate and you must destroy the"
250 PRINT" hectorites before they destroy you!!"
260 PRINT" To control your ship use keys 1-5 for"
270 PRINT" speed,W for up A for left D for right"
280 PRINT" and X for down and thats right,yu've"
290 PRINT" guessed it S to fire!"
295 PRINT" To serch hectorites press 'H'."
297 PRINT" P.S You have a 1 minute time limit"
299 PRINT" on each hectorite.So get moooving!!"
300 PRINT" GODD LUCK SONNY! NOW PRESS 'SPACE'"
310 GETR$:IFR$=" "THEN325
320 GOTO310
325 S=0
330 PRINT"@":DIMSH(20)
331 DIMPO(20):U=1:FF=50:J=0
335 F=10000:D=0:L=1:TI$="000000"
340 FORN=1T020
350 SH(N)=INT(255*RND(1))+1
360 NEXT
391 FORN=1T020
392 PD(N)=INT(900*RND(1))+53248
394 NEXT
400 PRINT[20,0];" "
410 PRINT[21,0];" ";TAB(38);" "
420 PRINT[22,0];" "
430 PRINT[21,14];"STAR RAIDERS":USR(62)
440 IFU=21THEN2000
441 GETR$
445 IF(C=1)*(PEEK(PD(U)+40)=20B)THENPOKEPD(U),0:PD(U)=PD(U)-40:POKEPD(U),2
447 IF(D=10)>SH(U))*(C=1)THEN1300
449 IF(SH(U)-20<D)*(J=1)GDSUB1400
450 IFPEEK(17828)=49THENF=F-10:D=D+1:MUSIC"C1"
455 IFR$="H"THEN GDSUB1500
456 IFR$="R"THENMUSIC"C1,E,G,E,C,E,G,E,C,E,G":D=0
460 IFPEEK(17828)=50THENF=F-20:D=D+2:MUSIC"E1"
470 IFPEEK(17828)=51THENF=F-30:D=D+3:MUSIC"G1"
480 IFPEEK(17828)=52THENF=F-40:D=D+4:MUSIC"C1"
490 IFPEEK(17828)=53THENF=F-100:D=D+10:MUSIC"E1"
495 IFC=0THENPRINT"[ ]Distance traveled=";D
496 IFC=0THENPRINT"[ ]Fuel left=";F;" "

```

```

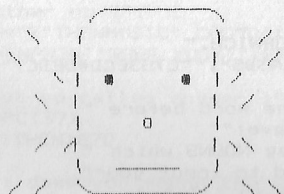
497 IF C=1 THEN PRINT " " ; " "
500 IF (PEEK (17828)=87) * (PO (U) < 54247-160) * (C=1) THEN POKEPO (U) , 0 : PO (U) = PO (U) + 40
510 IF (PEEK (17828)=88) * (PO (U) > 53248) * (C=1) THEN POKEPO (U) , 0 : PO (U) = PO (U) - 40
520 IF (PEEK (17828)=68) * (PO (U) < 54247-160) * (C=1) THEN POKEPO (U) , 0 : PO (U) = PO (U) - 1
530 IF (PEEK (17828)=65) * (PO (U) > 53248) * (C=1) THEN POKEPO (U) , 0 : PO (U) = PO (U) + 1
540 IF PEEK (17828) = 83 THEN 600
550 IF C=1 THEN POKEPO (U) , 207
560 IF (INT (100 * RND (1)) + 1 = 1) * (D => SH (U)) THEN 700
561 IF (C=1) * (INT (4 * RND (1)) + 1 = 1) THEN POKEPO (U) , 0 : PO (U) = PO (U) + 1
562 IF (C=1) * (INT (4 * RND (1)) + 1 = 2) THEN POKEPO (U) , 0 : PO (U) = PO (U) - 1
563 IF (C=1) * (INT (4 * RND (1)) + 1 = 3) THEN POKEPO (U) , 0 : PO (U) = PO (U) + 40
564 IF (C=1) * (INT (4 * RND (1)) + 1 = 4) THEN POKEPO (U) , 0 : PO (U) = PO (U) - 40
565 IF D => SH (U) THEN C = 1
566 IF F = < 0 THEN 1200
568 IF VAL (TI$) = > 100 THEN 3000
570 GOTO 440
600 IF C=1 THEN POKEPO (U) , 207
605 X = 5 : Q = 34 : FOR H = 19 TO 5 STEP -1
610 PRINT H, X ; " / " : PRINT H, Q ; " \ "
620 X = X + 1 : Q = Q - 1
630 POKE 4514, H : USR (68) : NEXT H
640 X = 5 : Q = 34 : FOR H = 19 TO 5 STEP -1
650 PRINT H, X ; " " : PRINT H, Q ; " "
660 X = X + 1 : Q = Q - 1
670 POKE 4514, H + 20 : USR (68) : NEXT H
675 USR (71)
680 IF (PO (U) = 53467) + (PO (U) = 53468) THEN 690
681 F = F - 10
685 GOTO 440
690 FOR N = 1920219 : POKEPO (U) , N : POKE 4514, N - 190 : USR (68) : NEXT N
691 POKEPO (U) , 107 : FOR N = 1 TO 2 : FOR G = 10 TO 1 STEP -1 : POKE 4514, G : USR (68) : NEXT : NEXT N
692 POKEPO (U) , 0 : S = 5 + 5 : U = U + 1 : D = 0 : USR (71)
693 C = 0 : F = F + INT (100 * RND (1)) + SH (U - 1) * 10
694 J = 0 : TI$ = "000000"
699 GOTO 440
700 FOR N = 1 TO 5 : POKE 4514, N : USR (68) : NEXT N
701 USR (71)
702 POKEPO (U) , 107
705 GETR$
710 IF R$ = "A" THEN 800
720 IF R$ = "D" THEN 900
730 POKEPO (U) , 107 : POKEPO (U) + 1, 107 : POKEPO (U) - 1, 107 : POKEPO (U) - 41, 107
740 POKEPO (U) - 39, 107 : POKEPO (U) + 39, 107 : POKEPO (U) + 41, 107 : POKEPO (U) - 40, 107
750 POKEPO (U) + 40, 107
760 IF R$ = "D" THEN 900
765 POKEPO (U) , 107 : POKEPO (U) + 1, 107 : POKEPO (U) - 1, 107 : POKEPO (U) - 41, 107
770 POKEPO (U) - 39, 107 : POKEPO (U) + 39, 107 : POKEPO (U) + 41, 107 : POKEPO (U) - 40, 107
780 POKEPO (U) + 2, 107 : POKEPO (U) - 2, 107 : POKEPO (U) - 82, 107 : POKEPO (U) - 78, 107
785 POKEPO (U) + 81, 107 : POKEPO (U) + 79, 107 : POKEPO (U) + 80, 107 : POKEPO (U) - 80, 107
787 GETR$
789 IF R$ = "A" THEN 800
790 IF R$ = "D" THEN 900
795 GOTO 1000
800 POKEPO (U) , 0 : POKEPO (U) + 1, 0 : POKEPO (U) - 1, 0 : POKEPO (U) - 39, 0 : POKEPO (U) - 41, 0
810 POKEPO (U) + 39, 0 : POKEPO (U) + 41, 0 : POKEPO (U) + 40, 0 : POKEPO (U) - 40, 0
820 POKEPO (U) + 2, 0 : POKEPO (U) - 2, 0 : POKEPO (U) + 81, 0 : POKEPO (U) + 79, 0 : POKEPO (U) - 81, 0
830 POKEPO (U) - 79, 0 : POKEPO (U) + 80, 0 : POKEPO (U) - 80, 0
840 FOR N = 1 TO 5 : USR (68) : NEXT N : USR (71)
845 POKEPO (U) - 82, 0 : POKEPO (U) - 78, 0
850 GOTO 440

```

```

900 POKEPO(U),0:POKEPO(U)+1,0:POKEPO(U)-1,0:POKEPO(U)-39,0:POKEPO(U)-41,0
910 POKEPO(U)+39,0:POKEPO(U)+41,0:POKEPO(U)+40,0:POKEPO(U)-40,0
920 POKEPO(U)+2,0:POKEPO(U)-2,0:POKEPO(U)+81,0:POKEPO(U)+79,0:POKEPO(U)-81,0
930 POKEPO(U)-79,0:POKEPO(U)+80,0:POKEPO(U)-80,0
940 FORN=1T05:USR(68):NEXT:USR(71)
945 POKEPO(U)-82,0:POKEPO(U)-78,0
950 GOTO440
1000 POKEPO(U),0:POKEPO(U)+1,0:POKEPO(U)-1,0:POKEPO(U)-39,0:POKEPO(U)-41,0
1010 POKEPO(U)+39,0:POKEPO(U)+41,0:POKEPO(U)+40,0:POKEPO(U)-40,0
1020 POKEPO(U)+2,0:POKEPO(U)-2,0:POKEPO(U)+81,0:POKEPO(U)+79,0:POKEPO(U)-81,0
1030 POKEPO(U)-79,0:POKEPO(U)+80,0:POKEPO(U)-80,0
1035 POKEPO(U)-82,0:POKEPO(U)-78,0
1040 FORN=1T05:POKE4514,N:USR(68):NEXT:USR(71)
1050 FORN=1TOFF
1060 GETR$
1070 IFR$="A"THENFF=FF-5:GOTO800
1080 IFR$="D"THENFF=FF-5:GOTO900
1090 NEXT
1100 PRINT"█\
1110 PRINT"█ |
1120 PRINT" -
1130 PRINT"█ \
1140 PRINT"
1150 PRINT"
1160 PRINT"
1170 PRINT"
1180 PRINT"
1190 PRINT"
1191 PRINT"
1192 PRINT"
1193 PRINT"
1194 PRINT"
1195 PRINT"
1196 PRINT"
1197 PRINT"██HARD LUCK SDN YOU HAVE BEEN HIT !"
1198 FORN=1T0100:POKE4514,INT(10*RND(1))+1:USR(68):USR(71):NEXT
1199 GOTO1394
1200 PRINT"13,21;"YOUR OUT DF FUEL SONNY JIM ! OK ?"
1210 GOTO1394
1300 PRINT"█
1310 PRINT"
1320 PRINT"
1330 PRINT"
1340 PRINT"
1350 PRINT"
1360 PRINT"
1370 PRINT"
1380 PRINT"
1390 PRINT"██YOU HAVE CRASHED INTO AN ALIEN!"
1394 FORN=1T0255:POKE4514,N:USR(68):NEXT
1395 USR(71)
1396 PRINT"██YOU SCORED";S;" POINTS."
1397 INPUT"██DO YOU WANT ANOTHER GO ?";A$
1398 IFA$="Y"THENRUN
1399 IFA$="N"THENPRINT"█":END
1500 PRINT"█"
1505 FORN=1T03:FORG=10T01STEP-1:POKE4514,G:USR(68):NEXT:NEXT:USR(71)
1510 FORN=1T020:PRINT"Ship number";N;" is in position";SH(N):NEXT
1515 PRINT"0+U,33];"←"
1520 GETR$:IFR$="H"THENPRINT"█":GOTO400
1530 GOTO1520
2000 PRINT"█WELL DONE MY BOY!"

```



```

2010 MUSIC"C3E6E6"CG"CE"CE"EG"#B7"
2015 Y=INT(100*RND(1))+100
2020 PRINT"  BONUS=";F+Y
2030 S=S+F+Y
2040 PRINT"  PRESS 'H' TO CARRY ON WITH ANOTHER 20"
2050 PRINT"  SHIPS."
2060 GETR$:IFR$="H"THEN330
2070 GOTO2060
3000 PRINT"  ":FORN=1TO20:FDRG=5TO10:POKE4514,G:USR(68):NEXT:NEXT
3010 USR(71):PRINT"  HARD LUCK MATE YOU RAN OUT OF TIME!"
3020 PRINT"  PRESS (SHIFT) TO PLAY AGAIN."
3030 IFPEEK(57344)=248THEN3030
3040 RUN

```

HANGMAN - needs no introduction

```

1000 Q=0
1010 REM**HANGMAN BY B.D.P**
1020 REM**WRITTEN IN BASIC**
1030 REM**SP-5025A FOR THE#
1040 REM**SHARP MZ-80K*****
1050 C=10
1060 PRINT"  "
1070 PRINT"
1080 PRINT"
1090 PRINT"
1100 PRINT"
1110 PRINT"
1120 PRINT"
1130 PRINT"
1140 PRINT"
1150 PRINT"
1160 PRINT"
1170 PRINT"
1180 PRINT"
1190 PRINT"
1200 PRINT"
1210 PRINT"
1220 PRINT"
1230 PRINT"
1240 PRINT"
1250 MUSIC"#C5C3#C#E67","63#GA#A7","A3B5",""C7G3ECD#DED7"
1260 PRINT"  "
1270 PRINT"  Play hangman and guess the word before "
1280 PRINT"  You say hello to your grave!"
1290 PRINT"  The words will be everyday NOUNS which "
1300 PRINT"  You must guess.When asked to input your"
1310 PRINT"  Return you must either type in '1' to"
1320 PRINT"  guess a letter or '2' to guess the word."
1330 PRINT"  BAD LUCK SUCKER!!!"
1340 PRINT"  PRESS 'CR' KEY TO CONTINUE"
1350 GETR$:IFR$=CHR$(102)THEN1360
1355 GOTO1350
1360 PRINT"  "
1370 REM**DIFFERENT WORDS**
1380 DIMW$(100)
1390 FORN=1TO100:READW$(N):NEXTN
1400 DATABOOK, TABLE, CHAIR, TAPE, BIKE, CAR, CURTAINS, TELEVISION, LAMP, BULB, COAT
1410 DATAPEN, PAPER, PENCIL, SHOE, HANDEL, DOOR, RUBBER, CALANDER, MATERIAL, CUP
1420 DATASPOON, KNIFE, FOLK, PLATE, STAPLER, COFFEE, CAT, DOG, WINDOW, HOUSE, CHIMNEY
1430 DATAFROG, LION, BEAR, TIGER, ELEPHANT, MOUSE, DUCK, GOOSE, BANK, MONEY, METAL
1440 DATABLOOD, CRAYON, LED, COPPER, GOLD, SILVER, BRONZE, CUBE, BUILDING, BOTTLE

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```

1450 DATACORK, TOP, WATER, SKIN, EAR, HAND, FINGERS, NAIL, HAMMER, COOKER, TYPEWRITER
1460 DATAIVE, SPARK, BOW, ARROW, SIGHN, NEEDLE, FISH, CARROT, PEA, BEAN, BOOT
1470 DATAGRASS, SHED, EAR, HAIR, BRAIN, SILICON, CHIP, SLIPPER, LACE, KEY, PIANO
1480 DATARECORDER, VIOLIN, DOUBLEBASS, CELLO, VIOLA, CLARANET, OBOE, TUBA
1490 DATATROMBONE, TRUMPET, CYMBALS, THREAD, STRING, SLATE
1500 W=INT(100*RND(1))+1
1510 PRINT" "
1520 FORN=1TOLEN(W$(W)):PRINT" ";TAB(N);". "
1530 NEXT
1535 TI$="000000"
1540 PRINT"Input your command >"
1550 GETR
1560 ONRGOTO1580, 1830
1570 IFR=0THEN1550
1580 PRINT" ";TAB(20);"1":USR(62):PRINT" ";TAB(20);" ":V=0
1590 INPUT"Input the letter you wish to choose >";L$
1600 PRINT" ";SPC(39)
1610 FORN=1TO10
1620 IFL$=MID$(W$(W), N, 1)THENPRINT" ";TAB(N-1);L$:MUSIC"C3EGC":V=1
1630 NEXT
1640 IFV=1THEN1540
1650 IFC=10THENPRINT[20, 21]"":C=C-1:MUSIC"_C1_#C_D":GOTO1540
1660 IFC=9THENPRINT[19, 24]"|":PRINT[18, 24]"|":PRINT[17, 24]"| "
1665 PRINT[16, 24]"|":PRINT[15, 24]"|"
1670 IFC=9THENC=C-1:MUSIC"_#C1_D_#D":GOTO1540
1680 IFC=8THENPRINT[19, 23]" /":C=C-1:MUSIC"_D1_#D_E":GOTO1540
1690 IFC=7THENPRINT[19, 25]" \":C=C-1:MUSIC"_#D1_E_#E":GOTO1540
1700 IFC=6THENPRINT[14, 19]" _":C=C-1:MUSIC"_E1_F_#F":GOTO1540
1710 IFC=5THENPRINT[15, 19]"0":C=C-1:MUSIC"_F1_#F_G":GOTO1540
1720 IFC=4THENPRINT[16, 19]"|":C=C-1:MUSIC"_#F1_G_#G":GOTO1540
1730 IFC=3THENPRINT[17, 18]" / \":C=C-1:MUSIC"_G1_#G_A":GOTO1540
1740 IFC=2THENPRINT[16, 18]" /":C=C-1:MUSIC"_#G1_A_#A":GOTO1540
1750 IFC=1THENPRINT[16, 20]" \ "
1760 PRINT[10, 0]"You have lost!"
1770 MUSIC"C3#CDFAB"CEG"C7B3#AA#GG#FFE#DD#CC", "C7"
1780 PRINT"The missing word was ";W$(W)
1790 PRINT"Another go ?"
1800 GETR$:IFR$="Y"THENMUSIC"_COC":PRINT" ":C=10:GOTO1500
1810 IFR$="N"THENPRINT"SEE YOU!!":END
1820 GOTO1800
1830 INPUT"Input so called answer >";AN$
1840 PRINT" ";SPC(39)
1850 IFAN$=W$(W)THEN1870
1860 GOTO1650
1870 PRINT"Well done you found the word."
1880 PRINT"You scored";C;" points."
1890 IFC>0THEND=C:PRINT"You also have the high score."
1900 IFC0THENPRINT"But you havn't got the high score."
1910 PRINT"Your time is ";LEFT$(TI$, 2);"/";MID$(TI$, 3, 2);"/";RIGHT$(TI$, 2)
1920 MUSIC"C3#CC#CD#DEG"C#C"C"D"D"E"G_C_E_GEG"C"E"G"#B1"B"#B"B"#B7"
1930 GOTO1790

```

MZ-80B

PROGRAMS FOR THE MZ-80B

PROGRAM PIE CHART

This program simply draws a circle with a maximum radius of 79, the value of which is entered via the keyboard, and then removes a 'PIE' section equivalent to a percentage in the range of 1 to 50, which is also entered via the keyboard, and redraws the section away from from the original circle.

```
5 CX = 160:CY=100
10 CONSOLE C80
12 GRAPH 01,I1,C
15 PRINT CHR$(6);
20 INPUT "RADIUS 1= ";R1
22 IF R1 > 79 THEN GOTO 20
29 PRINT CHR$(6)
30 FOR X = 1 TO 360
40 X1 = CX + SIN(X * π / 180) * R1
50 Y1 = CY - COS(X * π / 180) * R1
80 SET X1,Y1
90 NEXT X
100 GRAPH 01
200 INPUT "Percentage required ";PC:SS = INT(PC / 100 * 360)
201 IF SS > 180 THEN 200
202 PRINT CHR$(6):CURSOR 0,1:PRINT "Percentage = ";PC;" "%
203 LINE CX,CY-COS(1*π/180)*R1,CX,CY,CX+SIN(SS*π/180)*R1,CY-COS(SS*π/180)*R1
210 MD = SS/2:REM DIRECTION OF MOVE
220 FOR X = 1 TO SS
230 X1 = CX + SIN(X * π / 180) * R1
240 Y1 = CY - COS(X * π / 180) * R1
250 RESET X1,Y1:REM REMOVE SECTOR
255 NEXT X
260 REM NOW CALC CENTRE FOR SECTOR
270 MX = CX + ABS(SIN(MD * π / 180) * 20)
280 MY = CY - ABS(COS(MD * π / 180) * 20)
300 REM CALC ENDS OF LINES
310 LINE MX,MY-COS(1*π/180)*R1,MX,MY,MX+SIN(SS*π/180)*R1,MY-COS(SS*π/180)*R1
350 REM NOW DRAW ARC
360 FOR X = 1 TO SS
370 X1 = MX + SIN(X * π / 180) * R1
380 Y1 = MY - COS(X * π / 180) * R1
390 SET X1,Y1
400 NEXT X
```

HEAT MODEL

This program is a very simple and basic model of a heating system. The following variables are input at start of the program;

Number Of Steps.

This is the number of program cycles to be completed and has a maximum value of 319.

Heat output of the boiler.

This should be entered in the range of 0 to about 20. As already stated the program is very simple and the boiler output value is assumed to be the temperature rise expected in a program cycle, e.g. if the boiler output is entered as 2 then the room temperature would rise by 2 degrees in a program step assuming there were no heat loss.

Target Temperature.

This is the temperature that the system tries to maintain.

Thermostat Upper.

This is the temperature at which the thermostat detects that the room temperature is above the target temperature and will cause the boiler to be switched off.

Thermostat Lower.

This is the temperature at which the thermostat detects that the room temperature is below the target temperature and will cause the boiler to be switched on.

Average Heat Loss.

This value is entered in the same manner as the boiler output, i.e. it represents the drop in temperature in degrees that can be expected in a program cycle.

Current Temperature.

This is the room temperature at which the test cycle is assumed to commence with.

Screen Output.

When the program is running the following items are plotted on the screen;

The target temperature appears as a solid line across the screen.

The current temperature will appear above and/or below this line and will probably oscillate either side of it.

The boiler status (on or off) appears as a solid line or lines above the temperature line when it is on and as a dotted line below the the temperature plots when it is off.

The following values are also displayed on the screen.

The current temperature, the maximum and minimum temperatures attained, the average and target temperatures. The boiler status is also displayed.

Notes.

As already stated this is a very simple and basic model but it could be modified to be more realistic. The biggest error is the assumption that the temperature will rise consistently and immediately as soon as the boiler is turned on and that the radiators cease radiating heat when the boiler is off. This, of course, is not the case. In reality the heat output from the boiler will rise slowly to its maximum and then fall gradually once the boiler is off. This could be achieved by gradually increasing the heat output from the system until it reaches the

maximum output from the boiler from the time it comes on and then gradually reducing the heat output from the boiler down to zero once it has been turned off. Another modification would be to increase and/or decrease the heat loss by pressing different keys during the test cycle. This would represent the opening and closing of external doors etc.

```
10 CONSOLE C80
100 INPUT "NO OF STEPS" ;SP
105 IF SP > 319 THEN PRINT "TOO MANY STEPS. MAX = 319":GOTO 100
110 INPUT "HEAT OUTPUT OF BOILER" ;BO
120 INPUT "TARGET TEMPERATURE" ;TT
130 INPUT "THERMOSTAT UPPER" ;TU
140 INPUT "THERMOSTAT LOWER" ;TL
150 INPUT "AVERAGE HEAT LOSS" ;HL
160 INPUT "CURRENT TEMPERATURE" ;CT
500 REM PLOT GRAPHS
503 GRAPH 01, I1, C
504 CC = 0:AT = 0:CX=0:CM=999999
505 PRINT CHR$(6)
510 YI = INT(319/SP)
515 LINE 1,200-TT,SP * YI,200-TT :REM TARGET TEMPERATURE LINE
520 CC = 1 + CC:REM STEP COUNT
525 IF CC > SP THEN GOTO 1000
527 YI = CC * YI:X1 = 200 - CT
530 IF CT > TU THEN BS = 0:BI = 0:X3 = 170:REM SWITCH BOILER OFF
540 IF (BS = 0) * (CT < TL) THEN BS = -1:X4=100:X3=100:Y4 = Y1:REM BOILER ON
550 IF BS THEN CT = CT + BO:REM BOILER ON SO ADD HEAT
560 CT = CT - HL:REM SUBTRACT HEAT LOSS
605 IF CC = 1 THEN SET Y1,X1:Y2=Y1:X2=X1:REM PLOT CURRENT
607 IF CC > 1 THEN LINE Y2,X2,Y1,X1:Y2=Y1:X2=X1:REM TEMPERATURE
620 IF BS THEN LINE Y4,X4,Y1,X3:Y4=Y1
630 IF (BS<>-1) THEN SET CC * YI, X3
715 IF CT > CX THEN CX = INT(CT*10)/10
716 IF CT < CM THEN CM = INT(CT*10)/10
720 CURSOR 0,0
730 PRINT "STEP NO ";CC
740 PRINT "TEMP. CURRENT = ";INT(CT*10)/10;" " ;":AT = AT + CT
742 PRINT TAB(23);"TARGET = ";TT;
744 PRINT TAB(37);"MIN = ";CM;" MAX = ";CX;" AVE. = ";INT(AT/CC*10)/10;"
760 PRINT "BOILER O/P = ";BO;
762 PRINT TAB(23);"HEAT LOSS = ";HL
770 IF BS THEN PRINT "BOILER ON "
775 IF BS = 0 THEN PRINT "BOILER OFF"
790 GOTO 520
1000 CURSOR 0,4:PRINT "END OF RUN"
1010 GETI$:IFI$ = ""THEN 1010
```

LIFEPLUS

For the Sharp MZ-80B. By Mervyn Fry.1984.

Having written a program to give a full screen version of LIFE on my MZ-80B, I discovered that it seemed to have a life of its own. The basis of the display is a few simple rules. A random pattern of 'cells' is set up. Then only cells with 2 OR 3 adjacent cells appear in the next generation. A space bordered by exactly 3 cells becomes a new cell next time round. To my surprise I found that these simple rules would occasionally give rise to a pattern which not only repeated itself in four generations but in doing so moved across the screen. In other words a 'multicellular walking organism' had arisen spontaneously from a purely mathematical set of rules. Fascinated by this discovery, which I would never have made without a full screen version, I have now rewritten my program to allow the creation of one of these 'amoebae' at the touch of a key. The 'creature' has 4 symmetries so I have arranged for their occurrence to be random at one of 9 'random' sites on the screen, to give variety. Since their direction of motion depends on the orientation of the pattern it is possible to have 'amoebae' travelling in four different directions. The 'creation' of one clears a space around it but it then sets off to find more cells with which it combines (by the rules of course).

The machine code is quite short and is accessed by a Basic introduction. Fast and slow modes can also be selected by touching one key. To alter the length of the 'generation gap' in slow mode change the value of the byte at \$AFB7. If the screen is crowded with cells the arrival of an 'amoeba' may not be noticed since its interaction is immediate. It would be interesting to hear of any other similar 'evolutionary' events discovered by S.U.N. readers.

```
10 REM XXXXXXXXXX by M.FRY.1984.:CONSOLEC40:PRINTCHR$(6):IF PEEK($AEE0)=1 THEN O
070
15 REM DO NOT SAVE $AEE0 WITH CODE
20 PRINT"TO LOAD CODE SET TAPE AND KEY L":PRINT:PRINT:PRINT
30 GETG$:IF G$="L" THEN 0050
40 GOTO 0030
50 LIMIT$AEDF:LOAD "LIFEPLUSCODE":PRINTCHR$(6):POKE $AEE0,01:GOTO 0070
70 Y=INT(RND(2)*10+1):POKE $B020,Y:USR($AEF1)
80 CURSOR 16,2:PRINT "XXXXXXXXXX":CURSOR 0,4
90 PRINT " This simulates 'CELL LIFE' in a closed continuous'universe' of
one cell thick, obeying very simple rules.",SPACE$(20):CURSOR 0,9
100 PRINT" Only cells with 2 or 3 adjacent cells survive to the next generatio
n. Spaces with exactly 3 neighbour cells develop "
110 PRINT"new cells in the next generation.",SPACE$(39)
120 PRINT"(Top/bottom and left/right screen'edges' are 'adjacent' so LIFE is di
splayed on the skin of a 'doughnut'.",SPACE$(39)
130 CURSOR 0,20:PRINT " TOUCH XXXXXXXXXX TO START ":PRINT"TO ST
OP USE XXXXXXXXXX. XXXXXXXXXX WILL THEN GIVE A RESTART"
140 GET A$:IF A$=" " THEN 0160
150 GOTO 0140
160 PRINTCHR$(6):PRINT:PRINT:PRINT"AT END OF ANY GENERATION":PRINT
170 PRINT"KEY F OR S TO CHANGE MODE"
180 PRINT:PRINT"KEY A TO CREATE AN XXXXXXXXXX":CURSOR 0,18
190 PRINT:PRINT:PRINT"PLEASE SELECT FAST OR SLOW MODE TO START":PRINT:PRINT" -
TOUCH F or S KEY."
200 BETA$:IF (A$<>"F")*(A$<>"S") THEN 0200
210 Y=INT(RND(2)*10+1):POKE $B020,Y
220 X=0:PRINTCHR$(6)
230 USR($AEF1):IFA$="F"THENPOKE $B022,01:GOTO 0280
240 POKE$B022,00:GOTO 0280
250 REM ADD AMOEBA
260 Z=INT(RND(2)*4):POKE$B023,Z
270 Z=INT(RND(2)*9):POKE$B025,Z:USR($B050)
280 X=X+1:CURSOR 0,22:PRINT X;" "
290 USR($AF33)
320 IFFEEK($B026)=01 THEN 0260
330 GOTO 0280
```

LIFEPLUS CODE

by M.FRY 1984

```
AEF0 00 D9 11 00 B1 D9 21 00 00 22 51 11 00 00 00 00
AF00 0E 16 06 28 2A 20 B0 54 5D 29 29 19 29 29 29 19
AF10 22 20 B0 7C FE B0 38 04 3E 2A 18 02 3E 20 CD 16
AF20 09 D9 12 13 D9 10 DD 0D 20 D8 C9 00 00 00 00 00
AF30 00 00 00 01 70 03 11 A8 B4 21 00 B1 ED B0 01 28
AF40 00 11 80 B4 21 F0 B7 ED B0 01 28 00 11 18 B8 21
AF50 A8 B4 ED B0 21 00 B1 E5 21 18 B8 36 00 21 00 00
AF60 22 51 11 00 11 A8 B4 D5 1A FE 00 28 06 CD 07 09
AF70 13 18 F5 D1 D5 EB 0E 00 A7 11 29 00 ED 52 11 28
AF80 B0 1A FE 0D 28 0F 13 D5 5F 16 00 19 D1 7E FE 2A
AF90 20 EF 0C 18 EC E1 79 FE 02 38 0F FE 04 30 0B FE
AFA0 03 28 03 7E 18 06 3E 2A 18 02 3E 20 E3 77 23 3A
AFB0 22 B0 FE 00 20 1F 06 BF 00 00 00 00 00 00 00 00
AFC0 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
AFD0 00 00 00 10 E3 E3 23 E5 7E FE 00 20 99 E1 E1 00
AFE0 CD 71 08 FE 00 20 06 3E 00 32 26 B0 C9 FE 46 20

AFF0 06 3E 01 32 22 B0 C9 FE 53 20 06 3E 00 32 22 B0
B000 C9 FE 41 20 05 3E 01 32 26 B0 C9 00 00 00 2A B1
B010 65 B1 74 B1 95 B2 A4 B2 B6 B2 5A B3 6A B3 79 B3
B020 0A D6 01 00 00 00 00 00 00 01 01 26 02 26 01 01
B030 0D 00 28 50 78 A0 C8 F0 7B 52 7C A2 A3 7B 52 53
B040 7C A2 7B 53 54 7A A4 7B 54 7A A3 A4 00 00 00 00
B050 21 0E B0 3A 25 B0 A7 17 B5 6F 5E 23 56 EB 22 6B
B060 B0 22 84 B0 22 A2 B0 21 2A B1 DD 21 31 B0 16 07
B070 DD 7E 00 4F 06 00 09 06 07 36 20 23 10 FB 15 2B
B080 07 DD 23 21 2A B1 18 E8 00 00 3A 23 B0 4F CB 11
B090 CB 11 81 DD 21 38 B0 5F 16 00 DD 19 16 05 DD 7E
BOA0 00 21 2A B1 4F 06 00 09 36 2A 15 28 04 DD 23 18
BOB0 ED C9 00
```

D. S. P. R.

A TAPE BASED UTILITY FOR SHARP MZ-80B
by Mervyn Fry.1984.

Some time ago I bought a book called "Mastering Machine Code on your ZX81", by Toni Baker. I knew nothing about machine code, but wanted to understand how a computer worked. The book contained an algorithm to disassemble the ZX81 ROM, with some hints on how a program might be developed to do this. This was evidently based on a logical analysis of the Z80A instruction set (see Sharp MZ-80B Owners Manual pages 89-101). I was hooked. I determined I would write my own disassembler for my 80B and learn machine code in the process. MAD? Sure, and I grew madder and more frustrated as I floundered in a sea of "Double-Dutch". Six months later I had a program which did disassemble code. It was a mess, but it worked. Now it is greatly extended and tidied up and is in constant use. It works like a dream.

I call it D.S.P.R. because it DISASSEMBLES code from any part of memory, SEARCHES for two bytes of hex. in any part of memory, changes POINTERS so Basic programs can be appended (merged), and RENUMBERS Basic programs (including all Goto, Gosub etc).

D.S.P.R. is entirely in machine code and occupies memory from \$F3B8 to \$FFEF. When renumbering an area of memory is needed to store line numbers. This is arbitrarily chosen to start at \$EA00, which allows for 500 Basic line numbers, but is easily changed (2 addresses in the code). Only a few bytes need to be changed to match the two versions of the Sharp Basic/Monitor but since the tape space is only 20 digits on the counter I keep two versions to save making changes.

I do not have an assembler but I would not be without this utility. It has taken me a year to assemble it, learning by my mistakes. It is my "pride and joy" as Sharpsoft put it in S.U.N. Maybe they will offer it to you at a reasonable cost. I hope so. But if they don't (Drat Them!) then I shall be glad to. But anyway it was great fun writing it.

HERE'S HOW IT WORKS:-

LOAD Sharp Monitor and Basic and set LIMIT#\$EA9F. Enter MON. then load DSPR with the L command.

The screen shows:- KEY D S P R or B
DISASSEMBLER.

Touch D, enter \$0123 as START. Then Y (for Yes!). 20 Op codes are disassembled and displayed (Fig.1). The screen shows the disassembly of part of the Monitor.

Touch Y again. Another 20 instructions are displayed.

Now touch N. A fresh start can be made. Try D and \$FA00. WHAT YOU SEE IS RUBBISH because the program is trying to decode a table of DATA. You soon learn to recognise this.

Start again (key N) and try D and \$FC70 (say). This time touch C. You are now in Basic ready to COPY/P1 the screen display. To restart D.S.P.R. use the MON and J to \$FC70. [Or DEFKEY(1)=USR(\$FC70) at the outset to restart D.S.P.R. with one key].
SEARCH.

This time choose S for SEARCH. Enter FC70 . Enter F000 as START and FF00 as FINISH. You can always correct entries before action is taken. If you accept, the screen will show all the addresses between \$F000 and \$FF00 where FC70 occurs. (In memory it is 70FC). Fig.2 shows the display.

POINTERS.

Now start with P. You will be given the normal start address of a basic program in memory. (If there isn't one answer N to the CHANGE POINTERS ? Touch B and you are in Basic all ready to load). With a basic program loaded, LIST the program. Use MON and M to check \$4A0E-F . This holds the address of the first free byte (v1.0 or \$4ACE in v1.1). Check this.

Now start D.S.P.R. (The Jump address to start is \$FC70). Choose P and change pointers to the first free byte. Get back to basic and try LIST and RUN. You have no program! Change pointers back to the original. It will list and run again. (Fig.4).

RENUMBER.

Start with a basic program in memory. One vital condition must be met. Check each line of the program to see that every GOTO,GOSUB,ON...GOTO, has the goto number as 4(5) DIGITS preceded by a space, (or comma in a list of ON GOTO line numbers). Do not forget the hidden gotos eg. IF X=0 THEN 250. (This has to be IF X=0 THEN 0250. Also eg. ON G GOTO 0005,0010,0100). This soon becomes a habit when writing programs. One further caution. IF 4 DIGITS were asked for, do not choose an interval which will make your highest line number more than 9999 after renumbering. You are given a choice of EITHER 4 OR 5 digits for Goto numbers etc.

Check the start and finish addresses in the memory if you need to. Memory addresses are input in hex. Hence the \$ sign. Basic FIRST LINE and INTERVAL are entered as decimal.

Choose R. Enter START,FIRST LINE No, INTERVAL,FINISH. FINISH is the first free byte after the OD ending the Basic program. Fig3. shows the screen. Reply Y to the final query if its O.K. Renumbering is almost instantaneous. Incredible! I cannot get used to it. Use B (Basic) and LIST to check the result. (Fig.5).

To MERGE PROGRAMS. Change pointers to end of program in memory. Load another. LIST and edit it to make it compatible and RENUMBER it if need be. While doing this forget the first program. Finally,change pointers to original value (505C for SB5510v1.0 or 511C for SB5510 v1.1). On LISTing the programs are merged.

SCREEN DISPLAYS BY D.S.P.R

DISASSEMBLER	FIG1	FIG2.
START AT?		SEARCH FOR?
\$-ADR.\$0123		\$-ADR.\$FC70
O.K? (Y/N)		O.K? (Y/N)
		START AT?
0123 CD	CALL 05B3	\$-ADR.\$F000
0126 EB	EX DE,HL	O.K? (Y/N)
0127 2A	LD HL,(002B)	FINISH AT?
012A CD	CALL 05BC	\$-ADR.\$FF00
012D 06	LD B 10	O.K? (Y/N)
012F CD	CALL 08B9	
0132 7E	LD A ,(HL)	F485
0133 CD	CALL 05DD	F652
0136 E5	PUSH HL	FC4E
0137 AF	XOR ,A	KEY R
0138 ED 52	SBC HL,DE	
013A E1	POP HL	
013B CA	JP Z ,00B1	
013E CD	CALL 0562	
0141 28	JR Z FB	
0143 DB	IN A,(EA)	
0145 FE	CP FD	
0147 28	JR Z FA	
0149 23	INC HL	
014A 10	DJNZ E3	
CONTINUE ? (Y/N) OR (C)OPY		

FIG3

```

RENUMBER
405 DIGIT GOTO Nos?
START AT?
#-ADR.$505C
O.K? (Y/N)
NEW LINE No. (START)?
Dec.10 O.K? (Y/N)
INTERVAL?
Dec.5 O.K?(Y/N)
FINISH AT?
#-ADR.$59EA
O.K? (Y/N)
CONTINUE ? (Y/N) OR (C)OPY
  
```

```

N=Restart DSPR
C calls Basic
Y=go ahead
  
```

POINTERS PRESENT VALUE FIG4.

```

59EA
CHANGE POINTERS?(Y/N)
  
```

NEW VALUE?

```

#-ADR.$505C
OK? (Y/N)
  
```

=BASIC PROGRAM START.KEY P TO PROCEED.

RENUMBER.

<u>LIST</u>	<u>BEFORE</u>	<u>FIG5.</u>
2	PRINT"RENUMBER DEMONSTRATION"	
3	PRINTCHR\$(6): PRINT"1=APPLE,2=LEMON.":GOSUB 0010	
4	G\$="":PRINT"MORE? ANS. Y/N"	
5	GET G\$:IF G\$="Y"THEN 0003	
6	IF G\$="N" THEN 0016	
7	GOTO 0005	
10	PRINT "WHAT DO YOU WANT? ANS.1 or2"	
11	GETG: ON G GOTO 0013,0014	
12	GOTO 0011	
13	PRINT"APPLE":RETURN	
14	PRINT"LEMON":RETURN	
16	END	

<u>LIST</u>	<u>AFTER</u>
100	PRINT"RENUMBER DEMONSTRATION"
110	PRINTCHR\$(6): PRINT"1=APPLE,2=LEMON.":GOSUB 0160
120	G\$="":PRINT"MORE? ANS. Y/N"
130	GET G\$:IF G\$="Y"THEN 0110
140	IF G\$="N" THEN 0210
150	GOTO 0130
160	PRINT "WHAT DO YOU WANT? ANS.1 or2"
170	GETG: ON G GOTO 0190,0200
180	GOTO 0170
190	PRINT"APPLE":RETURN
200	PRINT"LEMON":RETURN
210	END

Anyone wishing to obtain a copy of D.S.P.R. May do so by posting a cheque or Postal Order for £2 (to cover the cost of a tape and postage) to Mr. Mr. Fry, 355 Victoria Drive, Eastbourne, BN20 8XR

A SMALL GRAPHICS DISPLAY PROGRAM
for the MZ-80B
from
MR. BARRADINE

```

10 GOSUB236
20 GRAPH00,I1,C,01:PRINTCHR$(6)
25 FORV=100TO199STEP12:FORO=1TO100STEP8
26 LINEV,D,V,D,V,D,V,D,V,D,V,D,V,D,V,D
28 NEXTO,V
50 GRAPH00,I1,C,01:PRINTCHR$(6)
51 FORV=100TO199STEP12:FORO=1TO100STEP8
52 LINEV,S,V,D,S,V,S,V,S,D,V,D,O,V
53 NEXTO,V
60 GRAPH00,I1,C,01:PRINTCHR$(6)
61 PRINTTAB(15);" Building squares"
63 FORV=100TO100STEP12
64 LINEV,Z,Z,Z,Z,V
65 LINEV,Z,V,V,Z,V
66 NEXTV:FORP=1TO900:NEXT
70 GRAPH00,I1,C,01:PRINTCHR$(6)
71 FORV=100TO195STEP 4
74 LINEV,Z,Z,Z,Z,V
75 LINEV,Z,V,V,Z,V
76 NEXTV:FORP=1TO500:NEXT
80 GRAPH00,I1,C,01:PRINTCHR$(6)
81 FORP=150TO1:FORS=319TO1STEP-6
84 LINEP,Q,S,P,S,Q,P,P
86 NEXTS,P:FORP=1TO500:NEXT
90 GRAPH00,I1,C,01:PRINTCHR$(6)
91 FORP=150TO1:FORS=319TO1STEP-6
94 LINEQ,Q,S,P,Q,P,S,Q,P,P
96 NEXTS,P
100 GRAPH00,I1,C,01:PRINTCHR$(6)
101 FORP=160TO1:FORS=319TO1STEP-6
102 LINEP,Q,S,P,P,P
104 NEXTS,P :END
236 PRINTTAB(10);"***Associated programmes***"
237 PRINTTAB(10);"-----"
244 PRINT"A number of Graphic Programme Which Can Be Altered In Many Ways."
245 PRINT" Firstly by altering any of the numbers in either of the FOR-NEXT statements in LINE 25. Note these ammendments as the prog` progresses"
246 PRINT" Secondly by using only one of the above statements in line 25"
248 PRINT" Thirdly in line 26 by changing around the D's and the V's to any other position also dummy parameters may be used as in line 52 "
250 PRINT" The varieties are almost limitless, have a go! I'd like to know of any further improvements"
252 PRINT"Note there are a number of programmes lumped in one,they are easily operated if required
258 PRINT" 236-33 244 245 246 248 250 252":PRINT
259 GETN1$:IFN1$=""GOTO259
260 RETURN

```

MZ-80K

DIRECTORY from P. BENNETT
in
SPEED BASIC

Directory is a menu driven program used to record, display and process data e.g. names, addresses, telephone numbers etc. Data is saved and retrieved from cassette.

The listing includes plenty of REMS so the program should be easy to follow and altered to suite individual needs.

The following points should be noted:

1. All 'MENU' inputs are normal INPUT followed by 'CR'.
2. All data inputs on the 'PAGE' are automatically terminated when the data field is full. 'CR' is only used when part of a data field is to be filled. This takes a little getting used to, so use 'CR' with care.
3. Names should be entered SURNAME-CHRISTIAN NAME.
4. When searching for PAGES, a general search can be done by entering only the first letter of a name e.g 'B'. A specific search can be done by entering the whole or nearly whole name e.g. BENNETT PETER. This also applies to occupation, town, etc.
5. Whenever a new page is inserted or a page is altered there is a prompt to save the new data. If the data is not saved, there is a final prompt when the program is finished i.e. after entering 'F'.

```
1 REM P.BENNETT - SPEED BASIC
2 DI=0
5 DIMNA$(100),AG$(100),BD$(100),DE$(100),HT$(100),WT$(100)
10 DIMAD$(100,6),OT$(100),PD(31),CH(31)
20 GOSUB6000
25 GOSUB5100
26 DATA205,177,15,34,143,17,201
27 FORX=1TO31:READPD(X),CH(X):NEXTX
28 GOTD6060
29 REM**** INSERT SUB ****
30 I=DI+1
36 PRINT"@"
40 GOSUB1000
50 GOSUB2000
60 GOSUB2200
70 GOSUB2300
80 GOSUB2400
90 GOSUB2500
100 GOSUB2600
110 GOSUB2700
120 GOSUB2800
180 PRINT @ 0,23;"IS THIS D.K. (Y/N) ? "
185 GETIN$:IFIN$=""THEN185
```

```

190 IF IN$="Y" THEN DI=DI+1:GOTO200
195 GOSUB2900:DI=DI+1
200 RETURN
999 REM ****DISPLAY SUB ****
1000 POKES9555,0
1005 SC=53248:PRINT"█ PAGE #";I :POKESC+40,92:POKESC+79,93
1010 FORX=41T078:POKESC+X,120:NEXTX
1020 FORX=80T0840 STEP40:POKESC+X,121:NEXTX
1030 FORX=119T0879STEP40:POKESC+X,121:NEXTX
1040 FORX=200T0239:POKESC+X,120:NEXTX
1050 FORX=841T0879:POKESC+X,120:NEXTX
1060 FORX=302T0319:POKESC+X,120:NEXTX
1070 FORX=121T0158:POKESC+X,120:NEXTX
1080 FORX=142T0661STEP40:POKESC+X,121:NEXTX
1090 FORX=382T0399:POKESC+X,120:NEXTX
1100 FORX=480T0519:POKESC+X,120:NEXTX
1110 FORX=560T0599:POKESC+X,120:NEXTX
1120 FORX=640T0679:POKESC+X,120:NEXTX
1125 FORX=720T0759:POKESC+X,120:NEXTX
1130 FORX=1T031:POKESC+PD(X),CH(X):NEXTX
1200 DATA 40,92,79,93,840,28,879,29,120,30,159,94,142,95,222,189,302,30
1210 DATA200,30,239,94,148,95,228,189,302,30,308,31,319,94,382,30,399,94
1220 DATA 480,30,502,189,519,94,560,30,582,189,599,94,640,30,662,31,679,94
1230 DATA 720,30,188,121,268,121,759,94
1240 PRINT @ 2,2;"NAME":PRINT @ 2,4;"ADDRESS":PRINT @ 24,4;"AGE"
1248 PRINT @ 30,4;"BIRTHDAY":PRINT @ 30,6;" / /"
1250 PRINT @ 25,8;"OCCUPATION"
1260 PRINT @ 2,13;"HOME TEL. NO.":PRINT @ 24,13;"WORK TEL. NO."
1270 PRINT @ 5,6;":":PRINT @ 5,7;":":PRINT @ 5,8;":":
1280 PRINT @ 1,9;"Town":PRINT @ 1,10;"Cnty.":PRINT @ 1,11;"P.Cd.:"
1289 PRINT @ 1,17;"OTHER INFORMATION"
1290 DATA205,177,15,34,143,17,201
1350 POKES9555,1:RETURN
1999 REM **** NAME INSERT SUB ****
2000 IN$="":C0=87:C1=0:N=32:CK=1:PRINT @ 7,2;:GOSUB5000
2010 NA$(I)=IN$
2090 RETURN
2199 REM **** AGE INSERT SUB ***
2200 IN$="":C0=87:C1=0:N=3:CK=2:PRINT @ 24,6;:GOSUB5000
2210 AG$(I)=IN$
2290 RETURN
2299 REM **** BIRTHDAY INSERT SUB ****
2300 IN$="":C0=87:C1=0:N=2:CK=3:PRINT @ 30,6;:GOSUB5000
2310 IN$=IN$+"/":PRINT "/":GOSUB5000
2320 IN$=IN$+"/":PRINT "/":GOSUB5000
2330 BD$(I)=IN$
2350 RETURN
2399 REM **** ADDRESS INSERT SUB ****
2400 C0=87:C1=0:N=16
2405 IF (CK>3)*(CK<10) THEN FM=1:II=CK-3:GOTO2420
2410 FORII=1T06
2415 CK=II+3:IN$=""
2420 IN$="":PRINT @ 6,II+5;:GOSUB5000
2430 AD$(I,II)=IN$
2435 IFFM=1 THEN FM=0:RETURN
2440 NEXTII
2450 RETURN
2499 REM *** OCCUPATION INSERT SUB ***
2500 IN$="": C0=87:C1=0:N=32:CK=10:PRINT @ 23,10;:GOSUB5000
2510 OC$(I)=IN$
2520 RETURN
2599 REM **** HOME TEL. INSERT SUB ****
2600 IN$="":C0=87:C1=0:N=21:CK=11:PRINT @ 1,15;:GOSUB5000

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```

2610 HT$(I)=IN$
2620 RETURN
2699 REM **** WORK TEL. INSERT SUB ****
2700 IN$="": CO=87:C1=0:N=16:CK=12:PRINT @ 23,15;:GOSUB5000
2710 WT$(I)=IN$
2720 RETURN
2799 REM **** OTHER INSERT SUB ****
2800 IN$="": CO=87:C1=0:N=76:CK=13:PRINT @ 1,19;:GOSUB5000
2810 DT$(I)=IN$
2820 RETURN
2899 REM **** CHECK INSERT SUB ****
2900 PRINT @ 0,22;"1-NAME:2-AGE:3-B/DAY:4,5,6,7,8,9-ADDRESS10-OC. :11-H/TEL. ";
2901 PRINT",12-W/TEL.:13-OTHER"
2902 PRINT @ 0,24;"Which text do you wish to alter ";
2905 CO=73:C1=0 :N=2:CK=14:IN$="":GOSUB5000
2910 CK=VAL (IN$)
2920 IFCK=0THENRETURN
2930 ONCKGOSUB2000,2200,2300,2400,2400,2400,2400,2400,2500,2600,2700,2800
2940 GOTO2902
4100 RETURN:REM*CK=1*
4150 IF (ASC (A$) <48) + (ASC (A$) >57) THENFL=1
4160 RETURN:REM*CK=2*
4200 IF ((ASC (A$) <48) + (ASC (A$) >57)) * (ASC (A$) <>32) THENFL=1
4210 RETURN:REM*CK=3*
4250 RETURN:REM*CK=4*
4300 RETURN:REM*CK=5*
4350 RETURN:REM*CK=6*
4400 RETURN:REM*CK=7*
4450 RETURN:REM*CK=8*
4500 RETURN:REM*CK=9*
4550 RETURN:REM*CK=10*
4600 RETURN:REM*CK=11*
4650 RETURN:REM*CK=12*
4700 RETURN:REM*CK=13*
4800 IF (ASC (A$) <48) + (ASC (A$) >57) THENFL=1
4820 IF (LN>0) * (VAL (IN$+A$) >13) THENFL=1
4830 RETURN:REM*CK=14*
4999 REM****INPUT SUB ****
5000 POKE4498,CO:POKE4494,C1
5020 FORT=1TON
5030 USR (50000)
5035 LN=LEN (IN$)
5040 USR (2559):BETA$:IFA$="" THEN5040
5042 IF (ASC (A$)=102) * (CK<>3) THENPRINT " ";GOTO5090
5050 IF (ASC (A$)=96) * (LN<>0) THENPRINT " ";IN$=LEFT$(IN$,LN-1):TR=1
5055 IF (ASC (A$)=96) * (LN=16) * (CK=10) THENPRINT @ 38,10;:TR=1
5057 IF (ASC (A$)=96) * (LN=38) * (CK=13) THENPRINT @ 38,19;:TR=1
5060 IF (ASC (A$)=96) * (LN=0) THENTR=1
5062 IFTR=1THENTR=0:T=T-1:A$="":GOTO5030
5065 ONCKGOSUB4100,4150,4200,4250,4300,4350,4400,4450,4500,4550,4600,4650,4700
5066 DNCK=-136GOSUB4800
5068 IFFL=1THENFL=0:GOTO5030
5070 IN$=IN$+A$
5080 PRINTA$;
5082 IF (CK=10) * (LN=15) THENPRINT "|":PRINT @ 23,11;
5083 IF (CK=13) * (LN=37) THENPRINT "|":PRINT @ 1,20;
5085 NEXTT
5090 RETURN
5100 LIMIT50000
5110 FORU=50000TO500006
5120 READF:POKEU,F
5130 NEXTU
5140 RETURN

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5160 REMCO,C1=DISPLAY CODE..N=LEN INPUT STRING
5499 REM**** LIST/ALTER SUB ****
5700 IFAL=1THENGOTO5710
5703 PRINT"┌ DIRECTORY"
5704 PRINT"└"
5705 PRINT"┌ Do you wish to list by :-"
5710 PRINT"└ NAME (N)"
5720 PRINT"┌ BIRTHDAY (B)"
5730 PRINT"└ TOWN (T)"
5740 PRINT"┌ OCCUPATION (O)"
5745 PRINT"└ PAGE NO. (P)"
5748 PRINT"└ FINISH (F)"
5749 IFAL=1THENGOTO5755
5750 INPUT"┌ 'List by'choice ? ";CH#:GOTO5760
5755 INPUT"┌ 'Alter'choice ? ";CH#
5760 IFCH#="N"THENGOSUB7000:GOTO5820
5770 IFCH#="B"THENGOSUB7200:GOTO5820
5780 IFCH#="T"THENGOSUB7400:GOTO5820
5790 IFCH#="O"THENGOSUB7600:GOTO5820
5800 IFCH#="P"THENGOSUB7800:GOTO5820
5805 IFCH#="F"THENAA=1:RETURN
5810 PRINT"┌ Please choose again (N,B,T,O,P or F)":GOTO5749
5820 IFNI=1THENNI=0:GOTO5700
5825 IFLA=1THENLA=0:RETURN
5830 PRINT"┌ NO INFORMATION FOUND - PLEASE RE-ENTER.":GOTO5710
5840 RETURN
5899 REM**** TAPE WRITE SUB ****
5900 PRINT"┌ DIRECTORY"
5910 PRINT"└"
5920 INPUT"┌ Have you reword the tape ? (Y/N) ";A$
5925 IFA#="N"THENRETURN
5930 IFA#<>"Y"THEN5920
5940 WOPEN"DIRECTORY DATA":PRINT/TDI:FDRX=1TODI
5950 PRINT/TNA$(X),AG$(X),BD$(X),OC$(X),HT$(X),WT$(X),OT$(X)
5960 FORY=1TOD6
5970 PRINT/TAD$(X,Y):NEXTY
5980 NEXTX
5990 CLOSE :RD=0:RETURN
5999 REM*** TAPE INPUT SUB ****
6000 PRINT"┌ DIRECTORY"
6001 PRINT"└"
6002 INPUT"┌ Is the file up to date ? (Y/N) ";A$
6003 IFA#="Y" THENRETURN
6004 INPUT"┌ Have you reword the tape ? (Y/N) ";A$
6005 IFA#="N"THENGOTO6002
6006 IFA#<>"Y"THEN6004
6007 ROPEN"DIRECTORY DATA":INPUT/TDI:FDRX=1TODI
6010 INPUT/TNA$(X),AG$(X),BD$(X),OC$(X),HT$(X),WT$(X),OT$(X)
6015 FORY=1TOD6
6020 INPUT/TAD$(X,Y):NEXTY
6030 NEXTX
6040 CLOSE
6045 RETURN
6059 REM**** MAIN MENU ***
6060 PRINT"┌ DIRECTORY"
6070 PRINT"└"
6080 PRINT"┌ Do you wish to :-"
6090 PRINT"└ LIST DIRECTORY (L)"
6100 PRINT"└ INSERT NEW PAGE (I)"
6110 PRINT"└ ALTER A PAGE (A)"
6120 PRINT"└ DELETE A PAGE (D)"
6125 PRINT" * LIST NAMES ONLY (N)"
6130 PRINT"└ FINISH (F)"

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6135 PRINT"***** * Press *?* to halt listing and *?* to return to menu.*****"
6140 INPUT"          Choice ? ";CH$
6150 IF (CH$="L")+(CH$="I")+(CH$="A")+(CH$="D")+(CH$="N") THEN GOTO 6180
6160 IF (CH$="F")*(RD=0) THEN END
6165 IF (CH$="F")*(RD=1) THEN RD=0:GOSUB 6800:END
6170 PRINT"*****Please choose again (L,I A,D or F)":GOTO 6140
6180 IF CH$="I" THEN GOSUB 30:GOSUB 6800:GOTO 6060
6200 IF CH$="N" THEN GOSUB 6900
6300 IF CH$="L" THEN GOSUB 5700
6305 IF CH$="D" THEN GOSUB 9000
6310 IF CH$="A" THEN GOSUB 8100:IF AA=0 THEN GOSUB 6800
6320 IF AA=1 THEN AA=0
6600 GOTO 6060
6799 REM *** RECORD DATA CHECK SUB ***
6800 PRINT"          DIRECTORY"
6805 PRINT"          "
6808 MUSIC"AO":INPUT "Do you wish to record the new data ? (Y/N) ";A$
6810 IF A$="Y" THEN GOSUB 5900:RETURN
6820 INPUT"ARE YOU SURE ? (Y/N) ";A$
6830 IF A$="Y" THEN RD=1:RETURN
6840 GOTO 6800
6899 REM *** LIST NAMES ONLY SUB ***
6900 PRINT"          DIRECTORY"
6905 PRINT"          "
6908 PRINT"          "Page no.   Name":PRINT
6910 SP$="          "
6920 FOR X=1 TODI
6930 IF X>9 THEN SP$="          ":IF X>99 THEN SP$="          "
6940 PRINT X;SP$;NA$(X)
6950 GETA$:IF A$="*" THEN GOSUB 6992
6955 IF CR=1 THEN CR=0:RETURN
6960 NEXT X
6970 PRINT"          PRESS ANY KEY"
6980 GETA$:IF A$="" THEN GOSUB 980
6990 RETURN
6992 GETA$:IF (A$="*")+ (A$=" ") THEN GOSUB 6994
6993 GOTO 6992
6994 IF A$=" " THEN CR=1
6995 RETURN
6999 REM *** NAME LIST SEARCH SUB ***
7000 INPUT"          What is the name ? ";NA$
7010 FOR I=1 TODI
7013 SU$=NA$(I)
7015 FORY=1 TO LEN(SU$)
7020 IF LEFT$(SU$,Y)=NA$ THEN GOSUB 1000:GOSUB 8000:NI=1:IF AL=1 THEN GOSUB 8200:NI=0
7025 IF AL=1 THEN RETURN
7030 NEXT Y
7040 NEXT I
7050 RETURN
7199 REM *** B/D LIST SEARCH SUB ***
7200 INPUT"          What is the birthday month no. ? ";BD$
7210 FOR I=1 TODI
7220 SU$=BD$(I)
7230 IF VAL(MID$(SU$,4,2))=VAL(BD$) THEN GOSUB 1000:GOSUB 8000:NI=1
7235 IF (VAL(MID$(SU$,4,2))=VAL(BD$))*(AL=1) THEN GOSUB 8200:NI=0
7238 IF AL=1 THEN RETURN
7240 NEXT I
7250 RETURN
7399 REM *** TOWN LIST SEARCH SUB **
7400 INPUT"          What is the town ? ";TW$
7410 FOR I=1 TODI
7420 SU$=AD$(I,4)
7425 FORY=1 TO LEN(SU$)

```


LEARN FRENCH ON YOUR MZ-80K
by LARRY GALLIFORD

Notes for using French program:

- A. When Run the user is asked to select an option.
- B. It is possible to answer English-French or vice-versa.
- C. You can list all the data statements so one can see all the Questions and Answers.
- D. To end on a particular option (1 or 2) if you type 'END' the program shows your score.
- E. If you get the wrong answer it prints what it should be.
- F. There are 179 questions in all, starting at the very basic phrases to much more complex ones.

```
100 REM WRITTEN BY LARRY GALLIFORD ON 24/01/84:N=179:T=0:D=0
110 PRINT "E";TAB(5);"COMPUTER AIDED LEARNING"
120 PRINT TAB(5);"-----"
130 PRINT TAB(13);"FRENCH":PRINT TAB(13);"-----"
140 PRINT TAB(8);"OPTIONS AVAlABLE":PRINT TAB(8);"-----"
150 PRINT "1. CONVERT ENGLISH PHRASES IN TO FRENCH"
160 PRINT "2. CONVERT FRENCH PHRASES IN TO ENGLISH"
170 PRINT "3. PRINT ALL QUESTIONS IN ENGLISH AND"
180 PRINT "   ANSWERS IN FRENCH"
190 PRINT "4. PRINT ALL QUESTIONS IN FRENCH AND"
200 PRINT "   ANSWERS IN ENGLISH"
210 PRINT "5. TO END PROGRAM"
220 INPUT " PLEASE ENTER OPTION REQUIRED ";V
230 IF (V<1)+(V>5) THEN USR(62):GOTO 100
240 ON V GOTO 1760,1990,2220,2280,2360
250 DATA GOOD MORNING,BONJOUR
260 DATA GOOD EVENING,BONSOIR
270 DATA GOOD NIGHT,BONNE NUIT
280 DATA HOW ARE YOU,COMMENT ALLEZ-VOUS
290 DATA VERY WELL THANK YOU,TRES BIEN MERCI
300 DATA HOW IS YOUR WIFE,COMMENT VA VOTRE FEMME
310 DATA SHE IS SICK,ELLE EST MALADE
320 DATA I AM SORRY,JE REGRETTE
330 DATA WHAT IS THE MATTER,QU'Y A-T-IL
340 DATA SHE HAS A HEADACHE,ELLE A MAL A LA TETA
350 DATA I HOPE SHE WILL BE BETTER SOON,J'ESPERE QUE CELAIRA BIENTOT MIEUX
360 DATA HOW IS YOUR FAMILY,COMMENT VA LA FAMILLE
370 DATA THEY ARE ALL WELL,IIS VONT TOUS BIEN
380 DATA I AM GLAD,JE M'EN REJOUIS
390 DATA LET ME INTRODUCE MY FRIEND,PERMETTEZ-MOI DE VOUS PRESENTER MON AMI
400 DATA PLEASED TO MEET YOU,ENCHANTE DE FAIRE VOTRE CONNAISSANCE
410 DATA I AM AMERICAN,JE SUIS AMERICAIN
420 DATA DO YOU SPEAK ENGLISH,EST-CE QUE VOUS PARLEZ ANGLAIS
430 DATA NO I DO NOT SPEAK ENGLISH,NON JE NE PARLE PAS ANGLAIS
440 DATA PLEASE SPEAK SLOWLY,PARLEZ LENTEMENT S'IL VOUS PLAIT
450 DATA I DON'T UNDERSTAND YOU,JE NE VOUS COMPRENDS PAS
```

460 DATA WHERE ARE YOU STAYING,OU HABITEZ-VOUS
 470 DATA AT THE HOTEL PRESIDENT,A I'HOTEL PRESIDENT
 480 DATA I AM LEAVING TOMORROW,JE PARS DEMAIN
 490 DATA HAVE A GOOD TRIP,BON VOYAGE
 500 DATA GOOD-BYE,AU REVOIR
 510 DATA WHAT IS YOUR NAME,COMMENT VOUS APPELEZ-VOUS
 520 DATA MY NAME IS ROBERT,JE M'APPELLE ROBERT
 530 DATA WHAT IS YOUR BROTHER'S NAME,COMMENT S'APPELLE VOTRE FRERE
 540 DATA HIS NAME IS PETER,LL S'APPELLE PIERRE
 550 DATA WHAT IS YOUR SISTER'S NAME,COMMENT S'APPELLE VOTRE SOEUR
 560 DATA HER NAME IS MARY,ELLE S'APPELLE MARIE
 570 DATA ARE YOU MARRIED,ETES VOUS MARIE
 580 DATA HAVE YOU ANY CHILDREN,EST-CE QUE VOUS AVEZ DES ENFANTS
 590 DATA YES I HAVE TWO CHILDREN,OUI J'AI DEUX ENFANTS
 600 DATA HOW OLD ARE THEY,QUEL AGE AVEZ-VOUS
 610 DATA I AM THIRTY YEARS OLD,J'AI TRENTE ANS
 620 DATA HOW OLD IS YOUR WIFE,QUEL AGE A VOTRE FEMME
 630 DATA SHE IS TWENTY-FIVE YEARS OLD,ELLE A VINGT-CINQ ANS
 640 DATA SHE IS VERY YOUNG,ELLE EST TRES JEUNE
 650 DATA SHE IS FIVE YEARS OLD,ELLE A CINQ ANS
 660 DATA HOW OLD IS YOUR SON,QUEL AGE A VOTRE FILS
 670 DATA HE IS A BABY,C'EST UN BEBE
 680 DATA HE IS TEN MONTHS OLD,LL A DIX MOIS
 690 DATA WHERE IS YOUR FATHER,OU EST VOTRE PERE
 700 DATA HE IS WORKING,LL TRAVAILLE
 710 DATA WHAT DOES YOUR HUSBAND DO,QUELLE EST I'OCCUPATION DE VOTRE MARI
 720 DATA HE IS A LAWYER,LL EST AVOCAT
 730 DATA HE IS AT THE OFFICE,LL EST AU BUREAU
 740 DATA IS YOUR MOTHER AT HOME,EST-CE QUE VOTRE MERE EST A LA MAISON
 750 DATA NO SHE IS SHOPPING,NON ELLE EST EN TRAIN DE DES ACHATS
 760 DATA WHERE ARE THE GIRLS,OU SONT LES FILLES
 770 DATA THEY ARE IN SCHOOL,ELLES SONT A L'ECOLE
 780 DATA ARE THE BOYS PLAYING,EST-CE QUE GARCONS SONT EN TRAIN DE JOUER
 790 DATA YES THEY ARE PLAYING IN THE PARK,OU EST VOTRE GRAND-PERE
 800 DATA I HAVE NO GRANDFATHER,JE N'AL PAS DE GRAND-PERE
 810 DATA HE IS DEAD,LL EST MORT
 820 DATA MY GRANDMOTHER LIVES WITH US,MA GRAND-MERE HABITE CHEZ NOUS
 830 DATA WHERE WERE YOU BORN,OU ETES VOUS NE
 840 DATA I WAS BORN IN NEW YORK,JE SUIS NE A NEW YORK
 850 DATA WHEN IS YOUR BIRTHDAY,QUAND EST VOTRE ANNIVERSAIRE
 860 DATA MY BIRTHDAY IS MARCH 15TH,MON ANNIVERSAIRE EST LE 15 MARS
 870 DATA WHERE DOES YOUR AUNT LIVE,OU HABITE VOTRE TANTE
 880 DATA SHE LIVES IN LONDON,ELLE HABITE LONDRES
 890 DATA WHAT IS YOUR UNCLE'S ADDRESS,QUELLE EST L'ADRESSE DE VOTRE ONCLE
 900 DATA HIS ADDRESS IS 75 PINE STREET,SON ADRESSE EST 75 RUE PINE
 910 DATA WHAT IS YOUR ADDRESS,QUELLE EST VOTRE ADRESSE
 920 DATA MY ADDRESS IS THE SAME,MON ADRESSE EST LA MEME
 930 DATA YES WE HAVE,OUI NOUS EN AVONS UNE
 940 DATA IT IS ON THE FIFTH FLOOR,ELLE EST AU CINQUIEME ETAGE
 950 DATA PLEASE SHOW ME THE ROOM,MONTREZ-MOI LA CHAMBRE S'IL VOUS PLAIT
 960 DATA WHAT IS THE RATE PER DAY,QUEL EST LE PRIX PAR JOUR
 970 DATA PER WEEK,PAR SEMAINE
 980 DATA HAVE YOU A SMALLER ROOM,AVEZ-VOUS UNE CHAMBRE PLUS PETITE
 990 DATA A LARGER ROOM,UNE CHAMBRE PLUS GRANDE
 1000 DATA YES BUT IT IS MORE EXPENSIVE,OUI MAIS ELLE EST PLUS CHERE
 1010 DATA HAVE YOU A CHEAPER ROOM,AVEZ-VOUS UNE CHAMBRE MOINS CHERE
 1020 DATA YES BUT IT IS SMALLER,OUI MAIS ELLE EST PLUS PETITE
 1030 DATA RESERVE A DOUBLE FOR US,RESERVEZ UNE CHAMBRE A DEUX LITS POUR NOUS
 1040 DATA I WANT THE ROOM FOR 2 DAYS,J'AI BESOIN DE LA CHAMBRE POUR DEUX JOUR
 1050 DATA WHERE IS THE DINING ROOM,OU EST LA SALLE A MANAGER
 1060 DATA AT WHAT TIME DO YOU SERVE DINNER,A QUELLE HEURE SERVEZ-VOUS LA DINE
 1070 DATA WE SERVE DINNER AT 9,NOUS SERVONS LE DINER A VINGT ET UNE HEURES
 1080 DATA PLEASE WAKE US AT SEVEN,VEUILLEZ NOUS REVEILLER A SEPT HEURES
 1090 DATA SEND BREAKFAST TO OUR ROOM,VEUILLEZ FAIRE MENTER LE PETIT DEJEUNER

1100 DATA PLEASE PRESS THIS SUIT, REPASSEZ CE COSTUME S'IL VOUS PLAII
 1110 DATA PLEASE CLEAN THESE DRESSES, VEUILLEZ NETTOYER CES ROBES
 1120 DATA WHAT HAPPENED, QUE S'EST-IL PASSE
 1130 DATA IT'S NOTHING, CE N'EST RIEN
 1140 DATA DON'T MENTION IT, JE VOUS EN PRIE
 1150 DATA I THINK SO, C'EST CE QUE JE PENSE
 1160 DATA I DON'T KNOW, JE NE SAIS PAS
 1170 DATA IT'S NOT ENOUGH, CE N'EST PAS ASSEZ
 1180 DATA IT'S NOT IMPORTANT, CE N'EST PAS IMPORTANT
 1190 DATA IT'S EASY IT'S HARD, C'EST FACILE C'EST DIFFICILE
 1200 DATA IT'S BIG IT'S SMALL, C'EST GRAND C'EST PETIT
 1210 DATA IT'S MINE IT'S YOURS, C'EST MOI C'EST A VOUS
 1220 DATA IT'S ALL RIGHT, C'EST BIEN
 1230 DATA IS IT TURE, EST-CE VRAI
 1240 DATA WITH PLEASURE, AVEC PLAISIR
 1250 DATA WHICH WAY, DANS QUELLE DIRECTION
 1260 DATA TO THE RIGHT TO THE LEFT, A DROITE A GAUCHE
 1270 DATA STRAIGHT AHEAD, DROIT DEVANT VOUS
 1280 DATA I'M TIRED, JE SUIS FATIGUE
 1290 DATA PLEASE CALL, APPELEZ S'IL VOUS PLAII
 1300 DATA A DOCTOR, UN DOCTEUR
 1310 DATA A NURSE, UNE INFIRMIERE
 1320 DATA A DENTIST, UN DENTISTE
 1330 DATA AN AMBULANCE, UNE AMBULANCE
 1340 DATA THE POLICE, LA POLICE
 1350 DATA THE FIRE DEPARTMENT, LES POMPIERS
 1360 DATA A TAXI, UN TAXI
 1370 DATA MR, MONSIEUR
 1380 DATA MRS, MADAME
 1390 DATA MISS, MADEMOISELLE
 1400 DATA THERE ISN'T ANY, LL N'Y EN A PAS
 1410 DATA HURRY UP, DEPECHEZ-VOUS
 1420 DATA BE CAREFUL, FAITES ATTENTION
 1430 DATA 1, UN, 2, DEUX, 3, TROIS, 4, QUATRE, 5, CINQ, 6, SIX, 7, SEPT, 8, HUIT
 1440 DATA 9, NEUF, 10, DIX, 11, ONZE, 12, DOUZE, 13, TREIZE, 14, QUATORZE
 1450 DATA 15, QUINZE, 16, SEIZE, 17, DIX-SEPT, 18, DIX-HUIT, 19, DIX-NEUF, 20, VINGT
 1460 DATA 21, VINGT ET UN, 22, VINGT-DEUX, 23, VINGT-TROIS, 24, VINGT-QUATRE
 1470 DATA WHICH SEASON DO YOU LIKE BEST, QUELLE SAISON PREFEREZ-VOUS
 1480 DATA I LIKE SPRING BEST, JE PREFERE LE PRINTEMPS
 1490 DATA SPRING IS WARM, AU PRINTEMPS IL FAIT CHAUD
 1500 DATA SUMMER IS HOT, EN ETE FAIT TRES CHAUD,
 1510 DATA WINTER IS COLD, EN HIVER IL FAIT FROID
 1520 DATA JANUARY, JANVIER
 1530 DATA FEBRUARY, FEVRIER
 1540 DATA MARCH, MARS, APRIL, AVRIL, MAY, MAI, JUNE, JUIN, JULY, JUILLET
 1550 DATA AUGUST, AOUT, SEPTEMBER, SEPTEMBRE, OCTOBER, OCTOBRE, NOVEMBER, NOVEMBRE
 1560 DATA DECEMBER, DECEMBRE, MEN, HOMMES
 1570 DATA WOMEN, FEMMES
 1580 DATA OPEN, OUVERT
 1590 DATA CLOSED, FERME
 1600 DATA ENTRANCE, ENTREE
 1610 DATA EXIT, SORTIE
 1620 DATA DANGER, DANGER
 1630 DATA INFORMATION, RENSEIGNEMENTS
 1640 DATA NO SMOKING, DEFENSE DE FUMER
 1650 DATA WAITING ROOM, SALLE D'ATTENTE
 1660 DATA STOP, STOP
 1670 DATA DETOUR, DETOUR
 1680 DATA NO PARKING, DEFENSE DE STATIONNER
 1690 DATA ONE WAY, SENS UNIQUE
 1700 DATA CLOSED FOR REPAIRS, FERME POUR CAUSE DE REPARATIONS

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1710 DATA SLOW DOWN,RALENTISSEX
1720 DATA STEEP HILL,COTE RAIDE
1730 DATA RAILROAD CROSSING,PASSAGE A NIVEAU
1740 DATA VACANCY,CHAMBRE A LOUER
1750 DATA EXCHANGE OFFICE,BUREAU DE CHANGES
1760 REM OPTION ONE
1770 REM
1780 FOR X=1 TO N:READ A$,B$:GOSUB 1970
1790 PRINT A$:PRINT:D=D+1:INPUT X$
1800 IF X$=B$ THEN 1880
1810 IF X$="END"GOTO 1960
1820 USR(62):PRINT"WRONG! BETTER LUCK NEXT TIME!"
1830 PRINT"THE CORRECT ANSWER IS!"
1840 PRINT B$
1850 PRINT"NOW! PRESS ANY KEY TO CONTINUE."
1860 GET SS$:IF SS$=""THEN 1860
1870 GOTO 1900
1880 PRINT"WELL DONE YOUR CORRECT":T=T+1
1890 FOR TT=1 TO 2500:NEXT TT
1900 NEXT
1910 GOSUB 1970:PRINT"YOU'VE SCORED";T;" OUT OF";N
1920 INPUT"DO YOU WISH TO RUN AGAIN (Y/N) ";Q$
1930 IF Q$="N"THEN 1950
1940 RESTORE:GOTO 100
1950 PRINT:END
1960 PRINT"YOU'VE SCORED";T;" OUT OF";D-1:GOTO 1920
1970 PRINT"OPTION 1. ENGLISH TO FRENCH"
1980 PRINT"_____":RETURN
1990 REM OPTION TWO
2000 REM
2010 FOR X=1 TO N:READ A$,B$:GOSUB 2200
2020 PRINT B$:PRINT:D=D+1:INPUT X$
2030 IF X$=A$ THEN 2110
2040 IF X$="END"GOTO 2190
2050 USR(62):PRINT"WRONG! BETTER LUCK NEXT TIME!"
2060 PRINT"THE CORRECT ANSWER IS!"
2070 PRINT A$
2080 PRINT"NOW! PRESS ANY KEY TO CONTINUE."
2090 GET SS$:IF SS$=""THEN 2090
2100 GOTO 2130
2110 PRINT"WELL DONE YOUR CORRECT":T=T+1
2120 FOR TT=1 TO 2500:NEXT TT
2130 NEXT
2140 GOSUB 2200:PRINT"YOU'VE SCORED";T;" OUT OF 26"
2150 INPUT"DO YOU WISH TO RUN AGAIN (Y/N) ";T$
2160 IF T$="N"THEN 2180
2170 RESTORE:GOTO 100
2180 PRINT:END
2190 PRINT"YOU'VE SCORED";T;"OUT OF";D-1:PRINT:GOTO2150
2200 PRINT"OPTION 2. FRENCH TO ENGLISH"

```

```

2210 PRINT"-----":RETURN
2220 REM OPTION THREE
2230 REM -----:PRINT"█"
2240 FOR I=1 TO N:READ A$,B$
2250 PRINT A$:PRINT B$:PRINT:UY=UY+1
2260 IF UY=7 THEN GOSUB 2380
2270 NEXT I:END
2280 REM OPTION FOUR
2290 REM -----:PRINT"█"
2300 FOR I=1 TO N:READ A$,B$
2310 PRINT B$:PRINT A$:PRINT:UY=UY+1
2320 IF UY=7 THEN GOSUB 2380
2330 NEXT I:END
2340 REM OPTION FIVE
2350 REM -----
2360 PRINT:END
2370 FOR I=1 TO N:READ A$,B$
2380 PRINT"PRESS ANY KEY TO CONTINUE"
2390 GET G$:IF G$=""THEN 2390
2400 PRINT"█":UY=0:RETURN

```

PAGE 5

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SIEGE OF THE KING
 from
PETER HIND

```

10 REM'THE SEIGE OF THE KING'
20 INPUT"█What is your name?";B$
30 DM=0:FS=300:GB=20:L1=0:BM=100
40 REM ▲♦♦♦BY P.HIND ▲♦♦♦
50 PRINT"██████████████████"
60 PRINT" | | | | | "
70 PRINT" | | | | | "
80 PRINT" | | | | | "
90 PRINT""
100 PRINT" ██████████ ██████████ ██████████ ██████████ ██████████ "
110 PRINT" ██████████ ██████████ ██████████ ██████████ ██████████ "
120 PRINT" ██████████ ██████████ ██████████ ██████████ ██████████ "
130 PRINT"":PRINT"of the"
140 PRINT" █ / ██████████ ██████████ ██████████ ██████████ "
150 PRINT" ██████████ ██████████ ██████████ ██████████ ██████████ "
160 PRINT" █ \ ██████████ ██████████ ██████████ ██████████ "
170 PRINT" ~~~~~~ "

```

```

180 PRINT"
190 PRINT"
200 PRINT"
210 PRINT"
220 PRINT"
230 PRINT"
240 TEMPO4
250 PRINT"
260 PRINT"Do you want to continue ?"
270 GETA$: IFA$="" THEN GOTO 270
280 IFA$="Y" THEN GOTO 310
290 IFA$="N" THEN USR(4608)
300 GOTO 270
310 PRINT"*****"; B$; "do you want instructions?"
320 GETA$: IFA$="N" THEN GOTO 480
330 IFA$="Y" THEN 370
340 IFA$="" THEN 320
350 PRINT"Please press the right key!"
360 GOTO 320
370 PRINT"*****In this adventure game your "
380 PRINT"object is to rescue your King who "
390 PRINT"has been captured by the evil Lord Doom"
400 PRINT" You think he might be in the Lords"
410 PRINT"castle which you have to find to rescue"
420 PRINT"him."
430 PRINT" Please only use the options it gives you"
440 PRINT"*****At the end of a sheet of writing *****the computer waits for"
450 PRINT"you to press any key"
460 PRINT"Any key to start "
470 GETA$: IFA$="" THEN 470
480 PRINT"*****"
490 PRINT"| "
500 PRINT"| | "
510 PRINT"| | "
520 PRINT"| | "
530 PRINT"| | "
540 PRINT"*****"
550 PRINT"*****You see a door with a spy hole in it"
560 PRINT"do you want to peep?"
570 GETA$: IFA$="" THEN 570
580 IFA$="Y" THEN GOTO 3300
590 IFA$="N" THEN GOTO 610
600 GOTO 570
610 PRINT"***** The door has opened"
620 GOSUB 4440
630 PRINT"*****"
640 PRINT"*****It is dark but you can see a faint"
650 PRINT"glow! Do you wish to go to it?"
660 GETA$: IFA$="N" THEN GOTO 5210
670 IFA$="Y" THEN GOTO 690
680 GOTO 660
690 FOR I=1 TO 100: NEXT I: PRINT"*****."
700 FOR I=1 TO 300: NEXT I
710 PRINT"*****"
720 FOR I=1 TO 500: NEXT I
730 PRINT"*****Zowwy! it is a fire freak "
740 PRINT"do you wish to fight it?"
750 PRINT"you have a fighting strength of "; FS
760 PRINT"Use it carefully. F for fight"
770 PRINT"to bribe (you have"; GB; " gold bars)"
780 GETA$: IFA$="" THEN 780
790 IFA$="B" THEN GOSUB 3600: GOTO 820
800 IFA$="F" THEN GOSUB 3440: GOTO 820
810 GOTO 780
820 GOSUB 4440
830 GOSUB 3980

```

```

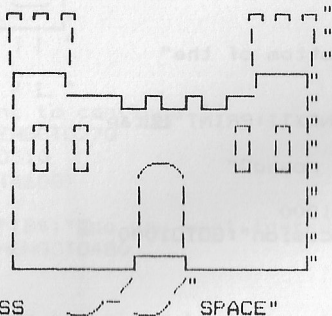
840 PRINT"█"
850 PRINT"|"
860 PRINT"|"
870 PRINT"|"
880 PRINT"|"
890 PRINT"|"
900 PRINT"USEYou are at the bottom of the"
910 PRINT" UDEVIL'S ABYSS!"
920 GOSUB4440
930 PRINT"USETap":FORI=1TO900:NEXTI:PRINT"USETap"
940 FORI=1TO1000:NEXTI
950 PRINT"UDo you wish to turn round?"
960 GETA$:IFA$=""THEN960
970 IFA$="Y"THENGOSUB3760:GOTO1000
980 IFA$="N"THENPRINT"Uwise decision":GOTO1000
990 GOTO960
1000 GOSUB4440
1010 GOSUB3980
1020 FORI=1TO2000:NEXTI
1030 PRINT"█"
1040 PRINT"  "
1050 PRINT"  "
1060 PRINT"  "
1070 PRINT"  "
1080 PRINT"  "
1090 PRINT"  "
1100 FORI=1TO400:NEXTI
1110 PRINT"USEQuick"
1120 PRINT"UThat bag is falling,do you wish to"
1130 PRINT"Ucatch it ? (Y/N)"
1140 GETA$: IFA$="Y"THENGOSUB4210:GOTO1180
1150 IFA$="N"THENGOSUB4290:GOTO1180
1160 IFA$=""THENGOTO1140
1170 GOTO1140
1180 GOSUB3980
1190 GOSUB4440
1200 PRINT"UAn army of Orcs"
1210 PRINT"UNO!!PHEW!!"
1220 PRINT"-----"
1230 PRINT"UOnly a mirage!But there is a blood thi rsty Orc on the loose!"
1240 GOSUB4440
1250 GOSUB3440
1260 PRINT"█":GOSUB3980
1270 PRINT"UThe path goes on for miles!"
1280 PRINT"UThere is a rockfall here and now!"
1290 PRINT"UQuick 'D' to dive for cover"
1300 PRINT"UElse face the consequences"
1310 GETA$: IFA$=""THENGOTO1310
1320 IFA$="D"THENGOTO2230
1330 PRINT"█"
1340 X1=INT(RND(1)*20):IFX1<10THENPRINT"SQUASHED!":DM=100:GOSUB4440:GOTO3980
1350 PRINT"█ U C K Y I I"
1360 PRINT" - - - - -"
1370 PRINT"UUnfortunately,the might of the "
1380 PRINT"UISEN-OGRE faces you!"
1390 PRINT"UFIGHTING STRENGTH = ";FS
1400 INPUT"UINPUT FIGHTING FORCE ";NU
1410 IFNU>FSTHENGOTO1390
1420 NU=NU-10
1430 GOSUB4440
1440 GOSUB3500
1450 GOSUB4440
1460 PRINT"█"
1470 PRINT"UAfter the mist and dust clears you noti ce"
1480 PRINT"Ua castle in the background"
1490 PRINT"UThe first thing that springs to your mind is your king"

```

```

1500 PRINT"He maybe in that castle,so you walk "
1510 PRINT"Off down the road"
1520 GOSUB4440
1530 PRINT"E"
1540 PRINT"
1550 PRINT"
1560 PRINT"
1570 PRINT"
1580 PRINT"
1590 PRINT"
1600 PRINT"
1610 PRINT"
1620 PRINT"
1630 PRINT"
1640 PRINT"
1650 PRINT"
1660 PRINT"
1670 PRINT"PRESS SPACE"

```



```

1680 MUSIC"A0"
1690 GETA$:IFA$=" "THENGOTO1710
1700 GOTO1680
1710 PRINT"E"

```

```

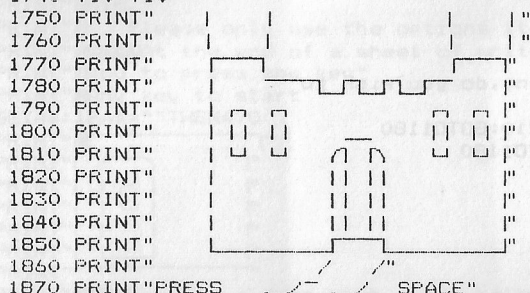
1720 PRINT"You open the door"

```

```

1730 PRINT"
1740 TI$=TI$

```



```

1750 PRINT"
1760 PRINT"
1770 PRINT"
1780 PRINT"
1790 PRINT"
1800 PRINT"
1810 PRINT"
1820 PRINT"
1830 PRINT"
1840 PRINT"
1850 PRINT"
1860 PRINT"
1870 PRINT"PRESS SPACE"
1880 MUSIC"B"
1890 GETA$:IFA$=" "THENGOTO1910
1900 GOTO1880
1910 PRINT"E"

```

```

1920 PRINT"Inside it is dark,but you spot a figure"
1930 PRINT"He approaches you,asking what you want"
1940 PRINT"His in his Lords castle."

```

```

1950 PRINT"He Suddenly,his Lord appears,and "
1960 PRINT"He flicks a finger.The slave attacks you"
1970 GOSUB4440
1980 GOSUB3440

```

```

1990 IFS=1THENPRINT"You got him,and the Lord runs upstairs":GOTO2010
2000 PRINT"Oowerr,Hwell,at least you tried?!"

```

```

2010 GOTO2020
2020 GOSUB4440
2030 GOSUB3980
2040 PRINT"HWell you see a Kitchen off on your left"
2050 PRINT"Hyou could nick some food?"
2060 PRINT"H(Y/N)?"

```

```

2070 GETA$:IFA$=" "THENGOTO2070
2080 IFA$="Y"THENPRINT"HYes you would like the food!":GOTO5070
2090 IFA$="N"THENPRINT"HNo you'll leave the grub!":GOTO2110
2100 GOTO2070
2110 GOSUB4440:PRINT"E"
2120 PRINT"Now to find the King"
2130 PRINT"HYou will have to run through a room"
2140 PRINT"Has fast as possible"
2150 PRINT"Avoid hitting S'S"

```

```

2160 PRINT" KEYS 2"
2170 PRINT" ↑ "
2180 PRINT" Q← →E"
2190 PRINT" ↓ "
2200 PRINT" S"
2210 PRINT"UTO get out reach# and press S"
2220 GOTO2420
2230 GOSUB4440:PRINT"@"
2240 PRINT"UYou dived into the COSSERS CAVE!NICE TRY!"
2250 PRINT"YOUR goin' to fight it"
2260 PRINT"UFight. strength = ";FS
2270 INPUT"UInput force (1-50)";NM
2280 IF (NM<1)+(NM>50)+(NM>FS) THENGOTO2260
2290 X2=INT (RND (1)*50)
2300 IFX2<NMTHENPRINT"UUUYOU WIN":P=1
2310 IFX2>NMTHENPRINT"UUUYOU LOSE"
2320 IFX2=NMTHENPRINT"UUU STILL FIGHTING"
2330 DM=DM+10
2340 FS=FS-NM
2350 IFP=1THEN2360:GOTO2390
2360 PRINT" you took over its cave and slept for 8 hours":FS=FS+20
2370 PRINT"UBUT the rocks have covered the cave mouth!"
2380 GOTO4630
2390 GOSUB4440
2400 PRINT"UYOU stroll from the cave!"
2410 GOTO1430
2420 GOSUB4440
2430 PRINT"@"
2440 PRINT"#####"
2450 FORI=1TO20:PRINT"#####"
2460 PRINT"#####"
2470 PRINT"#####"
2480 PRINT"#####"
2490 PRINT"#####"
2500 TI$="000001"
2510 E1=53488
2520 MA=53329
2530 POKEMA,206
2540 GETB1$:IFB1$="" THENGOTO2540
2550 IFB1$="E" THENMA=MA+1:POKEMA-1,64:MUSIC"AO":GOTO2600
2560 IFB1$="S" THENMA=MA+40:POKEMA-40,64:MUSIC"AO":GOTO2600
2570 IFB1$="Q" THENMA=MA-1:POKEMA+1,64:MUSIC"AO":GOTO2600
2580 IFB1$="2" THENMA=MA-40:POKEMA+40,64:MUSIC"AO":GOTO2600
2590 GOTO2540
2600 IFPEEK (MA)=208THENGOTO2510
2610 IFPEEK (MA)=31THENGOTO2510
2620 IFPEEK (MA)=95THENGOTO2510
2630 IFPEEK (MA)=163THENGOTO2660
2640 IFPEEK (MA)=46THENFS=FS+1
2650 GOTO2530
2660 GOSUB4440
2670 PRINT"UDone it,in ";TI$;" seconds"
2680 TEMP07
2690 MUSIC"_C_D_E_F_#F_B_A_BCDEF#FGAB^C^D^E^F^#F^G^A^B"
2700 IFVAL (TI$)>30THENPRINT"UThe evil butler got you ":DM=DM+10:FS=FS-20
2710 GOSUB3980
2720 GOSUB4440
2730 PRINT"@"
2740 PRINT"U1 2 3 4 "
2750 PRINT"U"
2760 PRINT"U"
2770 PRINT"U"
2780 C1=INT (RND (1)*5)
2790 PRINT"UYou see four exit doors which one willUUUyou take ?"
2800 GETZ
2810 IFZ=C1THENPRINT"Number ";C1;" leads you to a dungeon":GOTO3000

```



```

3400 FORI=1TO900:NEXTI
3490 INPUT "What attacking force?(1-50)";NU
3500 IF(NU<0)+(NU>50)THENGOTO3490
3510 IFND>FSTHENPRINT "Too big, re-try";GOTO3440
3520 Z=INT(RND(1)*50)
3530 PRINT "The monsters strength is ";Z
3540 IFZ>NUTHENPRINT "You lose":FS=FS-NU:M=INT(RND(1)*10):DM=DM+M
3550 IFNU>ZTHENPRINT "What a victory!":FS=FS-NU:DM=DM+1:L1=L1+1:S=1
3560 PRINT "Damage = ";DM;"%"
3570 IFZ=NUTHENGOTO3440
3580 GOSUB4440
3590 RETURN
3600 REM***BRIBERY***
3610 FORI=1TO500:NEXTI
3620 PRINT "With your ";GB;" gold bars":IFGB<0.5THENGOTO3730
3630 PRINT "You can bribe the monster"
3640 PRINT "How much will you use?(0.5 - 9)"
3650 INPUTNG:IFGB<0.5THENGOTO3730
3660 IF(NG<0.5)+(NG>10)THENGOTO3600
3670 GB=GB-NG
3680 Z=INT(RND(1)*10)
3690 IFZ<5THENPRINT "Your offer is refused!":GB=GB+NG:GOTO3440
3700 PRINT "You made it"
3710 FORI=1TO2000:NEXTI
3720 RETURN
3730 FORI=1TO600:NEXTI
3740 PRINT "You have not got enough to bribe him"
3750 PRINT "With you will have to fight":FORI=1TO3000:NEXTI:GOTO3440
3760 REM***GETTING HIT***
3770 Z3=INT(RND(1)*7):IFZ3<2THENPRINT "Just someone playing tricks":RETURN
3780 PRINT "  |"
3790 PRINT "    |"
3800 PRINT "      |"
3810 PRINT "        |"
3820 PRINT "          |"
3830 PRINT "            |"
3840 PRINT "           / \
3850 PRINT "          X   X
3860 PRINT "         /   \
3870 PRINT "        X X X
3880 PRINT "       /   \
3890 PRINT "      /_____\
3900 FORI=1TO50:NEXTI:DM=DM+20:GB=GB-1
3910 PRINT "Bad luck, that was the Devils"
3920 PRINT "Wizard. He got you with a stunning"
3930 PRINT "spell and gave you 20% more damage"
3940 PRINT "and stole a gold bar."
3950 GETA#:IFA#=""THEN3950
3960 IFDM>99THENPRINT "Oh dear you are dead":GOTO3980
3970 RETURN
3980 REM***DEAD CHECK***
3990 IFDM>99THEN4030
4000 IFGB<0.5THENPRINT "No gold!":RETURN
4010 IFFS<1THEN4030
4020 GOTO4400
4030 PRINT "You have just died":GETA#:IFA#=""THEN4030
4040 GOTO4460
4050 REM **GENERATE RANDOM SHAPES**
4060 SA=107:SB=107
4070 PRINT "E"
4080 P=53748
4090 TEMPO7
4100 FORI=1TO3
4110 POKEP+(RND(1)*500),SA
4120 MUSIC"A1"
4130 POKEP-(RND(1)*500),SB

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4140 MUSIC"A1"
4150 POKEP-(RND(1)*500),SA
4160 MUSIC"A1"
4170 POKEP+(RND(1)*500),SB
4180 MUSIC"A1"
4190 NEXTI
4200 RETURN
4210 REM***IN THE BAG***
4220 PRINT"GIn the bag there is "
4230 Z1=INT(RND(1)*3):IFZ1<1THEN4230
4240 IFZ1=1THENPRINT"UA rat that bites off your hand":DM=DM+5:GOTO4270
4250 IFZ1=2THENPRINT"UA bar of gold":GB=GB+1:GOTO4270
4260 IFZ1=0THENPRINT"UA tablet of 30 fighting strength":FS=FS+30:GOTO4270
4270 FORI=1TO2000:NEXTI
4280 RETURN
4290 REM***THE FLOOR***
4300 PRINT"UThe bag hits the floor and breaks"
4310 PRINT"Uopen.In it there is"
4320 Z1=INT(RND(1)*3):IFZ1<1THEN4320
4330 IFZ1=1THENPRINT"UA rat ":GOTO4380
4340 IFZ1=2THENPRINT"UA bar of gold":GOTO4360
4350 IFZ1=3THENPRINT"UA tablet":GOTO4360
4360 PRINT"UBut because you didn't catch the bag"
4370 PRINT"UYou cannot have anything"
4380 FORI=1TO5000:NEXTI
4390 RETURN
4400 REM***TO PRINT TALLY***
4410 PRINT"UDamage = ";DM;"%"
4420 PRINT"UFighting strength =";FS
4430 PRINT"UGold bars =";GB
4440 GETA$:IFA$=""THEN4440
4450 RETURN
4460 REM**DEAD**
4470 GOSUB4440
4480 DM=100
4490 PRINT"GHard luck,you have unfortunately been"
4500 PRINT"Ukilled.Your end scores were ":GOSUB4400
4510 PRINT"UI hope you have enjoyed this game"
4520 TEMPO4
4530 MUSIC"C3ROC3ROC1ROC4#D3D1R0D3C2ROC2R0_B2C3"
4540 GETA$:IFA$=""THEN4540
4550 RUN
4560 PRINT"GHe rears up and reveals he is an evil spirit.He attacks you"
4570 GOSUB4440:GOSUB3440
4580 IFS=1THENPRINT"You have slain him":DM=DM+15
4590 GOSUB4440:GOSUB3980
4600 PRINT"GDrcs!Drcs!.You have had it:now you are dead.You stood no chance"
4610 GOSUB4440
4620 DM=100:GOTO3980
4630 GOSUB4440:PRINT"G"
4640 PRINT"UIts dark but you find a new path & it leads you into the "
4650 PRINT"Umines of mirianas trench"
4660 GOSUB4440
4670 PRINT"G"
4680 PRINT"  O"
4690 PRINT"  "
4700 PRINT"  "
4710 PRINT"  |"
4720 PRINT"  ||"
4730 PRINT"  ^  |  ^"
4740 PRINT"  |  |  "
4750 PRINT"  |  |  "
4760 PRINT"  |  |  "
4770 PRINT"  |  |  "
4780 PRINT"  |  |  "
4790 PRINT"  |  |  "

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```

5460 PRINT"Have over there.Do you wish to enter it"
5470 GETA$:IFA$=""THEN5470
5480 IFA$="Y"THENGOTO6280
5490 IFA$="N"THENGOTO5510
5500 GOTO5470
5510 GOSUB4440
5520 PRINT"@"
5530 PRINT"@@@Oh well you are at the bottom of a"
5540 PRINT"@@@strange gully.On your left you see an"
5550 PRINT"@@@old man(who is paying no attention to you)"
5560 PRINT"@@@He suddenly gets up and in a strange tongue says he will
5570 PRINT"@@@(if you want him to) guide you!"
5580 PRINT"@@@What do you say ? (Y/N)"
5590 GETA$:IFA$=""THEN5590
5600 IFA$="Y"THENGOTO5630
5610 IFA$="N"THENGOTO4560
5620 GOTO5590
5630 PRINT"@@@You are so pleased to see a human face "
5640 PRINT"@@@again that you give him 3 gold pieces"
5650 PRINT"@@@without thinking"
5660 IFGB<4THENPRINT"@@@You have not enough,he will let you off!!":GOTO5680
5670 GB=GB-3
5680 GOSUB4440:PRINT"@@@Onward he says (speaking in your tongue)"
5690 PRINT"@@@He suddenly stops.There is a rope ahead "
5700 PRINT"@@@You can go up the rope (U)or cont.Any other key"
5710 GETA$:IFA$=""THEN5710
5720 IFA$="U"THENGOTO5740
5730 PRINT"You fell into a swamp!":DM=DM+10:GOTO5790
5740 GOSUB4440
5750 PRINT"@@@It is a long haul "
5760 Z4=INT(RND(1)*10):IFZ4<4THENPRINT"Oow err!you have fallen!":DM=DM+9
5770 IFZ4<4THENGOTO5790
5780 PRINT"@@@But you have made it"
5790 GOSUB4440
5800 PRINT"@@@At last you have made it over the swamp":GOSUB4440:GOSUB3980
5810 PRINT"@@@Your guide hears a rumbling and "
5820 PRINT"@@@points out a forest to you."
5830 PRINT"@@@After a while a mass of 20 Orcs come from the wood"
5840 PRINT"@@@He sprints off,but is cut down by an Orc commander"
5850 GOSUB4440
5860 PRINT"@@@You can either run for it(R)"
5870 PRINT"@@@Or fight 20 Orcs (Any other key)"
5880 GETA$:IFA$=""THEN5880
5890 IFA$="R"THENGOTO6030
5900 CS=20
5910 PRINT"@@@The first of them charges and you"
5920 PRINT"@@@cut off his head "
5930 Z5=INT(RND(1)*10)
5940 PRINT"@@@and ";Z5;" others as well!"
5950 CS=CS-(Z5+1)
5960 PRINT"@@@There is a frantic struggle.You kill 5 more Orcs":CS=CS-5
5970 PRINT"@@@You now face the commander":DM=DM+10
5980 Z6=INT(RND(1)*10):IFZ6<3THENPRINT"He killed you":GOSUB4440:GOTO4460
5990 IFZ6>7THENPRINT"@@@You got him!"
6000 Z8=INT(RND(1)*10)
6010 IFZ8>5THENPRINT"@@@the others fled!":FS=FS-5:GOTO6060
6020 PRINT"@@@The rest are so mad that they kill you!":GOSUB4440:GOTO4460
6030 Z7=INT(RND(1)*10):IFZ7<5THENPRINT"They pounce on you and you are dead"
6040 IFZ7<5THENGOTO4460
6050 PRINT"You escaped with a bruise into the wood":DM=DM+5:FS=FS-1
6060 GOSUB4440:PRINT"@@@":GOSUB3980
6070 PRINT"@@@The woods are dangerous and "
6080 PRINT"You may aswell camp out for the night"
6090 FORI=1TO10:PRINT"Zz";:NEXTI
6100 GOSUB4440.
6110 PRINT"@@@

```

```

#120 PRINT"  ||  ||  ||  ||  ||  "
#130 PRINT"  ||  ||  ||  ||  ||  "
#140 PRINT"  ||  ||  ||  ||  ||  "
#150 PRINT"  ||  ||  ||  ||  ||  "
#160 GOSUB4440
#170 PRINT"  You spring up and see a shadaw moving off with a gold piece"
#180 PRINT"  of yours.F to follow him or any key to stay where you are ?"
#190 GB=GB-1
#200 GETA$: IFA$="" THEN6200
#210 IFA$="F" THENGOTO6410
#220 PRINT"  F"
#230 PRINT"  YOU wake in the morning and have"
#240 PRINT"  gained 20 fighting strength":FS=FS+20
#250 PRINT"  You travel on in the woods and eventually"
#260 PRINT"  You come to a crossroads"
#270 GOSUB4440:GOTO6760
#280 PRINT"  It's nice and dry in here and warm"
#290 FORI=1TO500:NEXTI:PRINT"  Oh no! there's an eagle behind you"
#300 PRINT"  And it isn't too happy,in fact it is"
#310 PRINT"  going to attack you,you are going to "
#320 PRINT"  fight it.":GOSUB4440
#330 GOSUB3440
#340 IFL1>0THENPRINT"  You now have the eagles eggs!":EG=EG+1:GOTO6360
#350 PRINT"  The eagle beat you so you'd better go on":GOTO5510
#360 GOSUB4440
#370 PRINT"  F"
#380 PRINT"  You have slept for 8 hours and have gained 20 fighting"
#390 PRINT"  points!":FS=FS+20
#400 GOTO5510
#410 PRINT"  You'd better draw your sword,"
#420 PRINT"  He's making good speed and you are panting hard when he stops"
#430 PRINT"  You are in a strange circle of light even though it is dark"
#440 PRINT"  You could attack him but it would be a crazy idea"
#450 PRINT"  You will stay and watch"
#460 GOSUB4440
#470 PRINT"  He begins to turn so you dart behind a bush"
#480 PRINT"  Do you want to get back your gold bar?"
#490 GETA$: IFA$="" THEN6490
#500 IFA$="Y" THEN6530
#510 IFA$="N" THENGOTO6760
#520 GOTO6490
#530 PRINT"  To get your gold back you can either make yourself invisible"
#540 PRINT"  by eating an eagle's egg (if you have one).....or....."
#550 PRINT"  by challenging him to a duel"
#560 PRINT"  You have ";EG;" eagle's eggs"
#570 IFEG=0THENPRINT"  No eggs !":GOTO6650
#580 PRINT"  Do you want to eat an egg ?"
#590 GETA$: IFA$="" THEN6590
#600 IFA$="N" THEN6650
#610 IFA$="Y" THEN6630
#620 GOTO6590
#630 PRINT"  mmmmmmmmm! DELICIOUS !"
#640 EG=EG-1:GOTO6710
#650 PRINT"  You walk up to him and issue a challenge"
#660 GOSUB4440
#670 GOSUB3440
#680 IFS=1 THEN6710
#690 GOSUB4440
#700 GOTO6760
#710 PRINT"  You retrieved your gold bar !"
#720 GOSUB4440
#730 GB=GB+1
#740 BM=BM-INT(RND(-1)*20)
#750 GOTO6760
#760 PRINT"  F"
#770 GOSUB4440

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